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Boots and Shoes, Heels of, Shaping	E. J. Bearse	43, 082
Boots and Shoes, Metallic shanks for	E. Heaton	41, 701
Boots and shoes, Paring the edges of	H. Hodges	44, 688
Boots and Shoes, Pegging	W. R. Landfear	44, 203
Boots and Shoes, Rubber, Ventilating	B. H. Webb	41, 879
Boots and Shoes, Seams of	W. H. Kimball	44, 636
Boots and Shoes, Tapping	G. Conkling	43, 814
Boots and Shoes, Soles of, Finishing the	J. Purington, jr	41, 394
Boots and Shoes, Soles of, Cutting	E. D. Johnson, jr	45, 046
Boots and Shoes, Soles of, Polishing	O. Gilmore	44, 946
Boots and Shoes, Soles, plate for, Metallic	T. W. Bacon and S. Dike	43, 469

Invention or Discovery.	Name of Patentee.	No.
Boots and Shoes or Sandals, Metallic	G. W. Griswold	42,187
Boots and Shoes, Ventilating	A. Stocker	44,467
Boots and Shoes, Welts of, Punches for cutting out.	J. H. Walker	43,556
Boots and Shoes, Wooden soles to, Nailing	L. Alcan	42,825
Boots and other articles, Eyes for lacing	L. Hoffmeister	41,069
Boot-blacking machine	A. E. White	42,707
Boot crimping machine	H. Wing	42,324
Boot-leg stiffener	N. Gear	42,544
Bosoms and Collars, Shirt, Detached	C. E. Richards	45,566
Bottles, Closing	E. Hamilton	41,067
Bottles, Closing or stopping	E. Hamilton	42,188
Bottles	A. Albertson	44,685
Bottles, Nursing	S. Zeno	42,427
Bottles, Pepper	J. W. Gay	41,372
Bottles, pipes, joints, casks, and other vessels, Making and coating.	B. Rhodes	41,351
Bottles, Stopping	A. Albertson	44,684
Bottles, Stopping	A. Albertson	45,112
Bottles and Jars, Stopping	N. Thompson	44,054
Bottle filling machine	W. F. Davidson	41,608
Bottling machine	J. Matthews, jr	41,440
Boxes, Axle	W. Stechschult	41,945
Boxes, Blacking, Foot rest for	J. H. Porter	44,656
Boxes, Blacking and holder	G. H. Monroe	43,221
Boxes, Blacking, Holder for	J. H. Rector and A. Sweetland	43,645
Boxes, Cap, Percussion	T. Harvey	43,497
Boxes, Cartridge	J. T. Warren	43,374
Boxes, Cartridge	H. S. Western	43,539
Boxes, cases, &c., Ends or heads for	H. Thayer	45,538
Boxes, cases, cans, &c., metal, for preserving food, gunpowder, paints, oils, and other articles.	J. Bouvet	43,378
Boxes, Cases, &c., Treating wood for the manufacture of.	T. Thayer	45,537
Boxes, Drygoods, Packing	T. Webber	45,304
Boxes, Feed-roll, for wool burring machines	C. L. Goddard	44,034
Boxes, Fruit	A. F. Newell	41,168
Boxes, Fruit, Cases for conveying	R. H. Baker	41,049
Boxes, Journal	G. G. Hunt	41,221
Boxes, Journal	E. S. Dickinson and W. D. Nelson	44,407
Boxes, Journal, Packing for	J. Conk	41,197
Boxes, Journal, Railroad	W. Groat	41,616
Boxes, Letter	J. H. Springer	42,052
Boxes, Letter	S. Maltby	43,594
Boxes, Making	H. Thayer	43,239
Boxes, Making	H. Thayer	43,241
Boxes, Making	T. C. Luther	44,690
Boxes, Match	G. Dowler	41,976
Boxes, Mitre	D. Howell, jr. and M. K. Kellam	42,582
Boxes, Nailing	C. Baur and W. C. Munder	44,929
Boxes, Mitre	L. W. Langdon	45,055
Boxes, Oil, for railroad cars	E. F. Hurlburt and R. S. Potter	42,132
Boxes, Opening, Tool for	W. M. Keague	41,925
Box top, Pepper	J. S. Ewbank	42,934
Box, Percussion cap and cartridge, Combined.	J. T. Warren and R. A. Chessbrough.	44,999
Boxes, Tin	C. J. Haywood	43,689
Boxes or cases for oil stones	G. O. Wichers	41,561
Boxes for mustard and the like articles	R. W. Betts	42,549
Boxes for transplanting plants	M. L. Thompson	43,242
Boxes or tubs for putting up butter	J. Parce	44,551
Boxes and Cans, Manufacture of	J. W. Miller	44,737
Boxes and Cases, Making	H. Thayer	43,240
Braces, Bits in, Securing	C. B. Rose	44,822
Braces, Bits in, Securing	C. B. Rose	44,823

Invention or Discovery.	Name of Patentee.	No.
Braces, Body	E. P. Banning	44,914
Braces, Securing bits in	O. Peck	41,718
Braces, Shoulder	A. W. Upton	43,807
Braces or bits, Stock for	D. P. Foster	43,302
Bracelets, Constructing flat chains for	J. Christl	41,175
Braiding machines, Thread tension and thread delivery in.	L. Hull	43,115
Braiding machine, Thread tension and delivery mechanism for.	L. Hull	42,663
Brakes, Car	G. S. Miller, E. B. Peck, and W. Omsted	41,774
Brakes, Car	B. Morahan	43,370
Brakes, Car	A. J. Ambler	44,036
Brakes, Car	W. D. Goodnow	44,718
Brakes, Car	J. W. Latcher and W. J. Powell	45,617
Brakes, Car, Applying steam power to	W. Loughridge	42,385
Brakes, Car, Brake blocks for	J. P. Levan	42,493
Brakes, Car, Operating	W. Loughridge	42,301
Brakes, Car, Railroad	O. T. Harrington	41,917
Brakes, Car, Railroad	O. J. Harrington	42,189
Brakes, Car, Railroad	J. Davis	43,010
Brakes, Car, Railroad	L. Watson	45,545
Brakes, Car, Railroad, Automatic	P. R. Higby	41,890
Brakes, Car, Shoe for	J. Wood	41,114
Brakes, Car, Shoe for	J. Wood	45,106
Brakes, Carriage	W. D. Sheldon	43,044
Brakes, Flax and hemp	J. L. Boorum and C. D. Palmiter	43,452
Brakes, Flax and hemp	J. Bryant	43,812
Brakes, Flax and hemp	A. W. Hall	45,154
Brakes, Hemp	J. T. Gillman	42,847
Brakes, Hemp	T. L. Fortune	43,654
Brakes, Pulley, Self-acting	J. Jochum	45,248
Brakes, Safety, for railroad cars	T. Wool	44,361
Brakes, Self-acting	W. Glaze	42,468
Brakes, Sled, Self-acting	C. E. Myers	41,714
Brakes, Wagon	S. H. Miller and E. Grubb	41,315
Brakes, Wagon	E. Bennet	41,595
Brakes, Wagon	J. F. Woods	42,711
Brakes, Wagon	J. Snyder	43,436
Brakes, Wagon	T. Christiani	43,453
Brakes, Wagon, Acting	P. G. Van Houton	43,244
Brakes for hoisting apparatus	C. R. Otis	44,740
Brakes for horse-power	A. Pursel	44,454
Bread slicer	G. W. Hildreth	45,409
Breast pins, Fastening for	G. Buhler	41,678
Breast pins, earring, &c., Catch or fastening for.	N. B. Jaquith	45,044
Breast pins, &c., Metal, Pin fastening for	G. O. Monroe	45,121
Breast protectors, Mammiform	E. M. Marshall	43,321
Breast strap, Slide for	S. Selleck	41,450
Breast strap, Slide for	A. Buckham	42,554
Brier, Green, Berries of the, Obtaining useful products from.	P. Baumgras	42,814
Bricks, &c., Drying	S. M. Parish	43,861
Brick machine	D. Murtha	42,680
Brick machine	P. L. Sword and G. S. Tiffany	43,162
Brick machine	W. Barker and G. Martin	43,893
Brick machine	E. Jacobin	43,505
Brick machine	W. H. Page	45,377
Brick pressing machine	J. Hotchkiss	45,563
Bricks and drainage pipes	I. C. Bryant	42,926
Bridges	A. Cottrell	43,099
Bridges	J. J. Alises	44,498
Bridges	E. King	45,051
Bridges, Clamps for	N. Chapin	44,397
Bridges, Iron	J. J. Beard	41,594

Invention or Discovery.	Name of Patentee.	No.
Bridges, Keys or packing blocks for	N. Chapin	44,398
Bridge girders	D. Hammond and W. R. Reeves	42,202
Bridles	S. B. Hartman	43,308
Bridle winkers, Metallic	M. O. Stanley	44,121
Bridle and bit connexion	C. H. Hogg	41,845
Brines, Salt, Purification of	S. P. Duffield	42,280
Brine and salted meats to remove the salt, Treating.	A. Whitelaw	42,988
Broilers or Toasters, Wire	S. Ayres and H. Chamberlin	44,590
Broom	S. Carpenter	41,973
Broom head	C. E. Miller	44,736
Broom head, Metallic	O. L. Castle	44,515
Brush	C. Twyford	42,131
Brushes, Blacking	W. A. Green	42,655
Brushes, Blacking, Self-feeding	G. Hamilton and J. Post	41,700
Brushes, Blacking and holder	D. Bowker	41,359
Brushes, Circular	M. Robbins and C. Hury	42,625
Brushes, Hair, Rotary	E. G. Camp	41,885
Brushes, Hat, Making	J. C. Raake	42,508
Brushes, Paint, Guard to	E. C. Haserick	41,772
Brushes, Paint and other, Socket for	J. W. Davis	41,060
Brushes, Tooth	R. Nelson	43,597
Brushes for cleaning boiler flues	G. P. Leonard and W. Lanster	42,092
Brushes for mucilage bottles	W. Burnet	41,422
Brush handle	F. Rudolph and W. Kasefang	45,276
Buckets, Coal elevator	A. B. Nimbs	44,108
Buckets, Elevator	A. B. Nimbs	42,134
Buckets, Water Metallic guards for	J. B. Hyzer	45,412
Bucket for preserving butter, fruit, &c	E. G. Huffman	44,626
Buckles	J. Stevens	41,267
Buckles	J. Banister	41,900
Buckles	E. G. Rochland	42,689
Buckles	G. Howell	43,945
Buckles,	G. R. Kelsey	43,997
Buckles	J. Banister	44,927
Buckles	J. Shepard	45,088
Buckles, Fastenings on	L. Hilbright	44,530
Buckles, Harness	D. M. Nixon	42,787
Buckles, Harness	G. Purple	44,554
Buckles, Harness	L. D. Cowles	44,786
Buckles for harness, &c	L. D Cowles	44,787
Buckles for harness tugs	R. Tattershall	44,693
Buckles, Suspender	P. Blake	42,067
Buckles, Tools for making	R. Durning	44,610
Buckle fastenings	C. Goodyear, jr. and L. A. Sprague.	42,726
Buckles and Loops, Attaching	L. C. Chase	43,093
Buffers for railroad cars	R. D. Chatterton	41,483
Buildings, Air in, Cooling	D. E. Somes	44,672
Buildings, iron, sheet, Strengthening and improving.	S. J. Seely	41,787
Buildings, roofs of, Ice and snow fenders for	L. Howe	42,992
Bullet, Expanding	E. D. Williams	43,615
Bullet machine	J. D. Custer	43,102
Bullet for firearms	M. G. Williams and J. Owen	44,292
Bullet for small arms	E. G. Allen	45,506
Bungs, Cutting	F. Zunkeler	44,267
Bungs, Making	J. Batcheldor	44,251
Bungs or Casks, Cutting	P. Haydon	41,506
Bureau, washstand, desk and wardrobe	A. Lee	45,505
Bureau, bedstead	F. C. Payne	44,887
Burial cases	J. Peak and F. S. Pinkham	42,018
Burners, Gas	W. S. Dyer	41,981
Burners, Gas	Joseph and James Wadsworth	42,421
Burners, Gas, Sockets for	J. Todd	42,609
Burners, Hydrocarbon, Packing for	J. Waterman	44,144
Burners, Kerosene	G. Neilson	44,441
Burners, Lamp	J. R Baker	41,048

Invention or Discovery.	Name of Patentee.	No.
Burners, Lamp	M. B. Wright	41,172
Burners, Lamp	S. Magoun	41,179
Burners, Lamp	E. Hobbis and Max McVair	41,774
Burners, Lamp	H. C. Hutchinson	41,846
Burners, Lamp	R. L. Smith	41,965
Burners, Lamp	W. H. Smith	42,122
Burners, Lamp	H. Fairbanks	42,281
Burners, Lamp	J. O. Harris	42,765
Burners, Lamp	J. H. Wygant and C. W. Vanderbeck.	43,879
Burners, Lamp	C. Britain	44,393
Burners, Lamp	C. St. John	45,443
Burners, Lamp	J. O. Harris	45,493
Burners, Lamp, for oil	J. G. Leffingwell	42,204
Burners, Lamp, Vapor	J. S. Hull	41,434
Burners, Night	W. P. Newhall	45,513
Burners, Oil, Coal	J. G. Leffingwell	45,375
Burners, Vapor	J. S. Gray	45,600
Burrs, Knitting machine	C. Allardice	42,545
Burrs, Knitting machine	W. H. Carr	43,636
Burrs, &c., Treating wool for removal of	J. Fullen	43,547
Bush, Cloth, Securing in the hole	C. Bollerman	42,740
Bush, Mill stone	G. W. Landen	41,928
Butter, Box or tub for putting up	J. Brace	44,551
Butter from milk, Producing	N. Orcutt	42,821
Butter workers	N. Johnson	41,223
Butter workers	S. E. Morse	41,853
Butter workers	A. Swift	42,238
Buttons	P. W. Gengembre	41,292
Buttons	B. B. Whaley	44,759
Buttons	P. W. Gengembre	45,400
Buttons	P. W. Gengembre	45,401
Buttons	P. W. Gengembre	45,402
Buttons, &c., Attachment to	N. Ames	41,969
Buttons, Glass	A. W. Demuth	42,931
Buttons, Keys for	J. Lawrence	44,791
Buttons, Metal, Detachable	T. Kirk	44,958
Buttons, Sleeve	S. Bogert	41,191
Buttons, Spring catch	T. K. Reed and H. F. Packard	43,928
Buttons for doors	H. Underwood	44,474
Buttons to fabrics, Fastening	W. H. Reed	45,077
Buttons or fasteners, Sleeve	S. G. Shaw	43,646
Buttons or spring clasps	F. E. Drake	43,152
Buttons or Studs, Elastic	A. Eliaers	43,762
Buttons through cloth, Bodkins for passing enlarged shanks of.	R. W. Gengembre	44,416
Button-holes, Incising and embossing and printing articles of wearing apparel.	S. S. Stone	43,932
Button-hole cutters	M. M. Shellaberger	41,725
Button-hole cutting	G. Rehfuss	43,707
Button-hole stitch, Sewing machine	C. R. Jackson	41,923
C.		
Cabinet for exhibiting phographic pictures	J. A. Thompson	44,125
Cables, Anchor, of iron-clad vessels, Protection of the.	J. Newton	41,530
Cable stopper	G. S. Perkins	41,235
Caddies. tin cans, &c., Manufacturing	J. W. Millet	42,624
Cage, Eccentric	T. E. Robbins	45,639
Cage, Horse	W. E. Hughes	44,095
Calculating machines	J. B. Alexander	45,898
Calendar	J. M. Patton	41,391
Calendar, Pocket	D. E. Crosby	41,605
Calendars for almanacs	J. H. Mead	45,064
Calf feeder	W. C. Dodge	43,902

Invention or Discovery.	Name of Patentee.	No.
Calipers	W. A. Morse	41, 387
Calipers	C. Jillson	43, 854
Calipers	R. D. O. Smith	45, 529
Cameras, Photographic	H. C. and C. L. Morse	41, 634
Cameras, Photographic	T. E. Wood	42, 524
Cameras, Photographic	J. Stock	42, 971
Camera stand	R. B. Douglas	42, 279
Camera stand	T. H. M. Bride and D. Baldwin	44, 438
Camp kit	J. Walkley	45, 542
Canal-boat tow line attachment	C. Bentz	44, 154
Canal propulsion, Track for, Submerged	E. C. Harrington	42, 850
Canal wicket	J. D. Marshbank	41, 463
Candles, Composition for	J. L. Klein	45, 160
Candles, Paraffine	J. L. Klein	45, 161
Candles, Treating fatty bodies for the manufacture of.	H. Mege	42, 901
Candle-holder	E. Daire	43, 628
Candlestick for tents, shops, &c., Adjustable	A. E. Lyman	41, 226
Cane juice, Clarifying	W. A. Jardon	43, 509
Cane strippers	W. Todd	42, 241
Canister, Powder, and oil can	E. W. Woodruff	43, 652
Cannons, Casting	A. H. Emery	41. 521
Cannons, Chambers of, Boring	W. McCleary	42, 332
Cannons, Hoops for	D. Treadwell	42, 701
Cannons, Many barrelled	G. Natcher	45, 623
Cannons, Wrought	H. Adams	43, 825
Cannons, Sight for	P. Maltby	43, 319
Cans, Dinner	J. H. Murphy	42, 865
Cans, Fruit	J. B. Wilson	41, 417
Cans, Fruit, Closing	W. Webster	41, 657
Cans, &c., Fruit, Sealing	H. S. Fisher	41, 985
Cans, Medicine	E. H. Hance	42, 943
Cans, Metal, cases, boxes, &c., for preserving food, gunpowder, liquids, paints, oils, and other articles.	J. Bouvet	43, 378
Cans, Metal, Sheet	H. A. Crain	43, 479
Cans, Milk, Covers for	A Brightman	44, 848
Cans, Oil	E. S. Scripture	41, 557
Cans, Oil	L. H. Olmsted	42, 593
Cans, Oil	E. S. Scripture	43, 345
Cans, Oil	G C. Overhiser	44, 485
Cans, Oil	E. D. Hunt	45, 610
Cans, Oil, Safety	J. M. Perkins and M. W. House	45, 340
Cans, Oil, and powder canister	E. W. Woodruff	43, 652
Cans, Preserve	J. F. Griffen	42, 186
Cans, Preserve, Cement for sealing	J. B. Wilson	41, 823
Cans, Preserve, Closing	T. Earle	41, 425
Cans, Preserve, and other	J. R. Le De Langre and L. Robins.	43, 463
Cans, Self-sealing	J. F. Griffen	45, 601
Cans, Tin	C. T. Covell	42, 351
Cans, Tin	F. Devoe	42, 355
Cans, Tin	G. W. Prince	43, 371
Cans, Tin, Caddies, &c., Manufacturing	J. W. Millet	42, 624
Cans, Tin, Double seaming	H. A. Meriam	42, 010
Cans, Tin, Tool for opening	W. C. Dick	44, 856
Cans and Boxes, Manufacturing	J. W. Miller	44, 737
Cans for paint, fruit, &c	H. Miller	43, 326
Canvas, cloth, &c., Mildew in, Preventing	W. Stacy	43, 233
Caoutchouc, &c., Fabric manufactured from	O. Falke and P. Schrag	42, 533
Caoutchouc, &c., Product from	H. A. Ayling	42, 632
Caoutchouc, &c., Process for changing, curing, or treating.	H. A. Ayling	42, 633
Caps, &c., Felt, Device for dyeing	J. M. Farlane	42, 915
Caps, Percussion, Holder for	J. F. Warren	41, 659
Caps, &c., Percussion, Composition for	H. Hochstatter	41, 259

Invention or Discovery.	Name of Patentee.	No.
Caps and Hats, Sweat leather for, Ventilating	O. H. Taylor	44, 697
Capstan	H. Davies	42, 465
Capstan	E. G. Arment	44, 268
Card, Game	C. W. Saladee	41, 587
Cards, Hand	E. S. and G. F. Ellis	44, 791
Card holder	L. A. Roberts	42, 260
Carding and other machines, Oiling wool in	W. K. Platt and H. Holcroft	43, 336
Card mount, Ferrotype	J. H. Daniels	43, 761
Carpet beater and cleaner	G. P. Mitchell	44, 210
Carpet cleaning machine	H. H. Jordon	42, 254
Carpet fastening	W. Barnard	44, 385
Carpet stretcher and tack hammer	A. Hick	43, 309
Carpet tack protector	R. K. Lee	41, 160
Carriages	E. France	41, 765
Carriages	L. H. Thomas	42, 700
Carriages	A. S. Grant	42, 760
Carriages	B. E. Sampson	44, 826
Carriages	C. P. Kimball	45, 050
Carriages, Ball	A. D. Bishop	42, 066
Carriages, Gun	J. Ericsson	43, 298
Carriages, Gun, Operating	J. Rindge	43, 228
Carriages, Hold-back irons for	J. P. Simmonds	42, 884
Carriages, Horses to, Attaching	L. W. Boynton	43, 388
Carriages, Saw-mill	D. Lane	41, 224
Carriages, Spring for	W. Smith	44, 668
Carriages, Spring brace and clip for	E. J. Green	43, 019
Carriages, Steam	G. W. Barnett	45, 130
Carriages, Sugar mould	A. Mackey	45, 255
Carriages, Wheel	W. H. Lewis	43, 919
Carriage, chair, and cradle, Combined	G. W. Hawk	42, 206
Carriage, Axle boxes	W. Stechschult	45, 279
Carriage work, Axle clip for	M. Seward	43, 607
Carriage circle coupling	G. G. Larkin	42, 199
Carriage hub bands	S. T. Talcott	43, 238
Carriage shafts	J. Hansen	42, 288
Cars, City, Passenger support for	J. Hanley	45, 407
Cars, Dumping	W. R. Maffit	44, 539
Cars, Freight	C. R. Foote and J. Orton	41, 212
Cars, Loading, Elevators for	R. D. Chatterton	41, 482
Cars, Lumber, Standards for	H. Jacob	42, 194
Cars, Railroad	J. Withycombe and C. Reiblein	41, 409
Cars, Railroad	W. Miller and H. E. Towle	42, 590
Cars, Railroad, Brakeman's life preserver for	J. Worsley	44, 134
Cars, Railroad, Buffers for	R. D. Chatterton	41, 483
Cars, Railroad, Dumping	T. A. McFarland	42, 862
Cars, Railroad, Journal for	W. G. Smith	45, 124
Cars, Railroad, Locking door for	E. W. Morse	45, 165
Cars, Railroad, Oil boxes for	E. F. Hurlbut and R. S. Potter	42, 132
Cars, Railroad, Operating	C. E. Willis	44, 574
Cars; Railroad, Roof of	O. P. Scaife	42, 229
Cars, Railroad, Roof for	J. Palmer	43, 223
Cars, Railway	T. Carter	45, 316
Cars, Railway, Street	J. Stephenson	45, 281
Cars, Sleeping	B. Field and G. M. Pullman	42, 182
Cars, Sleeping	J. Sutter	45, 090
Cars, Stock	W. Stark	43, 720
Cars, Street	J. A. Miller	41, 386
Car replacer	J. Maybie	45, 254
Car replacer	G. Fowler	45, 485
Car sash fastening	W. H. Burridge	45, 223
Car spring fastener	J. W. Wood	44, 033
Car standards, Folding	S. Little	43, 317
Cars to trucks, Connecting	A. Bridges	44, 278
Car window fixtures	J. D. Hall	44, 770
Carts	H. Holcroft and C. S. Smith	43, 991
Carts	B. Ricketson and A. B. Smith	43, 549

Invention or Discovery.	Name of Patentee.	No.
Carts, Dumping	C. A. Carpenter	42, 746
Carts, Dumping	T. Blodgett	44, 068
Carts, Dumping	R. A. Smith	44, 983
Carts and Wagons, Dumping	J. B. Conklin	41, 604
Cartridges	S. Crispin	42, 329
Cartridges, Envelopes of, Fabric for	A. K. Johnston and L. Dow	42, 668
Cartridges, Filling	J. G. Stowe and E. F. Allen	43, 550
Cartridges, Metallic	E. G. Allen	41, 590
Cartridges, Metallic	C. J. Bergen	42, 815
Cartridges, Metallic	J. C. Howe	43, 851
Cartridges, Metallic	W. H. Wells	45, 292
Cartridges, Metallic, Primed	E. K. Root	44, 660
Cartridges, Metallic, Priming	E. K. Root	45, 079
Cartridges, Metallic, Priming	C. E. Sneider	45, 210
Cartridges, Metallic, Priming	E. Maynard	45, 420
Cartridges, Metallic wad for	E. Maynard	42, 388
Cartridges, Ordnance	T. Yates	45, 666
Cartridges, Ordnance, Scraping disk or wad for	J. M. Connell	45, 227
Cartridges, Percussion priming to, Applying	A. K. Johnston and L. Dow	42, 667
Cartridges, Priming	C. E. Sneider	44, 692
Cartridges for revolving fire-arms	D. Williamson	41, 183
Cartridges for revolving fire-arms	J. M. Cooper	45, 319
Cartridge box	J. T. Warren	43, 373
Cartridge box	E. Blakeslee	45, 669
Cartridge box	H. S. Western	43, 539
Cartridge case, Percussion priming to, Applying.	A. K. Johnston and L. Dow	42, 666
Cartridge cases, Metallic, Loading	C. H. Lavis	43, 780
Cartridge extractor for fire-arms	H. Reynolds	45, 176
Cartridge retractor for breech-loading fire-arms	F. Trulender	42, 702
Cartridge retractor for magazine fire-arms	E. Stabler	45, 356
Cartridge retractor for many chambered fire-arms.	W. A. Dodge	42, 755
Cartridge retractor for revolving fire-arms	R. D. O. Smith	43, 529
Cartridge and percussion cap box, Combined	J. T. Warren and R. A. Cheesebrough.	44, 999
Cases, Blower	P. H. Root	44, 892
Cases, boxes, &c., Ends or heads for	H. Thayer	45, 538
Cases, boxes, cans, &c., Metal, for preserving food, gunpowder, liquids, paints, oils, and other articles.	J. Bouvet	43, 395
Cases, Corpse, Preserving for	I. Searing	45, 349
Cases, Salinometer	C. H. Ashcroft	41, 970
Cases, Stop cock	J. G. Weldon	44, 904
Cases for conveying fruit boxes	R. H. Baker	41, 049
Cases and stop cocks for pipes leading from mains.	J. G. Weldon	43, 056
Casks	W. Reid	42, 445
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Casks, Wooden Hoops for, Metal locks for	H. W. Catlin	43, 621
Casks, Liquids from, Transferring	D. Sexton	45, 183
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Casks and barrels, Repairing	C. A. Baldwin	44, 591
Casks or barrels, Rolling	E. S. Collins	41, 139
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Caster	C. Knisely	42, 382
Caster, Adjustable	W. C. Dodge	42, 754
Caster for furniture, &c	J. D. Bradley	43, 830
Caster for trunks	H. T. Lee	44, 689
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Caterpillar nets, Destroying	J. S. Needham	45, 428
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Ceiling and walls, Lathing for	D. D. Garland	43, 018
Cement for roofing	S. Bowerman	42, 925
Cement and pegs into soles, &c., Introducing.	E. Townsend	44, 029
Cement for sealing preserve cans	J. B. Wilson	41, 823
Centre boards, Operating	J. N. Buell	45, 018
Cerealine, Articles of food and diet from	J. E. Brown	43, 091
Cesspool	G. T. Bohen	45, 577
Chains, Chain pump	J. M Connell	43, 256
Chains, Making	L. King	43 778
Chains, Stretching	C. Hall	43, 987
Chains, Watch guard or safety	E. J. Morse	41, 745
Chains for bracelets, Constructing flat	J. Christl	41, 175
Chains for ornament	L. Towne	44, 899
Chair arm, Folding	H. S. Golightly and C. S. Twitchell.	43, 566
Chairs, Carriage and cradle, Combined	G. W. Hawk	42, 206
Chairs, Easy	J. H. Deveraux	42, 753
Chairs, Folding	A. Eliacre	45, 146
Chairs, Railroad	G. B. McDonald	42, 098
Chairs, Railroad	W. Hendershott	42, 480
Chairs, Railroad	E. St. John	42, 885
Chairs, Railroad	A. Rank	44, 455
Chairs, Rocking	W. H. Van Nortwick	41, 129
Chairs, Rocking	R. Chauncy	44, 396
Chairs, Spring-back	R. H. Staples	44, 987
Chairs, Toy	D. A. Stiles	43, 161
Chair seats	R. Wood	42, 150
Chair seats and sofa bottoms	J. W. Kimball and J. Mahady	42, 858
Chairs and other materials, Scraping	E. S. French	44, 367
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Chair and Desk combined, Office	M. P. Norton	42, 016
Chairs and sofas, Bottoms for	J. Sutter	42, 602
Chamfering machine	J. Stufflebeen	42, 886
Channelling machine	G. McKay	42, 211
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Channelling machine	G. McKay and L. R. Blake	43, 923
Charcoal, Animal, Treating	E. Beanes	42, 156
Charcoal, Animal, Treating	E. Beanes	43, 748
Cheese vat	W. Ralph	45, 076
Chenille, Making	J. Thomas	44, 050
Chemical manufactures, Employment of magnesia compounds in.	C. G. Clemm	41, 349
Chest, Camp	F. Graves	44, 578
Chest, Flour, and biscuit board	D. E. Bryer	44, 040
Chest, Medicine	R. B. Parkins and J. M. Maris	45, 266
Chimney, Lamp	E. S. Blake	41, 473
Chimney, Lamp	W. Starkey	41, 792
Chimney, Lamp	T. J. Townsend	41, 796
Chimney, Lamp	J. Lewis	43, 592
Chimney, Lamp	E. S. Blake	44, 508
Chimney, Lamp, Cleaner for	E. T. Hazeltine	41, 994
Chimney, Lamp, Cleaner for	F. Imhorst	45, 500
Chimney cap	T. A. Mann	42, 496
Chimney cap	A. L. Sweet	41, 649
Chimney cap plate, Fastening	W. Griffiths	44, 182
Chimney flues	W. J. Fryer, Jr.	41, 498
Chimney flues	C. T. Harvey	41, 993
Chimney top	G. Elbreg	41, 427
Chimney top	A. L. Geserick	45, 403
China, glass, and other ware, Gilding solution for.	L. P. Angenard	43, 080
Chronometers, Escapement for	J. Karr	41, 317
Chuck	A. B. Underhill	45, 364
Chuck, Self-centring	E. B. Beach	44, 067
Chuck for lathe	J. Sutter	45, 359
Churches and public halls, Warming and ventilating.	E. J. Hardy	45, 244

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Churns	E. Chipman	41,193
Churns	D. K. Price	41,322
Churns	W. Slaughter	41,328
Churns	S. Gessinger	41,429
Churns	S. H. Merridith	41,525
Churns	S. D. Frazier	41,693
Churns	A. Westcott	41,954
Churns	J. Thompson	42,029
Churns	G. Cranston	42,275
Churns	J. B. Davidson	42,354
Churns	A. E. Hewett	42,481
Churns	W. Tibbits	42,887
Churns	C. R. Gargas	42,939
Churns	E. Porter	43,040
Churns	J. Rankin and J. N. McIntire	43,227
Churns	R. Murphy	43,423
Churns	P. Killin	43,513
Churns	L. Bacon	43,632
Churns	S. Z. Hall	43,686
Churns	G. W. Sayre	43,797
Churns	D. Frey and D. Sanders	43,844
Churns	P. Killin	43,999
Churns	F. Ransom	44,015
Churns	A. J. Gibson	44,177
Churns	J. T. Palmer	44,216
Churns	H. Rice	44,219
Churns	J. J. Edwards	44,410
Churns	G. J. Whitsil	44,480
Churns	W. Beaton	44,505
Churns	E. Buel	44,595
Churns	H. Doolittle	44,614
Churns	W. W. Lapham	44,732
Churns	J. B. Sweetland	44,755
Churns	M. Neal	44,836
Churns	C. W. Gage	45,033
Churns	S. Z. Hall	45,155
Churns	O. Seely	45,182
Churns	A. Stephens	45,280
Churns	C. H. Warren and A. C. Baldwin	45,544
Churns	H. Soggs	45,277
Churns, Barrel	L. H. Muzzey	42,013
Churns, Barrel	P. Thompson	42,030
Churns, Operating, Mechanism for	G. True	42,129
Churn body	J. C. Hills	42,851
Churn dasher	B. Wright	42,984
Churn dasher	A. W. Cramer	45,026
Churn dasher	H. Tilden	45,194
Churn power	J. B. Sweetland	41,107
Churn power	G. Lewis	43,076
Churn power	A. Fuller and W. W. Howe	44,523
Cigar	S. Davis	44,695
Cigar	W. W. Huse	45,326
Cigar holder	L. Auguste	45,215
Cigar machine	J. A. Heald	42,946
Cigar machine	C. G. Brinckmann	44,070
Cigar machines	J. Prentice	44,114
Cigar tip machine	W. W. Huse	45,325
Cigar-shaped smoker	D. D. Foley	45,906
Cigarettes	E. Berg	43,665
Cigarettes	L. L. Arnold and F. X. Hazman	44,926
Cigarettes, Filling	E. Berg	45,575
Cinder washers	J. M. Meschutt	41,852
Cisterns, Feltings	P. Markley	41,850
Cistern regulators, Automatic	A. Beach	41,753
Clamp, Felly, Spoke-socket, and	L. D. Flanders	41,370
Clamp, Newspaper	J. D. Hall	43,686

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Clamp, Stitching	N. Holden	43,408
Clamp for clothes wringers	J. D. Burdick	43,286
Clamp for wringers	T. Brooks	43,089
Clamp for stopping leaks in hose pipes	C. Rubsan	42,135
Clamp milling machine	A. B. Lawther	42,201
Clamp for hoop skirts, Forming	F. J. Terrell	42,608
Clasp, Spring or button	F. E. Drake	43,152
Clasp for bank bills, &c	C. Perley	43,792
Clasp for shoe lacings	W. E. Darrah	44,286
Clasp for tobacco boxes, &c	C. C. Ashley	44,364
Clew bars	M. Cornelius	44,576
Clew blocks to clews, Attaching	E. A. Sawyer	41,096
Clew thimble	T. Carroll	42,817
Clock	C. Schwippl	43,230
Clock, Calendar	D. J. Mozart, L. Beach, and L. Hubbell.	41,122
Clock, Calendar	B. B. Lewis	43,214
Clock, Watchman's	W. Winter	43,616
Clock dial sashes	G. Hills	45,497
Clock fillers	W. H. Nettleton	42,004
Clods in the field, Dividing	J. N. Davis	44,404
Cloth, canvas, &c., Mildew in, Preventing	W. Stacey	43,233
Cloth, Coating and flocking	E. M. Chaffee	44,281
Cloth, Machinery for finishing	H. James	41,581
Cloth, Measuring, in the piece or roll	W. Beaton	45,131
Cloth, leather, &c., Enamelling	F. Longhurst and A. L. Murdock	42,584
Cloth, mould, and paper collars	S. S. Gray	41,294
Cloth, Nap on, Raising	E. T. Marble	41,227
Cloth, paper, &c., Flocking, Composition for	A. Erhard	44,944
Cloth, Saddle or sweat	R. Spencer	41,944
Cloth, Sponging	L. Rothschild	42,406
Cloth shearing machine	A. Woolson	43,878
Clothes dryer	H. S. Blood	42,160
Clothes dryer	T. G. Harold	43,113
Clothes dryer	T. A. Summers	44,469
Clothes dryer	L. Ling	44,964
Clothes drying machine	W. Price	45,521
Clothes fastener	P. Frost	41,838
Clothes frame	J. Greek	41,698
Clothes frame	H. Buel	43,069
Clothes hanger	A. J. Walker	43,144
Clothes pin	J. Greenwood	45,119
Clothes pin	H. W. Sargeant	45,458
Clothes rack, Adjustable	J. Brainerd and W. H. Burridge	41,134
Clothes wringer	D. D. Gitt	42,908
Clothes wringer	J. Johnson	43,368
Clothes wringer	E. Blakeman and I. K. Gill	44,779
Clothes wringer	R. Gibson	44,796
Clothes wringer	J. D. Burdick	43,286
Clover hullers	M. H. Mansfield	43,217
Clover and other seeds, Hulling	W. Jones and A. Miller	44,431
Clutch, Friction	J. S. Brown	42,525
Clutch, Friction	L. H. Olmsted	44,448
Clutch or pulley, Friction	H. S. Shepardson	43,138
Coal, Desulphurizing, Composition for	J. H. Connelly	43,760
Coal, Fine, Burning	E. Thayer	44,263
Coal, Lump, Artificial	R. Covert	44,960
Coal, &c., Pulverizing and preparing for use	J. E. Lundgren	42,257
Coal breakers	H. C. Rogers	43,133
Coal hods	J. R. Miller	42,623
Coal hods	E. A. Jeffery	43,916
Coal mining apparatus	R. H. Lamborn	42,669
Coal mining apparatus	G. E. Domsthorpe, W. Firth, and R. Riddey.	42,724
Coal mining machine	W. W. Grier and R. H. Boyd	43,493
Coal scuttle	W. B. Treadwell	41,244

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Coal scuttle	T. T. Markland, jr	44, 875
Coal scuttle	G. Chambers	45, 388
Coal scuttle and ash sifter, Combined	T. Parker	44, 336
Coal and other minerals, Cutting	T. Harrison	42, 626
Coals and ores, Purifying	B. P. Penniman	44, 817
Cocks	J. L. Lowry	41, 077
Cocks, Gas, Opening and shutting by electro-magnetism.	J. A. Heyl	41, 920
Cock, Gauge	S. Shepherd	44, 347
Cocks, Gauge, Alarm, for steam boilers	H. Wilkins	42, 425
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Coffin plates	W. H. Green	42, 367
Coffins and other articles from asphaltic composition, Manufacture of.	D. W. Denton	41, 284
Collars, Horse	C. Fisher	41, 497
Collars, Horse	G. F. Marshall	45, 060
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Collars, Forming	S. S. Gray	43, 401
Collars, Ladies'	C. O. Crosby	41, 140
Collars, Paper	S. S. Gray	43, 400
Collars, Paper	G. W. Livermore	44, 871
Collars, Paper	A. F. Gray	44, 948
Collars, Paper	T. McSpeden	45, 621
Collars, Paper	C. Spofford and V. Fogerty	45, 681
Collars, Paper, Bending and folding	W. E. Lockwood	44, 640
Collars, Paper, Folding	J. H. Darlington	43, 737
Collars, Paper, Folding	M. P. Dorsch	44, 615
Collars, Paper, Making	D. M. Smyth	43, 870
Collars, Paper, Pressing	E. E. Raisons	43, 741
Collars, Paper and cloth, Moulded	S. S. Gray	41, 294
Collars, Shirt, Paper	C. Spofford and W. S. Bell, Jr	44, 022
Collars, Shirt, Paper, Colored	S. W. Ward	43, 728
Collars, Shirt, Metallic	O. Ernst	43, 981
Collars, Shirt, Steel	L. Billou	42, 429
Collars, Shirt, Steel	R. Woodward, J. Priest, and O. Ernst.	44, 057
Collars, Shirt, Turnover	N. Evans, Jr.	41, 692
Collars and bosoms, Shirt detached	C. E. Richards	45, 566
Collars and cuffs, Enamelled fabric for the manufacture of.	H. E. Gibson	43, 489
Collar clasp	V. Fogerty	43, 190
Collar supporter, Neck scarf and	J. A. Bushee	41, 568
Collarettes	C. O. Crosby	41, 907
Collets	S. A. Morse	42, 590
Collice, Improved	J. Flock	42, 652
Coloring kid gloves, Mode of	S. C. Case	41, 279
Combs	E. M Noyes	43, 038
Combs, Curry	C. B. Bristol	41, 755
Combs, Curry	N. C. Harris	43, 405
Combs, Curry	C. W. Saladee	45, 640
Combs, Toilet	J. H. Southwarth	43, 931
Compasses, Mariners'	J. S. Pender	44, 551
Compasses, Surveyors'	H. B. Martin	43, 036
Compasses insensible to local attraction, Rendering.	J. S. Gisborne and W. Simpson	41, 839
Composition, Explosive	E. Harrison	41, 578
Compound, Explosive	H. Halverson	43, 021
Compound, Lubricating	G. W. Gladen	41, 840
Compound, Medical	J. Weaver	41, 111
Compound, Medical	J. Ward	42, 704

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Compound, Medical	C. A. Morse	44, 106
Compound, Medical	W. Lorner	45, 410
Compound, Water-proof and varnish	E. L. Simpson	42, 231
Compress, Double-acting	J. H. Fellows	45, 559
Concentrator, Metallic	Z. Wheeler	44, 130
Condensers	G. R. Vanderbilt	41, 949
Condensers	A. Hartupee and H. P. Gengembre.	45, 408
Condensers, Hydro-atmospheric	J. P. F. Datichy	43, 976
Condensers, Surface	A. C. Stimers	41, 545
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Condensing apparatus	G. A. Jasper	43, 413
Condensing and pumping, Apparatus for	G. J. Washburn	41, 799
Conductors, Lightning	N. Brittan	43, 565
Conductors, Sub-marine shot	E. H. Hull	44, 631
Confectioner's pipe	O. P. Chase	43, 735
Cooking apparatus, Steam	B. G. Martin	42, 442
Cooking ranges	A. C. Barstow	41, 355
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Cooking by steam, Vessels for	L. S. Hall	41, 618
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Cooler, Beer	D. Sayer	43, 342
Cooler, Water	J. C. Sloan	44, 979
Cooler and filter	H. M. Seavey	44, 558
Cooling parts of the body, Apparatus for	O. M. Fuller	43, 679
Copper, &c., Engraving	A. F. Burson	45, 224
Cops, Pasting, Composition for	J. Dunkerly and J. Knight	41, 286
Cords, Springs and calisthenic pulleys for	J. Wood	43, 167
Cords, Twisting and plaiting	J. T. Williams	42, 613
Cords, Weaving coverings around	F. Veerkamp and F. Leopold	43, 937
Cords, ropes, &c., Manufacturing	J. A. De Maniquet	43, 461
Corks, Trimming	B. T. Roath	43, 867
Cork extractor	J. P. Miers and J. Grovendyke	41, 385
Cork extractor	J. L. Merrill	42, 784
Corkscrews	J. L. Clark	45, 137
Corkwood, Slicing	H. Boardman	45, 310
Corks or bungs, Cutting	P. Haydon	41, 506
Corn, Husking	A. W. Case	45, 387
Corn shellers	J. Brinkerhoff	42, 271
Corn shellers	J. Shipe	43, 713
Corn shellers	G. Goeway	44, 768
Corn sheller and separator	E. Knapp	44, 433
Corn shuck, Loading and unloading	W. M. Mason	42, 003
Corn stalks, Fibrous material from	J. A. Roth	41, 642
Corpse-preserving cases	J. Searing	45, 349
Corsets	S. Collins	42, 460
Corset skirt, Supporter for	L. H. Foy	41, 987
Corset skirt, Supporter for	L. H. Foy	45, 296
Corset skirt, Supporting	L. S. Scofield	43, 930
Corset fastening	S. Chapman	43, 094
Corset steels, &c., Japanning	C. H. Bassett	42, 457
Corsets and abdominal supporters, Combined	S. A. Moody	42, 591
Cots and stretchers, Field hospital	W. Dan	45, 479
Cotton, compound, and other fibrous material, Treating.	M. Wanklyn	41, 731
Cotton, &c., Drying	H. Haight and R. Heaton	41, 153
Cotton, Ginning and burring wool	J. Goulding	42, 940
Cotton, Gun	B. W. Leuk	43, 166
Cotton, &c., Spooling	G. Ermen and R. Smith	44, 052
Cotton, &c., for spinning, Preparing	J. Taylor	42, 127
Cotton gin	T. C. Craven	41, 487
Cotton machinery, Sizing rolls for	J. M. Dunlop	44, 911
Cotton picker	H. Stevens	44, 828
Cotton and other fibrous material, Preparing	C. Whipple	45, 371

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Countersink	H. S. Sheperdson	41,894
Counting, Machine for	J. Dolbeer	45,482
Coupling, Car	J. T. Lowry	41,308
Coupling, Car	J. McGow	41,502
Coupling, Car	H. C. Glasgow	41,767
Coupling, Car	C. Foster	41,837
Coupling, Car	J. T. Johnston and N. T. Smith	41,924
Coupling, Car	H. Blackmore	42,041
Coupling, Car	C. M. Radcliff	42,400
Coupling, Car	S. Slock	42,696
Coupling, Car	G. E. Wood	42,710
Coupling, Car	E. M. Wright	42,897
Coupling, Car	J. S. Bell	43,175
Coupling, Car	H. McKee	43,219
Coupling, Car	A. A. Burch	43,343
Coupling, Car	J. M. Gow	43,399
Coupling, Car	J. Widney	43,447
Coupling, Car	M. H. Card and T. Tripps	43,569
Coupling, Car	E. Carey	43,734
Coupling, Car	W. C. Bussey	43,969
Coupling, Car	H. Fake	44,085
Coupling, Car	W. H. Forker	44,484
Coupling, Car	N. S. White	44,571
Coupling, Car	E. F. Wells	45,288
Coupling, Car	B. F. Marsden	45,509
Coupling, Car, Railroad	R. S. Chatterton	43,375
Coupling for carriages	C. H. Guard	43,640
Coupling, Carriage, Circle	G. G. Larkin	42,199
Coupling for carriage shaft	T. Pendergast	45,519
Coupling, Hose	A. M. George	44,794
Coupling, Hose to, Fastening	C. McBurney	41,630
Coupling, Shaft	J. P. Collins	45,476
Coupling, Shaft, for carriages	F. B. Morse	41,529
Coupling or still attachment	C. W. Gage	45,518
Cours or lower sails of square-rigged vessels	S. W. Baxter and J. W. Chapman	44,065
Cow milker	L. O. Colvin	41,196
Cow milker	G. H. Gardner	45,486
Cradle	F. R. Wolfinger	43,448
Cradle, carriage, and chair combined	G. W. Hawk	42,206
Cradle, Folding	J. A. Latham and G. W. Tileston	43,947
Cradle, Grain	D. D. Dove	42,173
Cradle, Self-rocking	C. H. Helmkamp	41,507
Cradle and chair, Combination of	A. Hick	42,130
Crane, Portable	S. R. Marshall	41,161
Crank, Car, Hand	P. Groel	44,574
Crank or dead points, Carrying	F. Glass	41,373
Cravats, Rubber, Vulcanized	W. W. Boach	43,620
Crayons, Composition for	J. N. Pierce	45,518
Crimper, Pie, and knife and fork	G. D. Bayley	44,699
Crucible, Black lead	G. Nimmo	42,959
Crucibles, &c., Composition for, Fire-proof	L. Held	43,548
Crushers, Quartz	M. H. Collins	43,096
Crushers, Rock and ore	D. Dick	44,518
Crushers, Rock and ore	J. Brodie	45,582
Crushers and stamp mills, Collecting dust from	J. Brodie	42,143
Crushing and pressing machine	C. and O. Waste	43,054
Crutches	J. Hartman, jr	42,473
Crutches	T. E. Gordon	45,242
Cuffs and collars, Enamelled fabric for the manufacture of.	H. E. Gibson	43,489
Cuff fastener	A. Douglas.	42,434
Cultivators	J. R Mills	41,086
Cultivators	G. Large	41,159
Cultivators	W. H. Olden	41,389
Cultivators	J. Case	41,423
Cultivators	M. H. Hullinger	41,435

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Cultivators	E. W. Vangundy	41,454
Cultivators	P. McGlew	41,523
Cultivators	F. W. Thompson	41,550
Cultivators	S. G. Welch	41,556
Cultivators	J. Wilhelm	41,562
Cultivators	A. M. Cook	41,569
Cultivators	W. Furnas	41,614
Cultivators	C. J. Buchner	41,677
Cultivators	J. Lacey	41,709
Cultivators	J. Swart	41,728
Cultivators	J. Lacey	41,743
Cultivators	J. Haege	41,769
Cultivators	J. Austin	41,899
Cultivators	S. A. Tombs	42,137
Cultivators	S. Sloan	42,232
Cultivators	S. W. Slocomb and E. Phillips	42,513
Cultivators	J. D. Smith	42,514
Cultivators	E. M. Dever and I. C. Pratt	42,646
Cultivators	A. P. Durant	42,932
Cultivators	W. Mettler	43,123
Cultivators	C. Williams	43,249
Cultivators	L. B. Waterman	43,268
Cultivators	J. Davis	43,395
Cultivators	A. G. Tucker	43,441
Cultivators	F. Barney	43,470
Cultivators	J. Canfield	43,635
Cultivators	G. W. Conolly	43,671
Cultivators	J. Cox and J. A. Throp	43,836
Cultivators	D. M. Davis	43,901
Cultivators	C. M. Jenne	44,729
Cultivators	E. Pratt	44,747
Cultivators	J. M. Burke	45,019
Cultivators	G. D. Miller	45,066
Cultivators	J. J. Rider	45,177
Cultivators	J. D. Osborn	45,264
Cultivators	H. Ingraham	45,612
Cultivators	J. Korkman	45,615
Cultivators, Corn	A. Kinyon	45,503
Cultivators, Corn	E. Wilde	45,549
Cultivator and planter, Convertible	S. E. Harrington	42,370
Cultivator and seeder	C. E. Miller	41,314
Cultivator and seeder	T. L. Day	44,658
Cultivator and seeder, Combined	T. Thomas	43,721
Cultivator and seeder, Combined	W. Ironside	43,995
Cultivator and seeding machine	D. Stander	44,896
Cultivator teeth, Operating	T. W. Hammon	45,671
Cup, Molasses	E. R. Cook	42,750
Cup, Oil	E. W. Bancroft	43,000
Cup, Oil	J. Fogle	44,297
Cup, Oil, for carriage axle	L. Gregory	43,197
Cup, Soap	D. Reed	42,021
Cupola and furnace	Z. Ellis	45,030
Currier's armor grain boards	A. Chase	42,165
Currier's sticker, Whitening	D. Peters and W. D. Wilson	42,379
Curtains, Cord tightener for	J. O. Montignani	41,231
Curtain fixture	S Hartshorn	44,624
Curtain fixture	A. Hicks	45,374
Curtain fixture	H. L. Judd	45,413
Curtain fixture and window blind	J. H. Kinsman	42,198
Curtain or head shade fixture	W. Campbell	44,602
Cushion, Elastic, for piercing implements	B. D. Sanders	42,228
Cutter, Bread	J. Oxley	42,715
Cutter, Button-hole	M. M. Shellaberger	41,725
Cutters, Cheese curd	H. A. Blakeman	41,271
Cutters, Curd	J. Crosby	41,833
Cutters, Curd	J. B. Lyons	42,209

Invention or Discovery.	Name of Patentee.	No.
Cutters, Curd	F. G. Abbey	44,058
Cutters, Curd	J. H. Maydole	44,733
Cutters, Feed	J. J. Parker	44,650
Cutters, Hay and straw	T. Hazard	43,988
Cutters, Hay and straw	C. D. and W. S. Brewer	45,385
Cutter, Hog-snout	S. Hair	43,909
Cutter, Meat	J. G. Perry	43,427
Cutter, Meat	J. G. Perry	43,428
Cutter, Meat	C. L. Gilpatire	44,527
Cutters, Straw	F. B. Hunt	41,070
Cutters, Straw	J. R. Whittemore	42,892
Cutters, Straw	A. Y. Clough	43,254
Cutters, Straw	D'Arcy Porter	43,459
Cutters, Straw	D. H. Whittemore	43,811
Cutters, Straw	W. P. Goolman	44,042
Cutters, Straw	A. J. Adams	41,148
Cutters, Straw	E. F. Bishop	44,507
Cutters, Straw	N. Legat	45,376
Cutters, Straw, Affixing knives to	J. Doerksen	45,396
Cutters, Tobacco	W. H. Pease	41,637
Cutters, Tobacco	A. E. and J. B. Blood	45,219
Cutters, Tobacco, Lump	E. Holbrook, jr	42,484
Cutters, Tobacco, Self-feeding	R. Smith	45,451
Cutters, Tobacco, Sheet	E. Holbrook, jr	42,483
Cutters, Twine	S. E. Blake	44,389
Cutter, Vegetable	C. Degel	41,761
Cutter, Vegetable	S. W. Packard and C. A. Mecking	45,071
Cuttter for cutting gear wheels	J. K. Brown	45,294
Cutter and grater, Meat and vegetable	E. Culver	43,837
Cutlery, Table	L. Rice	44,056
Cutlery, Table, Manufacture of	F. W. Presber and P. Shiebel	42,872
Cutlery, Table, Manufacture of	A. McGuire	43,785
Cutting, punching, and bending machines	C. Wright	42,325
Cutting objects with straight and semicircular ends.	C. W. Packer	45,565
Cutting tool for turning	A. S. Libby	41,818
Cuvettes and trays for photographic purposes	H. T. Anthony	42,061
Cyanogen and iron, Compound	H. Halverson	43,022
Cylinders, Boring	L. B. Flanders	44,296
Cylinders, Boring, Curved	W. Wright	42,616
Cylinders, Waste, Relief valves for	T. H. Bailey	41,471
Cylinders for drying paper, warp threads, &c	M. A. Furbush	44,524

D.

Invention or Discovery.	Name of Patentee.	No.
Dampers	N. W. Wheeler	41,457
Dampers	S. Munson	41,636
Dampers	C. C. F. Stender	41,869
Dampers	J. W. Martin	42,049
Dampers	H. Raymond	43,794
Dampers	J. G. Jennings	45,045
Damper regulator	W. Noyes	45,429
Damper regulators, Fire	P. Lamb	43,213
Damper for flues	J. Lining	45,508
Damper for hot water heating apparatus, Automatic air.	W. C. Baker	44,038
Damper for stove pipes	J. A. Noble	44,109
Damper for stove pipes	G. E. Smith	44,981
Damper and flue for heating stoves, Out-side	H. G. Giles	44,180
Damper and register, Ventilating	W. J. Towne	44,030
Dancer, Automatic	J. S. Clough and V. Fountain, jr	43,759
Dancer, Automatic	J. E. Atwood and C. P. Smith	44,378
Delineater, Mortise and draw bore	R. Bloss	42,550
Dentistry	J. Johnson	43,588
Derrick	S. Turner	45,445
Derrick, Floating	J. V. Collins	42,561

Invention or Discovery.	Name of Patentee.	No.
Derrick for stacking hay	T. J. Palmer	43,925
Derrick for stacking hay	S. Turner	43,936
Desk, Writing	J. L. Watson	43,876
Desk and chair combined, Office	M. P. Norton	42,016
Desk and seat, School	R. Cruikshank	42,859
Desk and seat, School	T. Weaver	45,286
Desk for school rooms, Arrangement	H. G. Eastman	44,082
Desk, washstand, bureau, and wardrobe	A. Lee	45,505
Detergent	S. Coburn	43,393
Dies, Registering	E. Spencer	42,235
Die, for a nut machine	O. C. Burdict	41,137
Die, for heating screw blanks	H. A. Harvey	44,090
Die, for making bolts	W. J. Clark	44,706
Die, sinking press for obtaining relief plates for surface printing.	W. H. Oakes	41,088
Die, and stamp for crushing quartz, Casting	G. W. Coffee	45,318
Digger, Post-hole	J. Boone	43,085
Digger, Potato	D. N. Denman	44,288
Diseases, Treating, Vacuum apparatus for	A. F. Jones	44,198
Disks, Centrifugal, Revolving in air and water	T. W. Rammell	42,716
Dish, Soap	J. Cundy	41,606
Dish cover, Refrigerating	O. Marland	41,228
Dish drainer	C. Britain	43,088
Dish pan	J. Vandercar	43,442
Distilleries, Cooling	H. G. Dayton	44,712
Distilleries, Petroleum, Utilizing the waste gas from.	H. W. C. Tweddle	45,363
Ditching machine	A. W. Cox	42,563
Ditching machine	G. W. Wiggin	43,060
Door, Buttons for	H. Underwood	44,474
Door, Car, Holder for	G. Crandall	42,452
Door, Locking, for railroad cars	E. W. Morse	45,165
Door, Safety, for churches	A. H. Wagner	42,719
Door, Sheaves for	R. G. Hatfield	42,205
Doors, stair rails, lasts, &c., Fastening for	W. Sellers	42,994
Door, Weather strip for	W. H. Hurlbut and J. W. Sharp	41,624
Door, Weather strip for	H. C. Hunt	44,428
Door, Weather strip for	S. W. Perkins	44,552
Door and grate closing device	G. Turner	41,948
Door and window fastener	L. C. Bignall	42,924
Door and window fastener	H. Wilkinson	44,245
Door knobs to their spindles, Attaching	E. Parker	43,332
Dough, Mixing and kneading	W. Wells	43,445
Dough kneader	A. J. Palmer	43,791
Dove-tailing machine	S. E. Hartwell	41,992
Dove-tailing machine	W. E. Sibley	45,351
Dove-tailing machine, Mitre	F. A. Gleason	43,767
Drain	G. W. Smith	41,542
Drain	G. W. Smith	45,089
Drawing frames, Rolls in, Opening	J. Chase and B. M. Stone	42,076
Drays, Skid for	E. H. Boswell	41,054
Dress, Head, for ladies	J. Edwards	41,062
Drills	W. Stivers	41,546
Drills	G. C. Taft	43,372
Drills	R. Dudgeon	43,673
Drills, Grain	T. R. Cormick	41,199
Drills, Grain	J. Bucknell	41,474
Drills, Grain	A. Marshall	41,713
Drills, Grain	J. W. H. Doubler	41,811
Drills, Grain	A. Brooks	42,069
Drills, Grain	W. Ross	42,112
Drills, Grain	U. H. Shockley	42,116
Drills, Grain	A. Hoffman	42,192
Drills, Grain	G. Huntington	42,290
Drills, Grain	W. M. Conger	42,350
Drills, Grain	T. S. Mills	42,390

Invention or Discovery.	Name of Patentee.	No.
Drills, Grain	T. W. Watts	42,424
Drills, Grain	W. P. Penn	42,871
Drills, Grain	S. E. Tyler	42,975
Drills, Grain and corn planters, Combined	T. Short	45,350
Drills, Grain and seed	W. P. Penn	43,339
Drills, Pneumatic	S. Gwynn	44,722
Drills, Pneumatic	S. Gwynn	44,862
Drills, Ratchet	J. C. Chapman	42,560
Drills, Ratchet	H. Getty	43,109
Drills, Rock	J. Cody	42,167
Drills, Rock	J. Phillips and A. Tschop	43,523
Drills, Rock	D. Evans	45,147
Drills, Seed	J. F. Keller	44,098
Drills, Seed	W. H. Newman	45,335
Drills, Twist	A. R. Arnold	44,037
Drill and sand pump	E. R. Morrison	45,068
Drilling machine	A. Gordon	42,365
Drilling machine	W. Morton	42,011
Drilling machine, Rock	J. S. Foster	41,913
Drop for hammering sole leather	J. H. Walker	42,703
Drum gas heater	W. H. Towers	45,655
Drying apparatus	E. Y. Robbins	43,603
Dumping apparatus	F. Ficht	44,412
Dwellings, &c., Pure and wholesome air in	D. E. Somes	44,671
Dyeing felt caps, &c., Device for	J. McFarlane	42,915
Dyeing kid gloves	J. T. Reed	42,111
Dyeing flannel and other cloth	D. M. Cummings and A. Hayes	44,402
Dyeing and printing, Coloring matter for	A. W. Hoffman	43,066
E.		
Economizer, Water	E. J. Stearns	42,969
Edging machine, Feather	L. Goddue	44,300
Eggs, Meat, &c., Preserving	J. Perkins	42,396
Eggs, Preserving	A. M. Bhuval	41,053
Egg beater	W. Saladee and E. M. Luckett	42,603
Egg beater or agitator	J. W. Bliss	45,309
Egg fryer	A. Overbagh	44,886
Egg hatching apparatus	T. Carter	41,830
Egg and other articles, Preserving	W. B. Ingersoll	42,948
Ejector for oil	J. D. Augier and F. Crocker	45,463
Ejector for oil wells	J. D. Augier and F. Crocker	44,587
Ejector for oil wells	G. M. Mowbray	44,646
Ejector for oil wells	G. M. Mowbray	44,878
Ejector for oil wells	T. P. Gunming	45,153
Ejector for oil wells	G. M. Mowbray	45,464
Elastic fur bands	J. W. Gray	41,145
Electric machine, Magnetic	J. Kidder	41,927
Electricity, Lighting gas by	S. Gardiner, jr	45,239
Electricity, Lighting gas by	S. Gardiner, jr	45,240
Electricity, Lighting gas by	S. Gardiner, jr	45,241
Elevator	N. D. Hinman	45,245
Elevator, Balanced	C. B. Sawyer	43,136
Elevator, Brick and mortar	J. M. Nansaree	44,544
Elevator, Cone and chimney	W. R. P. Cross	42,045
Elevators, Grain	A. B. Nimbs	45,336
Elevators, Grain	A. B. Nimbs	45,337
Elevators, Grain	J. Nichols	45,515
Elevators, Grain, wet, Portable	D. W. Kellogg and J. W. McKee	42,133
Elevators, Hay	E. L. Walker	44,129
Elevators, Hay and stack builders'	F. Wicks	44,761
Elevators, Sorghum	L. Wright	44,135
Elevators, Water	J. C. Barrett	41,410
Elevators, Water	W. E. Pratt	41,639
Elevators, Water	B. B. Bignall	41,672
Elevators, Water	M. C. Bignall	41,901

Invention or Discovery.	Name of Patentee.	No.
Elevators, Water	S. Hemenway	42,289
Elevators, Water	S. F. Jones	42,439
Elevators, Water	S. S. Williams	42,919
Elevators, Water	W. Weighs	43,517
Elevators, Water	D. Perry	43,862
Elevators, Water	H. J. Bailey and S. S. Williams	43,966
Elevators, Water	G. Illias	44,315
Elevators, Water	J. Negley	44,334
Elevators, Water	S. F. Jones	44,371
Elevators, Water	E. P. Barton	44,386
Elevators, Water	A. H. Seaman	44,463
Elevators, Water	A. D. Humphrey and T. Forbes	44,531
Elevators, Water	J. S. Brown	44,593
Elevators, Water	J. Dearborn	44,789
Elevators, Water	J. M. Hunter	44,867
Elevators, Water	W. Painter	45,339
Elevators for loading cars	R. D. Chatteron	41,482
Elevating and transporting device	E. B. Coffin	43,291
Elliptical frames, &c., Enamelling	G. W. and H. H. Fergurson	43,189
Embroidering patterns, Transferable	C. H. Hudson	41,776
Enamelling, Japaning and inlaying, Metallic substances for, Preparing.	D. Rait	44,046
Enamelling elliptical frames, &c	G. W. and H. H. Fergurson	43,189
Engine, Air, Hot	H. Messer	41,084
Engine, Air, Hot	T. McDonough	44,966
Engine, Blowing	J. Frits and J. Moore	43,678
Engine, Butt	R. Hoadley	41,664
Engine, Caloric	T. Schwartz	45,526
Engine, Carding	D. T. Gage	41,462
Engines, Direct acting	A. Campbell and C. B. Hardick	42,527
Engine, Fire, Steam	L. Button and R. Blake	42,557
Engines, Gas	P. Hugon	41,299
Engines, Gas	S. L. Weigand	44,572
Engines, Locomotive	I. H. Congdon	43,898
Engines, Oscillating	M. Kilgore and W. Eberhard	45,159
Engines, Paper mill, Bed plate for	G. A. Corser	43,070
Engines, Propeller	E. D Ashe	42,336
Engines, Pumping	W. G. Stevens	44,232
Engines, Rose	A. Schwitter	42,691
Engines, Rotary	O. Zellen and C. Taftezon	43,064
Engines, Rotary	D. L. Jacques	43,642
Engines, Rotary	W. Hinds	43,690
Engines, Rotary	C. and S. Weed	43,729
Engines, Rotary	J. B. Root	43,744
Engines, Rotary	S. A. Wood and A. F. Dumke	44,247
Engines, Rotary	G. Vining	44,901
Engines, Rotary	A. K. Rider	45,636
Engines, Rotary	A. K. Rider	45,637
Engines, Rotary, Steam	T. G. Massie	44,330
Engines, Steam	G. T. May	41,229
Engines, Steam	R. D. Wright	41,586
Engines, Steam	J. Ericsson	41,612
Engines, Steam	W. Wright	43,562
Engines, Steam	F. A. Calvert	43,568
Engines, Steam	T. McDonough	43,889
Engines, Steam	J. L. Lowry	44,327
Engines, Steam	S. Andrews, jr	44,846
Engines, Steam	S. L. Weigand	45,199
Engines, Steam	A. Hartupee	45,603
Engines, Steam, Governors for	J. L. Hastings	42,478
Engines, Steam, Links, for	F. A. Brown	44,159
Engines, Steam, Locomotive	A. F. Smith	42,233
Engines, Steam, Packing for, Fibrous	W. H. Miller	45,261
Engines, Steam and other, Packing for stuffing boxes for.	M. Botticher	44,575
Engines, Steam, Slide valves for	I. V. Holmes	42,191

Invention or Discovery.	Name of Patentee.	No.
Engines, Steam, Sliding scales for	A. Gillson	42,776
Engines, Steam, Tube gear of	H. T. Carter	42,272
Engines, Steam, Valve gear of	W. G. Snook	41,128
Engines, Steam, Valve gear for	J. B. Root	42,878
Engines, Steam, Valve gear for	I. W. Bowers	43,757
Engines, Steam, Valve gear for	E. Brown	44,071
Engines, Steam, Valve gear for	A. H. Woodruff	45,663
Engines, Steam and air, Combined	O. M. Stillman	43,803
Engines, Vacuum	I. Newton and N. W. Wheeler	41,964
Engines, Water	C. Whipple	42,891
Engraving copper, &c	O. F. Burson	45,224
Envelopes	C. C. Woolworth	41,804
Envelopes	H. C. Bristol	41,828
Envelopes	S. L. Wiegand	42,035
Envelopes, &c., Cutting and creasing paper for	M. Dimock	44,687
Envelopes, Cutting from sheets of paper	J. P. Herron	43,989
Envelopes, Expansive	R. Van Buskirk	43,875
Envelopes, Folding	W. H. Hook	43,272
Envelopes, Letter	A. M. Murphy	43,126
Envelopes, Opening	A. L. Seabury	42,113
Envelopes, Paper	R. Shepard	45,301
Envelope or paper case	J. W. Wilcox	42,247
Envelope blanks, Gumming and feeding	J. B. Duff	45,397
Envelope machine, Feeding paper to	G. H. Reay	41,395
Envelope thread clews	L. M. F. Patureau	42,902
Eraser, Ink, and penholder	D. E. Holmes	42,769
Evaporating apparatus	S. Bowerman	45,470
Evaporator	W. H. Parmelee	45,072
Evaporator, Cane juice	F. C. Fulghum	44,177
Evaporators, Pans for steam	T. C. Bartle and C. F. Putney	45,667
Evaporator, Sorghum	C. Bond	43,472
Evaparator, Sorghum	J. E. Kendall	44,199
Evaporator, Sorghum juice	D. J. Powers	45,433
Evaporator, Sugar	R. S. Cole	41,195
Evaporator, Sugar	J. S. Corbin	44,401
Evaporator, Sugar	H. Butler	44,850
Evaporator, Sugar	D. B. Neal	45,624
Evaporator, Sugar, Skimmer for	T. J. Price	44,657
Evaporator, Sugar, Skimming attachment for	J. F. Riggs	43,743
Evaporators, Sugar, Working and using	L. W. Bodwell	41;674
Evaporator for saccharine juices	A. H. Sawin	43,711
Evaporator for saccharine juices	L. F. Woodworth	44,248
Excavators	D. Close	43,392
Excavators, Submarine	J. R. Benjamin	43,664
Exercising machine	C. F. Taylor	42,516
Exercising machine	C. F. Taylor	45,652
Explosive composition	E. Harrison	41,578
Extractors, Cork	J. P. Miers and J. Groendyke	41,385
Extractor, Cork	J. L. Morrill	42,784
Extracts, Making	W. Class and E. Rubenow	41,974
Extracts from animal and vegetable substance	J. Chilcott	45,584
Eyelets	E. Parker	43,954
Eyelets	J F. Richards	44,555
Eyeleting machine	J. F. Sargent	41,125
Eyeleting machine	J. Keith	41,303
Eyeleting machine	T. K. Reed	43,816
Eye protector	D. Everett	41,209
Eye protector	L. Morse	45,263
Eyes and hooks	J. C. Howells	45,411
Eyes and hooks, Separating	M. Fowler	45,238
Eyes for lacing boots and other articles	L. Hoffmeister	41,069

F.

Invention or Discovery.	Name of Patentee.	No.
Fabrics, Felted	M. A. Johnson	41,073
Fabrics, Gathered	H. S. Brown	43,943

Invention or Discovery.	Name of Patentee.	No.
Fabrics, Knitted	G. S. Harwood	41,218
Fabrics, Rivets in textile, Instruments for inserting.	W. H. Reed	41,170
Fabrics, Textile, Hot-pressing	R. R. Wilson	41,801
Fabrics, Textile, Printing and ornamenting	A. A. Despreaux	42,713
Fabrics, Water-proof	R. Liddell	42,953
Fabrics, Woollen, Finishing	P. and G. King	41,515
Fabric for envelopes of cartridges	A. K. Johnston and L. Dow	42,668
Fabric manufactured from caoutchouc, &c	O. Fake and P. Schrag	42,533
Fabric for the manufacture of enamelled collars, cuffs, &c.	H. C. Gibson	43,489
Fan, Automatic	J. B. Powell	44,534
Fan, Lady's	J. and I. N. Todd	44,237
Fan blower	W. Farmer	44,715
Fan power	W. E. Wilcox	45,447
Fanning mill shaker, Attachment to	J. Van Houten	42,132
Fastener, Strap	A. G. McWright	42,674
Fat, Machine for cutting	F. Miller and J. N. McIntire	41,963
Fats and oils, Treating, to form composition for illuminating and other purposes.	S. Lewis	43,156
Faucets	C. T. Woodman	41,659
Faucets	J. Grundy	42,286
Faucets	F. Meyrose	43,125
Faucets	G. F. Burkhardt	44,596
Faucets	A. J. Morse	44,813
Faucets	J. Broughton	44,933
Faucets	A. Ban	45,012
Faucets	H. Schnautz and H. Bremen Kamp.	45,085
Faucets, Basin	W. P. Clark	43,736
Faucets, Flexible lined	J. Broughton	44,510
Faucet and vent, Beer; Combined.	J. Miller	42,676
Faucets and vent, Beer, Combined	T. G. Beikel	42,828
Faucet measure and indicator	V. Squarza	41,330
Feathers for beds	G. Schott	44,223
Feather-edging machine	L. Goddu	44,300
Feeders, Nail plate	P. S. Bradford	42,142
Feed manger	C. E. Steller	45,190
Feed rack	W. and H. Sais	43,669
Feed for horses, &c., Concentrated	J. Jaques, D. F. White, and J. Stowell.	41,301
Fenders for roofs of buildings, Ice and snow	L. Howe	42,992
Fellies, Tightening	H. Thompson	43,722
Felting machine	E. Waite	42,611
Felting machine	E. Waite	43,164
Felting machine	J. H. Bloodgood and M. A. Johnson.	45,017
Felt guide, Self-acting, for paper-making machines.	T. Baker	43,280
Felts of paper machines, Washing the	A. Anderson	44,059
Fence	E. S. Clapp and E. Blanchard	42,166
Fence	H. B. Myers	45,298
Fence, Board, Holder for making	J. Wallmer	45,098
Fences, Constructing of	C. S. S. Griffing	42,848
Fence, Farm	E. W. Woodruff	43,542
Fence, Field	W. J. Young	43,543
Fence, Field	F. L. Sexton	45,184
Fence, Picket	G. Gross	45,490
Fence, Portable	J. Kennele	43,415
Fence, Portable	A. H. Palmer	44,967
Fences, Portable field	C. S. S. Griffiths	42,849
Fences, Wire	I. Knapps	43,632
Fences, Wires of, Stretching	W. H. Robinson and J. Behel	44,221
Fence pickets, Sheet metal, Corrugated	B. F. Miller	43,644
Fence posts	C. R. Smith	41,541
Fence posts	J. Palmer	43,790
Farriers' tools	E. Warren and W. Johnston	42,918

Invention or Discovery.	Name of Patentee.	No.
Ferrotype card mount	J. H. Daniels	43,761
Fertilizers	W. H. H. Glover	43,639
Fertilizers. Distributing	H. M Keith	44,635
Fibre, Short staple, from hemp, flax, &c., Preparing.	J. B. Fuller and J. P. Upton	43,015
Fibre, Vegetable, Composition for preparing and water-proofing.	G. A. Cowles, J. P. Chase, and V. Vierow.	44,285
Fibres, Vegetable, Disintegrating and separating.	G. E. Sellers	41,538
Fibres, Vegetable, Preparation of	J. J. Stoers	42,319
Fibre, Vegetable. Preparing for paper stock	G. E. Sellers	41,101
Fibre from the bamboo, Preparing	P. Lichtenstadt	41,627
Fibre from flax, hemp, &c	H. Burgess	41,275
Fibre of flax and hemp, Cleaning and separating.	G. W. Bellings	41,826
Fibres of flax, hemp, &c., Separating the	R. T. Shaw	41,350
Fibrous materials, Cotton and other, Preparing	C. Whipple	45,371
Fibrous materials, Surfaceizing	W. Fuzzard	41,214
Fibrous materials, Surfaceizing		43,765
Fibrous material from cornstalks	J. A. Roth	41,642
Fibrous material and compressed cotton, Treating.	W. Wanklyn	41,731
Feldspar, Treating, To obtain useful products	G. E. Vanderburg	43,534
Fifes	J. Pfaff	45,270
Fifes, Constructing	J. W. Tanner	43,438
Files	H. A. Harvey	44,724
Files, Cutting	J. Jervis	44,633
Files, Cutting	E. O. Patter	44,998
Files, Handles for	C. F. Hunter	43,994
Files, Round and half round, Construction of	J. N. Jacobs	43,775
Files, Hooks for	G. W. Schraum	43,432
File, Letter and music	R. B. Irwin	45,327
Files, Pamphlet	R. M. Abercombie	45,570
File blanks, Grinding	J. S. Brown	43,005
File blanks, Rolling	M. D. Whipple	42,981
File cutting machine	W. T. Nicholson	42,216
File cutting machine	W. T. Nicholson	42,217
File for dressing metal	W. T. Nicholson	44,443
Files and rasps, Hardening and repairing	C. A. Clave	43,658
Filters	J. G. Leffler	41,075
Filters	B. Best	41,357
Filters	W. T. Class	44,253
Filters	L. A. Gouch	44,797
Filters, Bag, for sirup, &c	G. A. Jasper	42,291
Filters and coolers	H. M. Seavey	44,558
Fire-arms	J. Merwin and E. P. Bray	41,166
Fire-arms	R. Graham	43,881
Fire-arms, Balls for, Patched	M. Peck	43,601
Fire-arms, Ball screw for	J. J. Alice	44,586
Fire-arms, Breech-loading	W. X. Stevens	41,242
Fire-arms, Breech-loading	F. Curtis	41,281
Fire-arms, Breech-loading	E. M. Mix and H. B. Horton	41,343
Fire-arms, Breech-loading	J. Warner	41,732
Fire-arms, Breech-loading	W. C. Hicks	41,814
Fire-arms, Breech-loading	B. F. Joslyn	42,000
Fire-arms, Breech-loading	C. B. Holden	42,139
Fire-arms, Breech-loading	A. H. Rowe	42,227
Fire-arms, Breech-loading	G. Hancock	42,471
Fire-arms, Breech-loading	J. Davis	42,529
Fire-arms, Breech-loading	J. Smith	42,542
Fire-arms, Breech-loading	J. Goulding	42,573
Fire-arms, Breech-loading	C. F. Payne	42,685
Fire-arms, Breech-loading	L. N. Chapin	42,748
Fire-arms. Breech-loading	H. Cross	42,941
Fire-arms, Breech-loading	F. Beals	43,284
Fire-arms, Breech-loading	F. Clark	43,571

Invention or Discovery.	Name of Patentee.	No.
Fire-arms, Breech-loading	J. Brown	43,733
Fire-arms, Breech-loading	A. Krupp	43,820
Fire-arms, Breech-loading	G. J. Richardson	43,929
Fire-arms, Breech-loading	W. H. Smith	43,957
Fire-arms, Breech-loading	W. R. Landjear	44,099
Fire-arms, Breech-loading	J. Stevens	44,123
Fire-arms, Breech-loading	F. Townsend and N. S. Clement	44,127
Fire-arms, Breech-loading	W. C. Dodge	44,290
Fire-arms, Breech-loading	W. D. Hillis	44,312
Fire-arms, Breech-loading	J. S. Adams	44,377
Fire-arms, Breech-loading	D. F. Mellen	44,545
Fire-arms, Breech-loading	H. Hammond	44,798
Fire-arms, Breech-loading	W. Johnston	44,868
Fire-arms, Breech-loading	E Whitney	44,991
Fire-arms, Breech-loading	J. Gray	44,995
Fire-arms, Breech-loading	J. Rider	45,123
Fire-arms, Breech-loading	E. S. Wright	45,126
Fire-arms, Breech-loading	A. Grillett	45,152
Fire-arms, Breech-loading	A. J. Bergen and D. Williamson	45,202
Fire-arms, Breech-loading	W. Morgenstern	45,260
Fire-arms, Breech-loading	H. W. Haydon	45,495
Fire-arms, Breech-loading	J. Warner	45,660
Fire-arms, Breech-loading, Cartridge retractor for.	F. Trulender	42,702
Fire-arms, Breech-loading, Double-barrelled	W. H. Elliot	43,840
Fire-arms, Breech-loading, Gas check for	F. Curtis	41,489
Fire-arms, Breech-loading, Self	A. Ball	43,827
Fire-arms, Hammer for many-barrelled, Adjustable.	R. J. Howland and W. H. Elliot	41,510
Fire-arms, Locks of	E. T. Starr	42,697
Fire-arms, Locks of, Safety device for	E. T. Starr	45,532
Fire-arms, Magazine	A. Ball	45,307
Fire-arms, Many-barrelled	W. H. Elliot	42,648
Fire-arms, Many-barrelled	W. H. Elliot	42,649
Fire-arms, Nipple guards for	B. Lilly	42,621
Fire-arms, Primer for, Nipple	L. H. Bradford	42,141
Fire-arms, Repeating	J. Gray	41,375
Fire-arms, Repeating	E. T. Starr	42,698
Fire-arms, Revolving	H. A. Briggs and S. S. Hopkins	41,117
Fire-arms, Revolving	D. Williamson	41,184
Fire-arms, Revolving	S. W. Wood	41,803
Fire-arms, Revolving	B. Kittredge	41,848
Fire-arms, Revolving	W. Palmer	41,857
Fire-arms, Revolving	B. F. Joslyn	42,379
Fire-arms, Revolving	H. Reynolds	42,688
Fire-arms, Revolving	D. Williamson	42,823
Fire-arms, Revolving	J. Rupertus	43,696
Fire-arms, Revolving	C. Robetaill and F. Davis	43,709
Fire-arms, Revolving	S. W. Wood	44,363
Fire-arms, Revolving	F. W. Wood	44,963
Fire-arms, Revolving	R. White	45,290
Fire-arms, Revolving, Cartridge retractor for	R. D. O. Smith	43,529
Fire-arms, Revolving, Locking the cylinder of.	T. Gibson	42,435
Fire-arms, Revolving, Safety stop for	W. Tileston	44,126
Fire-arms, Revolving, and sword handle combined.	S. Guilbert	44,303
Fire-arms, Self-loading	R. Willson	45,105
Fire-arms, Self-loading, Magazine	L. Triplett	45,361
Fire-arms, Self-loading, Magazine or	J. Gray	45,560
Fire-arms, Self-loading or magazine	R. Roberts	45,638
Fire-arms, Sight for, Telescopic	J. M. Trowbridge	41,874
Fire-arms, Trigger cover for	J. Birkenhead	41,472
Fire chamber, Cleaning	G. R. Moore	42,102
Fire escapes	J. Lohr	41,628
Fire escapes	A. T. Ballentine	43,283
Fire escapes	R. Chandler	41,934

Invention or Discovery.	Name of Patentee.	No.
Fires, Forge, Lehigh	J. Evans	41,143
Fireplace	J. S. Blair	42,139
Fireplace	D. and J. Stoner	42,801
Fireplace	W. Bryant	43,342
Fireplace	E. Y. Robbins	43,604
Fireplace	H. E. Smith	44,228
Fireplace and furnace	E. B. Wilson	45,111
Fire plugs	J. McClelland	44,439
Fire damper regulators	P. Lamb	42,213
Fire works, Charging	T. Scharfenberg	44,662
Fishing line reel	D. Ellis	43,485
Fishing rods. Reels to, Attaching	T. W. Cummings	43,546
Fishing tackle	A. J. Lenhart	43,694
Flags	A. Watson	41,656
Flannel, Wool	J. F. Rich	42,226
Flannel and other cloth, Drying	D. M. Cummings and A. Hayes	44,402
Flasks, Liquor	R. Heneage	43,154
Flasks or moulds, Fastenings for	C. H. Burdick	42,542
Flasks or moulds, Slide and guide for	S. A. Traugh	42,419
Flasks or retorts	S. S. Geer	43,193
Flask for drain pipes	E. Dayton	45,229
Flat-iron holder	F. W. Brockseefer	45,581
Flax, Breaking and cleaning	G. B. Turner	44,128
Flax, Breaking and dressing	L. Rundell	44,458
Flax, Cleaning	C. Beach	44,387
Flax, Tangled, Scutching	W. C. McBride	45,259
Flax, &c., to produce short fibre for spinning, Treating.	S. M. Allen	41,185
Flax, hemp, &c., Manufacture of	S. M. Allen	42,265
Flax and hemp, Breaking	G. W. Billings	41,903
Flax and hemp, Disintegrating or cottonizing.	H. Burgess	41,276
Flax and hemp, Dressing	C. G. Howard	44,138
Flax and hemp, Fibre from	H. Burgess	41,275
Flax and hemp, Fibres of, Cleansing and separating the.	G. W. Billings	41,826
Flax and hemp, Fibre of, Disintegrating and separating.	J. B. Fuller	41,813
Flax and hemp, Fibres of, Separating	J. B. Fuller	41,812
Flax and hemp, Fibres of, Separating	J. B. Fuller	43,073
Flax and hemp, Preparing short staple fibre from.	J. B. Fuller and J. P. Upham	43,015
Flax and hemp, Retting	G. W. Billings	41,825
Flax and hemp, Retting and disintegrating	R. S. Shaw	41,352
Flax and hemp, Separating the fibres of	R. T. Shaw	41,350
Flax and hemp, Separating the fibres of	J. B. Fuller and J. P. Upham	44,415
Flax and hemp machine	G. W. Billings	41,902
Floating devices	G. W. Talcott	43,873
Floor cloth	S. Hawksworth	42,479
Floor cloth, &c., Leather paper for	E. Richmond	43,340
Flour, &c., Bolting	J. Wright	41,737
Flour bolts	A. F. Boon	45,311
Flour packer	I. Cook	42,463
Flour sacks	J. M. Hurd	43,773
Flues, Heat radiating attachment for	W. P. Merrill	45,425
Flues and damper for heating stoves, Outside.	H. G. Giles	44,180
Fluid, Washing	H. Rose	41,124
Fluid, Washing	S. Kent	42,001
Fluid, Washing	D. Johnson	45,613
Flumes for floating logs, Building	J. Dubois	41,285
Flyer guides, Manufacturing	D. L. Hill	41,297
Fold and shed, and sheep rack, Combined portable.	S. L. Sage and O. T. Baker	45,080
Food, Concentrated	J. H. Schenck	45,180
Food, Preparing and preserving	J. McCall and B. G. Sloper	45,569
Food, gunpowder, liquids, paints, oils, and other articles, Preserving metallic cases and boxes for.	J. Bouvet	43,378

Invention or Discovery.	Name of Patentee.	No
Forge, Blacksmith's, Portable	J. F. Bridge	42,068
Forge, Portable	S. Rohrer	45,678
Forge fires, Lehigh	J. Evans	41,143
Forks, Hay elevating	D. F. Neikirk	41,715
Forks, Hay elevating	S. Wheeler	41,733
Forks, Hay elevating	T. T. Calkins and D. E. Wing	43,832
Forks, Hay elevating	J. A. Whitney	43,939
Forks, Hay elevating	J. B. Hawley	43,946
Forks, Hay elevating	E. Reynolds	45,634
Forks, Hay, Horse	F. H. and H. James	41,072
Forks, Hay, Horse	J. D. Halstead	41,155
Forks, Hay, Horse	D. B. Clement	41,484
Forks, Hay, Horse	J. S. Gage	41,499
Forks, Hay, Horse	S. L. Gates	44,087
Forks, Hay, Horse	D. Lippy and J. H. Palm	44,102
Forks, Hay, Horse	J. L. Ripley	41,116
Forks, Hay, Horse	E. B. Turner	44,470
Forks, Hay, Horse	J. L. Wells	44,682
Forks, Hay, Horse	E. Reynolds	44,748
Forks, Hay, Horse	F. Wicks	44,760
Forks, Hay, Horse	J. Crandell	44,788
Forks, Hay, Horse	L. G. Kniffen	44,805
Forks, Hay, Horse	P. Hill	45,324
Forks, Hay, Horse	E. D. Rimdell	45,439
Forks, Hay, Horse	J. R. Cadwell	45,472
Forks, Knife and pie crimper	G. D. Bayley	44,699
Forms, Tapering, Cutting	L. E. Philips	42,504
Fortifications, Defensive armor for, and defence of ships-of-war, Construction of.	O. Collins	42,349
Forts, &c., Destroying, by means of inflammable liquids.	A. Berney	42,458
Fountain, Oil stove	J. Funk	42,361
Fountain, Refreshment, Portable	A. J. Ohmer	45,170
Fountain, Soda	C. Shultz and T. Walker	43,798
Frames, Arithmetical	H. K. Rugbee	43,545
Frames, Elliptical, Enamelling	G. W. and H. H. Furgurson	43,189
Frames, Drawing, rolls in, Operating	J. Chase and J. M. Stone	42,076
Frames, Hop	L. M. Mason	44,104
Frames, Photographic, Printing	F. Burrows	43,831
Frames, Picture	J. S. Cannon	43,255
Frames, Picture, Oval, Enamelling	F. Smith	43,715
Frames, Printing, Photographic	G. W. and H. Bowlsby	42,637
Frames, Slate and other	F. Shenton	42,695
Frames, Spinning, Adjusting rings and ring rails in ring and traveller.	J. Bankenhead	42,829
Frames for carpet bags	S. Logowitz	44,202
Frames for travelling bags	Z. Walsh	41,414
Freezer, Ice-cream	G. W. Brown	42,144
Friction apparatus for warp dresser beams	B. Saunders	45,082
Friction clutch	J. S. and J. R. Brown	42,525
Frog, Railroad	E. W. Caulkins	45,295
Fruits, Clarifying and condensing the juices of.	C. Corn	42,841
Fruit, Drying	J. Lynde	42,386
Fruit, Preserving	H. C. Smith	43,232
Fruit, &c., Preserving	N. S. Shaler	44,664
Fruit, Preserving, and steaming oysters, Apparatus for.	J. F. Reeves, jr	44,340
Fruit dryers	T. L. West	43,058
Fruit dryers	W. Voegel	43,354
Fruit gatherers	F. A. Maxfield	42,387
Fruit gatherer	J. Vail	45,095
Fruit paring machine	W. M. Howland	44,044
Fruit in jars, &c., Preserving	S. J. Parker	41,392
Fruit and vegetable desiccating apparatus	J. A. Miller	44,260
Fuel, Artificial	D. E. Cantarel	41,832
Fuel, Artificial	P. Buisson	42,163

Invention or Discovery.	Name of Patentee.	No.
Fuel, Artificial	W. and O. S. Holstead	43,112
Fuel, Artificial	W. Budd and J. L. Husband	43,475
Fuel, Artificial	H. S. Lucas	43,695
Fuel, Artificial	J. H. Cornell	44,994
Fuel, Peat, Preparing	E. H. Ashcroft	44,062
Fuel, Utilizing fire	E. Thayer	44,262
Fumigating, Apparatus for	K. P. Kidder	42,380
Fumigator	H. W. Todd	43,723
Fumigator for smoking bees, &c	G. W. Hughes	44,427
Funnels	G. F. Herrick	43,075
Funnels, Indicating	J. D. Smedley	42,024
Funnels, Measuring	N. Otis	42,684
Funnel and measure, Combined	S. R. Dummer	42,174
Funnel and scoop	J. F. Dubber	42,356
Fur, &c., Vegetable, Manufacture of	P. Baumgras	42,326
Furnace	J. Albee	44,497
Furnace	M. F. Magliocco	44,772
Furnace	S. E. Foster	44,835
Furnace, Bath, Metallic	J. S. Brown	43,006
Furnace, Blast	W. Raschette	43,274
Furnace, Blast, Tyeres for	W. M. Everitt	43,764
Furnace boiler	T. B. Davis	44,366
Furnace, Boiler, Steam	J. T. Hancock	41,770
Furnace, Grate bars for	J. Vandercar	42,888
Furnace, House-warming	P. Martin	44,329
Furnace, Puddling	F. M. Ruschhaupt	42,446
Furnace, Puddling	M. J. Davies	43,880
Furnace, Puddling, Application of hot blasts to	I. Reese	45,343
Furnace, Puddling, Composition for lining	J. Williams	43,168
Furnace, Smelting	E. Hall	42,470
Furnace, Soldering	L. Bove	45,134
Furnace, Vapor and coal-oil	R. C. Jackson	44,097
Furnaces for burning saw-dust	F. Braun	42,816
Furnace for calcining ores	J. B. Britten	43,003
Furnace for clarifying cider, &c	C. Corry	44,162
Furnace for desulphurizing ores	C. A. Stetefeldt	43,140
Furnace for heating and welding	G. Nimmo and R. S. Stenton	43,127
Furnace for roasting ores	C. R. Grubb	41,376
Furnace for smelting metals, &c	J. Thompson and T. Widdowfield	43,048
Furnace for smelting ores	E. J. Hall	41,989
Furnace for smelting ores	J. Winchester	43,061
Furnace for treating slag	J. Horning	42,947
Furnace heater	J. W. Wilson	44,246
Furnace grate bars	H. Gerner	44,622
Furnace and cupola	Z. Ellis	45,030
Furnace and fireplace	E. B. Wilson	45,111
Furnace and ovens for the manufacture of iron	J. Yates	41,867
Furnace and stove, Draught regulator for	J. Briggs	41,598
Furnace or stove, Heating	A. Ernst	44,295
Furnace or gas producer	C. W. and F. Siemens	42,717
Furniture, &c., Caster for	J. D. Bradley	43,830
Furniture, Hooks to, Attaching	A. Mountleaut and W. Tent	44,528
Furniture, Rockers for	A. Strawbridge	45,302
Furrowing device		
Fuze, Concussion, bulb for	G. P. Ganster and I. S. Schuyler	42,082
Fuze, Concussion, for shells	W. F. Goodwin	45,035
Fuze, Percussion, for explosive shells	R. P. Parrott	41,937
Fuze, Percussion, for shells	G. P. Ganster	41,185
Fuze, Percussion and time, Combined, for shells.	C. W. Stafford	44,023
Fuze, Safety	J. E. Chase and J. Foy	45,140
Fuze, Safety	J. H. Andrews	45,572
Fuze, time and concussion, Combined	C. Arick	41,061
Fuze, time and concussion, Combined	W. F. Goodwin	44,861
Fuze, time and concussion for shells, Combined.	C. Arick	45,128

Invention or Discovery.	Name of Patentee.	No.
Fuze, time, for explosive shells	M. McDevit	43,922
Fuze, time, for explosive shells	J. Wright	45,381
Fuze, time percussion and concussion, Combined.	A. Merriman	44,546
Fuze for explosive shells, Percussion igniter, Time.	B. B. Hotchkiss	43,993
Fuze for explosive shells	J. McIntyre	44,581
Fuze for explosive shells	C. Arick	44,588
Fuze for explosive shells	J. F. Glen	45,024
Fuze for shell, Igniting	C. W. Smith	43,801
Fuze for shells, Time	B. B. Hotchkiss	42,660
G.		
Gaft and boom joints	J. W. Norcross	45,625
Gag swivel	W. Greacen	44,579
Garments, Sleeping, for travellers	V. P. Corbett	42,168
Garments, Woven, Horsehair	P. L. Slayton	45,209
Gas, air, &c., Compressing	S. Bidwell	44,930
Gas, Coal, for illumination	J. W. Smith	45,460
Gas, Inhaling, Apparatus for	S. W. Albee	42,721
Gas, Illuminating	W. Elmer	41,431
Gas, Illuminating	J. Howarth	42,771
Gas, Lighting, Electrical apparatus for	R. Cornelius	42,840
Gas, Lighting, by electricity	R. Cornelius	44,708
Gas, Manufacturing, Apparatus for	R. Carkhuff	43,668
Gas, Pressure of, Regulating the	W. A. Simonds, A. H. Silvester, and C. Caldwell.	42,023
Gas alarm	P. H. V. Weyde	42,032
Gas apparatus	A. Myers	43,079
Gas apparatus, Automatic air holder for	H. L. McAvoy	45,205
Gas cocks, Opening and shutting by electro magnetism.	J. A. Heyl	41,920
Gas fixtures	C. A. Shaw	41,644
Gas producer's furnace	C. W. and F. Siemonds	42,717
Gas purifiers, Oxide of iron from, Treating and utilizing.	W. Cleveland	42,898
Gas regulator	F. W. Brocksieper	41,599
Gas regulator	C. C. Lloyd and R. M. Potter	41,930
Gas regulator	J. E. Boyle	42,430
Gas retorts, Luting composition for	J. Chilcott	43,970
Gas from peat, Illuminating	J. B. Hyde	43,585
Gas from petroleum distilleries, Utilizing the waste.	H. W. C. Tweddle	45,363
Gas from petroleum, Separating	J S. Smith and A. Greig	42,121
Gas from petroleum, Separating and collecting	J. H. Hobbs	44,421
Gases, Collecting, from petroleum and other wells.	H. M. Hamilton	42,201
Gases, &c., Explosive, Gauge for measuring the pressure of.	T. Shaw	42,627
Gases, Generating, Carbonic and other gases	F. M. Ruschhaupt	42,447
Gases, Inhaling	W. Z. M. Chapman	44,675
Gases and vapors, Distilling of	J. Howarth	42,772
Gasometer, Portable	J. H. Hayward	42,085
Gate	R. R. Cool	41,760
Gate	D. R. R. Warfield	41,951
Gate	W. B. Waldo	42,422
Gate	S. Whitman	44,132
Gate	A. Blood, sr	45,132
Gate, Automatic	G. McKnight	45,063
Gate, Farm	W. D. Harrah	44,306
Gate fastenings	H. Last	45,162
Gate and door closing device	G. Turner	41,948
Gatherers, Stone	W. H. DeGroot	41,283
Gauges, Joiners'	C. Sholl	41,867
Gauges, Pressure	A. Allen	45,040
Gauges, Slitting	J. W. Van Deventer	41,797

Invention or Discovery.	Name of Patentee.	No.
Gauges, Steam	J. R. Lees	42,540
Gauges, Steam	T. Ray	42,873
Gauges, Steam, Alarm	L. L. Lee	42,384
Gauges, Steam, Pressure	J. V. Jepson	45,247
Gauge, Sirup, for bottling soda, &c	J. Schrink	43,344
Gauges, Water	T. A. Hoyt	43,411
Gauges, Water, Bilge	J. R. Barry	44,385
Gauges, Water, Magnetic	G. W. Smith and C. F. Henis	44,118
Gauges, Water, for steam boilers	T. Scheffler	42,690
Gauges, Water alarm	J. D. Hall	45,203
Gauge cocks	S. Shepherd	44,347
Gauge cock, Alarm, for steam boilers	H. Wilkins	42,425
Gauges for measuring the pressure of explosive gases, &c.	T. Shaw	42,627
Gauge for weather-boarding, Stop	W. F. Redding	41,783
Generators, Steam	G. Tree	42,904
Generators, Steam	S. Greenhalgh	43,769
Generators, Steam	J. W. Bayler	44,153
Generators, Steam	G. B. Drayton	44,597
Generator, Steam	G. B. Drayton	44,598
Generator, Steam	G. B. Drayton	44,599
Generator, Steam	G. B. Drayton	44,600
Generator, Steam	G. B. Drayton	44,601
Generator, Steam	M. and R. M. Merryweather and E. Field.	44,877
Generators, Steam	J. E. Craig and J. Madden	45,025
Gilding China, glass, and other wares, Solution for.	L. P. Angenard	42,206 45,109
Gins, Cotton	W. H. Livingston	43,278
Gins, Cotton, Roller for	W. Wauklin	43,080
Glass, Annealing, Kiln for	T. B. Atterbury	
Glass, China, and other wares, Gilding solution for.	L. P. Angenard	43,080
Glass, Cutting	A. S. McClure	44,331
Glass, Cutting, Polishing, Dressing, and ornamenting.	T. J. W. Robertson	43,042
Glass, Grinding. Cutting and engraving	T. J. W. Robertson	43,041
Glass, Manufacture of	J. L. Gilliland	41,065
Glass, Metallic moulds for molten	W. Pountney	43,224
Glass, Ornamenting	T. J. W. Robertson	43,043
Glass, &c., Ornamenting, Roseaeguie for	A. Schwitter	44,461
Glass, Toilet, and folding table	H. W. Eastman	44,714
Glass-pressing machine	F. McKee and C. Ballinger	42,143
Globes, Geographical	E. Perce	41,938
Globes, School, Moulds for making	J. R. Agnew	43,379
Gloves, Cutting out	H. J. Dickerson	45,145
Gloves, Kid, Dyeing	J. T. Reed	42,111
Gloves, Kid, Mode of coloring	S. C. Chase	41,279
Glue	E. Goddard	44,528
Glue, Heating	R. Jackman	44,774
Gold, Extracting, from foreign matters	A. W. Hall	45,670
Gold, Washing and amalgamating	J. C. Dickey	43,574
Gold and silver, Amalgamating	J. S. Diltz	41,763
Gold and silver, Amalgamating	W. H. Hepburn	42,371
Gold and silver, Amalgamating	H. H. Scoville and P. W. Gates	44,343
Gold and silver, Amalgamating	J. J. Storer	44,898
Gold and silver, Amalgamating	J. C. Dickey	45,144
Gold and silver, Amalgamating	H. W. Adams	45,214
Gold and silver, Amalgamating and collecting.	H. W. Adams and W. S. Worthington.	41,588
Gold and silver, Amalgamating and collecting.	E. B. Prater	43,341
Gold and silver amagams, Separating and collecting.	S. W. Wood	41,565
Gold and silver ores, Extracting by means of the vapor of mercury.	R. Spencer	45,188
Gold and silver from lead, Separating	E. Balbach	43,385

Invention or Discovery.	Name of Patentee.	No.
Gold and silver from ores, Separating	M. Laflin	44,320
Gold and silver ores of, Roasting and treating	A. B. Crosby and R. L. Thompson	44,767
Gold from crushed quartz, Separating, Syphon for.	A. W. Hall	44,043
Governors	J P. Burnham	41,679
Governors	P. Louis	44,325
Governors	J. T. Rick	45,522
Governors, Atmospheric	B. McMackerley	42,956
Governors, Heat, for stoves	A. H. Tingley	42,240
Governors, Steam engine	H. D. Snow	44,466
Governors, Steam engine	R. W. Gardner	45,599
Governors, Steam engine	J. L. Hastings	42,478
Governors with gates of water-wheels, Connecting.	J. W. Pitt	41,939
Gradients, Descending	S. Marsh	44,965
Grading machine, Road	C. Foster	42,183
Grading and road-scraping machine	E. H. Moore	43,422
Grain, Binding	S. T. Holly	41,377
Grain, Binding	S. T. Holly	41,378
Grain, hay, &c., Curing, in ricks, stacks, mows, or pens.	T. Heermans	43,406
Grain, Measured, Registered	A. Rakestraw and W. Colwell	45,436
Grain, Steaming	A. S. Ballard and T. L. Sergent	44,157
Grain binders	J. Behel	41,666
Grain binders	S. J. Wallace	42,322
Grain binders	W. W. Burson	44,513
Grain boards, Curriers' arm or	A. Chase	42,165
Grain cleaner	E. Mantz	41,519
Grain cleaner	W. S. Deisher	41,609
Grain cradle	A. P. Grover	41,215
Grain cradle	D. D. Devoe	42,173
Grain dryer	C. H. Booth	41,273
Grain dryer	R. Haselden	41,748
Grain dryer	L. S. Chichester	41,905
Grain dryer	R. T. Sutton	41,947
Grain dryer	F. H. C. Mey	42,333
Grain dryer	G. Clark	42,348
Grain dryer	S. Marsh	42,957
Grain dryer	J. Babillion	44,150
Grain dryer	J. S. Buel and S. A. W. Marsh	45,471
Grain dryer	J. S. Buel and S. A. W. Marsh	44,512
Grain elevators	J. T. Moulton	43,222
Grain screen	G. B. Bailey	42,635
Grain screen	J. Hatfield and J. Wall	44,625
Grain separating and threshing machines	J. H. Quick	43,262
Grain separator	M. J. Barcalo	41,188
Grain separator	H. Ogborn and J. W. Free	41,232
Grain separator	S. Adams	41,660
Grain separator	S. F. Lefler	42,205
Grain separator	B. D. Sanders	42,409
Grain separator	H. B. Thomas	42,628
Grain separator	W. C. Chamberlain	42,747
Grain separator	J. Kefer	42,820
Grain separator	A. Higley	43,026
Grain separator	L. Low	43,318
Grain separator	J. N. Cless	43,390
Grain separator	J. Clum and G. H. Fisher	43,478
Grain separator	D. Geiser	43,766
Grain separator	O. W. Stanford	43,817
Grain separator	F. H. C. Mey	44,011
Grain separator	C. B. Hutchings	45,120
Grain separator	E. C. Patterson	45,517
Grain separator	W. Todd	45,654
Grain and seed separator	B. S. Hyers	43,693
Grain threshers	D. H. Shearer	41,103
Grain threshing and separating machine	J. Raynor	45,676

Invention or Discovery.	Name of Patentee.	No.
Grain weighers	L. S. Chichester	41,906
Grain winnower	H. B. Thomas	41,872
Grain from cars, Unloading	E. M. Clark	44,937
Grain for distillation, Preparing and treating	M. Thompson	43,047
Grain in mills, Distributing	C. H. Hamilton	42,200
Grain in process of grinding, Steaming	J. F. Lawton	44,322
Grate	D. Lister	41,225
Grate	G. L. Smith	42,118
Grate, Furnace	S. L. Wiegaud and W. Barnet Levan.	41,181
Grate, Locomotive and furnace	M. E. Brown	42,526
Grate, Raising	I. W. Allyn	44,844
Grate, Stove	D. Hathaway	44,188
Grate bars	J. McDonald	42,099
Grate bars	L. B. Tupper	43,143
Grate bars for furnaces	J. Vandercar	42,888
Grater, Nutmeg	H. H. Herrick	44,865
Grater and cutter, Meat and vegetable	E. Culver	43,837
Green briar, Berries of the, Obtaining useful products from.	P. Baumgras	42,814
Grenade, Hand	G. P. Ganster and I. S. Schuyler	41,615
Grenade, Hand	G. P. Ganster	42,363
Gridirons	E. C. Brewster	41,475
Grinding plate	P. M. Randall	45,175
Grindstone, Artificial	G. G. Griswold	45,243
Grindstones, Rest for	F. M. Stearns	45,650
Grindstone dresser	R. Barkley and L. Simple	42,138
Ground for planting, Marking	W. W. Potts	45,174
Grubber, Stone and root	J. B. Lyons	42,094
Grubbing machine	J. H. Flanagan and W. Laning	41,287
Grubbing machine	C. Ball	45,216
Guano, Deammoniated, Restoring	A. A. Hayes	41,663
Guano, Fish to, Reducing	T. L. Robinson	42,310
Guano, Navassa, Treating and preparing	G. A. Liebig	42,006
Guano, Phosphalic, Restoring	L. Harper	41,428
Guides, Flyer, Manufacturing	D. L. Hill	41,297
Gums, Treating, for the manufacture of varnish	J. Johnson	43,414
Gums and palates, Artificial	J. A. Cummings	43,009
Guns, Air	P. Gifford	41,500
Guns, Battery	W. Douglas	43,903
Guns, Mounting heavy	J. B. Newman	43,330
Guns, Rim bases of, Planning the	E. Kaylor	43,510
Guns, Ship's, Operating	S. Ward	43,630
Guns, Spring, Toy	W. H. Stevens	42,317
Guns, Submarine	J. N. Smith	41,402
Guns, Toy	J. D. Frary	43,677
Gun barrels	W. Baker	61,669
Gun barrels, Bores of, Cleaning the	P. F. Carr	41,481
Gun barrels, Scraper for	M. G. Crane	43,573
Gun batteries, Many-barrelled	J. Brett	42,552
Gun carriages	G. Birkbeck, jr	44,506
Gun cleaner	M. G. Crane	45,027
Gunpowder	H. H. Drayson	44,269
Gunpowder, &c., Composition for	E. Harrison	41,576
Gunpowder, food, liquids, paints, oils, and other articles, Preserving, Metal cans, cases, and boxes for.	J. Bouvet	43,378
Gunpowder, &c., Improvement in	C. M. Wetherill	42,056
Gunpowder, Manufacture of	C. M. Wetherill	42,057
Gun sights	F. N. Martin	41,162
Gun sights, Telescopic	D. Wood	42,983
Guns by adjustable ports, Directing	R. Trussell	41,245
Guns exhausted of air, Muzzle cap for	R. Gibbons	43,680
Gutters and pavements, Cast iron	M. Pennock	41,412

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H.		
Hair, Composition for preserving and curing	H. Rose	42,311
Hair, Treating	W. Adamson	43,466
Hair restorative	J. Loucks	41,076
Hair restorer	C. Smith	41,791
Halls, Public, and churches, Warming and ventilating.	E. J. Hardy	45,244
Halter, Horse	E. H. Le Baron	43,781
Halter holders	G. F. Jerome	43,643
Hame	R. D. Brown	41,600
Hame fastening	J. McLain	41,962
Hame fastening	J. B. Tinkelepaugh	42,651
Hammer, Drop	B. Hotchkiss	41,795
Hammer, Forge	E. Spaulding	45,187
Hammer, Steam	C. W. Willard	44,573
Hammer, Steam, Valve gear of	G. T. Turner	43,612
Hammer, Tack, and carpet stretcher	A. Hicks	43,309
Hammer, Trip	B. Hotchkiss	42,581
Hammock knapsack	G. Abbott	41,418
Hammock and knapsack	A. W. Sûs	41,870
Harbor defences, Applying torpedoes to	J. D. Hall	42,199
Harbor obstructions, Removing	J. D. Hall	45,562
Harness, Breast strap shield for	M. W. Pond and H. E. Mussey	44,113
Harness, Cart	E. E. Hardy	44,185
Harness, Loom, Knitting, Shuttles for machines for.	D. C. Brown and J. Ashworth	43,252
Harness, Weaver's, Dressing	J. and J. H. Kendrick	43,777
Harness, Wire	A. R Reese	41,860
Harness breast-strap slide	M. W. Pond and L. W. Darling	41,320
Harness snaps	C. H. Balmer	45,299
Harrows	S. P. Campbell	41,479
Harrows	J. H. Hendee	42,267
Harrows	A. Safley	42,408
Harrows, Rotary	H. H. Monroe	43,700
Harvester	T. S. Hunter	41,071
Harvester	J. C. McDougal	41,384
Harvester	H. Fisher	41,411
Harvester	R. D. Brown	41,477
Harvesters	A. B. Briggs	41,566
Harvester	S. Augsperger	41,593
Harvester	W. N. Whitely, jr	41,734
Harvester	E. M. Smith	41,746
Harvester	S. B. Haines	41,842
Harvester	R. W. McClelland	42,069
Harvester	J. H. Snyder	42,148
Harvester	C. P. Wing	42,248
Harvester	W. A. Kirby	42,255
Harvester	D. D. Gitt	42,282
Harvester	L. G. Kniffen	42,296
Harvester	L. G. Kniffen	42,331
Harvester	B. Titcomb	42,416
Harvester	W. O. Tubbs	42,420
Harvestet	W. A. Kirby	42,440
Harvester	J. Pine	42,506
Harvester	J. H. Elward	42,532
Harvester	T. Curtis	42,564
Harvester	G. S. and H. Curtis	42,930
Harvester	S. Hull	43,116
Harvester	J. W. Prentiss and E. M. Birdsall	43,225
Harvester	J. B. Pressey, M. A. Wheaton, and D. Sheets.	43,525
Harvester	C. P. Wing	43,561
Harvester	G. Bailey	44,064
Harvester	D. L. Emerson	44,084
Harvester	M. G. Hubbard	44,192

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Harvester	D. B. Luckey	44,259
Harvester	W. P. Penn	44,452
Harvester	T. J. Tindall	44,679
Harvester	J. H. Edward	44,857
Harvester	J. F. Seiberling	44,893
Harvester	J. F. Seiberling	44,894
Harvester	M. C. Kilgore	44,956
Harvester	S. M. Moore	45,067
Harvester	J. Curtis	45,228
Harvester	G. W. Richardson	45,345
Harvester	J. Barnes	45,383
Harvester	J. S. Williams	45,550
Harvester	J. Seibel	45,642
Harvester, Building attachment to	J. Behel and W. Hodges	44,139
Harvester, Corn	W. M. Mason	42,097
Harvester, Corn	B. M Fowler	43,487
Harvester, Corn	J. W. Smith	43,716
Harvester, Corn	T.H.Storms and J. C. Poffenberger	45,282
Harvester, Cutting apparatus for	G. F. Quick	43,602
Harvester, Driving-wheels of	D. L. Emerson	44,834
Harvester, Gavelling attachment to	J. W. Harvey	45,604
Harvesters, Guard-fingers for	A. A. Hotchkiss	41,922
Harvester, Rakes for	O. H. Burdick	43,007
Harvester, Raking	H. Curtis	44,709
Harvester, Raking attachment for	A. E. McGangbey	41,522
Harvester, Raking attachment to	A. Stoler and S. A. Sisson	41,793
Harvester, Raking attachment to	D. Davis, J. Hiebeler and S. A. Porter.	42,171
Harvester, Raking attachment to	W. G. Merrell	42,498
Harvester, Raking attachment to	C. Wheeler, jr	42,521
Harvester, Raking attachment to	I. C. Crane	42,752
Harvester, Raking attachment to	H. K. Taylor	43,531
Harvester, Raking attachment to	W. T. Shaw and J. Manz	45,185
Harvester, Raking attachment to	J. Fox and J. P. Vanhook	45,597
Harvester, Raking attachment to	R. V. Jones	45,614
Harvester, Raking device for	C. W. and W. W. Marsh	41,080
Harvester, Raking device for	J. Nelson	41,123
Harvester-cutter sharpener	I. H. Coller	41,831
Harvester sickles	I. C. Crane	42,169
Harvesting machine	C. Wheeler, jr	41,556
Harvesting machine	C. Wheeler, jr	41,557
Harvesting machines	C. Wheeler, jr	41,558
Harvesting machines	C. Wheeler	41,559
Harvesting machines	W. H. Jordan	42,197
Harvesting machine	J. Seibel	42,410
Harvesting machine	S. K. Paden	43,331
Harvesting machines	R. W. McClelland	43,697
Harvesting machines	J. Bradley	44,277
Harvesting machine	W. Allen	44,500
Harvesting machines	W. B. Birdsall and E. H.Coggswell	44,847
Harvesting machines	I. Hawley and D. G. Stafford	44,996
Harvesting machine	D. J. Marvin	45,061
Harvesting machine	J. B. Smith	45,186
Harvesting and seeding machines, Frames for.	J. H. Snyder	45,531
Hat	F. Howard	41,260
Hats	R. B. Hurd and W. Halladay	41,261
Hats	W. F. Warburton	42,977
Hats	P. Curtis	43,072
Hats, Cork	A. C. Crendal	44,941
Hats, Paper pulp	J. A. Pease	44,744
Hats, Pressing	J. F. Mathias	41,311
Hats, Pressing	S. G. Congden and D. C. Moury	45,588
Hats, Spring brim	S. Collins	44,939
Hat-bodies, Composition for stiffening	J. M. Bottum	43,176
Hat bodies, Stretching	W. H. Stevens	44,468
Hat hinge in sewing machines, Device for sewing	J. W. Blackham	42,158

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Hats and bonnets, Forming	S. H. Lyon	41,342
Hats and bonnets, Pressing	W. E. Doubleday	44,293
Hats and caps, Sweat-leather for ventilating	O. H. Taylor	44,697
Hats and velvet-polishers	J. A. Thompson	41,895
Hawse-pipe stopper	C. Perley	43,793
Hay, Bales of, Constructing	O. and C. Waste	45,284
Hay, Cutting, for pressing	O. and C. Waste	41,416
Hay, &c., Elevating	G. W. Prout	41,640
Hay, grain, &c., Curing in ricks, stacks, mows, or pens.	T. Heermans	43,406
Hay, Loading	J. B. Atwater	45,964
Hay, Loading	H. Maycoock	44,540
Hay, Loading	L. De Lacée	45,394
Hay, Loading, Machines for	J. T. Hall and I. Pierce	43,307
Hay, Pressing, for pressing into bales	O. and C. Waste	45,285
Hay, Stacking, Derricks for	T. G. Palmer	43,925
Hay, Stacking, Derricks for	S. Turner	43,936
Hay and other materials, Baling	E. Dorr	43,481
Hay and other materials, Baling	E. Dorr	43,482
Hay loaders	W. H. Elliott	42,466
Hay-loading machine	J. T. Hall and I. Pierce	45,405
Hay-shocking machine	N. W. Plymate	41,859
Head dresses for ladies	J. Edwards	41,062
Head rests, Photographers'	G. A. Emery	42,650
Head rests for railway carriage seats	E. Hambuger	42,084
Heaters	L. F. Betts	41,051
Heaters	U. L. Budd	41,256
Heaters	O. Abbot	41,467
Heaters	C. T. Boardman	42,161
Heaters	J. S Reid	42,225
Heaters	J. C. Underwood	45,656
Heaters, Feed-water	J. R. Sees	42,538
Heaters, Feed-water, for locomotives	D. Pollock	41,319
Heaters, Feed-water, for locomotives	S. F. Allen	41,591
Heaters, Feed-water for locomotives	J. R. Lees	42,539
Heaters, Flat-iron	G. R. Moore	43,786
Heaters, Gas, Drum	W. H. Towers	45,655
Heaters, Glue and water	J. Edgecomb	44,294
Heaters, Sad-iron	W. F. Smith	44,350
Heaters, Sad-iron	J. N. Titsworth	44,473
Heaters, Sad-iron	H. W. Bleyer	44,702
Heater, Steam, Regulating apparatus for a	J. Briggs	44,158
Heater, Water	J. M. McIntyre and R. Meginnity	44,542
Heaters, Water, Feed	E. R. Stillwell	44,561
Heaters, Vapor	O. F. Morrill	41,635
Heaters for steam-boilers, Feed water	A. M. Granger	41,374
Heaters for steam-boilers, Feed-water	L. E. C. Martin	43,750
Heaters for steam-boilers, Water	H. N. Waters	42,243
Heating apparatus	O. F. Morrill	44,548
Heating apparatus	O. F. Morrill	44,549
Heating apparatus	T. S. Clogston	45,389
Heating apparatus, Automatic air-damper for hot water.	W. C. Baker	44,038
Heating apparatus, Steam and hot-air, Combined.	L. Phleger	44,888
Heat-radiating attachment for flues	W. P. Merrill	45,425
Heat radiator	C. B. Hall	45,401
Heels, Boot and shoe	J. Miller	41,933
Heels, Breasting	W. H. Pitkin	44,453
Heel-cutting machine	O. G. Critchett	43,183
Heel shave and sole edge	O. B. Parker	42,306
Hemp, flax, &c., disintegrating or cottonizing.	H. Burgess	41,276
Hemp, flax, &c , Fibre from	H. Burgess	41,275
Hemp, flax, &c., Fibres of, Cleaning and separating.	G. W. Billings	41,826

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Hemp, flax, &c., Fibres of, Disintegrating and separating.	J. B. Fuller	41,813
Hemp, flax, &c., Fibres of, Separating	J. B. Fuller	41,812
Hemp, flax, &c., Fibres of, Separating	J. B. Fuller	43,073
Hemp, flax, &c., Manufacture of	S. M. Allen	42,265
Hemp, flax, &c., Preparing short staple fibre from.	J. B. Fuller and J. P. Upham	43,015
Hemp, flax, &c., Retting and disintegrating	R. S. Shaw	41,352
Hemp, flax, &c., Separating the fibres of	R. T. Shaw	41,350
Hemp, flax, &c., Separating fibres of	J. B. Fuller and J. P. Upham	44,415
Hemp and flax, Breaking	G. W. Billings	41,903
Hemp and flax, Dressing	C. G. Howard	44,138
Hemp and flax, Retting	G. W. Billings	41,825
Hemp and flax machine	G. W. Billings	41,902
Hemp brakes	T. L. Fortune	43,654
Herbals and scrap-books	A. M. Safford	43,135
Hides, Handling	J. S. Wheat	41,336
Hides, Tanning	H. Liebermann	43,258
Hides and skins, Tanning	W. Fields and I. Townsend	43,013
Hinged sliding or other bodies, Fastening	L. R. Streeter	41,451
Hinges	J. J. Crooke	41,201
Hinges	S. E. Harrington	42,764
Hinges	J. S. Authur	43,660
Hinges	W. Webb	43,746
Hinges	J. V. E. Crate	41,608
Hinges, Butt	G. F. J. Colburn	43,670
Hinges, Butt, Material for the manufacture of.	O. S. Judd	43,117
Hinges, Concealed	F. Wood	41,956
Hinges, Stop	G. F. J. Colburn	44,076
Hods, Coal	E. A. Jeffery	43,916
Hoe, rake, &c., Construction of	J. S. Hall	41,503
Hoe, Weeding	A. B. Adams	44,035
Hoe, Weed puller	N. Ames	43,869
Hoe and seed planter	C. H. Wolcott	44,032
Hog-cleaning machine	N. Silverthorn	41,021
Hoisting apparatus	J. T. Bodley, J. Reynolds, and S. Van Emon.	43,451
Hoisting apparatus	A. L. Sweet	44,124
Hoisting apparatus	W. Smith	44,895
Hoisting apparatus, Steam	J. S. Veal	41,446
Hoisting machine	S. M. Longley	41,779
Hoisting machine	T. B. Perkins	42,595
Hoisting machine	D. McIntyre and G. C. Reeves	45,062
Holder, Candle	E. Daire	43,628
Holder, Card	L. A. Roberts	42,260
Holder, Sheer and stake	E. H. Camp	44,395
Holder, Tool	W. W. Draper	42,647
Holder for gas apparatus, Automatic air	H. L. McAvoy	45,205
Holder and Brush, Blacking	D. Bowker	41,359
Holes, Angular, Boring, Machine for	B. Merritt, jr	42,863
Hollow ware, Bailed	J. B. Crowley	42,138
Holster	W. Tileston	43,275
Hoods, Ladies'	M. Landenberger	43,591
Hook, Check	H. A. Collins	43,834
Hook, Coat and hat	G. F. J. Colburn	41,853
Hook, Fill	G. W. Schraumm	43,432
Hook, Fish	N. A. Gardiner, jr	41,368
Hook, Harness	S. P. Babcock	42,634
Hook, Safety	C. S. Abeel	41,131
Hook, Snap	G. R. Dunn	42,357
Hook, Snap	R. E. and A. Gorton	42,366
Hook, Snap	O. S. Judd	45,414
Hook, Tag	J. Hawks	42,129
Hook, Trace	A. Hodgden	42,852
Hook, Wardrobe	A. J. Walker	41,798
Hook, Wardrobe	A. J. Walker	42,033

Invention or Discovery.	Name of Patentee.	No.
Hook, Whiffletree	J. Fink	44,173
Hook for boat's tackle, Self-reli[illegible]ng	H. Guyon	41,339
Hook for cam rods of steam-engines	B. A. Haycock	41,219
Hook for fastening umbrellas	W. H. Richardson	41,720
Hook to furniture, Attaching	A. Montleart and W. Tent	41,528
Hook for garments	M. Fowler	41,213
Hooks and eyes	H. Nickolds	44,815
Hooks and eyes	J. C. Howell	45,411
Hooks and eyes, Separating	M. Fowler	45,238
Hoops, Barrel, Chamfering	H. Pelsue	42,790
Hoops, Barrel, Crimping	M. Reed	42,597
Hoops, Barrel, Splints for making	J. B. Dougherty	41,688
Hoops, Metal, Flaring	H. D. Barnes	45,015
Hoops, Shaving for casks	S. Wagner	44,567
Hoops, Wooden, for casks, Metal locks for	H. W. Catlin	43,621
Hoops for cannons	D. Treadwell	42,701
Hoop locks, Clasps for	T. Hanvey	43,495
Hoop or tie bender	M. Scott	43,231
Hop frame	L. M. Mason	44,104
Hop poles, Sharpening	A. H. West	43,614
Horses, Clipping the hair of	G. F. Evans	44,171
Horses, Handling vicious	O. Turner	44,680
Horses, Preventing interfering in	E. W. Gardner	42,937
Horses, Rocking, Spring	J. A. Crandall	41,570
Horses, Rocking, Spring	C. B. Northrup	42,960
Horses, Saw, Folding	E. Whittemore	41,560
Horses, Stitching	H. E. Payne	42,822
Horses, Stitching	G. F. Brockway	45,386
Horses, Throwing, Apparatus for	S. Shaw	44,665
Horse-collar block	B. W. McClure	44,642
Horse covers	E. L. Perry	44,654
Horse-hair garments	P. L. Slayton	45,209
Horse holder	S. Hague	43,986
Horses' hoofs, Shoes, Securing	W. H. Forker	44,522
Horses' feet, Shoes to, Securing	C. Weitman	44,569
Horse-power	F. Wicks	45,291
Horseshoes	S. Ward and L. J. Munger	42,889
Horseshoes	G. Custer	43,293
Horseshoes	A. Terrell	43,650
Horseshoes	J. F. Mallett	44,009
Horseshoes	M. Chittenden	44,603
Horseshoes	C. H. Perkins	44,839
Horseshoes	C. H. Perkins	44,838
Horseshoes	C. H. Perkins	44,840
Horseshoes	T. J. West	45,661
Horseshoes, Corks for, Removable	G. W. Griswold	43,747
Horseshoes, Improved	J. M. Johnson	42,857
Horseshoe machine	S. W. Davis	43,977
Horses to carriages, Attaching	L. W. Boynton	43,388
Horses and vehicles, Auto-propelling	P. W. Mackenzie	41,310
Hose, belting, &c., India-rubber	J. B. Forsyth	44,254
Hose, Smoke	A. S. Kennedy	45,415
Hose, tube, &c., Flexible and other, Manufacture of.	I. B. Harris	42,900
Hose, Valve arrangement for	R. A. Parrish, jr	44,743
Hose connexions	P. Schemmals	44,487
Hose pipes, Clamps for stopping leaks in	C. Rubsam	42,135
Hose to couplings, Fastening	C. McBurney	41,630
Hose or flexible tube	D. K. Hoxsie and T. S Reed	44,425
Hospitals, houses, and other buildings, Securing a uniform temperature in packing and preserving.	D. E. Somes	44,229
Hot-houses, Tanks for	H. E. Hooker	42,374
Houses, &c., Building brick walls for	L. Goodrich	44,418
Houses, Construction of	W. Ortwine	41,445

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Houses, hospitals, and other buildings, Securing a uniform temperature in packing and preserving.	D. E. Somes	44, 229
Hubs, Wagon, Boring	E. Caswell	42, 075
Hub-bands, Carriage	S. T. Talcott	43, 238
Hullers, Clover	M. H. Mansfield	43, 217
Huller and screener	G. Stevenson and J. J. Crider	42, 027
Hydrants	J. P. Gallagher	41, 144
Hydrocarbons, Rock oil and other, Distilling	E. F. Prentiss and R. A. Robertson	41, 858
Hydrocarbons, Volatile, Vaporizing and creating.	L. Stevens	45, 568
Hydrometers	J. Saxton	44, 460
Hydrometers	T. Welham	42, 979
I.		
Ice, Cutting, for storage	V. H. Hallock	44, 529
Ice, Slipping on, Device for preventing	W. R. Landfear	44, 961
Ice-cream freezer	G. W. Brown	42, 144
Ice-cream machine	J. R. Champlin	44, 851
Ice-crusher	L. H. Moseley	41, 388
Implement for transplanting	F. Milo	42, 391
India-rubber goods, Folding	F. R. Taylor	41, 453
India-rubber hose beltings, &c.	J. B. Forsyth	41, 254
India-rubber overshirts	H. Clark and F. A. Milden	43, 592
Indicator, Hydraulic	R. D. Bradley	44, 931
Indicator, Marine logs and leeway	A. E. Lozier	41, 932
Indicator, Station	F. J. Underwood	41, 653
Indicator, Steam-engine	S. L. Wiegand and W. Barnet Le Van.	41, 182
Indicator, Water, Shoal	R. M, Knapp	45, 328
Indicator, Water, for steam-boilers	C. H. Carey	41, 480
Indicators and faucet measure	V. Squarza	41, 330
Inhalators	M. Vergnes	43, 536
Inhaling apparatus	C. Warren	44, 244
Injectors, Water	J. B. Collen	42, 044
Injector for the hair	A. A. Smith	44, 843
Injectors for heating liquids	P. Hogg	43, 691
Ink-rollers, Printers'	F. W. Letmate	43, 192
Inkstand	D. Cummings, jr.	45, 391
Inkstand	P. K. Holbrook	45, 498
Inkstand, pen-cleaner, &c., Arrangement of	F. Bailey	44, 381
Ink wells	F. C. Brownell	41, 136
Ink wells, Covers of, Fountains	H. M. Sherwood	44, 753
Ink for hand stamps	R. H. Rogers	42, 405
Insects and vermin, Destroying	D. H. Wood	42, 135
Insects and vermin, Destroying	P. Reynard and V. Varini.	44, 341
Insulator for telegraph wires	J. Holland	41, 157
Insulators for telegraph wires	D. Brooks	45, 221
Iron, Angle, Rolling	J. L. Lewis	42, 495
Iron, Carbonizing, Composition for	C. V. Wilson	43, 732
Iron, Cast, Hardening	T. Allin	42, 453
Iron, Composition	W. M. Arnold	43, 891
Iron, Cyanogen, Compound and	H. Halverson	43, 022
Iron, Drilling	I. S. Lanback	41, 516
Iron, Hardening	T. Chappell and W. A. Jones	43, 813
Iron, Malleable, Manufacture of	A. Manvel	43, 595
Iron, Manufacture of	J. Yates	41, 805
Iron, Manufacture of	J. Yates	41, 806
Iron, Manufacture of	J. Yates	41, 808
Iron, Manufacture of	W. H. Dawes	42, 899
Iron, Oxide of, from gas purifiers, Treating and utilizing.	W. Cleveland	42, 898
Iron, Planing	W. Sellers	42, 797
Iron, Rollers for rolling	A. B. Clemons	42, 433
Iron from corrosion, Preserving	C. De Bussy	43, 630

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Iron bars, Straightening	G. H. Sellers	42, 051
Iron bars for truck, bending	R. B. Weaver	42, 978
Iron and other ores, Reduction of	H. S. Lucas	44, 872
Iron and steel, Puddling	T. Harrison	43, 067
Iron to steel, Attaching	T. S. Norton	44, 739
Iron and steel, Puddling, Machinery to aid in	H. Bennett	41, 671
Ironing machine	W. H. Bovee and C. Partinsky	44, 765
Ivory, Artificial, Composition for	J. Hackert	42, 942
J.		
Jack, Boot	M. A. Richardson	43, 626
Jack, Carriage	C. H. Paine	42, 050
Jack, Elevating	S. Lauchli	43, 369
Jack, Hydraulic	T. H. Watson	44, 358
Jack, Lever	J. Leffel	45, 056
Jack, Lifting	E. Young	41, 738
Jack, Pegging	W. Billings	42, 618
Jack, Railroad	M. Kelley	41, 304
Jacket stretcher for couch rollers of paper machines.	R. L. Howe	42, 854
Japanning, enamelling, and inlaying, Metallic substance for, Preparing.	D. Rait	44, 046
Jars, Fruit	S. J. Parker	41, 532
Jars, Fruit	E. Harris	41, 575
Jars, &c., Fruit, Closing	R. M. Dalbey	41, 202
Jars, liquid, Measuring nozzles for	J. H. Pein	43, 703
Jars, Preserve	J. J. Squire	44, 752
Jars, Preserve	T. Earle	45, 595
Jar and bottle, Stopping	N. Thompson	44, 054
Joints, pipes, bottles, casks and other vessels, Making and coating.	B. Rhodes	41, 351
Joints for shafting, Knuckle	S. N. Taylor	41, 651
Journal, Car, Railroad	W. G. Smith	45, 125
Journal boxes	G. G. Hunt	41, 221
Journal boxes	E. S. Dickinson and W. D. Nelson.	44, 407
Journal boxes, Railroad	W. Groat	41, 616
Journal boxes for railroad cars	J. O. Scott	42, 881
Journal boxes, Packing for	J. Conk	41, 197
Jug tops	H. Wright	42, 712
Jumper and walker, Bailey	J. H. Coldwell	43, 972
K.		
Kegs and barrels	E. Johnson, jr. G. W. Ansly	42, 949
Kettle, Camp	C. Avery	42, 547
Kettle, Tea	W. C. Davis	41, 492
Kettle, Wash	J. Reist	45, 272
Kettle and pan, Frying	C. Avery	43, 965
Key, Watch	G. H. Fuller	43, 108
Key fastener	H. E. Fowler	43, 676
Kiln, Brick	C. L. Page	42, 106
Kiln, Lime	E. B. English	41, 691
Kiln for annealing glass	T. B. Atterbury	43, 278
Kit, Camp	J. Walkley	45, 542
Knapsack	A. W. Süs	42, 805
Knapsack	O. E. Woods	42, 895
Knapsack	O. E. Woods	44, 993
Knapsack, Carrying	T. S. Truss	44, 354
Knapsack, Shoulder brace for	H S. Weston	45, 104
Knapsack hammock	G. Abbott	41, 418
Knife, Butter, Holder for	H. Benton	42, 339
Knife, Cigar	J. H. Abbott	43, 823
Knife, fork, and pie crimper	G. D. Bayley	44, 699
Knife, Pocket	H. Twitchell	42, 031

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Knife, Pocket	G. H. Gardiner	43, 398
Knife, Shoe	S. Richard	42, 537
Knife blades, Rolling	W. P. Lathrop	42, 005
Knife cleaner	J. H. Van Riper	42, 133
Knife for cutting honey	A. W. Todd	42, 807
Knife for cutting tobacco	S. S. Davis	42, 644
Knife for nurserymen	S. S. Jackson	43, 996
Knife and scissors sharpener	W. H. Alcorn	43, 752
Knitting machine	E. Shore	41, 540
Knitting machine	W. Aiken	43, 170
Knitting machine	C. W. Blakeslee	44, 365
Knitting machine	J. James and W. Thornton	44, 490
Knitting machines	G. Jensen	45, 501
Knitting machines	S. Wallis	44, 568
Knitting machine, Circular	J. Dalton	44, 403
Knitting machine, Circular	S. L. Otis	44, 885
Knitting machine, Circular, Take-up for	S. Ward	41, 415
Knitting machine, Circular, Take-up for	H. Brockway	44, 932
Knitting machine, Stop motion for	J. Dutton	43, 294
Knitting machine, Stop motion for	B. L. Mack	42, 672
Knitting machine burrs	C. Allardice	42, 545
Knitting machine burrs	W. H. Carr	43, 636
Knitting machine burrs, Oiling	J. Maxwell	44, 437
Knitting machinery	L. Kavanaugh	41, 381

L.

Invention or Discovery.	Name of Patentee.	No.
Labels or tags	T. B. and L. Do Forest	45, 029
Labels or tags, Cutting and punching	C. S. Mosely	45, 458
Labels intended for second use	H. Loewenburg	42, 208
Lacings, Cutting	H. B. Harvey	44, 187
Lacings, Tagging	F. J. Seymour	42, 798
Ladder	E. F. Olds	42, 219
Ladder, Extension	M D. Myers	41, 443
Ladder, Fire escape	R. G. Pike	43, 261
Ladder, Fire escape	W. H. Paige	43, 425
Ladder, Fruit	A. W. Olds	42, 500
Ladder, Fruit	J. Harman	44, 799
Ladder, Fruit	E. F. Olds	45, 430
Ladder, Step	W. E. Bond	42, 162
Ladder, Step	T. Curtis	42, 565
Ladder, Step	J. Booher	44, 391
Ladle, Bullet	M. Babcock	43, 151
Lamp	J. Higgins	41, 702
Lamp	L. J. Atwood	41, 751
Lamp	A. Taplin	41, 794
Lamp	M. Burnett	41, 972
Lamp	W. Webb	42, 262
Lamp	J. R. Baker	42, 266
Lamp	W. G. A. Bonwill	42, 269
Lamp	M. R. Kenton	42, 492
Lamp	C. Goodwin	42, 534
Lamp	A. J. Ritter	42, 998
Lamp	B. F. Hebard	43, 911
Lamp	H. Sangster	44, 017
Lamp	R. N. Eagle	44, 081
Lamp, Bracket and chandelier	J. Ives	44, 803
Lamp, Coach	C. B. Brown and E. Andrews	44, 511
Lamp, Coal oil	J. Ridge	41, 093
Lamp, Coal oil	J. Ridge	41, 094
Lamp, Coal oil	J. G. Hunt	41, 300
Lamp, Coal oil	U. D. Taylor	42, 028
Lamp, Coal oil	J. E. Ambrose	42, 455
Lamp, Coal oil	J. Mowery	43, 953
Lamp, Coal oil	W. B. Billing	41, 700
Lamp, Coal oil	H. J. Harwood	41, 800

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Lamp, Collars for	J. C. Beers	41, 255
Lamp, Night, Cap to contract the flame of a	J. Christison	42, 328
Lamp, Petroleum	W. B. Billings	44, 592
Lamp, Railroad	L. Hover	42, 853
Lamp, Suspended or bunker	J. Van Thiel	41, 108
Lamp, Vapor, Burner for	J. S. Hull	41, 434
Lamp collars	A. Taplin	41, 795
Lamp cones	E. B. Requa	41, 092
Lamp frame and lantern	G. F. J. Colburn	42, 839
Lamp heating and shaving apparatus	C. S. Bourne	44, 252
Lamp shade holders	J. Fellows	43, 397
Lamp wick	T. Bingham	45, 384
Lantern	G. W. Woodward	42, 249
Lantern	W. H. H. Hinds	42, 658
Lantern	J. H. Irwin	42, 856
Lantern	J. A. Cowles	42, 928
Lantern	C. D. and E. S. Archer	43, 557
Lantern	H. A. Fox	43, 303
Lantern	C. Jones	43, 312
Lantern	W. Westlake	43, 730
Lantern, Magic	G. Sibbald	42, 412
Lantern, Spring for	J. A. Cowles	42, 751
Lantern dinner pail	C. Britain	41, 274
Lantern guards	W. Westlake	42, 520
Lantern guards	W. K. P. Cross	44, 577
Lantern guards, Attachment of	T. Brown, jr.	42, 906
Lantern and lamp frame	G. F. J. Colburn	42, 839
Lard, &c., Rendering	S. Marsh	41, 781
Lard, tallow, &c., Treating	G. B. Turrell	43, 352
Last	H. M. Whitmarsh	44, 266
Last	J. N. C. Savels	42, 796
Last doors, stair rails, &c., Fastening for	W. Sellers	42, 994
Last, Shoe	W. C. Shipherd	42, 800
Last-block fastening	A. J. Tewksbury	44, 352
Last-finishing machine	J. McComber	41, 121
Lasting machine	W. E. Fischer	44, 916
Lasting machine	W. Wells	41, 967
Latch	G. C. Worth	43, 063
Latch	S. M. Richardson	44, 976
Latch	J. C. Robie	45, 078
Latches, Centring heavy articles in	J. S. French	41, 289
Latches, Chuck for	J. Sutter	45, 359
Latches, Cupboard	E. Doen	43, 105
Latches, Door	H. Underwood	44, 476
Latches, Knob	S. M. Richardson	44, 977
Latches, Knob	R. L. Webb	45, 100
Latches, Knob	J. H. Barnes	45, 129
Latches, Spring-lever	J. N. Houston	43, 410
Latch bolt, Reversible	B. G. Hosmer	41, 379
Latch for railroad car doors	J. Stephenson	45, 442
Latch and Lock	H. H. Elwell	41, 741
Latch lock	B. Mallory	43, 035
Lathes, Tool elevator for	W. Hamilton	45, 297
Lathes, Turning	F. Kirst	42, 250
Lathes, Turning	L. D. Wynkoop	43, 512
Lathes, Turning	A. Goodyear	43, 908
Lathes, Turning	J. Ball	44, 503
Lathes, Turning	J. G. Baker	44, 915
Lathes, Turning	C. G. Bloomer	45, 555
Lathes, Turning, Engine	C. W. Dickinson	45, 455
Lathes, Turning, Rest for	W. H. Barney	43, 386
Lathes, Turning, Tool	A. A. Burr	41, 478
Lathes, Turning, Tool	A. Hathaway	41, 889
Lathes, Turning, Wood	T. Gray	43, 492
Lathes, Turning, for wood turning	J. Coleman	43, 477
Lathes for turning spiral shapes	R. B. Carsley	41, 277

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Lathes for turning spokes	T. Derington	41,368
Lathes for turning spokes	T. Derington	41,368
Lathe attachment for turning tapers on bars	C. Jillson	43,311
Lathe rest for trueing watch wheels	S. G. Twombley	41,966
Lathing for walls and ceiling	D. D. Garland	43,018
Leach, Ash	S. A. Porter	41,638
Lead, Refining and softening	A. H. Everett	42,844
Lead, White, Manufacture of	R. Rowland	42,407
Leads, White, Making	T. J. Coggeshall	45,587
Leather, cloth, &c., Enamelled	F. Longhurst and A. L. Murdo	42,584
Leather, Cutting and embossing	S. D. Trips	43,050
Leather, Mode of connecting two or more pieces together.	B. F. Sturtevant	43,236
Leather, Ornamenting	C. T. Woodman	42,136
Leather, paper, &c., Drying	S. M. Allen	41,348
Leather, Sole, Hammering, Drop for	J. H. Walker	42,703
Leather, Splitting	C. S. Stearns	43,159
Leather, Splitting and stripping	C. S. Stearns	41,583
Leather, Tanned, Treating	B. H. Lightfoot	43,120
Leather, Tanning	J. S. Boothby	43,563
Leather, &c., Treating	J. Burrill	42,619
Leather, Treating, Composition for	A. Taw	44,025
Leather cloth, imitation leather, &c	N. C. Szerelmey	44,910
Leather for cotton or woollen cards, Finishing	J. S. Quick	42,399
Leather into counters, Cutting	A. Keith	44,318
Leather fly nets, Cutting	A. Warden	41,459
Leather paper for floor cloths, &c	E. Richmond	43,340
Leather and rubber soling	G. F. Udell and H. Mayell	41,246
Leather-dressing machine	G. F. Dressing	44,616
Leather-rolling machine	J. C. Rousfield	41,363
Leather-splitting machine	J. A. Safford	41,448
Leggins, Ladies'	C. F. and S. S. Bedford	42,157
Legs, Artificial	J. Reichenbach	41,237
Legs, Artificial	J. Reichenbach	41,238
Legs, Artificial	P. Daniels	41,282
Legs, Artificial	H. R. Reinhardt	41,535
Legs, Artificial	J. Monroe	41,934
Legs, Artificial	G. L. Shepard	41,799
Legs, Artificial	G. C. Kireshman	43,031
Legs, Artificial	G. B. Jewett	44,534
Legs, Artificial	J. Monroe	44,644
Legs, Artificial	W. Hinds	44,726
Legs, Artificial	T. J. Cain	44,766
Legs, Artificial	T. W. Newbert	45,169
Legs, Artificial, Supportors	J. W. Weston	45,662
Lenses, Achromatic	J. A. W. Fitz	44,483
Lens, Double globe	J. Schmizer	42,880
Letter clip	L. E. Osburn	42,683
Letter opener	R. Johnson	42,777
Levels, Spirit	H. Shephardson	44,225
Level and square combined	G. A. Schelley	42,230
Lever jack	J. Leffel	45,056
Lever lifter, Stove	J. P. Williams	42,522
Levigating and pulverizing substances	O. E. Noble	44,444
Life-preserver for railroad cars, Brakemen's	J. Worsley	44,134
Life raft	E. L. Perry	45,073
Lifters, Lever, Stove	J. P. Williams	42,522
Light, Artificial, Means of rendering, the same as daylight.	N. H. Gillet	43,581
Lighting apparatus, Caoptric	W. Hodgkins	41,432
Lightning conductors	N. Brittan	43,565
Lightning conductors	D. Munson	44,880
Lightning rods	J. Pratt	45,632
Life-preserver, Marine	J. B. Verdier	41,654
Limbs, Artificial	J. W. Weston	41,456
Limbs, Artificial	A. Mennel	45,511

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Limb supporters	D. H. B. Allen	44,499
Lime, Burning	E. A. Smith	42,413
Lime, Phosphate of, for culinary purposes, Preparation of a.	E. N. Horsford	41,815
Lime, Phosphate of, Double, and soda for culinary and other purposes.	E. N. Horsford	42,140
Lime, Super Phosphate of	R. B. Potts and F. Klett	45,631
Lime kilns	C. D. Page	42,501
Linch pins	T. Laly	44,321
Liniment	J. R. Groves	43,403
Liniment	J. E. Gould	43,847
Liniment for rheumatism	G. Shepherd	42,115
Links, Bar, Manufacture of	G. W. Sellers	42,147
Links for steam engines	F. A. Brown	44,159
Liquids, Alcoholic, Concentrating and analyzing.	F. Haeck	45,002
Liquids, Bottling, under pressure	J. Matthews, jr	41,082
Liquids, Cooling and aerating	F. Haeck	45,004
Liquids, Drawing	A. Bain	45,013
Liquids, Evaporating	A. Peck	41,089
Liquids, Evaporating	T. Oxnard	42,789
Liquids, gunpowder, food, paint, oils, and other articles, Preserving, Metal cans, cases, and boxes for.	J. Bouvet	43,378
Liquids, Heating, Injector for	P. Hogg	43,691
Liquids, Hydrocarbons, Vaporizing, for illuminating.	J. Griffin	42,469
Liquids, Inflammable, Destroying forts, &c., by means of.	A. Berney	42,458
Liquids, Saccharine, Evaporating	G. E. Evans	44,619
Liquids, Saccharine, Purifying	A. P. Dubrunfaut	43,065
Liquids, Still, Bottling	J. Beard and M. Fairbanks	45,373
Liquids, Vessel for refrigerating	J. V. B. Carter and C. F. Orcut	44,514
Liquids from casks, Transferring	D. Sexton	45,183
Liquid separator	J. J. Miller	43,951
Liquors, Malt, Brewing	C. R. M. Wall	45,543
Liquors, &c., Malt, Fermenting	A. Hammer	45,406
Liquors, wines, &c., Raking off	D. Sexton	45,086
Lock	T. G. Harold	41,177
Lock	T. G. Harold	41,178
Lock	P. S. Felter	41,211
Lock	R. L. Webb	41,247
Lock	F. McCullum	41,518
Lock	H. H. Elwell	41,573
Lock	C. Jagy and F. Denzler	41,817
Lock	E. W. Brettell	41,827
Lock	H. W. Kahlke	42,778
Lock	E. S. Renwick	42,793
Lock	M. T. Lincoln	42,954
Lock	J. W. Miller	43,078
Lock	N. Macneal	43,457
Lock	G. Hopson	43,501
Lock	C. F. Toll	43,806
Lock	W. Lorenz	44,007
Lock	W. K. Marvin	44,207
Lock	H. Underwood	44,475
Lock	P. S. Felter	44,859
Lock	W. Jones	44,869
Lock	H. H. Baker	45,014
Lock	J. Hutson	45,611
Lock, Escutcheon for safety	H. Hungerford	43,504
Lock, Gun	C. W. Scott	44,827
Lock, Hoop, Clasp for	T. Hanvey	43,495
Lock, Hoop, for casks	T. Hanvey	43,494
Lock, Metal, for wooden hoops for casks	H. W. Catlin	43,621
Lock, Percussion, for discharging mining blasts	E. Hughes	44,630

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Lock, Row	J. W. Norcross	44,446
Lock, Row and scull	J. W. Norcross	44,373
Lock, Safety guards for	O. Lund	44,008
Lock, Sash stopper and	W. Van Gaasbeck	44,565
Lock, Trunk, Hasps for	C. Liebrich	44,101
Lock for jail doors	E. Jacobs	43,915
Lock fasteners	H. S. Wilcox	43,147
Lock joint for street railways	W. E. Gould	41,501
Lock and sash supporter	W. Race	41,236
Lock and latch	H. H. Elwell	41,741
Lock and latch	B. Mallory	43,035
Locomotive	G. Thomas	44,055
Locomotives, Exhaust for, Variable	J. Dykeman and J. Bolton	43,484
Locomotive, Heater for, Feed-water	S. F. Allen	41,591
Locomotive, Trucks for	W. S. Hudson	42,662
Locomotive, Trucks to, Connecting	W. S. Hudson	42,193
Locomotive smoke-stack	S. Ham	45,204
Locomotive for railroads, Constructing and operating.	R. P. Morgan	44,997
Logs, Floating, Building flumes for	J. Dubois	41,285
Logs, Nautical	T. Hotchkiss	45,042
Loom	C. Zwicki	41,254
Loom	E. Wright and B. Fitts	42,812
Loom	G. Hancock	43,848
Loom	F. M. Wolf	44,271
Loom, Circular	W. H. Walton and A. Naudain	44,902
Loom, Circular, for weaving the covering of cords, &c.	O. E. Palmer	45,629
Loom, Circular, for weaving hats, &c	P. L. Slayton	41,466
Loom, Hand	J. G. Garretson	41,290
Loom, Hand	S. S. Mendenhall	41,313
Loom, Hand	C. Roder	41,863
Looms, Heddles for, Wire	D. C. Brown	42,553
Loom, Let-off for	G. Crompton	42,461
Loom, Picker for	G. B. Medbery	41,165
Loom, Picker for	J. Bradsley and A. W. Gordon	42,456
Loom, Power	C. Rodier	43,263
Loom, Power	H. Holcroft and C. S. Smith	43,583
Loom, Power, Harness motion of	J. Greenhalgh	42,575
Loom, Power, Let-off mechanism for	P. Boylan	42,638
Looms, Power, Let-off motion of	R. Reynolds	43,338
Loom, Power, for weaving hair-cloth	I. Lindsley	44,808
Loom, Shuttle for	A. D. Clark	43,182
Loom, Shuttle for	W. Wilder	43,877
Loom, Shuttle for	W. Wilder	43,940
Loom, Shuttle for	T. Clark	44,604
Loom, Shuttle for	W. Tunstill	45,682
Loom, Shuttle guide or guards for	S. R. Bixby and J. B. Bancroft	43,828
Loom, Shuttle in, Supplying weft to the	T. Ingraham	43,556
Loom, Stop-motion for	C. Duckworth	44,080
Looms, Take-up motion for	L. L. Shaw	43,868
Loom, Yarn beam of, Friction device for the	A. Beebe and F. L. Bester	43,895
Loom, Yarn-delivering mechanism for a	G. Draper	41,834
Loom for making fishing and other nets	B. F. Jouainin, F. M. and A. Boudonin.	43,888
Loom for weaving corsets and articles of irregular forms.	W. P. Brown	42,986
Loom for weaving hair-cloth	J. S. Winsor	42,982
Loom for weaving hair-cloth	I. Lindsley	45,107
Loom for weaving hats, &c	P. L. Slayton	45,208
Looms for weaving palm-leaf, straw, &c	J. M. Baker	45,115
Loom for weaving trimmings	L. D. Valetton	42,335
Loom harness, Knitting, Shuttles for machines for.	D. C. Brown and J. Ashworth	43,252
Loom harness, Weaving	G. W. and W. R. Harris	44,186
Loops, Making	A. Babbett	41,470

Invention or Discovery.	Name of Patentee.	No.
Loops and buckles, Attaching	L. C. Chase	43,093
Lubricating composition	W. Hilton	41,068
Lubricating composition	G. W. Goodhue	41,151
Lubricating compound	G. W. Gladden	41,840
Lubricating substances, Mode of applying	J. Dougall	42,714
Lubricator	A. J. Judge	41,302
Lubricator	D. M. Weston	41,335
Lubricator	E. Painter	41,531
Lubricator	R. Ross	41,785
Lubricator	T. W. Godwin	43,305
Lubricator	H. T. Neuss	43,859
Lubricator	L. Leigh	44,005
Lubricator	W. Van Anden	45,365
Lubricator, Axle for carriages	C. Polley	44,338
Lubricator, Car axle	T. C. Hargrave	42,577
Lubricator, Car-axle	T. C. Hargrave	42,578
Lubricator, Spindle, for spinning machine	J. Eaton	42,569
Lumber measure	A. M. Olds	43,789

M.

Invention or Discovery.	Name of Patentee.	No.
Magazine for self-loading fire-arms	G. W. Hughes	45,043
Magazine for self-loading fire-arms	L. Triplett	45,361
Magazine for self-loading fire-arms	J. F. Appleby	45,466
Magazine for self-loading fire-arms	J. Gray	45,560
Magazine for self-loading fire-arms	R. Roberts	45,638
Magnets, Electric machine	J. Kidder	41,927
Magnesia compounds in chemical manufactures, Employment of.	C. G. Clemm	41,349
Magnesium	E. Soustadt	45,370
Magnesium, Manufacturing and purification of.	E. Soustadt	45,654
Mail-pouches	M. Smith	42,802
Maize, barley and other cereals for the manufacture of alcohol, Treating.	A Fleischmann	43,555
Mammiform breast-protectors	E. M. Marshall	43,321
Manger	D. Sager	45,081
Manger, Feed	C. E. Stelier	45,190
Mangle and clothes-wringer	S. W. and J. F. Palmer	45,071
Manure	A. F. Masselman	44,147
Manure, Artificial	E. Van Nordhausen	41,331
Manure-spreader	P. Eley	42,758
Marble, &c., Graining, Tool for	S. Wiggins	43,559
Marine life-preserver	J. B. Verdier	41,654
Marine logs and lee-way indicator	A. E. Lozier	41,932
Mashing apparatus	C. Martland	45,369
Mashing machine	C. W. T. Krausch	44,639
Mast hoops, Sails to, Attaching	D. Monat	42,783
Matches, Cutting	A. Welsch	43,558
Matches, Dipping frames for the manufacture of.	D. Helmer	41,918
Match boxes	G. Dowler	41,976
Match safes	G. H. Snow	42,414
Match safes	S. de Mackiewicz	43,186
Match safes	W. H. Andrews	45,554
Match splints	E. Andrews and W. Tucker	45,465
Mattresses, &c., Moss for, Treating	C. G. Angeroth, jr	43,962
Mattress, Spring	J. G. F. Grote	42,368
Mattress, Spring	J. G. F. Grote	42,369
Mattress, Spring	R. Stillwell	44,375
Mattress, Spring	S. P. Kittle	44,960
Mattress, Spring for, Bracing and fastening spiral.	O. Fuller	44,793
Mattress, &c., Stuffing for	H. A. Alden	41,589
Measures, Liquid	A. Hicks	41,620
Measures, Lumber	A. M. Olds	43,789
Measures, Tape, Spring	W. H. Bangs, jr	45,372
Measure and bag-holder	G. E. Randall	43,706

Invention or Discovery.	Name of Patentee.	No.
Measure and funnel, Combined	S. R. Dummer	42, 174
Meats, Beefsteaks and other, Mangling	R. McCorkell	44, 811
Meats, &c., Chopped, Preserving	W. C. Marshall	41, 712
Meats, Eggs &c., Preserving	J. Perkins	42, 396
Meats, Preserving, Process for	W. C. Marshall	43, 516
Meats, Salted, Brine and, Treating to remove the salt.	A. Whitelaw	42, 388
Meat-masher	G. W. Putnam	45, 633
Meat-mincing machine	P. Miles	43, 520
Meat and vegetable slicer	T. Carpenter	44, 705
Mechanical movements	M. Wappich	44, 681
Mechanical movements	S. H. Lancaster	45, 616
Medical compound	C. A. Morse	44, 106
Medical compound	J. Weaver	41, 111
Medical compound	J. Ward	42, 704
Medical compound	F. H. Norton	43, 128
Medical compound	J. Leich	44, 323
Medical compound	W. Horner	45, 410
Medical preparation	J. B. Knoebel	43, 118
Medicine, Improved	R. B. Weese	42, 890
Medicine for the cure of diphtheria, &c	T. J. Glines	44, 299
Medicine for the cure of scarlatina, sore throat, &c.	M. A. Ragsdall	43, 866
Medicine for wounds, inflammation, &c	O. Troemel	41, 873
Medicine case	E. H. Hance	42, 943
Medicine case and saddle bags	H. H. Peacock	41, 233
Melodeons	R. Goodrich	41, 915
Melodeons, &c., Keys to, Attaching	A. G. Burton	43, 389
Metals, Breastpins, &c., Pin fastening for	G. O. Monroe	45, 121
Metals, Bronzing and coating	F. Weil	43, 557
Metals, Coating, Composition for	J. Weisman	43, 444
Metals, Composition for	J. Hackett	42, 762
Metals, Cutting and punching	N. De Telescheff	42, 513
Metals, Drilling and boring	C. Sellers	41, 789
Metals, Mouldings of	C. Destouy	43, 979
Metals, Ornamenting	N. A. Batchelor	41, 132
Metals, Rolling	W. Field	42, 360
Metals, Rolling, Rolls for	B. Lauth	41, 307
Metals, Shearing	J. Lamplugh	42, 003
Metals, Shearing, punching and bending	J. Lamplugh	42, 004
Metals, Sheet, Bending edges of	F. Roys	42, 967
Metals, Sheet, Cutting	J. N. Cherry	44, 516
Metals, Sheet, Forming seams to	F. Roys	42, 966
Metals, Smelting, for casting stereotype plates	E. F. Cosfeldt, jr., and T. T. Pears	43, 071
Metals, &c., Stamping	V. Draper	42, 907
Metal bars, Bending	G. J. Nevill	43, 037
Metal bars, tubes, &c., Straightening	B. Lauth	41, 306
Metal plates, Corrugating	R. B. Hugunin	42, 377
Metal ware, Sheet	M. Wells	45, 003
Metal and ores, Desulphurizing	L. G. Marshall	42, 441
Metallic substances for enamelling	L. G. Marshall	42, 441
Metallic Japanning and inlaying, Preparing	D. Rait	44, 046
Metallic surfaces, Uniting	W. B. Barnard	44, 928
Meters, Fluid	E. J. Baker	42, 337
Meters, Water	H. J. King	44, 432
Mica for making reflectors, mirrors, &c., Preparing.	W. M. Marshall	42, 497
Microscope	J. Ellis	42, 843
Milk, Butter from, Producing	N. Orcutt	42, 821
Milk, &c., Concentrating	J. R. Pond	42, 398
Milk, Condensing	J. R. Pond	41, 090
Milk, Temperature of, Equalizing	S. Perry	43, 863
Milkers, Cow	L. O. Colvin	41, 196
Milkers, Cow	J. H. Gardener	45, 486
Milking machine	H. V. Belding	43, 754
Mills, Apple	G. S. Rust	41, 723

Invention or Discovery.	Name of Patentee.	No
Mills, Bark	M. Winger	42, 811
Mills, Bark	W. Tansley	44, 756
Mills, Chasing	W. M. Force	44, 298
Mills, Chilian, for pulverizing metallic ores	J. A. Bertola	42, 311
Mills, Cider	T. J. Kindleberger	41, 514
Mills, Cider	H. Hurd	42, 912
Mills, Cider	O. Clark	43, 095
Mills, Cider	G. R. Ruland and W. W. Green, jr.	43, 229
Mills, Cider	D. Scully	43, 434
Mills, Cider	S. G. Hurlburt	44, 096
Mills, Cider	P. Dickinson	44, 408
Mills, Cider	H. K. Parsons	44, 651
Mills, Clay	C. Webster, W. Camp, and S. L. Stall.	42, 055
Mills, Coffee, Portable	S. H. Witmer	43, 374
Mills, Crushing, Centrifugal	C. H. Griffin	45, 213
Mills, Fanning	E. Tush	42, 808
Mills, Floating	J. A. Dorman	42, 756
Mills, Grain in distributing	C. H. Hamilton	42, 200
Mills, Grape	A. Hemminger	45, 156
Mills, Grinding	J. A. Lechler	41, 439
Mills, Grinding	W. H. Starry	43, 802
Mills, Grinding	F. Klinkerman	44, 000
Mills, Grinding	H. P. Crouse	44, 942
Mills, Grinding	C. A. Harper	44, 950
Mills, Grinding	J. D. Whelpley and J. J. Storer	44, 990
Mills, Grinding, Bolts in	R. Derisson	45, 142
Mills. Grist, Motive power cut-off in	J. Hough	43, 409
Mills, Hominy	W. Wright	44, 136
Mills, Saw	J. L. Knowlton	41, 707
Mills, Saw	L. Vance	41, 877
Mills, Saw	P. Crosby	41, 908
Mills, Saw	J. J. Deputy	42, 276
Mills, Saw	J. J. Deputy	42, 277
Mills, Saw	J. D. Richardson	42, 965
Mills, Saw	C. T. Fairchild	43, 565
Mills, Saw	J. Hamilton	43, 688
Mills, Saw	A. S. Petticrew	43, 740
Mills, Saw	C. Bond	44, 069
Mills, Saw	D. Lane	44, 100
Mills, Saw	W. S. Colwell and N. Baird	44, 606
Mills, Saw	J. E. and J. C. Rogers	44, 750
Mills, Saw	J. C. and J. L. Nutt	45, 516
Mills, Saw, Adjusting	D. C. Baughman	41, 189
Mills, Saw, Circular	P. D. Shaw	44, 897
Mills, Smut	S. Howes and A. Babcock	41. 703
Mills, Smut	J. Russell	44, 825
Mills, Stamp, and crushers, Collecting dust from.	J. Brodie	42, 143
Mills, Sugar	L. E. Porter	41, 265
Mills, Sugar-cane	W. H. Clark and W. E. Edgerton	41, 680
Mills, Sugar-cane	W. H. Clark and R. R. James	41, 681
Mills, Wind	J. H. Morse	41, 442
Mills, Wind	J. Troop	42, 973
Mills, ores, &c., Dust from, Concentrating the.	S. H. Rounds and W. L. Strong	43, 646
Mill pick	T. Sheehan	42, 882
Mill shaker, Fanning, Attachment to	J. Van Houson	42, 132
Mill for stamping quartz	Z. Wheeler and C. K. Hotaling	43, 248
Millstone, Artificial	C. Rands	44, 973
Millstones, Dressing, Composition for	W. H. Hayes	44, 189
Millstone bush	G. W. Landon	41, 928
Millstone dress	D. W. Thompson	44, 471
Milling machines, Clamp	A. B. Lawther	42, 201
Minerals, Coal and other, Cutting	T. Harrison	42,626
Minerals, &c., Washing	P. G. Gardner	44, 526
Minerals and ores, Roasting and desulphurizing	S. Stevens	43, 046

Invention or Discovery.	Name of Patentee.	No.
Mining apparatus, Coal	R. H. Lamborn	42,669
Mining apparatus, Coal	G. E. Donisthorpe, W. Firth. and E. Hughes.	44,630
Mining blast, Discharging, Percussion lock for.	R. Ridley	42,724
Minie balls	P. Naylor	42,785
Minie balls. Grooving and sizing.	P. Naylor	42,786
Mirrors, reflectors, &c., Mica for making, Preparing.	W. M. Marshall	42,497
Mirrors, Silvering, Coating, and protecting	D. Bramsky	42,270
Mitre dovetailing machine	F. A. Gleason	43,767
Money safes, penholder, and pen case, Combination of.	N. E. Rose	42,599
Mop head	H. H. Mason and S. W. Shelden	41,081
Mop and scrubber	W. S. Bullen	44,833
Mortising, boring, and sawing, Machine for	L. J. Wallich	45,097
Mosquito bar	M. Field	45,032
Mosquito bar to windows, Fastening of	A. F. Tarr	41,650
Mosquito canopy	M. L. Thompson	41,730
Mosquito net, a portable article	J. Zengler	41,957
Mosquito tent or frame	J. Stewart	41,946
Moss, Treating, for mattresses, &c	C. G. Angeroth, jr	43,962
Motion, Converting	T. A. McCauley	41,780
Motion, Converting	J. W. Drummond	41,835
Motion, Converting	W. H. Akins	43,558
Motion, Converting	A. E. Kline	45,252
Motion, Mechanical	D. Lynahan	45,330
Motion, Rotary, into reciprocating, Changing	A. Dean	45,230
Motion, Rotary in reciprocating, Connecting	A. E. Kline	44,319
Motion, Stop	B. Stott	44,024
Motion, Transmitting	J. W. Browning	44,594
Motion, Transmitting by belts	J. Rand	44,014
Motor, Hydraulic	T. Welham	42,980
Motor, Hydraulic	C. Mesler	44,010
Moulding, Preparing	G. Henze	44,952
Moulding apparatus	S. Ashford	44,149
Moulds, Blackwashing	G. Ross	42,600
Moulds, Butter, Tool for boring	J. S. Bullard	43,092
Moulds, Cast steel	J. Deere	42,172
Moulds, Metallic, for melting glass	W. Pountney	43,224
Moulds, Sugar	C. Kronig	43,376
Moulds, Sugar, Carriage for	A. Mackey	45,255
Moulds, Stereotype, Forming	J. D. McLain	43,323
Moulds for castings, &c., Dry	J. P. Townsend	43,885
Moulds for casting bungs, plugs, &c	A. H. Rowand	41,786
Moulds for casting ornamental heads to screws.	W. H. Nichols and H. H. Albe	44,214
Mould for casting screw heads	N. S. Williams	42,894
Moulds for casting steel	J. Deer	41,203
Moulds for casting steel tires	G. Nimmo	44,335
Moulds for making castings	S. A. Corser	42,251
Moulds for making school globes	J. R. Agnew	43,379
Moulds for taking impression of steel	J. E. A. Rillot	45,178
Moulds for vulcanizing rubber, &c	H. A. Alden	41,347
Moulds or flasks, Fastenings for	O. H. Burdick	42,543
Moulds or flasks, Slide and guide for	S. A. Traugh	42,419
Movements, Mechanical	S. H. Lancaster	45,616
Mowing machine	R. Dalton	41,460
Mowing machine	R. Dalton	41,958
Mowing machine	W. Van Allen	44,477
Mowing machine	M. G. Hubbard	44,628
Mowing machine	M. G. Hubbard	44,629
Mowing machine	J. Pine	44,655
Mowing machine	A. Brown, L. G. Kniffen, and T. H. Dodge.	44,935
Mowing machine	M. G. Hubbard	45,156
Mowing machine	M. G. Hubbard	45,246
Mowing machine	L. G. Kniffen	45,416

Invention or Discovery.	Name of Patentee.	No.
Mowing machine, Cutting apparatus of	M. G. Hubbard	44,193
Mowing and reaping machine	J. S. Truxel	45,094
Muffs	J. W. Gray	41,146
Muffs	J. W. Gray	41,766
Mules, Self-acting	R. Lakin and J. Wain	42,048
Mules for spinning	H. H. Goff	42,330
Mules for spinning, Self-acting	H. S. Bartlett	42,267
Mules for spinning woollen yarn	S. D. Paul	43,334
Musical demonstrating board	W. H. and G. W. Bowlsby	43,473
Muzzle cap for guns exhausted of air	R. Gibbons	43,680

N.

Invention or Discovery.	Name of Patentee.	No.
Nails, Boot and shoe	B. Morahan	44,212
Nails, Horseshoe	A. Whittemore	41,251
Nails, Horseshoe	M. D. Whipple	41,955
Nails, Horseshoe	J. White and J. Malden	42,709
Nails, Horseshoe, Blank for	M. D. Whipple	41,881
Nails, Horseshoe, Making	D. Dodge	41,141
Nails, Horseshoe, Tool for clipping and clinching.	J. E. Giles	41,695
Nails, Shoe	J. P. Davis	44,554
Nail for leather blank	S. W. Baldwin	44,382
Nail machine	R. Lario	42,993
Nail machine	M. McManns	43,324
Nail machine	J. B. Kingham	44,637
Nail machine	M. T. Rounds	44,661
Nail-plate feeders	P. S. Bradford	42,142
Nail and spikes	W. Watts, F. Wilcox, and D. F. Tompkins.	42,054
Naphtha, petroleum, &c., Deodorizing	S. Lewis	44,258
Neck-tie supporters	B. F. Bean	43,068
Needle, Knitting machine	W. Aiken	42,824
Needle threader	J. O'Kane	42,394
Needle threader, Magnet	O. Cox	43,100
Nets, Fly, Cutting leather	A. Warden	41,459
Nets, Head, Ladies'	D. M. Smith	41,465
Newspapers, Addressing	W. Doty	41,369
Newspapers, &c., Machine to print addresses on.	M. and Peck and R. W. Wright	41,234
Newspaper clamps	J. D. Hall	43,685
Nibs for scythe snaths	P. Frost	41,988
Notes, &c., Bank, Plates for printing	A. Sellers	41,724
Nozzles, Measuring, for liquid jars	J. H. Pein	43,703
Numbering machine	J. C. Clapp	42,274
Nuts	J. Paton	45,268
Nuts, Finishing	F. P. Pfleghar and W. Schöllhorn.	44,818
Nuts, Making	A. B. Glover	42,654
Nuts, Manufacture of	L. Thomas	42,320
Nuts, Tapping	F. Walkins	45,110
Nuts, Threads in, Cutting	W. H. Hubbard	44,954
Nut for wrenches and other tools	J. S. Arthur	42,062
Nut machine	L. Weckesser	45,446
Nuts and bolts	W. J. Lewis	42,299
Nut and washer bar	J. T. Wood and E. C. Smith	41,252

O.

Invention or Discovery.	Name of Patentee.	No.
Oars, Steel-bladed	W. H. McMillan	42,389
Objects, Cutting, with straight sides and semicircular ends.	C. W. Packer	45,565
Obstructions, Harbor, Removing	J. D. Hall	45,562
Odometers	O. D. Hoffman	45,157
Oil, Compound	A. Dart	45,028
Oil, Composition, for lubricating paint, &c.	W. H. Spooner	45,090
Oils, Extracting, from vegetable and animal substances.	J. Richardson, J. J. Lundy, and R. Irvine.	42,987

Invention or Discovery.	Name of Patentee.	No.
Oils, Hydro-carbon, Distilling	W. Archer	44,137
Oils, Hydro-carbon, Purifying	J. Merrill	43,325
Oils, Hydro-carbon, Refining	W. Archer	44,481
Oils, Mineral, Purifying	W. Adamson	45,007
Oils, Paint	W. Johnson	44,316
Oils, Paint, Compound	Z. S. Doty	42,757
Oils, Petroleum and other, Refining	W. P. Downer	44,519
Oils, Rock, Distillation of	A. Thirault	41,871
Oils, Rock, and other hydro-carbons, Distilling	E. F. Prentiss and R. A. Robertson	41,858
Oils and fats, Treating, to form composition for illuminating.	S. Lewis	43,156
Oils, paints, liquids, gunpowder, food, and other articles, Preserving, Metal cans, cases, and boxes for.	J. Bouvet	43,378
Oil from wells, Forcing	J. Molyneux	42,213
Oil from the surface of rivers, Collecting	J. Cannon	42,073
Oilstones, Box or case for	G. O. Wichers	41,561
Oilstone fountain	J. Funk	42,361
Ointment or salve, Vegetable	W. C. and J. H. Roney	43,341
Ordnance	T. A. Blakely	41,662
Ordnance	C. W. Stafford	44,119
Ordnance, Breech for, Elastic	J. F. Clew	45,586
Ordnance	W. W. Hubbell	44,194
Ordnance, Breech-loading	W. Schmoele	41,325
Ordnance, Breech-loading	R. L. Mills	41,631
Ordnance, Breech-loading	G. H. Ferris	41,984
Ordnance, Breech-loading	W. F. Goodwin	43,110
Ordnance, Breech-loading	W. F. Goodwin	43,111
Ordnance, Breech-loading	W. F. Goodwin	43,306
Ordnance, Breech-loading	T. Tully	43,351
Ordnance, Breech-loading	W. W. Hubbell	43,412
Ordnance, Breech-loading	L. W. Broadwell	43,553
Ordnance, Breech-loading	T. L. Fortune	43,655
Ordnance, Breech-loading	W. Wallace	44,356
Ordnance, Breech-loading	W. Williams	44,905
Ordnance, Carriage for raising and transporting	C. Bates	44,390
Ordnance, Construction of	J. Ericsson	41,208
Ordnance, Construction of	N. Wiard	42,315
Ordnance, Construction of	G. H. Ferris	42,571
Ordnance, Disabling	E. E. Bean	41,115
Ordnance, Loading	D. E. Rice	43,339
Ordnance, Operating	J. B. Eads	41,611
Ordnance, Operating	J. B. Eads	42,566
Ordnance, Operating heavy	J. B. Eads	41,206
Ordnance, Recoil of, Provision in	J. B. Atwater	43,382
Ordnance, Rifled, Projectiles for	W. S. Williams	42,614
Ordnance, Sight for, Adjustable front	J. B. Learock	42,091
Ordnance, Strengthening	P. M. Parsons	43,629
Ordnance, Trunnions to, Attaching	R. Gibbons	43,681
Ores, Amalgamating	W. F. Stewart	45,534
Ores, Auriferous and argentiferous, Treating	L. E. Rivot	42,997
Ores, Auriferous, Concentrating	J. A. Bertola	42,065
Ores, Burning, roasting, and smelting	J. D. Whelpley and J. J. Storer	41,250
Ores, Cleaning and separating	N. Carpenter	42,558
Ores, Crushing	J. T. Plass	44,819
Ores, Decomposing and desulphurizing	R. Spencer	44,986
Ores, Desulphurizing	H. Bradford	43,563
Ores, Iron and other, Reduction of	H. S. Lucas	44,872
Ores, Lead, Smelting	A. H. Everett	42,570
Ores, Metallic, Antifriction stampers for	J. A. Bertola	42,340
Ores, Metallic, Pulverizing, Chilian mills for	J. A. Bertola	42,341
Ores, mills, &c., Dust from, Concentrating the	S. H. Rounds and W. L. Strong	43,646
Ores, Preparing	E. N. Kent	45,048
Ores, Roasting, Furnace for	C. B. Grubb	41,376
Ores, Roasting and desulphurizing	R. P. Wilson	44,906
Ores, Roasting and reducing	G. W. White	44,145

Invention or Discovery.	Name of Patentee.	No.
Ores, Separating, Shaking table for	C. A. Stetefeldt	42,970
Ores, &c., Separating and roasting	E. Lawson	41,710
Ores, Smelting, Furnace for	J. Winchester	43,061
Ores, Sulphurets and other, Roasting	A. F. W. Partz	43,129
Ores, Washing, Hydraulic machine for	J. M. Allenwood	43,468
Ores of copper and silver, Reducing	J. T. McDougal	42,100
Ores of gold and silver, Roasting and treating	A. B. Crosby and R. L. Thompson	44,767
Ores of silver, Amalgamating	W. R. Frink	43,983
Ores and coals, Purifying	B. P. Penniman	44,817
Ores and metals, Desulphurizing	L. G. Marshall	42,441
Ores and minerals, Roasting and desulphurizing	S. Stevens	43,046
Ore crusher	A. F. W. Partz	44,450
Ore crusher	J. D. Whelpley	44,989
Ore roaster	C. H. Griffin	44,769
Ore separator	C. D. Hicks	42,372
Ore separator	F. A. Morley	42,392
Ore separator and amalgamator	H. Pietsch	42,596
Ovals, Cutting	C. W. Packer	43,883
Ovens, Hot-blast	R. E. Brown	41,421
Ovens, Fruit-drying	D. Lippy and S. Linn	44,324
Ovens, Portable	J. A. Frey	41,914
Ovens and furnaces for the manufacture of iron	J. Yates	41,807
Overshirts, India-rubber	H. Clark and F. A. Wilder	43,572
Oysters, Steaming, and preserving fruit, Apparatus for.	J. F. Reeves, jr	44,340
P.		
Packer, Flour	J. Cook	42,463
Packing, Fibrous, for steam engines	W. H. Miller	45,261
Packing dry-goods boxes	T. Webber	45,304
Packing and preserving houses, hospitals, and other buildings, Securing a uniform temperature in.	D. E. Somes	44,229
Packing for stuffing boxes for steam and other engines.	M. Botticher	44,575
Padlocks	L. C. Rodier	41,864
Padlocks	J. E. Thompson	44,757
Paddle, Lever	J. Haris	43,271
Paging machine	S. W. Soule and C. L. Sholes	44,488
Pail, Dinner, Lantern	C. Britain	41,274
Pails, Graining	J. R. and A. J. Cross	45,590
Paint, Composition for	A. B. W. Ballard	41,119
Paint, Composition for	W. Ten Eyck	41,729
Paint, Composition for	W. F. Cronkhite	43,944
Paint, Composition for	J. Trippe	45,362
Paints, liquids, oils, gunpowder, food, and other articles, Metal cans, cases, and boxes for.	J. Bouvet	43,378
Paint, Mixing, Pigment and vehicle for	J. M. Merryman	45,426
Paint, Oil, Grinding	H. W. Gear	42,364
Paint, varnish, &c., Composition for removing.	H. C. Kearney and J. W. Harrison.	42,295
Paint for bituminous roofing fabrics	A. Robinson	45,275
Painting, Composition for	J. L. Geroldsex	44,178
Palates and gums, Artificial	J. A. Cummings	43,009
Pans, Dish	J. Vandercar	43,442
Pans, Dust	T. G. Harold	41,771
Pans, Evaporating, for sugar and sirup	L. Megowen	43,220
Pans, Frying	S. B. Sexton	44,346
Pans, Metal, Sheet	C. F. Chambers	45,226
Pans, Sheet metal, Raising	H. Fachs	44,945
Pans, Sugar	H. F. Bartlett	44,698
Pans, Sugar, Skimming apparatus for	T. J. Price	41,941
Pans for evaporators, Steam	T. C. Bartle and F. Putuey	45,667
Pan and kettle, Frying	C. Avery	43,965

Invention or Discovery.	Name of Patentee.	No.
Pantaloons, Legs of, Preserving shape of the.	W. D. Sinclair	43,714
Pantaloons, Stretching	J. Mottet	43,596
Pantaloons, Straps for holding down	C. F. Walker	43,727
Paper, Adhesive or gum	S. L. Wiegand	43,731
Paper, Albumenized, Preparing	H. F. Anthony	41,750
Paper, cloth, &c., Flocking, Composition for.	A. Erhard	44,944
Paper, Cutting	H. Law	42,200
Paper, Cutting and twisting	I. P. Tice	43,874
Paper, leather, &c., Drying	S. M. Allen	41,348
Paper, Leather, for floor-cloths, &c	E. Richmond	43,340
Paper, Letter	R. Magee	42,673
Paper, Manufacture of	S. Nowlan	43,860
Paper, News, Clamp for	J. D. Hall	43,685
Paper, Perforating and severing	A. H. Hook	44,190
Paper, Punching, for telegraphic purposes	A. Bain	43,618
Paper, Sizing	G. E. Vanderburgh	42,450
Paper, Sizing and water-proofing	J. N. Sigel	41,241
Paper, warp-threads, &c., Cylinders for drying.	M. A. Furbush	44,524
Paper from Spanish grass, Manufacture of	W. Newbery	42,866
Paper from wood, Manufacture of	J. W. Dixon	45,480
Paper for paper twine, &c., Cutting	J. B. Wortendyke	44,249
Paper case or envelope	J. W. Wilcox	42,247
Paper-hanging trimmings	E. Boothby	44,764
Paper-fastener	A. J. Smith	43,435
Paper machines, Jacket-stretcher for couch roller of.	R. L. Howe	42,854
Paper machines, Washing the felts of	A. Anderson	44,059
Paper-making machines	E. N. Foote	45,149
Paper-making machines, Self-acting belt guide for.	T. Baker	43,280
Paper-mill engines, Bed-plate for	G. A. Corser	43,070
Paper pulp	G. W. Dixon	45,321
Paper pulp, Manufacture of	L. Bardoux	42,155
Paper pulp, Saw-dust for, Preparing	H. B. Meech	45,510
Paper pulp, Substances for the manufactureof.	R. Sherwood	45,440
Paper pulp, &c., Treating vegetable substances for the manufacture of.	H. B. Meech	44,209
Paper pulp from straw, Manufacture of	A. K. Eaton	41,982
Paper ruling machine	E. Town and J. L. Chichester	42,418
Paper ruling machine	C. Walton	45,195
Paper stock, Forming, drying, and packing	G. E. Sellers	41,102
Paper stock, Vegetable fibre for, Preparing	G. E. Sellers	41,101
Parcels, &c., Transmission of, Pneumatic ways of.	E. P. Needman	44,107
Parer, Apple	E. L. Pratt	41,266
Parer, Apple	J. White	41,658
Parer, Apple	J. Vonk	43,537
Parer, Apple	E. L. Pratt	43,955
Parer, Apple	S. S. Hersey	43,990
Parer, Peach	E. S. Pratt	43,956
Parer, Potato	H. Underwood	43,725
Patterns, Embroidery, Transferable	C. H. Hudson	41,776
Patterns for boots, &c., Adjusting	F. E. Augustine	43,631
Pavements, Composition for	K. Atkinson	44,589
Pavements, Concrete	H. Myers	42,589
Pavements, Concrete, Composition for	E. Seely	44,117
Pavements, Roughening	E. Hambujer	43,687
Pavements, Street	L. F. Noe	42,218
Pavements, Street	N. M. Shafer	44,464
Pavements, Wooden	W. H. Chappell	42,347
Pavements, roofing, &c., Composition for	J. Clark	44,938
Pavements and gutters, Cast-iron	M. Pennock	41,412
Pavement driver	H. Sandhop	42,022
Peat, Cleaning	E. H. Ashcroft	44,776
Peat, Condensing	N. O. Sawyer	44,557

Invention or Discovery.	Name of Patentee.	No.
Peat, Gas from, Illuminating	J. B. Hyde	43,585
Peat, Solidifying	L. Elsberg	44,520
Peat fuel, Preparing	E. H. Ashcroft	44,062
Peat for fuel, Preparing	N. C. Sawyer	44,342
Pen, Fountain	J. Reid	41,534
Pen, Fountain	G. J. Noltz	42,536
Pen case, penholder, and money safe, Combination of.	W. E. Rose	42,599
Pencil	O. Cleveland	43,391
Pencils, Lead, Cutting	A. Warth	43,267
Pencil, Sand-papering	P. Schrag	45,679
Pencil and penholder	R. Ryne	44,261
Pencleaner, inkstand, &c., Arrangement of	F. Bailey	44,381
Penholder, Spring	D. E. Hall	42,436
Penholder and ink-eraser	D. E. Holmes	42,769
Penholder, pen case, and money safe, Combination of.	W. E. Rose	42,599
Pen and pencil holder	R. Ryne	44,261
Penman's assistant	H. G. Eastman	41,495
Pendulums, Electro-magnetic	J. Hamblet, jr., and B. F. E. Edmonds.	41,217
Pegging machine	L. Hall	41,888
Pegging machine	J. F. Sargent	44,048
Pegging machine	J. F. Sargent	44,047
Pegging machine	J. F. Sargent	44,691
Pegging machine, Hand	C. H. Binger and W. E. Fischer	41,884
Pegs and cement into soles, &c., Introducing.	E. Townsend	44,029
Percolator, Adjustable	J. Q. Hill	44,311
Percussion caps, &c., Composition for	H. Hotchstaller	41,259
Percussion cap holder	J. T. Warren	41,655
Petroleum, &c., Deodorizing	S. Lewis	42,671
Petroleum, Gas from, Separating	J. Smith and A. Greig	42,121
Petroleum, Gas from, Separating and collecting.	J. H. Hobbs	44,421
Petroleum, naphtha, &c., Deodorizing	S. Lewis	44,258
Petroleum, Obtaining useful products from the tarry residuum of.	A. Millochau	41,085
Petroleum, Refining, Recovering the acid used in.	R. G. Loftus	43,157
Petroleum, &c., Treatment in	C. S. Potter	43,429
Petroleum and other oils, Refining	W. P. Downer	44,519
Petroleum distilleries, Utilizing the waste gas from.	H. W. C. Tweddle	45,363
Petroleum refiners, Utilizing the waste acid from.	R. M. Smith	42,803
Photogalvanography	P. E. Placet	43,821
Photographers' head-rest	G. A. Emery	42,650
Photographic camera	H. C. and C. L. Moore	41,634
Photographic glass rack	W. G. Smith	45,648
Photographic picture, Obtaining	J. J. L. Rousseau de Lafarge	43,270
Photographic plates, Drying	J. Thompson	44,678
Photographic plate holder, Catch for	H. C. Eddy	44,169
Photographic printing frame	G. W. and W. Bowlsby	42,637
Photographic printing frame	O. H. Burdick	43,344
Photographic prints, Gumming, cutting, and mounting.	D. H. Cross	43,184
Photographs, Exhibiting	W. H. Fay	43,299
Photographs, Finishing, Roller press for	D. and B. Marshall	43,515
Photographs, Washing and drying	A. Paersch	44,648
Photographs on cards, Pasting	C. S. Lucas	45,253
Photosculpture	F. Willieme	43,822
Piano-fortes	S. B. Driggs	41,977
Piano-fortes	W. W. Batchelder	43,174
Piano-fortes	M. Vergnes	44,566
Piano-fortes, Portable	M. Vergnes	42,518
Piano-fortes, Portable	M. Vergnes	43,245
Piano-forte action	F. Pistorius	43,524

Invention or Discovery.	Name of Patentee.	No.
Piano-forte action	G. Pratt	45,675
Pianos, Tuning, Tension scale for	C. R. Edwards	43,674
Picks	J. D. Cochran	43,638
Picks, Mill	T. Shechan	42,882
Picks, Mill	J. A. Wheeler	44,570
Pickets, Fence, Sheet metal, Corrugated	B. F. Miller	43,644
Pictures, Frame for	J. S. Cannon	43,255
Pictures, Photographic, Cabinet for exhibiting	J. A. Thompson	44,125
Pictures, Photographic, Obtaining	J. J. L. Rousseau de Lafarge	43,270
Picture frames, Oval, Enamelling	T. Smith	43,715
Piers, &c., Construction of	G. A. Parker	41,935
Piles, Sinking	S. J. Seely	44,751
Piles for wharves, Construction of	C. Walton	43,557
Pile-drivers	J. Wood	42,038
Pillars, Clock	W. H. Nettleton	42,104
Pilot-house and turret for ships-of-war and other war structures.	J. B. Eads	41,207
Pincers, Clothes	H. Kewley	42,951
Pincers, Lasting	A. West	42,451
Pins, Breast, Fastening for	G. Buhler	41,678
Pins, Clothes	J. Greenwood	45,119
Pins, Clothes	H. W. Sargeant	45,458
Pins, Diaper	A. Warner	44,031
Pins, Hair	A. T. Thayer	43,439
Pins, Hair	J. C. Howells	43,914
Pins, Husking	F. Brown	43,004
Pins, Linch	T. Laly	44,321
Pins, Wire for pointing	O. L. Hopson and H. P. Brooks	43,772
Pin fastening for metals, breast-pins &c.	G. O. Morris	45,121
Pipes, boilers. &c., Steam, Composition for coating.	J. Chilcott	44,517
Pipe, Cement	H. Holden	44,369
Pipe, Cement, Machine for making	E. T. Jewett	43,310
Pipe, Confectioners'	O. P. Chase	43,735
Pipe, Drain, Flasks for	E. Dayton	45,229
Pipes, Drainage, and bricks	J. C. Bryant	42,926
Pipes, Gas, and stair rods	M. Gould	43,491
Pipes, Gas and water	W. B. Guy	45,491
Pipes, Gas and water, Casting packing rings in.	R. C. Robbins	41,413
Pipes, Hose, Clamps for stopping leaks in	C. Rubsam	42,735
Pipes, joints, casks, and other vessels, Making and coating.	B. Rhodes	41,351
Pipes, Lead, Protecting against the action of water.	L. Brandeis	41,675
Pipes, Lead, Tinned, Manufacture of	W. A. Shaw and G. Willard	41,401
Pipes, Sewer	G. S. Tiffany	45,539
Pipes, Smoking	J. Statz	43,437
Pipes, Smoking	H. J. Hale	44,863
Pipes, Smoking	R. Norwood	44,882
Pipes, Smoking, Oil cup for	J. G. Gehring	43,984
Pipes, Stop-cock and case for, Leading from street mains.	J. G. Weldon	43,056
Pipes, Stove, Adjustable collars for	G. M. Hay	44,092
Pipes, Stove, Thimbles for	T. K. Anderson	41,592
Pipes, Terracotta, Sockets in, Forming	L. Scharff	45,084
Pipes, Tobacco	C. S. Hutchinson	41,778
Pipes, Tobacco	E. Holmes	41,921
Pipes, Tobacco	A. Kühn and L. Nax	43,416
Pipes, Tobacco	A. Fessenden	45,233
Pipes, Tobacco	L. K. Bowen	45,380
Pipes, Tobacco, Bowls of, Forming	D. A. Dickinson	42,990
Pipes, Tobacco, Making	D. A. Dickinson	42,991
Pipes, Tobacco, Pocket	P. C. Rowe	43,526
Pipes, Tobacco, Stems of	F. Fickey, jr	43,454
Pipes, Tobacco, Stems for	D. D. Foley	43,907

Invention or Discovery.	Name of Patentee.	No.
Pipes, Water and other, Making	H. Knight	42,952
Pipes for gas, water, &c	A. Wyckoff	45,201
Pipes to sinks, Attaching	S. C. Ketchum	43,998
Pipe or smoking apparatus	E. S. Franks	44,414
Pipe cleaner, Pocket	G. E. Matile	45,258
Pipe stopper, Hawse	C. Perley	43,793
Pipe tongs	H. Herbert	45,496
Pipe vices	F. Glasser	43,194
Pistol, Breech-loading	S. M. Perry	43,259
Pistol, Breech-loading	S. M. Perry	43,260
Pistol, Toy	B. Shaler	41,943
Piston packing	J. Wheelock	42,245
Piston packing	J. R. Abbe	42,999
Piston packing	J. J. Miller	43,950
Pistons, &c., Packing of, Lubricating	D. J. Browne and C. Baldwin	45,136
Pistons for steam-engines	H. D. Dunbar	41,205
Pistons for steam-engines	J. and H. Hall	41,961
Pistons for steam-engines	N. P. Stevens	44,674
Pitcher, Beer	D. W. S. Rawson	41,447
Pitchforks	J. D. Peck	44,652
Plaiting machine	J. F. McKenney	41,441
Planes	E. Odell	41,317
Planes, Bench	R. Washburn	43,053
Planes, Bench	S. Williams	43,560
Planes, Edge	J. H. Conklin	45,669
Planes, Edge, Shoemakers'	C. E. Hersey	44,093
Planes for jointing table leaves	T. P. Granger	41,258
Planes or scrapers, Box	A. F. Cushman	41,571
Planestock	G. F. Evans	41,983
Planing machine	A. T. Boon and J. Collins	43,001
Planing machine	C. R. Penfield	44,774
Planing machine	S. U. King	44,870
Planing machine, Cutter arm for	R. N. Meriam	44,333
Planing machines, Metal	W. Sellers	43,137
Planing and saw machines, Feed rollers for	A. Parker	44,110
Planter	J. H. Broad	43,968
Planters, Corn	J. P. Hines	41,120
Planters, Corn	J. H. Elward	41,176
Planters, Corn	W. F. Osgood	41,263
Planters, Corn	J. Olmsted	41,345
Planters, Corn	J. Y. D. Murphy	41,854
Planters, Corn	J. Agnew	42,151
Planters, Corn	G. W. Brown	42,177
Planters, Corn	G. W. Brown	42,178
Planters, Corn	G. W. Brown	42,179
Planters, Corn	S. F. Jones	42,196
Planters, Corn	J. Waterman	42,612
Planters, Corn	R. B. Lanum	42,781
Planters, Corn	E. E. Chesney	43,181
Planters, Corn	T. K. Alexander	43,559
Planters, Corn	J. Golder	43,682
Planters, Corn	O. C. McCune	43,699
Planters, Corn	F. Loos	43,782
Planters, Corn	J. Selby	44,019
Planters, Corn	J. Armstrong, jr	44,273
Planters, Corn	H. Upjohn	44,355
Planters, Corn	H. W. Wansbrough and H. M. Diggins.	44,357
Planters, Corn	J. Thompson and J. Ramsey	44,472
Planters, Corn	G. D. Haworth	44,725
Planters, Corn	J. B. Woolsey	44,762
Planters, Corn	R. McCorkell	44,810
Planters, Corn	D. W. Amos	44,845
Planters, Corn	J. Olmsted	44,920
Planters, Corn	W. W. Kenedy	44,955
Planters, Corn	V. D. Stoddard	45,192

Invention or Discovery.	Name of Patentee.	No.
Planters, Corn	J. Doak	45,395
Planters, Corn, Hand	S. S. Smith	43,139
Planters, Corn, and grain drill, Combined	T. Short	45,350
Planters, Hand	F. H. Roberts	41,784
Planters, Hoe and seed	C. H. Wolcott	44,032
Planters, Potato	W. Nevins	42,014
Planters, Seed	H. M. Trimble	44,758
Planters, Seed	A. Crisman and M. Whitmer	45,139
Planter, Seed	J. M. Maxwell	45,257
Planters, Seed, Cotton	B. Spencer	44,984
Planter and cultivator, Convertible	S. E. Harrington	42,370
Planting, Marking ground for	W. W. Potts	45,174
Plants, Tobacco, Removing suckers from	G. R. Hughes	42,774
Plants, Transplanting, Boxes for	M. L. Thompson	43,242
Plaster and seed sower, Combined	G. S. Conklin	44,785
Plates, Army	W. Terneson	41,652
Plates, Engraved, Printing from	J. Meyer	43,421
Plates, Grinding	P. M. Randall	45,175
Plates for printing bank-notes, &c.	A. Sellers	41,724
Ploughs	J. Tomlinson	41,407
Ploughs	O. Coe	41,603
Ploughs	W. Hinds	41,997
Ploughs	W. Henry	42,086
Ploughs	S. Aland	42,264
Ploughs	D. Rhodes	42,401
Ploughs	F. Cary	42,631
Ploughs	R. L. and A. C. Betts	42,813
Ploughs	G. B. Clarke	42,838
Ploughs	J. Dement	43,978
Ploughs	S. J. Olmstead	44,215
Ploughs	D. Nelson	44,442
Ploughs	J. Pierpont	44,745
Ploughs	L. Green	45,036
Ploughs	L. Miller and H. Koller	45,427
Ploughs, Corn	L. H. Coster	43,288
Ploughs, Cultivator	J. Doak	45,231
Ploughs, Gang	M. Satley	41,449
Ploughs, Gang	F. S. Davenport	41,491
Ploughs, Gang	J. L. Runk	41,643
Ploughs, Gang	F. R. Crothers	41,686
Ploughs, Gang	R. Nation	42,258
Ploughs, Gang	T. R. Markillie	44,206
Ploughs, Gang	J. Stone	44,351
Ploughs, Gang	S. H. Adams	44,924
Ploughs, Gang	G. Quirin and L. Berkel	44,971
Ploughs, Gang, and seeder	D. Stone	43,804
Ploughs, Grooving or panel	W. S. Loughborough	42,585
Ploughs, Rotating	J. Hoadley	43,913
Ploughs, Shovel	S. H. Wooldridge	45,664
Ploughs, Snow	J. Sheridan	42,411
Ploughs, Snow	J. B. Williams	44,360
Ploughs, Steam	J. Curtis	44,077
Ploughs, Stubble cleaner for	J. Lacy and G. Watkins	44,535
Ploughs and vehicles, Hitching horses to	J. Graham	42,574
Ploughs, Wheel	J. Pierce	45,520
Ploughbeam and handle	M. C. Brelsford	41,056
Plough handle	S. J. Olmstead	42,220
Plough plates, Cast steel, Cooling and tempering.	F. F. Smith	41,464
Ploughing machine	D. D. Foley	41,371
Ploughing machine	J. Pierce	44,969
Ploughing in stubble	J. Kilmer	45,454
Plumb and square, Reversible	M. V. Nobles	41,344
Pneumatic pressure, Forcing water by	J. P. Gruber	43,770
Poles, Hop, Sharpening	A. H. West	43,614
Polish, Stove, Composition for	C M. Spooner	42,026

Invention or Discovery.	Name of Patentee.	No.
Polishers, Hat and velvet	J. A. Thompson	41,895
Pontoon wagon boats, Metallic	J. Francis	41,288
Pontoon and boat	E. L. Perry	41,719
Portfolio	L. Heyl	44,094
Portholes, Submarine	T. F. Gilliland	42,988
Portholes, Submarine	J. F. Clew	45,475
Porthole closer	J. V. Murray and C. Borst	42,215
Post, Fence	C. R. Smith	41,541
Post-hole digger	J. Boone	43,085
Potatoes, Planting	T. Marcus	44,103
Potato diggers	S. B. Conover	41,058
Potato digger	O. N. Chase	41,424
Potato digger	P. Antonides	41,739
Potato diggers	R. D. Jones and T. Purcell	42,088
Potato diggers	E. T. Ford	44,716
Potato masher	W. Ball	45,382
Potato rot, Preventing the	C. Corey	43,292
Pots, Fire, Soldering	W. F. Rossman	45,179
Pots, Fire, for stoves	N. O. Bond	42,381
Pottery ware, Moulding and finishing	F. Durand	44,270
Pouches, Mail	M. Smith	42,802
Powder, Blasting	F. A. Jaeckel	42,913
Powder, Fulminating	J. S. Lipps	44,143
Powder, &c., Gun and mining	H. Hochstatter	42,047
Powders, Baking	J. A. Mariner and J. Fish	45,419
Powders, &c., Putting up	H. Sawyer	41,097
Power, Fan	W. E. Wilcox	45,447
Power, Horse	A. J. Detrick	41,493
Power, Horse	G. Lewis	43,738
Power, Horse	S. Wheeler and E. Jerome	44,479
Power, Horse	F. Wicks	42,291
Power, Horse	A. W. Tooker	45,540
Power, Human, Economizing	W. C. Moores	42,678
Power, Motive	J. Toll	41,406
Power, Motive	J. Green	44,181
Power, Obtaining and transmitting	J. J. Gorman	43,768
Preparation for water-proofing	P. F. L. B. Him	43,659
Preserving and packing houses, hospitals, and other buildings, Securing a uniform temperature in.	D. E. Somes	44,229
Presses	G. E. Harding	42,763
Presses	J. P. White	44,842
Presses, Baling	B. Roberts	41,722
Presses, Baling	C. V. Fleetwood and E.W. Morton	42,046
Presses, Baling	P. Philip and P. J. Stophilbeen	42,223
Presses, Baling	J. W. Roberts	43,132
Presses, Brick	O. Witmer	44,133
Presses, Cheese	M. Owen.	41,169
Presses, Cheese	L. C. Winslow	41,113
Presses, Cheese	N. Norcross	42,393
Presses, Cheese	La Cortes Tanney	45,444
Presses, Cider	O. Clarke	42,528
Presses, Copying	F. Hovey	42,141
Presses, Copying	G. C. Taft	43,266
Presses, Die-sinking, for obtaining relief plates for surface printing.	W. H. Oakes	41,088
Presses, Embossing and seal	G. B. Sargent	44,459
Presses, Fruit and vegetable	C. Parham	44,742
Presses, Hay	G. W. D. Culp	43,480
Presses, Hay	P. C. Pearson	43,600
Presses, Hay	M. Fletcher	44,413
Presses, Hay	C. S. Stevens and A. T. Brown	44,673
Presses, Hay	G. Gibbs	44,795
Presses, Hay and cotton	I. James	41,625
Presses, Hay and cotton	W. Ridenour and M. K. Biser	41,893
Presses, Hydraulic	M. Hittinger	43,912

Invention or Discovery.	Name of Patentee.	No.
Presses, Photographic card	J. B. Blair	43,083
Presses, Power	M. G. Wilder	43,818
Presses, Power, Lithographic	E. Reynolds	43,796
Presses, Printing	G. P. Gordon	41,841
Presses, Printing	G. P. Gordon	43,196
Presses, Printing	S. D. Tucker	43,349
Presses, Printing	S. D. Tucker	43,350
Presses, Printing	F. L. Bailey	43,383
Presses, Printing	F. L. Bailey	45,461
Presses, Printing, Hand	C. Whipple	45,000
Presses, Printing, Lithographic	E. Reynolds	41,862
Presses, Printing, Lithographic	J. W. H. Stübbe	42,125
Presses, Punching	N. C. Stiles	41,403
Presses, Roller, for finishing photographs	D. and B. Marshall	43,515
Presses, Screw, Portable	C. D. Brand	43,086
Presses, Tobacco	J. H. Fellows	45,558
Presses, Tobacco. Sheet	E. Holbrook, jr	42,482
Presses, Wool	J. C. Ball	41,752
Pressing machine, Glass	F. McKee and C. Ballinger	42,143
Pressing and crushing machine	C. and O. Waste	43,054
Pressing and washing machine	M. C. Davis and L. C. Keith	42,567
Priming, Percussion, Applying to cartridge cases.	A. K. Johnson and L. Dow	42,666
Priming, Percussion, Applying to cartridges	A. K. Johnson and L. Dow	42,667
Printing frame, Photographic	G. W. and W. Bowlsby	42,637
Printing frame, Photographic	O. H. Burdick	43,344
Printing frame, Photographic	T. Burrows	43,831
Printing from engraved plates	J. Meyer	43,421
Printing plates, Relief	B. Day	42,530
Printing presses, Feeding paper to	J. Hunt	44,917
Printing and dyeing, Coloring matter for	A. W. Hofman	43,066
Printing inking rollers	L. Francis	41,887
Prints, Photographic, Gumming, cutting, and mounting.	D. H. Cross	43,184
Projectiles, Enamelled	J. F. Glen	45,022
Projectiles, Explosive for ordnance	J. Johnson	43,029
Projectiles, Explosive, Sub-marine	J. D. Willoughby	41,112
Projectiles, Filling, Inflammable composition for.	E. Harrison	41,577
Projectiles, Ordnance, Sabots for	J. F. Glen	45,023
Projectiles, Packing, for rifled ordnance	J. Absterdam	61,668
Projectiles, Packing, for rifled ordnance	W. Boekel	42,268
Projectiles, Rifled, Sub-calibre	J. L. Henry	45,462
Projectiles, Spherical, for ordnance, Attaching sabots to.	G. P. Ganster	43,017
Projectiles, Sub-calibre, Jacket for	W. H. Smith	44,670
Projectiles for fire-arms	J. F. Glen	45,021
Projectiles for rifled ordnance	W. H. Smith	41,127
Projectiles for rifled ordnance	B. B. Hotchkiss	43,027
Projectiles for rifled ordnance	B. C. Converse	43,835
Projectiles for rifled ordnance, Packing	W. H. Smith	44,669
Projectiles for rifled ordnance, Sabot for	C. W. Stafford	45,567
Propeller	G. Parker	42,870
Propeller	O. C. Phelps	43,522
Propeller, Car	P. W. Phillips	45,450
Propeller, Chain, Endless	W. W. Bowman	41,360
Propeller, Hydraulic	A. Pagenstecher	44,584
Propeller, Marine	R. C. Vernol and J. T. Martin	41,109
Propeller, Marine	T. Mason	44,641
Propeller, Marine	R. Covington	45,127
Propeller blades to the shaft, Affixing	L. B. Flanders	43,842
Propeller shafts, Stern bearing for	R. E. Campbell	45,473
Propeller and steering apparatus	H. Ressel	44,696
Protector, Eye	L. Morse	45,263
Provisions, Preserving	C. Winships	44,683
Pulley, Calisthenic, and spring cords	J. Wood	43,149

Invention or Discovery.	Name of Patentee.	No.
Pulley, Fast and loose	C. H. Brown	41,829
Pulley, Mounting	J. Yocum, jr	42,426
Pulley block	N. C. Whitcomb and W. Paddock.	43,541
Pulley block	J. J. Doyle	44,409
Pulley or clutch, Friction	H. S. Shepardson	43,138
Pulley and gear wheels	G. J. Washburn	41,896
Pulp, Paper, Manufacture of	L. Bardoux	42,155
Pulverizer, Earth	J. Johnson	45,249
Pulverizing machines	W. Adamson	42,060
Pulverizing and levigating substances	O. E. Noble	44,444
Pump	J. W. Reid	41,091
Pump	C. Bollinger	41,133
Pump	E. Hale	41,154
Pump	C. Bollinger	41,174
Pump	M. J. Atthouse	41,186
Pump	J. G. Garretson	41,291
Pump	H. Hosick	41,298
Pump	J. K. Fairbank	41,764
Pump	W. H. Thomas	42,128
Pump	J. Tomlinson	42,417
Pump	M. W. and J. Zimmerman	42,617
Pump	J. P. Nevens	42,681
Pump	J. Knibbs	42,920
Pump	J. Munson	43,124
Pump	B. J. C Howe	43,502
Pump	W. A. Bemis	43,755
Pump	O. Baldwin	43,826
Pump	W. S. Kelley	44,272
Pump	J. K. Cohick and J. Fesher	44,282
Pump	J. A. Dickson	44,289
Pump	E. Perry	44,337
Pump	F. Crocker	44,610
Pump	B. J. C. Howe	44,627
Pump	A. V. and A. F. Fletcher	44,792
Pump	W. B. Munger	44,879
Pump	E. Lawrence	44,963
Pump	P. C. Rowe	44,978
Pump	B. Holly	45,040
Pump	A. Duvall	45,398
Pump	J. Bean	45,467
Pump	T. G. Wynkoop	45,551
Pump	W. Shoup	45,647
Pumps, Air	H. H. Hendrick	42,437
Pumps, Air	G. M. Mowbray	45,168
Pumps, Air	N. H. Borgfeldt	45,220
Pumps, Bellows	E. Parker	44,649
Pumps, Cattle	J. B. Atwater	44,274
Pumps, Chain	J. M. Connel	43,253
Pumps, Chain	L. A. Fisher	45,484
Pumps, Double acting	B. J. C. Howe	42,773
Pumps, Double acting	W. S. Kelley	43,917
Pumps, Double acting submerged	A. J. Reynolds	44,891
Pumps, Force	A. Carver	43,180
Pumps, Force	C. B. Guy	43,684
Pumps, Force	J. De Long	44,790
Pumps, Hydraulic	E. Squire	44,829
Pumps, Lifting	F. Raymond and A. Miller	42,874
Pumps, Mercury packed	P. Marcelin	43,960
Pumps, Oil well	J. Thomas	44,264
Pumps, Oil well	E. H. Ashcroft	45,573
Pumps, Piston, Hollow, Double acting	F. A. Chase	43,637
Pumps. Railroad	J. B. Atwater	44,501
Pumps, Railroad, Automatic	J. B. Atwater	41,047
Pumps, Rotary	J. H. Shedd and W. Edson	41,327
Pumps, Rotary	C. H. Harrison	42,204
Pumps, Rotary	R. Gilbert	42 083

Invention or Discovery.	Name of Patentee.	No.
Pumps, Rotary	W. Hinds	43,849
Pumps, Rotary	A. Walker	45,096
Pumps, Rotary	R. S. Foster	45,596
Pumps, Sand and drill	E. R. Morrison	45,068
Pumps, Steam	J. J. Miller	43,953
Pumps, Steam	I. Illofsky	44,532
Pumps, Steam, Direct action	W. Sewell and A. S. Cameron	42,694
Pumps, Submerged, Double acting	A. J. Reynolds	42,686
Pumps, Test	T. Shaw	44,559
Pumps, Valve arrangememt in	W. Sewell and A. S. Cameron	45,644
Pumps, Wind-wheel	E. Pepple	42,503
Pumps for bored wells	J. Suggett	42,126
Pumps for deep wells	J. Warren	42,705
Pump for locomotive tenders, &c	A. W. Todd	45,360
Pump gear	H. and F. J. L. Blandy	43,387
Pump pipes	J. P. Cowing	43,975
Pump valves	W. Sewell and A. S. Cameron	42,693
Pumping and condensing, Apparatus for	G. J. Washburn	41,799
Punch, Gang, Adjustable	C. E. Howard	44,191
Punch, Spring	P. Bauer	42,064
Punches for attaching buttons by rivets	E. Pincus and G. Rehfuss	44,746
Punches for cutting out welts of boots and shoes	J. W. Walker	43,556
Punching, Cutting, and Binding machine	C. Wright	42,325
Punching and shearing	S. Renfrew	41,861
Punching machine	J. F. Sargent and E. Townsend	42,146
Puzzle for children	W. B. Rice	41,536

Q.

Invention or Discovery.	Name of Patentee.	No.
Quartz, Crushing, Casting stamps or dies for	G. W. Coffee	45,318
Quartz, Gold from, Separating, Syphon for	A. W. Hall	44,043
Quartz crushers	M. H. Collins	43,096
Quartz crushers	D. Gay and J. H. Purkiss	43,304
Quartz crushers	T. A. Morris	44,013
Quartz crushers	J. W. Stanton	44,122
Quartz crushers	A. W. Hall	44,257
Quartz crushers	A. Buchanan	45,222

R.

Invention or Discovery.	Name of Patentee.	No.
Racks, Clothes and hat	H. E. Ficket	43,905
Racks, Feed	W. and H. Sais	43,609
Racks, Feed, and trough combined	D. Close	42,927
Racks, Glass, Photograph	W. G. Smith	45,648
Racks, Sheep	R. Hale	41,216
Racks, Sheep	R. Hart	43,023
Racks, Sheep	D. Lippy	44,205
Racks, Sheep	A. L. Webb	44,478
Racks, Sheep	A. Allerton	45,011
Racks, Sheep, Shed and fold, Combined portable.	S. L. Sage and O. T. Baker	45,080
Radiator	W. Washburn	43,810
Radiators, Drum stoves or	O. B. Buttles	42,459
Radiators, Heat	A. C. Edwards	41,061
Radiators, Heat	C. B. Hall	45,404
Radiators, Steam	A. S. Hart	41,619
Radiators, Steam-heating	G. W. Blake	44,156
Radiator attachment, Heat	J. B. Hyzer	44,197
Raft, Life	E. L. Perry	45,073
Rails, Railroad	S. A. Beers	42,636
Rails, Railroad	W. D. O'Brien	43,599
Rails, Railroad	G. D. Teller	44,562
Rails, Railroad, Fagoting	W. L. J. Rice and F. Naylor	43,593
Rails, Railroad, Improvement in filing old	J. Griffin and M. P. Weeks	42,656
Rails, Railroad, Joints for	R. H. Lamborn	41,437
Rails for railroads	H. Resley	42,875

Invention or Discovery.	Name of Patentee.	No.
Rails for street railways	F. M. Schleier	45,525
Railroads, Street	A. E. Beach	42,039
Railroads, Track cleaner for	M. J. Adams	41,468
Railroad chairs	G. B McDonald	42,098
Railroad frog	E. M. Caulkins	45,295
Railroad supporters	B. F. Gapin	41,292
Railroad supports	W. S. Mallory	42,586
Railroad ties, Preserving	B. S. Foreman	43,191
Railroad track raiser	P. Gillett	41,696
Railways	A. Jeffery	43,586
Railways, Atmospheric	A. Allison and J. Halliwell	44,376
Railways, Construction of	T. Yates	45,552
Railways, Marine	C. H. Edwards	41,426
Railways, Marine	W. Talbert	41,452
Railways, Pneumatic	T. W. Rammell	42,509
Railways, Street, Lock joints for	W. C. Gould	41,501
Railways. Street, Trucks for	R. H. Lecky	42,202
Railway bar, Securing	J. O. Montignani	41,633
Railway track adapted to different gauges of track.	C. D. Tisdale	43,163
Raisin seeder	C. L. Spencer	45,355
Raisin stoner	R. Carpenter	41,757
Rakes, Hand, Revolving	S. C. Rundlet	44,824
Rakes, hoes, &c., Construction of	J. S. Hall	41,503
Rakes, Horse	D. W. Amos	41,187
Rakes, Horse	L. Beach	41,270
Rakes, Horse	D. P. Sharp	41,326
Rakes, Horse	J. Hollingsworth	41,433
Rakes, Horse	L. W. Frederick	41,613
Rakes, Horse	J. B. Drake	41,741
Rakes, Horse	O. J. Hardgrove	41,990
Rakes, Horse	O. D. Dunham	42,079
Rakes, Horse	J. Robinson	42,309
Rakes, Horse	C. Jennings	42,664
Rakes, Horse	J. Partridge	43,702
Rakes, Horse	S. Eberly	43,980
Rakes, Horse	A. J. Shunk	44,020
Rakes, Horse	M. Davenport	44,079
Rakes, Horse	F. Seidel	44,344
Rakes, Horse	D. G. Hussey	44,728
Rakes, Horse	C. W. Warner	45,099
Rakes, Horse	J. Robbins and J. Old	45,346
Rakes, Horse	T. H. Dodge	45,481
Rakes, Horse	G. Kimball	45,502
Rakes, Horse	H. R. Hawkins	45,605
Rakes, Horse	L. L. Pollard	45,626
Rakes, Revolving	S. E. Ament	41,469
Rakes for harvesters	A. R. Reese	41,641
Rakes for harvesters	N. Allstatter	42,454
Rakes for harvesters	W. H. H. Hunter	42,488
Rakes for harvesters	O. H. Burdick	43,007
Rakes for harvesters	J. Baldwin	43,282
Rakes for harvesters	A. B. Rodman	44,749
Ram, Battering, or piercing for naval defence and offence.	J. B. Woodruff	41,736
Ranges, Cooking	A. C. Barstow	41,355
Ranges, Cooking	W. M. Kepler	42,002
Ranges, Cooking	R. R. Finch	44,041
Ranges, Cooking and heating	P. W. Mackenzie	45,418
Ranges, Water back for	T. Bradford	43,967
Rasps. Cutting	A. N. Redman	43,795
Rasps and files, Hardening and repairing	C. A. Clavel	43,658
Ratan waste, Utilization of	C. Wakefield	44,242
Razors	J. Kinlock	41,891
Reaping machine	J. B. McCormick	41,383
Reaping machine	O. P. Crawford	43,101

Invention or Discovery.	Name of Patentee.	No.
Reaping machine	J. H. Edwards	44, 858
Reaping and mowing machine	J. S. Truxel	45, 094
Reefing apparatus	A. R. Tiffin	44, 919
Reel, Fishing line	A. Dougherty	41, 494
Reel, Fishing line	W. H. Van Gieson	43, 460
Reel, Fishing line	D. Ellis	43, 485
Reels to fishing rods, Attaching	T. W. Cummings	43, 546
Reeling and spinning, Machine for	G. Albright	43, 467
Refiners, Petroleum, Utilizing the waste acid from.	R. M. Smith	42, 803
Reflectors, Adjusting	M. F. Gale	44, 717
Reflectors, mirrors, &c., Mica for making, Preparing.	W. M. Marshall	42, 497
Reflectors for gas-lights, lamps, &c	J. Stratton	41, 547
Refrigerators	J. C. Schooley	41, 098
Refrigerators	J. C. Schooley	41, 099
Refrigerators	J. N. Ehrsam	41, 690
Refrigerators	M. C. Longacre	41, 931
Refrigerators	J. F. Schneider	44, 663
Refrigerators	G. A. Banta	45, 217
Regenerator	C. W. and F. Siemens	41, 788
Register, Telegraph	R. Henning	42, 253
Register and damper, Ventilating	W. J. Towne	44, 030
Register for card games	C. W. Saladee	41, 820
Regulators, Automatic	J. M. Osgood	44, 884
Regulators, Blast	A. Kipp, jr	43, 856
Regulator, Damper, Fire	P. Lamb	43, 213
Regulator, Draft	E. Harrington	44, 091
Regulators, Gas	J. E. Boyle	42, 430
Regulators, Heat	S. M. Kellogg	43, 313
Regulators, Heat, Radiating	A. Edwards	44, 170
Regulator, Spring tensive	T. Silver	41, 868
Regulator and ventilator, Draft	G. Chilson	43, 897
Rein, snap	J. Ives	42, 775
Retort or flask	S. S. Geer	43, 193
Retort stands	J. D. O'Donnell	44, 447
Rheumatism, Liniment for	G. Shepherd	42, 115
Riffling machine, Cutter bit for, Grinding	D. Slate	41, 646
Rigging screw for turning in dead eyes	W. A. Overton	44, 741
Rigging and sails, Ships	H. C. Johnson	42, 665
Ring, Jib-sail	R. Balans	44, 582
Ring, Twine cutting	T. L. Bishop and G. L. Hall	45, 576
Rings for stopping leaks in boiler tubes	R. Lavery and S. Stuart	45, 619
Rivets, Making	G. B. Brayton	45, 116
Rivets and bolts	J. Paton, T. Campbell, and R. Paton.	45, 269
Rivets and bolts, Making	J. Howden	42, 131
Rivets in textile fabrics, Instruments for inserting.	W. H. Reed	41, 170
Riveting machines	J. Howell and D. Birdsall	42, 375
Road and grading scraping machine	E. H. Moore	43, 422
Roaster, Coffee	E. J. Hyde	41, 436
Rock-breaking device	A. W. Hall	44, 580
Rock-breaking machine	J. B. Wayne	41, 585
Rock-drilling machine	J. S. Foster	41, 913
Rockers for furniture	A. Strawbridge	45, 302
Rockets	I. Edge	41, 689
Rocking horse, Spring	J. A. Crandall	41, 570
Rocking horse, Spring	C. B. Northrup	42, 960
Rods, &c., Metallic, Tenons in, Cutting	C. Jillson	43, 776
Roofs	J. Rodefer	44, 821
Roofs, Car, Railroad	J. Palmer	43, 223
Roofs, Thatching	J. Weed	43, 055
Roofs, Shingle, Protecting and repairing	I. Straub	44, 675
Roofs of buildings, Fenders for ice and snow	L. Howe	42, 992
Roofs of churches	S. S. Woodcock and G. F. Meacham.	44, 831

Invention or Discovery.	Name of Patentee.	No.
Roofing, Cement for	S. Bowerman	42, 925
Roofing, Fabric for	J. H. Green	42, 910
Roofing fabric	A. Robinson	44, 220
Roofing fabrics, Bituminous, Paint for	A. Robinson	45, 275
Roofing material	S. M. Allen	43, 171
Roofing pavements, &c., Composition for	J. Clark	44, 938
Rollers, Elastic	L. R. Streeter	42, 415
Rollers, Fluting	W. Weild	44, 585
Rollers, Ink, Printers'	L. Francis and F. W. Letmate	43, 192
Rollers, Inking, Printers'	L. Francis	41, 887
Rollers, Spinning	W. Weild	41, 333
Rollers, Washing	J. E. Atwood	43, 279
Rollers of paper machines, Couch, Jacket-stretcher for.	R. L. Howe	42, 854
Rollers for rolling iron	A. B. Clemons	42, 433
Rollers for saw and planing machines, Feed	A. Parker	44, 110
Rollers for wringers	R. B. Hugunin	43, 692
Rolls	B. Merritt, jr	41, 851
Rolls, Motion of, Reversing	G. F. McCleane	45, 260
Rolls in drawing frames, Operating	J. Chase and J. M. Stone	42, 076
Rolls for rolling metals	B. Lauth	41, 307
Roots, Cutting, Tools for	P. Wixcel	45, 293
Ropes, cords, &c., Manufacturing	J. A. De Maniquet	43, 461
Rosin and other substances from pine wood, Extracting.	D. Hull	44, 314
Rounding machine	E. M. Stevens	43, 958
Rubber, Articles of, Inlaying and ornamenting.	C. T. Burchard	43, 666
Rubber and leather soling	G. F. Udell and H. Mayall	41, 246
Rudders	J. Lewis	42, 494
Ruffles	C. O. Crosby	42, 280
Ruffles, Band	T. Robjohn	42, 403
Ruffles, Band	G. H. Wooster	44, 923
Ruffles, Fluted	T. Robjohn	42, 404
Ruffles, Fluted	T. Robjohn	42, 510
Ruler, Paper	D. Munson	42, 012
Ruler, Metal	R. T. McCoy and H. L. Herwig	44, 874
Ruling machine	C. Walton	44, 243
Ruling machine, Atmospheric fountain feeder for.	A. Smith	44, 980
Ruling machine, Paper	E. Town and J. L. Chichester	42, 418
Ruling machine, Paper	C. Walton	45, 195
S.		
Sabots for ordnance projectiles	J. F. Glen	45, 023
Sabots for projectiles for rifled ordnance	C. W. Stafford	45, 567
Saccharine juices, Evaporator for	L. F. Woodworth	44, 248
Saccharine liquids, Evaporating	G. E. Evans	44, 619
Sacks, Flour	J. M. Hurd	43, 773
Sad-iron	E. L. Pratt	45, 434
Sad-iron, Heater for	G. R. Moore	43, 786
Sad-irons, Heater for	W. F. Smith	44, 350
Sad-irons, Heating	A. F. Dusantoy	43, 554
Saddles	B. F. Nichols	42, 015
Saddles	L. T. A. Leurs	42, 583
Saddles, Riding	P. Weber and L. Muller	41, 130
Saddles, Riding	J. M. Flautt	45, 235
Saddles, Side	C. A. Bartelett	45, 308
Saddle or sweat-cloths	R. Spencer	41, 944
Saddletrees	C. C. Hardy	45, 192
Saddlers' stitching horse	J. H. Pitezel	42, 020
Safes	G. Hopson	41, 621
Safes	T. Dolan	43, 296
Safes	W. K. Terwilliger and D. Fitzgerald.	45, 536

Invention or Discovery.	Name of Patentee.	No.
Safes	J. P. Howard	45,607
Safes, &c., Burglar-proof, Plates for constructing.	W. K. Marvin	41,629
Safes, &c., Fire-proof	W. K. Marvin	41,521
Sails, Attachment of	J. W. Norcross	44,445
Sails, Fore-and-aft, Tackle for	A. Woodbury	43,150
Sails, Jib, Working	J. W. Sharrett	45,645
Sails, Lazy jacks for	S. B. Butler	42,072
Sails, Reefing and furling	G. H. Felt	44,620
Sail-cringle and clew	F. Chandler	41,364
Sails to mast-hoop, Attaching	D. Monot	42,783
Sails and rigging, Ships	H. C. Johnson	42,665
Sails for square-rigged vessels, Courses or lower.	S. W. Baxter and J. W. Chapman.	44,065
Sails of vessels, Releasing, Safety cleat for	J. W. Sharrett	41,866
Salinometer cases	E. H. Ashcroft	41,970
Salve for the eyes	J. Loewenberg	44,436
Salve or ointment, Vegetable	W. C. and J. H. Rohey	43,341
Salt, Manufacture of	S. P. Duffield	41,979
Salt, Manufacturing and purifying of common.	S. P. Duffield	41,980
Salt brines, Purification of	S. P. Duffield	42,280
Sandals, boots, or shoes, Metallic	G. W. Griswold	42,187
Sap conductor	C. S. Curtis	42,252
Sash, Coping	T. B. Jones	41,706
Sashes, Metallic, Tool for making	A. J. Campbell	43,008
Sash, Stops to, Attaching	L. Fleischman	43,578
Sash, Window, Fastening for	J. P. Ellis	43,297
Sash balance	A. B. Hester	44,866
Sash fastenings	R. W. Clough	41,057
Sash fastenings	A. M. Smith	43,045
Sash fastenings	H. Rugee	43,134
Sash fastenings	W. Shaw	43,608
Sash fastenings	P. P. Joseff	44,730
Sash fastenings	F. Beals and C. F. Grilley	45,016
Sash fastenings, Car	W. H. Burridge	45,223
Sash holder	J. Frick	44,860
Sash stopper and lock	W. Van Gaasbeck	44,565
Sash supporter and lock	W. Race	41,236
Sash sustaining window frame	H. H. Center	42,431
Sausage-filler	J. G. Perry	43,131
Saws, Circular, Adjusting on their arbors	C. B. Rogers	45,677
Saws, Circular, Hanging	J. Young	42,617
Saws, Filing	N. G. Barnum	44,504
Saws, Frames for	T. D. Roberts	45,274
Saws, Gig	H. F. Shaw	41,539
Saws, Grinding	J. G. Baker	41,419
Saws, Grinding and polishing	J. H. Weaver	44,903
Saws, Hanging	R. L. Stewart	41,544
Saws, Jig	L. M. Berry and N. S Graves	41,116
Saws, Jointing and burring	L. B. Southworth	42,124
Saws for felling trees	S. Warner	42,034
Saw-filing machine	J. S. McCune	43,698
Saw-filing machine	S. P. Ochiltree, W. S. Weir, jr. and and A. P. Baymount.	44,647
Sawing machine	R. Fanning	41,210
Sawing machine	O. A. White and J. W. Bostwick	42,246
Sawing machine	W. M. Salmon	43,431
Sawing machine	R. B. Perkins	43,704
Sawing machine	E. Totman	43,724
Sawing machine	J. W. Arnold and H. W. Couch	43,963
Sawing machine	W. J. Wells	44,359
Sawing machine	J. Creager	44,609
Sawing machine	N. B. Brown	45,580
Sawing machine. Cross-cut	A. B. J. Flowers	41,063
Sawing machine, Drag	I. Starr	41,103
Sawing machine, Scroll	A. Hanauer	44,304

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Sawing machine, Shingle	W. H. Walker	41,552
Sawing machine, Wood	J. Case	41,607
Sawing machine, Wood	M. Dewey	41,910
Sawing, boring, and mortising, Machine for	L. J. Wallich	45,097
Sawing wood by wind power	J. Wisner	43,941
Saw gummer	L. A. Dole	45,117
Saw horse, Folding	E. Whittemore	41,560
Saw horse, Folding	C. J. Fay	41,912
Saw set	A. R. Turner	44,411
Saw set	J. Hanford, jr	45,037
Scaffolding, and elevating the same	P. Knapp	43,315
Scales, Hydrostatic, for indicating tonnage of boats.	A. Amsden	41,824
Scales, Sliding, for steam engines	A. Jillson	42,776
Scale beams	J. F. Keeler	43,511
Scarf and collar supporter, Neck	J. A. Busher	41,568
Scenic effects, Producing	W. Calcott	45,449
Scissors	F. G. Sanborn	44,556
Scissors and knife sharpeners	W. H. Alcorn	43,752
Scoop and funnel	J. F. Dubber	42,356
Scouring and washing machine	W. Price	44,820
Scrapers, Road	J. B. Wood	43,942
Scrapers for cleaning gun barrels	M. G. Crane	43,573
Scrapers. or box planes	A. F. Cushman	41,571
Scraping, chair, and other materials	E. S. French	44,367
Scraping machine, grading and road	E. H. Moore	43,422
Screens, coal	J. R. Deilm and J. Snell	43,185
Screens, Grain	G. B. Bailey	42,635
Screens, Window	A. Josselyn	43,855
Screen and sieve, Grain	H. B. Thomas	45,125
Screener and huller	G. Stevenson and J. J. Grider	42,027
Screws	W. G. A. Bonwill	45,133
Screw, Cork	J. L. Clark	45,137
Screws, Driving	A. M. Bailey and J. O. Couch	43,384
Screws, Forming	C. H Chandler	44,074
Screws, heads to, Moulds for casting ornamental.	W. H. Nicholls and H. H. Abbe	44,214
Screw, Planking	A. Perrin	42,222
Screw. Rigging, for turning in dead eyes	W. A. Overton	44,741
Screws, Wood	H. A. Harvey	42,475
Screws, Wood	J A. Bidwell	42,905
Screws, wood, Shaving the heads of	H. A. Harvey	44,723
Screws, wood, Threading	H. A. Harvey	42,766
Screw blanks	C. W. Smith	45,352
Screw blanks, Arranging and distributing	H. A. Harvey	42,474
Screw blanks, Arranging and distributing	H. A. Harvey	42,476
Screw blanks, Arranging and distributing	H. A. Harvey	42,477
Screw blanks, Nicking the heads of	H. A. Harvey	42,766
Screw blanks, Shaving the heads of	H. A. Harvey	42,767
Screw-cutting machine	L W. Langdon	45,054
Screw head	H. B. Chess	42,077
Screw heads, casting, Moulds for	N. S. Williams	42,894
Screw gripe	D. M. Robertson	45,524
Screw plate	C. C. Walworth	41,110
Screw plate	J. Smith	45,459
Screw power	J. Haege	41,296
Screw taps	J. Howell and D. Birdsall	41,509
Screw for music stools	L. Horn	44,423
Scrubber	M. C. Burr	44,160
Scrubber and mop	W. S. Bullen	44,832
Scuttles, Coal	T. T. Markland, jr.	44,875
Scuttles, Coal	G. Chambers	45,388
Scythe fastenings	P. Frost	42,081
Scythe fastenings	A. Boyden	44,780
Scythe rods or bars	L. C. Palmer	42,305
Scythe snaths, Nibs for	P. Frost	41,988

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Seats, car, Railroad	A. S. Babbitt	44, 379
Seats, car, Railroad	C. B. Lashar	44, 536
Seats, car, railroad, Locking	D. H. Baker	43, 753
Seats, Chair	R. Wood	42, 150
Seats, railway carriage, Head rest for	E. Hambujer	42, 084
Seats for schools and public buildings	J. Stagg	45, 091
Seat and desk, School	R. Cruikshank	42, 859
Seat and desk, School	T. Weaver	45, 286
Seat and table, School	T. Weaver	45, 287
Seeds, clover and other, Hulling	W. Jones and A. Miller	44, 431
Seeder, Raisin	C. L. Spencer	45, 355
Seeder and cultivator	C. E. Miller	41, 314
Seeder and cultivator	T. L. Day	44, 658
Seeder and cultivator, Combined	T. Thomas	43, 721
Seeder and cultivator, Combined	W. Ironside	43, 995
Seeder and gang plough	D. Stone	43, 804
Seeder and grain separator	B. S. Hyers	43, 693
Seed sower	J. Scovil	44, 462
Seed sowers, Broadcast	J. R. Rogers	41, 321
Seed sower, Combined planter and	G. S. Conklin	44, 785
Seed sower, Hand	G. C. Fanckboner	45, 232
Seeding machine	A. Philipps	42, 791
Seeding machine	G. A Titus	44, 236
Seeding machine	C. G. Vanstrum and P. G. Lindberg.	44, 241
Seeding machine	J. Lyle	44, 328
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Seeding machine	H. H. Horton	44, 801
Seeding machine	D. E. McSherry	45, 423
Seeding machine	J. W. Richards	45, 344
Seeding machine	D. E. McSherry	45, 424
Seeding machine	J. M. Stebbins	45, 535
Seeding machine and cultivator	D. Stouder	44, 896
Seeding and harvesting machine, Frames for	J. H. Snyder	45, 531
Separator and thresher	S. Pelton	44, 374
Sewing machines	J. S. McCurdy	41, 164
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Sewing machines	W. Miller	41, 527
Sewing machines	A Eames and C. Marsh	41, 572
Sewing machines	A. G. Simmons and C. Schofield	41, 790
Sewing machines	W. S. Guinness	41, 916
Sewing machines	C. H. Wilcox	42, 036
Sewing machines	O. Redmond	42, 110
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Sewing machines	W. O. Grover	42, 284
Sewing machines	W. O. Grover	42, 285
Sewing machines	A. T. Johnson	42, 292
Sewing machines	R. Thompson	42, 449
Sewing machines	C. Parham	42, 502
Sewing machines	C. L. Pierce	42, 505
Sewing machines	W. O. Grover	42, 576
Sewing machines	B. Pickering	42, 687
Sewing machines	W. M. Holmes	42, 770
Sewing machines	E. L. Wales	42, 976
Sewing machines	A. Wickersham	43, 146
Sewing machines	F. H. Brown	43, 285
Sewing machines	L. Hall	43, 404
Sewing machines	E. Berry	43, 561
Sewing machines	O. C. Phelps	43, 705
Sewing machines	G. Rehfuss	43, 742
Sewing machines	C. H. Wilcox	43, 819
Sewing machines	J. Auger and J. Prestele	43, 890
Sewing machines	L. Planer	43, 927
Sewing machines	L. W. Lathrop	44, 003
Sewing machines	B. Atwater	44, 063

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Sewing machines	C. Parkham	44, 217
Sewing machines	C. H. Wilcox	44, 490
Sewing machines	C. H. Wilcox	44, 491
Sewing machines	M. C. Gritzner	44, 720
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Sewing machines	E. H. Smith and D. E. Chapman.	44, 982
Sewing machines	W. A. Mack	45, 059
Sewing machines	J. G. Folsom	45, 236
Sewing machines	G. Stackpole, jr	45, 278
Sewing machines	G. McKay and L. Blake	45, 422
Sewing machines	D. E. Smith	45, 528
Sewing machines	T. W. Pepper, L. Planer, and J. Kayser.	45, 628
Sewing machines, Basting gauge for	L. F. Conant	45, 477
Sewing machines, Binder attachment for	G. Wisler and C. H. Peters	42, 615
Sewing machines, Bobbins, Thread winding device for.	F. H. Drake	43, 839
Sewing machines, Bobbin winders	A. C. Kasson	42, 210
Sewing machines, Braid guide for	J. A. Wagener	43, 555
Sewing machines, Braiding attachment for	H. H. Chittenden	43, 289
Sewing machines, Braiding guide for	J. Ramsay	44, 339
Sewing machines, Cloth holder for	G. Fowler	42, 184
Sewing machines, Corders for	F. Henry	42, 657
Sewing machines, Device for starting	J. P. Herron	43, 641
Sewing machines, Driving mechanism for	T. Williams	43, 551
Sewing machines, Feeding device for	W. A. Mack	43, 514
Sewing machines, Friction brake for power	J. Zuckerman	44, 909
Sewing machines, Gathering mechanism for	H. L. Brown	42, 043
Sewing machines, Guides for, Binding	S. B. Cochran	42, 989
Sewing machines, Hemmers for	C. H. Wilcox	43, 657
Sewing machines, Mechanism for starting	A. M. Smith	44, 465
Sewing machines, Running stitch	J. D. Dale	44, 686
Sewing machines, Tension device for	H. Bland	41, 272
Sewing machines, &c., Tension indicator for	S. P. Sleppy	42, 801
Sewing machine, Thread waxer for	G. McKay and L. R. Blake	43, 077
Sewing machine, Thread waxing device for	I. Banister	41, 050
Sewing machine, Threads in, Heating waxed	A. Holbrook, jr	42, 209
Sewing machine, Welt gauge	J. H. Walker	42, 810
Sewing machine, Welt and thread cutter for	H. Folsom	42, 846
Sewing machine for sewing on the soles of boots and shoes.	G. McKay and L. R. Blake	42, 916
Sewing machine, Button-hole stitch	C. R. Jackson	41, 923
Sewing machine cases	A. Pilbeam	41, 393
Sewing machine guide	T. Robjohn	42, 876
Sewing machine guide	T. Robjohn	42, 877
Sewing machine shuttle	C. Patch	43, 426
Sewing machine shuttles, Tension device for	W. Weitling	42, 706
Sewing machine tables	N. D. Stoops	42, 318
Sewing turns	G. McKay and L. R. Blake	42, 622
Shade, Window, Fixtures for	F. J. Hubert	43, 503
Shade or curtain fixture	W. Campbell	44, 602
Shaft, axle, &c., Material for lining the bearings of.	R. Burley	44, 583
Shafting, Car axles and, Bearing for	C. Williams	41, 563
Shafting, Knuck joints for	S. N. Taylor	41, 651
Shaft hanger	J. S. Mitchell	44, 105
Shanks, Metallic, for boots and shoes	E. Heaton	41, 701
Shaving and lamp heating apparatus	C. S. Bourne	44, 252
Shears	T. Wallis	43, 809
Shears, Gauge for	C. Brombacher	43, 634
Shears, Hand	J. N. Wallis	45, 659
Shears, Lamp trimmers	W. B. Barnard	45, 574
Shears, Manufacture of	J. Abernethy and W. H. White	42, 263
Shears, Pruning	G. F. Walters	45, 196
Shears, Sheep	J. A. Hadley	42, 579
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Shears for sheet metal	L. F. Hulbert	42, 855
Shears and stake holder	E. H. Camp	44, 395
Shearing machine, Cloth	A. Woolson	43, 878
Shearing and punching	S. Renfrew	41, 861
Shed and fold and sheep rack, combined portable.	S. L. Sage and C. F. Blake	45, 080
Sheep, Shearing	A. J. Fullam	42, 572
Sheep, Shearing	W. M. Eckles	44, 618
Sheep, Stock for holding	N. Merritt	45, 332
Sheller, Corn	A. F. Severance	42, 114
Sheller, Pea	G. B. Price	43, 864
Shells, Canister	W. S. Williams	41, 882
Shells, Explosive	T. D. Hart	41, 844
Shells, Explosive	R. Graham	41, 960
Shells, Explosive	J. Groves	42, 818
Shells, Explosive	B. H. Tripp	44, 353
Shells, Explosive, Construction of	W. B. Aitken	41, 968
Shells, Explosive, for ordnance	H. Helm	41, 220
Shells, Explosive, Percussion igniter of time fuses for.	B. B. Hotchkiss	43, 993
Shells, Filling, Material for	M. L. Callender	43, 667
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Shell for ordnance, Signalizing	G. Amice	41, 173
Shell and shot, Sizing and smoothing	J. Cummings	41, 059
Shields, Boat	D. C. Winans	41, 735
Shields, Metallic, for army and navy	W. T. Goodwin	43, 195
Shields for camp fires	M. Saviers	42, 879
Shingle blocks, Bolting	J. B. Hendy	41, 156
Shingle machine	E. Drake	45, 592
Shingles for roofing	T. H. Squire	43, 717
Ships, Docking, Bilge blocks for	P. Burgess	43, 345
Ships, Lights for, Deck and side	E. S. Hidden	42, 087
Ships, Port stoppers of, Devise for securing the.	J. A. Howe	43, 584
Ships, Safety and car heating stove	G. F. Foote	45 237
Ships' bottoms, Coating, Composition for	F. N. Gisborne	45, 212
Ships' bottoms, Composition for protecting	W. B. Davis	43, 169
Ships' bottoms, Protecting, Composition for	M. Vian	45, 006
Ship's knee	R. Thomas	43, 611
Ships of war, Construction of	H. Cauldwell	41, 278
Ships of war, Constrution and equipments of	R. G. McDougell	43, 322
Ships of war and defensive armor for fortifications, Construction for defence of.	I. Collins	42, 349
Ships of war and other war structures, Turret and pilot house for.	J. B. Eads	41, 207
Shirts	S. Hand and C. E. Furman	42, 362
Shirts	S. Fribourg	43, 622
Shirt bosoms, Metal	O. G. Brady	44, 781
Shirt bosoms, Plaited	A. Drey	43, 106
Shirt bosoms, Plaited	A. Drey	43, 107
Shirt formers, Adjustable	J. Amos	43, 380
Shoes, Lacing	C. F. Spencer	42, 517
Shoes, Ladies, Attachment for	O. H. Taylor	44, 676
Shoes, Ox	J. Merrill and A. Maxwell	43, 623
Shoes to horses' feet, Securing	J. Fenn	42, 845
Shoes to horses' feet, Securing	L. Carpenter	43, 179
Shoes to horses' feet, Securing	C. Weitman	44, 569
Shoes to horses' feet, Securing	W. C. Stickney and H. B. Taylor	44, 754
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Shoe binding, Manufacture of	A. O. Lindsey	42, 300
Shoe blacking apparatus	S. Macferren	42, 302
Shoe laces, Tags on, Cutting	F. J. Seymour	41, 239
Shoe shave	I. Hays	44, 420
Shoe string	W. Freeman	42, 759
Shoe uppers, Fitting	J. Cowles	44, 163
Shot, Case	J. F. Clew	45, 474
Shot, Manufacture of	S. Stevenson	45, 651

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Shot conductor, Submarine	E. H. Hall	44, 631
Shot and shell, Sizing and smoothing.	J. Cumming	41, 059
Shoulder brace for knapsacks, Soldiers'	H. S. Weston	45. 104
Shovels, Fire	F. J. Niemöller	42, 867
Shovels, Grain	B. E. Miles	43, 519
Shovels, Grain	G. V. Watson, G. Wilson and H. Spendelow.	45, 197
Shovel handles	W. Wells	45, 546
Shovel and ash lifter, Combined	J. W. Porter	45, 630
Shuttles, Sewing machine, Tension devise for.	W. Weitling	42, 706
Shuttles for looms	A. D. Clark	43, 182
Shuttles in looms, Supplying weft to the	T. Ingraham	43, 556
Shuttles for machines for knitting loom harness.	D. C. Brown and J. Ashworth	43, 252
Shuttle for sewing machine	C. Patch	43, 426
Shutters, Window	J. A. Vrydagh	45, 366
Shutter and blind fastener	W. Crighton	42, 929
Shutter and blind fastenings	J. Frick	41, 064
Shutter and blind fastenings	D. E. True	43, 533
Shuttes or blinds, Iron, Opening and closing.	W. H. Brown	41, 676
Siding, Manufacture of	H. Millingar	42, 212
Sieves, Grain	J. J. Bradner	42, 551
Sieve and screen, Grain	H. B. Thomas	45, 125
Sifter, Ash, and coal scuttle combined	T. Parker	44, 336
Sifter, Ash, and shovel, Combined	J. H. Porter	45, 630
Sifter, Coal	O. N. Chase	42, 273
Sifter, Coal and ash	E. S. Boynton	44, 157
Sifter, Snuff	S. G. Rice	44, 974
Sights, Adjustable, for fire-arms	C. M. Miles	45, 333
Sights, Cannon	P. Maltby	43, 319
Sights, Gun, Telescopic	D. Wood	42, 983
Sights, Telescopic, for rifles	J. B. Wood	44, 057
Sight for ordnance, Pendulum	W. F. Goodwin	44, 947
Signals, Low-water, for steam boilers	T. Shaw	45, 680
Signals, Marine leak	W. Huston	41, 777
Signals, Railroad	F. J. Hubert and F. C. A. Derocquigny.	41, 341
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Signals, Target and switch-stand	D. J. Whitmore	43, 446
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Silver and gold, Amalgamating	J. S. Diltz	41, 763
Silver and gold, Amalgamating	W. H. Hepburn and G. K. Peterson.	42, 371
Silver and gold, Amalgamating	H. H. Scoville and P. W. Gates	44, 343
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Silver and gold from ores, Extracting by means of the vapor of mercury.	R. Spencer	45, 183
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Skates, Heel fastenings for	H. N. Gallagher	43, 486
Skates, Stops for	J. Lyon	42, 955
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Skate fastening	G. P. Schifflin	41, 399
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Skate fastening	T. Bergner	44, 066
Skiff or boat	W. E. Bond	43, 084
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Skirts, Felted, Ladies	A. W. Boynton	45, 898
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Skirts, Hoop	T. D. Day	45, 392
Skirts, Hoop	S. Collins	45, 557
Skirts, Hoop, Clasp for forming	F. J. Terrell	42, 608
Skirts, Skeleton	T. D. Day	44, 287
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Skirt supporters, Corset	L. H. Foy	45, 296
Skiving machine	J. W. and C. F. Chase	42, 836
Slag, Treating, Furnace for	J. Horning	42, 947
Slates, black-board, &c., Composition for forming.	H. A. Reason	44, 456
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Slates, School, Artificial	C. and H. Volkmar	44, 921
Slats for window blinds, Cutting	G. H. Denison	41, 367
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Soap, Making	G. Robbins	43, 605
Soap, Manufacture of	S. A. Sealy	41, 400
Soap, Marbling	F. Moreau and F. Robert	45, 164
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Soap for cleaning harness	J. E. Powell	45, 378
Soap composition	J. B. Rand	42, 444
Soap composition	E. D. Mortimer	45, 141
Soap compound	J. C. Tilton	42, 806
Sockets, Gas-burner	J. Todd	42, 609

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Socket. Spoke, and felly clamp	L. D. Flanders	41, 370
Socket for paint and other brushes	J. W. Davis	41, 060
Sockets on terracotta pipes, Forming	L. Scharff	45, 084
Soda, &c., Bottling, Sirup gauge for	J. Schrink	43, 344
Soda and double phosphate of lime for culinary and other purposes.	E. N. Horsford	42, 140
Soda fountains	J. Matthews, jr	42. 587
Soda fountains	D. C. Wade	43, 726
Soda fountains	C. Shultz and T. Warker	43, 798
Soda fountain, Caster and cooler for	T. Larter	45, 504
Soda fountain, Draught tube for	G. D. Dows	42, 078
Soda water, Bottling, under pressure	H. Carse	42, 559
Soda water apparatus	E. Wyckoff	43, 251
Soda water apparatus	A. J. Moore	44, 645
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Spikes, Tool for drawing	C. F. Webber and P. Iverson	41, 880
Spikes and nails	W. Watts, F. Wilcox, and F. Tompkins.	42, 054
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Spindles, Knobs to, Attaching	A. M. Hill	43, 582
Spindles, &c., Lubricating in spinning and other machines.	M. J. Roberts	42, 308
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Spindles of spinning machines, Applying adhesive and lubricating material to the.	H. J. Marshall	45, 108
Spines, Curved, Treating	C. F. Taylor	41, 548
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Spinning, Mules for self-acting	H. S. Bartlett	42, 267
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Spinning machine, Compressers for flyers on	S. Goodman and J. A. Emery	42, 620
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Spinning machines, Yarn guide for	E. Lord	41, 582
Spinning rollers	W. Weild	41, 333
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Springs, Car	G. A. Reidel	43, 708
Springs, Car, Railroad	W. Tosach	44, 027
Springs, Carriage	E. M. Wright	44, 908
Springs, Carriage	C. P. Phillips	45, 173
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Springs, Door	W. Badger, jr	41, 971
Springs, Door	W. H. Worcester and E. F. Jones	44, 034
Springs, Helical	R. Vose	41, 950
Springs, Pneumatic, of Railroad cars, Supporting the.	S. G. Randall	44, 972
Springs, Wagon	C. S. Martin	41, 520
Spring for furniture	F. Tyler	42, 053
Spring for wheel vehicles	J. E. Taber	41, 404
Spring fastener, Car	J. W. Wood	44, 033
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Stair rod and gas pipe	M. Gould	43, 491
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Stamp, Hand, Self-inking	L. M. H. Fremont	43, 165
Stamps, Handles for	M. C. Bogin	41, 597
Stamps, Postage and other	A. J. Gibson	41, 118
Stamps, Postage revenue	E. Harmon	41, 505
Stamps, Postage and revenue	H. Loewenberg	42, 207
Stamps, Postage and revenue, Adhesive	H. Loewenberg	45, 057
Stamps, Postage and revenue, Cancelling	C. W. Harris	45, 038
Stamps, Revenue and other, Cancelling	E. Harmon	41, 991
Stamps and dies for crushing quartz, Casting	G. W. Coffee	45, 318

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Stamped ware, Manufacture of	G. H. Hazelton	44, 308
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Stampers, Antifriction, for metallic ores	J. A. Bertola	42, 340
Stancheons, Cattle	G. A. Keene	41, 926
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Stand, Bookbinding	J. S. Brown	41, 420
Stand, Roller	H. Waters	43, 246
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Starch	B. Descamp	44, 408
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Staves for barrels, Bung	A. Acker	45, 553
Staves of barrels, Dressing	W. Trapp	43, 934
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Steamer, Vegetable	E. Stangeland	44, 985
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Steel, Cast, Manufacture of	D. M. Adee	45, 008
Steel, Manufacture of	J. Weisman	43, 443
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Steel, Tempering	W. Hazen	44, 310
Steel to iron, Attaching	T. S. Norton	44, 739
Steel and iron, Puddling	T. Harrison	43, 067
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Steering apparatus	D. Jones	42, 195
Steering apparatus for steam vessels	S. F. Covington	42, 642
Steering apparatus and propeller	H. Ressel	44, 696
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Stencil plate	J. Sykes	43, 237
Stereotype plates, Smelting metals for casting	C. F. Cosfeldt, jr., and T. T. Pears	43, 071
Stills, Heating	H. G. Dayton	44, 711
Stirrups	C. W. Saladee	42, 511
Stirrups	C. W. Saladee	42, 512
Stirrups, Riding	R. N. Eagle	42, 180
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Stitching horse	H. E. Payne	42, 822
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Stopper, Bottle	W. H. Hall	44, 184
Stopper, Bottle	P. R. Higley	45, 005
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Stopper for bottles	A. Albertson	44, 912
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Stoves	J. Hafer	41, 152
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Stoves	F. Maguire	41,892
Stoves	W. C. Hagan	41,897
Stoves	E. Mingay	42,144
Stoves	F. Hoyos	42,487
Stoves	M. Bratt	42,833
Stoves	R. Chester	42,837
Stoves	E. Wilbur	42,893
Stoves	W. B. Kimball	43,314
Stoves	B. Morison	43,328
Stoves	J. L. Tilton	44,235
Stoves	J. R. Hawkins	44,307
Stoves	W. J. Lyman	44,538
Stoves	M. Pond	45,074
Stoves	D. B. Cox	45,478
Stoves, Base burning	S. B. Sexton	44,345
Stoves, Base burning	J. Gray	44,719
Stoves, Camp	J. Dunton	44,617
Stoves, Coal	W. H. Goeway	41,430
Stoves, Coal	W. B. Treadwell	42,610
Stoves, Coal	S. E. Parsons	44,816
Stove, Coal or heating	J. V. Meigs	44,812
Stove, Coal, Supply cylinder	W. B. Treadwell	44,900
Stoves, Cook	M. Pond	45,432
Stove, Cooking	Z. Hunt	41,579
Stoves, Cooking	J. Sholl	41,645
Stoves, Cooking	N. S. Brown	42,070
Stoves, Cooking	J. Park	42,221
Stoves, Cooking	M. D. Wellman	42,321
Stoves, Cooking	A. E. Chamberlain	42,432
Stoves, Cooking	S. Faris and W. Miller	42,935
Stoves, Cooking	R. Little	43,216
Stoves, Cooking	W. Tinsley	43,243
Stoves, Cooking	H. J. Frizelle	44,255
Stoves, Cooking	J. Simpson	44,348
Stoves, Cooking	W. Hosmer	44,424
Stoves, Cooking	A. S. Markham	45,256
Stoves, Cooking	S. Nowlan	45,338
Stoves, Cooking	D. E. Paris	45,627
Stoves, Cooking, Camp	O. Foote	44,175
Stove, Cooking, Covers for	J. Shavor and A. C. Corse	42,968
Stoves, Cooking, Covers of	G. Himrod and C. G. Moulton	43,815
Stoves, Cooking, Hearths for	G. Himrod	43,771
Stoves, Cooking and heating	H. Decker	44,612
Stoves, Cooking, Parlor	M. Mead	42,588
Stoves, Cooking, Parlor	J. Goss	44,419
Stoves, Cooking and parlor	D. B. Cox and J. Davy	44,833
Stoves, Dining-room	J. Bamber	44,383
Stoves, Drum	A. S. Ballard	41,354
Stoves, Drum	I. L. Holmes	43,992
Stoves, Drum or radiator	O. B. Buttles	42,459
Stoves, Drying, Portable	J. David	44,163
Stoves, Fireplace	A. Carson	44,074
Stoves, Fireplace	M D. Wellman	42,312
Stoves, Fire pots for	N. O. Pond	42,831
Stoves, Foot	A. T. Upham	41,876
Stoves, Foot	J. Thompson	42,261
Stoves, Gas	J. S. Gray	41,697
Stoves, Gas	E. W. Billinger	42,071
Stoves, Gas	S. T. McDougall	43,419
Stoves, Gas	E. H. Leland	44,372
Stoves, Heat governors for	A. H. Tingley	42,240
Stoves, Heating	H. G. Dayton	42,645
Stoves, Heating	J. L. Hanson	44,089
Stoves, Heating	J. L. Willson	42,208
Stoves, Heating	P. P. Parknurst	44,449
Stoves, Heating, Outside flues and dampers for	H. G. Giles	44,180
Stoves, Heating, Safety ship and car	G. F. Foote	45,237
Stoves, Parlor	J. and A. W. Sangster	44,222
Stoves, Parlor	S. Hyde	44,430
Stoves, Parlor and cooking	E. Chase	42,749
Stoves, Petroleum	W. F. Eddy	41,496
Stoves, Petroleum	C. B. Loveless	42,007
Stoves, Petroleum	G. L. Witsil	42,059
Stoves, Reservoir	Z. Hurst	43,155
Stoves, Reservoir	H. F. T. Hale	44,183
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Stoves, Vapor	H. W. Dopp	41,975
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Stoves, Vapor	O. F. Morrill	42,214
Stoves, Vapor	C. B. Loveless	42,256
Stoves, Vapor	R. R. Lewis	43,215
Stoves for heating soldering irons	I. Cressman	41,200
Stove and furnace, Draught regulator for	J. Briggs	41,598
Stoves or furnace, Heating	O. A. Ernst	44,295
Stove cover and lifter	S. Walker	45,541
Stove detector	E. Reynolds	45,635
Stove cover lifters	J. P. Williams	42,522
Stove-pipes, Adjustable collar for	G. M. Hay	44,092
Stove-pipe connexion	G. R. Moore	44,440
Stove-pipe drum	P. Cocker	45,556
Stove-pipe elbows	J. F. Murdock	42,499
Stove-pipe elbows	J. G. Perry	43,130
Stove polish, Composition for	C. M. Spooner	42,026
Strainer, Sink and stench trap	H. F. Shaw	42,917
Strap, Breast, Slide for	S. Selleck	41,450
Strap, Hitching	P. Conover	41,366
Strap fastener	A. G. McWright	42,674
Street scraping machine	E. Hambujer	42,287
Stretchers and cots, Field-hospital	W. Dann	45,479
Strips, Weather	G. H. Collins	43,394
Stripper, Cane	W. Todd	42,241
Stud or button, Elastic	A. Eliaers	43,762
Stump extractor	D. A. Danforth	41,490
Stump extractors	C. Rundquist	41,865
Stump extractors	B. F. Tuttle	42,809
Stump machine	J. F. Hostetter	41,622
Stump machine	J. B. Lyons	42,095
Stump puller	F. M. Morgan	42,864
Sub-aqueous structures	G. A. Parker	44,111
Submarine armament	J. Wood	43,062
Submarine port-holes	J. F. Clew	45,475
Suckers from tobacco plants, Removing	G. R. Hughes	42,774
Sugar, Evaporating and refining	J. E. Youngman	41,253
Sugar, Manufacture of	T. J. Price	42,109
Sugar, Manufacture of	F. W. Goessling	42,727
Sugar, Manufacture of	H. Butler	43,566
Sugar, Manufacture of	F. W. Goessling	45,561
Sugar, Moulding, for table use	L. W. Boynton	45,579
Sugar boiling apparatus	M. D. Mudget	43,701
Sugar during evaporation, Preventing loss of	G. A. Jasper	41,999
Sugar-cane, Stripping leaves from	D. E. Buller	43,178
Sugar cutting machine	J. H. Murrill	41,855
Sugar evaporators	F L. Stewart	41,106
Sugar evaporators, Skimming attachment for	J. F. Riggs	43,743
Sugar mould carriage	W. Mitchell	44,211
Sugar pans, Skimming apparatus	T. J. Price	41,941
Sugar and sirup, Pan for evaporating	L. Megowen	43,220
Sugar and sirup, Process of heating Indian corn and beet roots to produce.	F. W. Goessling	42,128
Sulkeys	A Miller	44,012
Supporters, Abdominal	H. H. Thompson	45,193
Supporters, Abdominal, and corsets combined.	S. A. Moody	42,591

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Supporters, Uterine	D. M. Drake and S. L. Hockert	41,607
Supporters, Uterine	J. Lee	45,506
Supports, Railroad	B. F. Gossin	41,293
Surfaces, Metallic, Uniting	W. B. Barnard	44,928
Surgical instruments, Fastenings for	G. Tiemann	41,243
Suspenders	B. J. Greely	41,295
Suture instruments	H. N. Cooper	43,098
Sweeping machine, Street	H. S. Blood	41,673
Sweeping machine, Street	M. F. Wickersham	45,548
Sweeping and sprinkling machines, Street	D. D. Foley	44,174
Swing and baby jumper	S. T. McDougall	43,420
Switch, Railroad	C. H. Haskins	42,944
Switch, Railroad	R. Lezott	44,537
Switch, Railroad	J. F. Brickley	45,313
Switch, Railroad, Automatic	J. A. Lanzirotti	41,074
Switch, Railroad, Automatic	J. P. Woodbury and N. Ames	41,883
Switch, Railroad, Portable	P. Daniels	43,103
Switch, Stands and signal targets	D. J. Whittemore	43,446
Swivel, Gag	W. Greacon	44,579
Sword handle and revolving fire-arm, Combined.	S. Guilbert	44,303
Syphons	J. M. Naglee	42,304
Syphons, Steam for raising water	H. S. Lansdell	41,158
Syphon for separating gold from quartz	A. W. Hall	44,043
Syringes, India-rubber	F. M. Shepard	43,158
Syrups, &c., Bag filter for	G. A. Jasper	42,291
Syrup and sugar, Pan for evaporating	L. Megowen	43,220
Syrup and sugar, Process of heating Indian corn and beet root to produce.	F. W. Goessling	42,128
T.		
Tables, Billiard	J. D. Bradley	43,829
Tables, Bookbinders'	C. Lemon	45,620
Tables, Extension, Slide for	M. E. Carter and E. Metz	44,073
Tables, Folding	J. W. Wayne and J. R. Muller	43,538
Tables, Folding, and toilet glass	H. W. Eastman	44,714
Tables, Leather dresser	C. T. Woodman	41,456
Tables, Rims for	E. Meets	41,230
Tables, Sewing machine	N. D. Stoops	42,318
Table, Shaking, for separating ores	C. A. Stetefeldt	42,970
Table for bookbinders	G. P. Goff	43,456
Table leaves, Jointing, Plane for	T. P. Granger	41,258
Table and seat, School	T. Weaver	45,287
Tablet, India-rubber	F. M. Shepard	42,883
Tack, Lasting	L. F. Thayer	41,584
Tackle, Fishing	A. J. Lenhart	43,694
Tackle for fore and aft sails	W. Woodbury	43,150
Tagging lacings	F. J. Seymour	42,798
Tags, Folded	T. B. Forest	44,496
Tags for cotton bales	E. A. Locke	42,860
Tags or labels	T. B. and L. DeForest	45,029
Tags or labels, Cutting and punching	C. S. Moseley	43,458
Tags on shoe laces, Cutting	F. J. Seymour	41,239
Tag holder for bales, &c	R. Shepard	44,666
Tallow, lard, &c., Treating	G. B. Farrell	43,352
Tanks for hot-houses	H. E. Hooker	42,374
Tanning	J. Wonder	41,666
Tanning	H. Stratton, jr	43,346
Tanning, Composition for	S. Dunseith	43,188
Tanning apparatus	J. Mouren	43,787
Tanning compound	J. W. Taylor	44,234
Tanning hides and skins	W. Fields and I. Townsend	43,013
Tape measure, Spring	W. H. Bangs, jr	45,372
Tapering forms, Cutting	L. E. Phillips	42,504
Tapers on bars, Turning lathe attachment for.	C. Jillson	43,311

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Targets, Signal, and switch stands	D.J. Whittemore	43,446
Teeth, Artificial	S. D. Engle	42,933
Teeth, Artificial	J. Terrell	43,347
Teeth, Artificial, Moulding	H. D Justis	42,491
Teeth, Filling, Fusible metal for	B. Wood	44,362
Telegraphs, Arrester for, Lightning	G. A. Stearns	43,265
Telegraphs, Electro-magnetic	S. F. Day	42,842
Telegraphs, Fire-alarm	C. Kirchhof	45,251
Telegraphs, Reels for, Paper	H. McGann	41,312
Telegraphs, Semaphore	H. J. Rogers, U. S. N.	42,794
Telegraph wires, for covering	J. A. Bailey and J. J. Speed	42,040
Telegraph wires, Insulators for	J. Holland	41,157
Telegraphic instrument	S. F. Day	44,855
Telegraphic purpose, Punching paper for	A. Bain	43,618
Telescopes, Submarine	S. P. Mather	43,465
Template, Adjustable	W. S. Nelson	44,738
Tennons in metallic rods, &c., Cutting	C. Jillson	43,776
Tents, Ventilating, Openings for	R. B. Pullan	42,996
Thill attachment or coupling	C. W. Gage	45,118
Thill fastening	S. S. Malley	41,524
Thill to axles, Attaching	E. Dugdale	45,593
Thimble, Clew	T. Carroll	42,817
Thimbles, Stove pipe	T. K. Anderson	41,592
Thimbles with guarded cutters	W. Miller	44,045
Threshers, Band cutting and feeding attachment to.	I. H. Palmer	41,390
Thresher and separator	S. Pelton	44,374
Threshing machine	P. Barker	42,921
Threshing machine	L. N. Clark	43,971
Threshing machines	G. L. Sheldon and L. Smith	44,224
Threshing machine	G. Westinghouse	45,683
Threshing and separating machine	J. H. Quick	43,262
Threshing and separating machines, Grain	J. Rayner	45,676
Tiles, drain, Casting	J. Coy	42,643
Tile machine	S. M. Bartlett	44,152
Timbers, Fastening	H. Stanley and R. Cornins	43,718
Timekeepers, Springs and barrels for	A. Phillippe	43,464
Timepieces	A. W. Hall	41,617
Tin tubing, Connecting	R. Treadway and S. R. Warner	41,551
Tines, casting steel, Moulds for	G. Nimmo	44,335
Tires, Device for shrinking	J. Olmstead	41,262
Tires, Shrinking	J. Ferris and W. E. Bean	44,172
Tires, Upsetting	S. Martin	42,210
Tire for vehicles	A. Brady	42,832
Tire upsetting machine	L. A. Dole	41,257
Tire or hoop binder	M. Scott	43,231
Tobacco, color to, Securing a desirable	F. M. Pearl	42,019
Tobacco, Cutting	F. W. Ritterhoff and C. A. Colquitt	41,721
Tobacco, Cutting and pressing	W. W. Huse	44,429
Tobacco, Dressing	S. G. Rice	44,975
Tobacco, Fine-cut	P. N. Green	45,489
Tobacco, &c., Package, Making	C. J. Van Oeckelen	44,028
Tobacco leaf, stem of, Reducing	W. W. Huse	43,853
Tobacco machine, Lump	E. Holbrook, jr	42,485
Tobacco plants, suckers from, Removing	G. R. Hughes	42,774
Toilet glass and folding table	H. W. Eastman	44,714
Toilet and writing case combined	L. B. Brooks	41,135
Tompion cap for the muzzle of ordnance exhausted of air.	J. F. Glen	45,020
Tompion for fire-arms, Expanding	T. K. Schermerhorn and J. Anderson.	45,641
Tongs, Oyster, Working	G. Jury	44,634
Tongs, Pipe	H. Herbert	45,496
Tools, bits and other, Holding device for	W. H. Barber	42,827
Tools, Depthing	A. Rush	45,348
Tools, Edge, Grinding	S. D. McLelland	43,518

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Tools for boring holes	A. Cleary	45,483
Tool holder	W. W. Draper	42,647
Torpedoes, Submerged, Method of removing	C. Sholl	41,126
Torpedoes for harbor defence, Applying	J. D. Hall	42,199
Tow-line, Canal-boat, Attachment for	C. Bentz	44,154
Toys, Hoop	R. Shaler	43,799
Trace fastener	F. M. Weller	41,334
Track for canal propulsion, Submerged	E. C. Harrington	42,850
Track clearers for railroads	M. J. Adams	41,468
Transplanting, Implement for	F. Milo	42,391
Transporting and elevating device	E. B. Coffin	43,291
Traps, Animal	H. Bagley	42,063
Traps, Animal	A. Kinkead	43,030
Traps, Animal	E. H. Crane	43,396
Traps, Animal	U. H. Duparck	44,168
Traps, Animal	G. L. and H. C. Hart	44,721
Traps, Animal	J. Ames	44,763
Traps, Animal	J. M. Flautt	45,234
Traps, Animal	A. J. Eddy and J. B. Wilber	45,399
Traps, Animal	J. M. Flautt	45,595
Traps, Fly	D. Lake	42,212
Traps, Fly	G. F. and B. B. Savary, jr	44,486
Traps, Steam	W. Osborne	42,788
Traps, Steam	C. H. Brown	43,090
Traps, Steam	H. J. Vaessen	43,167
Traps, Steam	C. B. Richards	45,437
Traps, Stench, and sink strainer	H. F. Shaw	42,917
Trays and covettes for photographic purposes.	H. T. Anthony	42,061
Trees, Fruit	L. Smith	45,441
Trees, Fruit, Retarding blooming of	C. Fisher	42,176
Tree protector	C. H. Whitlock	44,131
Tree protector	W. J. Towne	44,238
Tree protector	F. Sheppard	44,667
Tree protector	B. Merritt, jr	45,065
Tree protector	A. Seymour	45,087
Troughs, Eaves, Finishing	C. A. Codding	44,605
Trough, Feeding, Animal	J. N. Gray	42,909
Trough and feed rack, Combined	D. Close	42,927
Trucks, Car	N. F. Bryant	45,583
Trucks, Car	G. G. Hunt	45,609
Trucks, Car, Construction of	C. D. Tisdale	44,694
Trucks, Car, Locomotive	R. H. Long	43,739
Trucks, Car, Switching	J. E. Tyman	43,353
Trucks, Iron bars for, Bending	R. B. Weaver	42,978
Trucks, Locomotive	J. D. Butler	42,556
Trucks, locomotive, Dummy	I. L. Hill and A. W. V. Rousch	42,208
Trucks for Locomotives	W. S. Hudson	42,662
Trucks for street railways	R. H. Lecky	42,202
Trucks for transporting casks	M. L. Senderling	45,643
Trunks	H. T. Lee	42,670
Trunks	E. S. Clapp	44,936
Trunks, Caster for	H. T. Lee	44,689
Trusses	B. Sherwood	44,226
Trusses	E. P. Banning	44,913
Trusses	L. Munson	45,622
Trusses	G. W. Taylor and A. E. Wright	45,653
Trusses for inguinal hernia	S. and H. H. Jordan	45,250
Trusses for uterine support	E. P. Banning	43,56[illegible]
Truss pads	A. Bridges	41,36[illegible]
Truss pads	S. Andrews	41,749
Truss pads	W. K. Leach	42,298
Tubes, Cylindrical bars or, Straightening and polishing.	G. W. Dyson	41,836
Tubes, Flexible, Curvatures in	A. Beckers	45,218
Tubes, Flexible or hose	D. K. Hoxsie and T. S. Reed	44,425

Invention or Discovery.	Name of Patentee.	No.
Tubes, hose, &c., Flexible and other, Manufacture of.	I. B. Harris	42,900
Tubes, metal bars, &c., Straightening	B. Lauth	41,306
Tubes, Wick	W. H. Smith	42,123
Tubes in steam boilers, Securing	J. Howell and D. Birdsall	41,380
Tubes in tube sheets, Expanding	R. Blackwood	42,159
Tubing, India-rubber	F. R. Taylor	42,972
Tubing, Tin, Connecting	A. R. Treadway and S. R. Warner.	41,551
Tubing, Spiral	E. H. Savoral	45,084
Tubs, Bath	E. F. Cook	41,486
Tubs, Bathing	A. Brady	43,002
Tubs, Cooling, for water and beer	H. Haustetter	43,498
Tub-washing machine	J. Dauner	44,165
Tunnels	S. J. Seely	45,527
Turning, Cutting tool for	A. S. Libby	41,818
Turning machine	A. S. Hosly	45,606
Turpentine pine wood, Distilling	G. R. H. Leffler	44,435
Turret or pilot-house for ships-of-war and other structures.	J. B. Eads	41,207
Tuyeres	M. W. Barrett	43,619
Tuyeres	S. C. Gray	43,683
Tuyeres	W. W. Ball	43,892
Tuyeres	S. R. Niles	44,881
Tuyeres, Blacksmith	W. Sharp	41,240
Twine, &c., Paper, Making	J. B. Wortendyke	42,896
Type, Printers'	J. J. C. Smith	45,353
Types, Printers', Cutting	J. J. C. Smith	43,649
Types, Printers', Making	J. J. C. Smith	43,648

U.

Invention or Discovery.	Name of Patentee.	No.
Umbrellas	F. V. Noette	43,788
Umbrellas	E. E. Clarke	44,482
Umbrellas, Hooks for fastening	W. H. Richardson	41,720
Urinals	W. S. Carr	45,315
Uterine supporters	J. Lee	45,506

V.

Invention or Discovery.	Name of Patentee.	No.
Vacuum apparatus for treating diseases	A. F. Jones	44,198
Valves, Air, for steam radiators	G. W. Blake	44,155
Valves, Check	J. R. Sees	42,541
Valves, Cut-off	C. H. Parshall	43,334
Valves, Cut-off, Governor	K. H. Loomis	43,920
Valves, Cut-off, Operating	G. B. McDonald	41,083
Valves, Cut-off, for steam engines	J. D. Whelpley	41,800
Valves, Gas regulating	C. M. Cresson	45,390
Valves, Governor	G. E. Noyes	43,598
Valves, Operating, Link motion for	W. Knowles	42,297
Valves, Oscillating	J. W. Carhart	45,225
Valves, Pressure, Self-regulating	A. Campbell	43,833
Valves, Pump	N. Stedman	41,543
Valves, Pump	W. Sewell and A. S. Cameron	42,693
Valves, Rotating, for steam engines	W. R. Greenleaf	41,699
Valves, Rotary, Steam	H. Haupt	43,910
Valves, Safety, Attachment for	W. Camerer	41,756
Valves, Slide	A. Buchanan	44,394
Valves, Slide, Balanced	H. Davies	41,909
Valves, Slide, Balanced	R. Faries	42,359
Valves, Slide, Balanced	A. Buchanan	44,849
Valves, Slide, of steam engines	J. Bradley	41,361
Valves, Slide, for steam engines	J. Baird	42,154
Valves, Slide, for steam engines	I. V. Holmes	42,191
Valves, Slide, for steam engines	J. Kershaw	42,950
Valves, Slide, for steam engines	J. A. Woodbury	43,250
Valves, Slide, for steam engines	W. Huston	44,632

Invention or Discovery.	Name of Patentee.	No.
Valves, Slide, for steam engines	D. F. Walker	44,830
Valves, Steam, Balance	R. P. Bailie	44,777
Valves, Steam, Cylindrical	W. H. Akins	43,824
Valves, Stop	F. McGhan	43,218
Valves, Water-closet	F. H. Bartholomew	41,269
Valves, Water-closet	J. Brower	45,135
Valves of steam engines	W. G. Snook	41,128
Valves for steam engines	F. W. Clough	41,758
Valves for steam engines	W. Joslin	42,293
Valves for steam engines	G. F. Blake	42,327
Valves for steam engines	D. B. Travis	43,142
Valves for steam engines	E. R. Arnold	43,381
Valves for steam engines	S. Groom	43,402
Valves for steam engines	J. J. Miller	43,949
Valves for steam engines, Slide	W. Joslin	42,294
Valves for water cylinders, Relief	T. H. Bailey	41,471
Valve gear, Cut-off, for steam engines	W. L. Colborn	41,810
Valve gear, Variable	G. and E. Dodds	45,322
Valve gear for steam engines	J. B. Root	42,878
Valve gear for steam engines	R. Heys	43,114
Valve gear for steam engines	H. and F. J. L. Blandy	43,471
Valve gear for steam engines	A. H. Woodruff	45,663
Valve gear for steam hammers	J. T. Turner	43,612
Vamps and soles, Stitch for	L. R. Blake	44,275
Vapors and gases, Distilling off	J. Howarth	42,772
Varnish, Gum for the manufacture of, Treating.	J. Johnson	43,414
Varnish, paints, &c., Composition for removing.	H. C. Kearney and J. W. Harrison	42,295
Varnish, Picture	J. McKellop	44,543
Varnish and water proof compound	E. L. Simpson	42,231
Varnishing machine	L. L. Martin	45,673
Vegetables, Washing and scouring	F. Nishhwitz	42,868
Vegetable material, Removing the mineral, gummy, and resinous substances from.	A. Menea	44,735
Vegetable slicer	B. Morahan	44,547
Vegetable steamer	E. Srangeland	44,985
Vegetable steamer, Revolving	S. B. Collins	41,485
Vegetable and animal substances, Preserving.	L. H. Spear	42,025
Vegetable and fruit desiccating apparatus	J. A. Miller	44,260
Vegetable and meat slicer	T. Carpenter	44,705
Vehicles, Hold back and trace fastening for	H. W. Catlin	43,570
Vehicles, Wheel	L. D. Brown	41,476
Vehicles, Wheel	R. A. and S. Ackley	43,276
Vehicles, Wheel, Joint clip and spoke socket for.	H. Bailey	43,544
Vehicles, Wheel, Springs for	J. E. Taber	41,404
Vehicles and horses, Anti propelling	P. W. Mackenzie	41,310
Vehicles and ploughs, Hitching horses to	J. Graham	42,574
Velocipedes	J. Goodman	44,256
Veneer-cutting machine	J. R. Graham	45,488
Vent and beer faucet, Combined	T. G. Beikel	42,828
Vent and faucet, Beer, Combined	G. Miller	42,676
Ventilation	J. Hyslop	44,196
Ventilators	J. L. Smith	42,606
Ventilators	S. H. Lamon	44,959
Ventilators	E. H. Strong	45,357
Ventilator	P. Lear	45,672
Ventilator, Car	A. B. Spencer	42,234
Ventilator, Thermo Circulating	I. Pitman	44,970
Ventilators for ships	C. Sinclair	44,349
Ventilator and regulator, Draught	G. Chilson	43,897
Vermilion, Chrome, Preparing	J. Huber	44,370
Vermin, Destroying	J. W. Dodge	41,687
Vermin, Destroying, Composition for	S. Rose	42,795
Vermin and insects, Destroying	D. H. Wood	42 135

Invention or Discovery.	Name of Patentee.	No.
Vermin and insects, Destroying	P. Reynard and V. Varin	44,241
Vessels, Armor of, Water defences as the protector of.	A. Pagenstecher	43,377
Vessels, Construction of	L. Hein	42,190
Vessels, Culinary	E. Ripley	41,095
Vessels, Discharging	G. E. Winants	41,564
Vessel, Dining room fixed at the end of a	B. Maillefert and L. Hayden	41,078
Vessels, Disinfecting	E. H. Covel	42,464
Vessels, Iron-clad, Protection of anchor cables of.	S. Newton	41,530
Vessels, Lights of, Fastening for deck and side.	H. Winter	42,058
Vessels, Metal, Soldering	H. P. Dennis	45,143
Vessels, Monitor	S. Parr	44,837
Vessels, pipes, joints, bottles, casks, &c., Making and coating.	B. Rhodes	41,351
Vessels, Sails of, Safety cleat for releasing	J. M. Sharrett	41,866
Vessels, Scuppers for	R. L. P. Manning	42,096
Vessels, Sea pipes for	D. W. Nearns	43,329
Vessels, Square rigged, Courses of lower sails of.	S. W. Baxter and J. W. Chapman.	44,065
Vessels, Submarine, and life boat	J. Bachman	44,380
Vessels, Steam, Refuse ejector for	J. Brown, jr., and S. R. Brooks	41,192
Vessels, Steam, Steering apparatus for	S. F. Covington	42,642
Vessels, Steering	F. N. Gisborne	41,150
Vessels, Sunken, Raising	J. H. Smith	41,726
Vessels, Sunken, Raising	E. Turner	41,875
Vessels, Sunken, Raising	C. Krogh and M. G. Hogness	43,918
Vessels, Sunken, Raising	C. Harrison	45,602
Vessels, Unloading	G. Milsom, H. Spendelow, and G. V. Watson.	43,751
Vessels, War, Construction of	J. P. Woodbury	41,802
Vessels, War, The parts applying to other structures for defence.	M. J. Montgomery	44,167
Vessels for cooking by steam	L. S. Hall	41,618
Vessels for refrigerating liquids	J. B. Carter and C. F. Orcutt	44,514
W.		
Wadding, Manufacturing	I. Stratton	41,648
Wadding, &c., Surface sizing	S. Baxendale	43,894
Wadding or batting, Fibrous	J. F. Stoddard	41,727
Wagons	S. R. Bolton	42,830
Wagons, Army or train	A. Little	42,142
Wagons, Hay, Loading attachment for	L. M. Doudna	44,713
Wagons, Steam	R. H. Lecky	42,203
Wagons and carts, Dumping	S. B. Conklin	41,604
Wagon hubs, Boring	J. Kritch	44,807
Walker and jumper, Baby	J. H. Coldwell	43,972
Wardrobe, washstand, bureau, and desk	A. Lee	45,505
Wardrobe bedstead	T. L. Fortune	43,455
Wardrobe bedstead	A. Dietz	45,393
Ware, Hollow, Bailed	J. B. Crowley	42,138
Ware, Stamped, Manufacture of	G. Hazelton	44,308
Warp beams from one machine to another, &c., in factories, Conveying.	B. Saunders	43,884
Warp dresser beams, Friction-apparatus for	B. Saunders	45,082
Washboard	G. F. Witsil	43,887
Washboard	O. H. Taylor	44,677
Washer bar and nut	J. T. Wood and E. C. Smith	41,252
Washing fluid	H. Rose	41,124
Washing fluid	S. Kent	42,001
Washing machine	W. W. Spaulding	41,104
Washing machine	S. Davis	41,142
Washing machine	E. Chipman	41,194
Washing machine	D. Porter	41,264
Washing machine	R. Washburn	41,332

Invention or Discovery.	Name of Patentee.	No.
Washing machine	B. J. Lane	41,438
Washing machine	C. H. Hudson	41,623
Washing machine	W. Kyle	41,708
Washing machine	J. E. North	41,716
Washing machine	S. S. Johnson	41,847
Washing machine	J. Lee	41,849
Washing machine	L. W. Boynton	42,042
Washing machine	S. T. Lamb	42,089
Washing machine	H. E. Smith	42,119
Washing machine	M. Turley	42,130
Washing machine	N. Otis	42,259
Washing machine	M. C. Cronk	42,352
Washing machine	R. B. Hugunin	42,376
Washing machine	D. F. Hunt and F. S. Lyon	42,378
Washing machine	J. Johnson	42,490
Washing machine	J. R. Gill	42,653
Washing machine	E. Dickerman	42,723
Washing machine	O. Baldwin	42,826
Washing machine	Z. B. Rice	42,964
Washing machine	J. Dodder	43,011
Washing machine	J. H. Fellows	43,012
Washing machine	C. H. Hale	43,020
Washing machine	J. Lee	43,119
Washing machine	J. McLaughlin	43,122
Washing machine	R. Cranston	43,269
Washing machine	J Adams	43,277
Washing machine	C. A. Clark	43,290
Washing machine	W. M. Doty	43,483
Washing machine	G. M. Harris	43,496
Washing machine	H. P. Jones	43,508
Washing machine	D. H. Sherer	43,528
Washing machine	J. R. Terbill	43,532
Washing machine	G. Gipson	43,580
Washing machine	A. and C. D. Smedley	43,610
Washing machine	S. T. Connell and B. Brown	43,672
Washing machine	H. Prindell	43,865
Washing machine	J. Crain	43,899
Washing machine	T. R. Ferris	43.982
Washing machine	A. K. Kent	44,200
Washing machine	G. W. Linn	44,204
Washing machine	L. W. Cook	44,284
Washing machine	J. Johnson	44,804
Washing machine	T. W. S. Kidd	45,049
Washing machine	H. Rice	45,122
Washing machine	S. A. Mort	45,167
Washing machine	A. Phillips	45,172
Washing machine	W. Polyblank	45,271
Washing machine	F. C. Walker	45,283
Washing machine	N. B. Clabaugh	45,317
Washing machine	E. McKinley and W. Wilkie	45,331
Washing machine	J, W. Parker	45,431
Washing machine	J. B. Winchell	45,448
Washing machine, Clothes	W. H. Blood	41,190
Washing machine, Tub	J. Downer	44,165
Washing rollers	J. E Atwood	43,279
Washing and scouring machine	W. Price	44,820
Washing and pressing machine	M. C. Davis and L. C. Keith	42,567
Washing and wringing machine	J. Crain	41,886
Washing and wringing machine	E. B. Wells	41,953
Washstands	Z. E. Fobes	41,986
Washstand, bureau, desk, and wardrobe	A. Lee	45,505
Washstand and water-closet, Combination of a.	W. Campbell	41,602
Watches	C. W. Fogg	41,461
Watches	M. Burt	44,161
Watches	S. Coon	44,607

Invention or Discovery.	Name of Patentee.	No.
Watches, Barrels of, Tool for closing or contracting.	C. S. Moseley	45,512
Watches, Regulating	C. Fasoldt	42,175
Watches, Tool for repairing	M. C. Kimball	44,957
Watches, Winding and setting	C. E. Jacob	44,493
Watch cases	F. S. Giles	43,490
Watch crystals, Pressing	J. Metzger	44,734
Watchguard safety-chain	E. J. Morse	41,745
Water, Raising	J. McKnight	44,876
Water, &c., Raising	A. Brear	44,782
Water, Raising, Apparatus for	J. C. Morris	42,679
Water, Raising, Steam syphons for	H. Lansdell	41,158
Water and beer, Cooling, Tubs for	A. Haustetter	43,498
Water-closet, Portable	E. Hidden	43,499
Water-closet and washstand, Combination of a.	W. Campbell	41,602
Water-closet cocks	J. Broughton	44,783
Water economizer	E. J. Stearns	42,969
Water-proof preparation	P. F. L. B. Heim	43,659
Water by pneumatic pressure, Forcing	J. P. Gruber	43,770
Wearing apparel, Incising button-holes and embossing and printing articles of.	S. S. Stone	43,932
Weather-boarding, Stop gauge for	W. F. Redding	46,783
Weather strips	G. H. Collins	43,394
Weather strips	A. Dodder	44,613
Weather strips	W. R. S. Hunter	44,802
Weather strips	S. G. Spicer	45,189
Weather strips	T. Cowden	45,320
Weather strips, Door	W. H. Hurlbut and J. W. Sharp.	41,624
Weavers' harness, Dressing	J. and J. H. Kendrick	43,777
Weed eradicator	G. W. Davey	44,710
Weighing apparatus	S. Darling	44,611
Weights, Window sash.	H. Lanergan	42,090
Wells, Artesian, Bores of	H. Howson	45,608
Wells, Oil, Ejector for	J. D. Angiers and F. Croker	44,587
Wells, Oil, Ejector for	G. M. Mowbray	44,646
Wells, Oil, Ejector for	G. M. Mowbray	44,878
Wells, Oil from, Forcing	J. Molyneux	42,213
Welts of boots and shoes, Punches for cutting out.	J. H. Walker	43,556
Wharves, Piles for, Construction of	C. Walton	43,557
Wheat cleaning machine	J. Gaw	42,725
Wheels, Car	P. Putnam	43,337
Wheels, Car, Cast-steel	C. W. Stafford	44,129
Wheels, Car, for railroad	T. Curtis	44,078
Wheels, Car, to axles, Attaching	R. S. Torrey	43,440
Wheels, Carriage	G. B. Woodard and A. B. Woodard.	43,651
Wheels, Carriage	W. K. Foster	45,150
Wheels, Carriage, Elastic	E. L. Pratt and J. B. Thompson.	44,940
Wheels, Carriage, Removable runners for	G. A. Keene	44,141
Wheels, Caster	T. Beach	42,338
Wheels, Cog	A. Skaats, jr	42,605
Wheels, Emery	T. Nelson	44,918
Wheels, Gear, Cutter for cutting	J. K. Brown	45,294
Wheels, Gear, and pulleys	G. J. Washburn	41,896
Wheels, Locomotive	M. J. Montgomery	42,958
Wheels, Paddle	A. M. Comstock	42,640
Wheels, Paddle	L. A. Morton	43,424
Wheels, Paddle, Feathering	F. Barbaires	43,173
Wheels, Watch, Lathe rest for turning	S. G. Twambly	41,966
Wheels, Water	B. Holly	41,508
Wheels, Water	R. R. Brooks	41,567
Wheels, Water	D. S. Stephens	41,821
Wheels, Water	W. L. R. Valentine	42,242
Wheels, Water	W. Whitney	42,708
Wheels, Water	O. Harkness	42,945

Invention or Discovery.	Name of Patentee.	No.
Wheels, Water	D. Phillips	43,039
Wheels, Water	A. H. Wagner	43,051
Wheels, Water	D. Doncaster	43,838
Wheels, Water	W. Hinds	43,850
Wheels, Water	R. S. Hadley	44,088
Wheels, Water	J. J. Kimball	44,201
Wheels, Water	J. C. Simonds and F. Godfrey	44,227
Wheels, Water	J. Spaulding	44,230
Wheels, Water	J. Tyler	44,240
Wheels, Water	G. Gross	44,302
Wheels, Water	E. B. Brooks	44,509
Wheels, Water	H. G. Nelson	45,069
Wheels, Water	C. Weed and W. C. Marr	45,101
Wheels, Water	H. K. Annis	45,114
Wheels, Water	A. Steward	45,191
Wheels, Water	J. White	45,305
Wheels, Water, Connecting governors with gates of.	J. W. Pitt	41,939
Wheels, Water, Current	J. B. Howe	41,816
Wheels, Water, Scrolls for	J. E. Huston	44,195
Wheels, Water, Syphon	T. Wellam	45,002
Wheels, Wind	J. P. Burnham	42,164
Wheels, Wind	A. Trim	43,049
Wheels, Wind	T. B. Field	43,675
Wheels, Wind	F. G. Fowler	43,843
Wheels, Wind	W. N. Santee	44,018
Wheels, Wind	N. Trull	44,564
Wheels, Wind	C. H. Reister	45,273
Wheels, Wind	R. L. Smith	45,530
Wheelbarrows	J. J. Van Kersen	45,658
Whiffletrees, Coupling	M. J. Palmer	44,968
Whiffletree attachment	E. Soper	41,329
Whip-holder	C. L. Pierce	44,218
Whip socket	A. M. Whipple	43,540
Whip socket	C. B. Morehouse	43,858
Whip socket fastening	E. Chamberlain	43,896
Whiskey and other spirits, Distilling and rectifying.	E. F. Prentiss and R. A. Robertson	41,819
Whistles, Signal	T. C. Banks	42,137
Whistles, Steam	L. E. Lincoln	44,006
White leads, Making	T. J. Coggeshall	45,587
White lead, Manufacture of	R. Rowland	42,407
Whitening, Currier's slicker	D. Peters and M. D. Wilson	42,397
Wick, Lamp	J Connelly	43,097
Wick tube	W. H. Smith	42,123
Wickets, Canal	J. D. Marshbank	41,463
Wicket for canal lock gates	A. H. Griggs	42,761
Windlass	E. Raymonds	41,171
Windlass	P. H. Jackson	41,229
Windlass	E. Stearns	43,234
Windlass	M. Bockman	44,276
Windlass, Operating	J. Edson	42,080
Windmills	J. Barton	43,663
Windows, Car, Fixtures for	J. D. Hall	44,770
Windows, Car, Railroad	T. W. Emery	41,911
Window blind and curtain fixture	J. H. Kinsman	42,198
Window frame, Sash-sustaining	H. H. Center	42,431
Window guards	J. Hunnewell	41,511
Window sashes, Raising and lowering	J. M. Merryman	45,564
Window-sash fastenings	J. P. Ellis	43,297
Window-sash weights	H. Lanergan	42,090
Window-shade fixture	F. J. B. Huberts	43,503
Window-tightener	O. C. Hill	42,373
Windows for railroad cars	G. Mann, jr.	41,079
Window and door fastener	L. C. Bignall	42,924
Window and door fastener	H. Wilkinson	44,245

Invention or Discovery.	Name of Patentee.	No.
Wines, liquors, &c., Racking off	D. Sexton	45,086
Wire for pins, Pointing	O. L. Hopson and H. P. Brooks	43,772
Wire for telegraphs, Covering	J. A. Bailey and J. J. Speed	42,040
Wire toaster or broiler	S. Ayres and H. Chamberlin	44,590
Wood, Pine, Extracting rosin and other substance from.	D. Hull	44,314
Wood, &c., Portable apparatus for distilling	G. E. Mills	42,101
Wood, Sawing, Machine for	J. Case	41,667
Wood, Sawing, by wind-power	J. Wisner	43,941
Wood, Splitting, Machines for	T. A. Dugdale	43,576
Wood, Staining, Composition for	M. Turley	42,974
Wood, Treating, for the manufacture of boxes, cases, &c.	T. Thayer	45,537
Wood-bending machine	W. H. Ryan	43,745
Wood-bending machine	J. N. Ray	45,457
Wood-splitting machine	W. Wibert	42,323
Wood-splitting machine	J. A. Knight	42,780
Wooden ware, Hollow	H. Mellish	42,675
Wool, &c., Bleaching and whitening	P. Stevenson	43,160
Wool, Burring, and ginning cotton	J. Goulding	42,940
Wool, &c., to carding and other machines; Feeding.	J. S. Bolette	43,959
Wool, &c., Cleaning	F. M. Ruschhaupt and J. G. Perzel.	43,647
Wool, Drying	J. P. Stillman	43,530
Wool, Oiling	G. S. Harwood	44,951
Wool, &c., Packing and cleaning, Machines for.	S. R. Parkhurst	41,936
Wool, Scouring, Composition for	A. Peple	41,318
Wool, Treating, for removal of burrs, &c	J. Fuller	43,547
Wool, &c., Washing	J. Hunter	41,705
Wool, Washing	C. G. Sargent	41,324
Wool-burring machine	G. T. Jones	45,047
Wool-burring machine, Feed-roll boxes for	C. L. Goddard	45,034
Woollen, &c., Mixed, Colored, Producing	S. Vigoureux	41,878
Woollen Carding and other machines, Oiling.	W. K. Platt and H. Holcroft	43,336
Woollen fabrics, Finishing	P. and G. King	41,515
Wrenches	H. Sharp	41,100
Wrenches	W. Webster	41,554
Wrenches	G. W. Griswold	41,768
Wrenches	C. R. Thorn and A. Leigh	42,239
Wrenches	L. Schwartzkopff and E. Kalowsky.	42,903
Wrenches	N. C. Noyes	42,961
Wrenches	J. W. Penny	44,653
Wrenches	D. M. Moore	45,334
Wrenches, Pipe	J. C. Johnson	42,489
Wrenches, Pipe	W. Pearson	43,926
Wrenches, Pipe	J. R. Brown	44,703
Wrenches, Screw	G. C. Taft	41,747
Wrenches, Screw	H. W. Hewet	41,995
Wringer, Clamp for	T. Brooks	43,089
Wringer, Clothes	C. F. Spaulding	42,607
Wringer, Clothes, and mangle	S. W. and J. F. Palmer	45,051
Wringers, Rollers for	J. F. Pond	42,224
Wringers, Rollers for	R. B. Hugunin	43,692
Wringing machine	M. J. Cluff	41,759
Wringing machine	G. R. Huntley	41,998
Wringing machine	E. S. Howell	42,486
Wringing machine	S. A. Batley	43,661
Wringing machine, Clothes	R. B. Hugunin	44,313
Wringing and washing machine	J. Crane	41,886
Wringing and washing machine	E. B. Weils	41,953
Writing case and toilet combined	L. B. Brooks	41,135

Invention or Discovery.	Name of Patentee.	No.
Y.		
Yarns, Dressing and sizing	B. Saunders	43,627
Yarn, Spinning, Mules for	S. D. Paul	43,334
Yarn-delivering mechanism for looms	G. Draper	41,834
Yoke, Neck	S. P. Campbell	41,601
Z.		
Zinc, Impure, Treating	A. Pierce, jr	44,112
Zinc, Oxide of	J. Jenkins and J. McMahon	43,587

DESIGNS.

Invention or Discovery.	Name of Patentee.	No.
A.		
Album leaf, Photographic	M. Carty	1,992
Aquarium and fish tank	G. T. Palmer	1,988
Axle box for railroad cars	J. Stephenson	1,962
B.		
Barrels, Labelling	W. B. Maddux	1,897
Bas-relief of General G. B. McClellan	J. F. Drummond	1,882
Bottle	G. Scott	1,883
Bottle, Ink	G. G. Percival	1,997
Bottle, Ink	F. Bailey	1,998
Burners, Lamp, Jacket for	C. Deavs	1,904
C.		
Can, Oil	H. Everett	1,927
Can, Paint	C. F. Brand	1,995
Cards, Pack of	S. Longley	1,896
Carpet pattern	E. J. Ney	1,884
Carpet pattern	E. J. Ney	1,885
Carpet pattern	E. J. Ney	1,886
Carpet pattern	E. J. Ney	1,898
Carpet pattern	E. J. Ney	1,899
Carpet pattern	E. J. Ney	1,900
Carpet pattern	E. J. Ney	1,901
Carpet pattern	H. G. Thompson	1,909
Carpet pattern	H. G. Thompson	1,910
Carpet pattern	H. G. Thompson	1,911
Carpet pattern	H. G. Thompson	1,912
Carpet pattern	H. G. Thompson	1,913
Carpet pattern	H. G. Thompson	1,914
Carpet pattern	H. G. Thompson	1,915
Carpet pattern	H. G. Thompson	1,916
Carpet pattern	H. G. Thompson	1,917
Carpet pattern	H. G. Thompson	1,918
Carpet pattern	H. G. Thompson	1,919
Carpet pattern	E. J. Ney	1,921
Carpet pattern	E. J. Ney	1,922
Carpet pattern	E. J. Ney	1,923
Carpet pattern	E. J. Ney	1,924
Carpet pattern	E. J. Ney	1,925
Carpet pattern	E. J. Ney	1,941
Carpet pattern	E. J. Ney	1,942
Carpet pattern	E. J. Ney	1,943
Carpet pattern	E. J. Ney	1 972
Carpet pattern	E. J. Ney	1,973
Carpet pattern	E. J. Ney	1,974

Invention or Discovery.	Name of Patentee.	No.
Carpet pattern	E. J. Ney	1,975
Carpet pattern	E. J. Ney	1,976
Carpet pattern	E. J. Ney	1,977
Carpet pattern	E. J. Ney	1,978
Carpet pattern	E. J. Ney	1,999
Carpet pattern	E. J. Ney	2,000
Carpet pattern	E. J. Ney	2,001
Carpet pattern	E. J. Ney	2,002
Carpet pattern	E. J. Ney	2,003
Carpet pattern	E. J. Ney	2,008
Carpet pattern	E. J. Ney	2,009
Carpet pattern	E. J. Ney	2,010
Carpet pattern	E. J. Ney	2,011
Carpet pattern	E. J. Ney	2,012
Carpets	E. J. Ney	1,953
Carpets	E. J. Ney	1,954
Carpets	E. J. Ney	1,955
Carpets	E. J. Ney	1,956
Cars, Railroad, Axle box for	J. Stephenson	1,962
Cars, Railroad, Clog hanger for	J. Stephenson	1,961
Castor, Table	M. Moore	2,004
Chain, Watch	A. D. Warren	1,963
Clock case	G. B. Owen	1,879
Clock case	E. Ingraham	1,940
Clock case	R. Drum	1,966
Clog hanger for railroad cars	J. Stephenson	1,961
Cock, Stop	H. G. Morris	1,903
Cook's range, Plates of a	C. J. Shepard	1,957
E.		
Engines, Hand	W. R. Bush	1,888
F.		
Figures	J. Rogers	1,935
Figures, Group of	J. Rogers	1,934
Figures, Group of	J. Rogers	1,936
Figures, Group of	J. Rogers	1,967
Figures, Statuette group of	J. Rogers	1,947
Floor cloth pattern	J. Neil	1,907
Floor cloth pattern	J. Robley	1,908
Floor cloth pattern	G. Green	1,928
Floor cloth pattern	J. Paterson	1,931
Fork handle or spoon	C. F. Richers	1,949
Fork handle or spoon	G. Wilkinson	1,952
Furnace, Agricultural	R. Wheeler and S. A. Bailey	1,951
G.		
Group of figures	J. Rogers	1,934
Group of figures	J. Rogers	1,936
Group of figures	J. Rogers	1,967
Guard stall	G. R. Jackson	1,948
H.		
Hanger, Clog, for railroad cars	J. Stephenson	1,961
Hat, Ladies'	J. W. Partridge	1,946
Hat, Ladies'	W. E. George	1,964
L.		
Label of a mustard box	S. Crump, jr.	2,007
Labelling barrels	W. B. Maddux	1,897
Lamp box for railroad cars	J. Stephenson	1,959

Invention or Discovery.	Name of Patentee.	No.
Lantern	I. Clough and V. Fountain, jr.	1,971
Letters, Ornate	W. H. Page	1,933
M.		
McClellan, G. B., General, Bas-relief of	J. F. Drummond	1,882
N.		
Nut-cracker	E. W. Blake	1,920
O.		
Oilcloth, Floor	A. E. Powers	1,985
Oilcloth, Floor	J. T. Webster	1,993
Oilcloth pattern	J. Rolley	1,890
Ornate letters	W. H. Page	1,933
P.		
Pedestal for railroad cars	J. Stephenson	1,958
Pistol-handle, Revolving	D. Moore	1,930
Pulley block, Metal	A. C. Whitcomb	1,895
Pump	G. Cowing	1,987
R.		
Range, Cook's, Plates of a	C. J. Shepard	1,957
Ruffle	S. Trischet	1,990
S.		
Screens	J. L. Jackson	1,929
Sewing machine	C. R. Shaw and J. R. Clark	1,902
Sewing machine, Arm of a	J. G. Folsome	1,945
Sewing machine, Spool-holder for	J. G. Folson	1,905
Shovel and tongs, Stand for	C. Zenner	1,994
Skate	R. S. Stenton	1,989
Slipper pattern	E. K. Butler	1,939
Spool, Thread	L. C. Ives	1,926
Spool-holder for sewing machine	J. G. Folson	1,905
Spoon, Macaroni	W. Harding	1,906
Spoon or fork handle	C. F. Richers	1,949
Spoon or fork handle	G. Wilkinson	1,952
Spoon handle	G. Sharp	1,880
Stair rod	D. S. Plume	1,887
Stall guard	G. R. Jackson	1,948
Stand, Shovel or tongs	C. Zenner	1,994
Statuette group of figures	J. Rogers	1,947
Statuette of Schiller	E. J. Kuntze	1,983
Step, Car, Railroad	J. Stephenson	1,960
Stove	T. Smith and H. Brown	1,968
Stove, Cook's	N. S. Vedder	1,881
Stove, Cook's	R. Wheeler and S. A. Bailey	2,005
Stove, Cook's	E. J. Cridge	2,006
Stove, Cook's, Parlor, Plates of a	I. Dezonche	1,980
Stove, Cook's, Plates of	G. Smith and H. Brown	1,965
Stove, Cook's, Plates of a	I. Dezonche	1,979
Stove, Cook's, Plates of a	I. Dezonche	1,981
Stove, Doors of a	G. F. Tilley	1,970
Stove, Double lamp	W. B. Tatro	1,991
Stove, Plates of a	N. S. Vedder	1,894
Stove, Plates of a	D. E. Paris	1,984
Stove, Plates of a	N. S. Vedder	1,986
Stove plates	N. S. Vedder and B. F. Johnson	1,893

Invention or Discovery.	Name of Patentee.	No.
T.		
Toothpick	J. H. Knapp	1,937
Toy bow	I. S. Clough and V. Fountain, jr.	1,982
Trade mark	D. F. Packer	1,932
Trade mark	T. Thurber	1,938
Trade mark	W. Robotham	1,944
Trade mark	G. W. Westerbrook	1,950
Trade mark	H. Damon	1,969
Trunk cover	H. Brunhold	1,996
V.		
Valve	W. Barnet Le Vau	1,891
Valve	W. Barnet Le Vau	1,992

REISSUES.

A.		
Accoutrements, Mode of slinging	W. D. Mann	1,692
Air, Foul, in vessels, Disinfecting	A. Pateler	1,654
Air, Hydro-carbon vapor with, Combining	O. P. Drake	1,819
Amalgam and mercury from ore pulp, Collecting and separating.	Z. Wheeler	1,669
Axle boxes, Railroad car	R. N. Allen	1,834
B.		
Bathing apparatus, Electro-magnetic	J. Young	1,711
Bed canopy	I. E. Palmer	1,816
Bells, Pressure	W. L. and N. L. Bradley and W. Hubbard.	1,798
Belting machine	T. J. Mayall	1,627
Boiler, Steam	W. M. and J. B. Ellis	1,636
Boilers, Steam	W. M. and J. B. Ellis	1,637
Bolts, Clover	E. K. Collins	1,690
Boots and shoes	The McKay Turned Shoe Company	1,841
Boots and shoes	The McKay Turned Shoe Company	1,842
Boots and shoes, Heels of, Trimming	C. H. Helms	1,740
Boots and shoes, Soles of, Cutting out	D. Knox and W. D. Richards	1,610
Boot strap	F. H. Moore	1,619
Bottle-stopper fastenings	H. W. Putnam	1,606
Boxes, Axle, Railroad car	R. N. Allen	1,834
Boxes, cans, cases, &c., for preserving food, paints, oils, and other substances.	M. Pinner	1,804
Boxes, Match	E. Burke	2,016
Brakes of railroad cars, Operating	A. Berney	1,783
Brakes of railroad cars, Operating	A. Berney	1,784
Brewing, Improvement in	L. Hecker	1,680
Brick machine	R. A. Ver-Valen	1,668
Buckles	O. L. Hopson and H. P. Brooks	1,681
Buckles	F. Stevens	1,708
Button holes, Cutting	T. C. Leyperldt	1,728
C.		
Canopy, Bed	I. E. Palmer	1,816
Cans, cases, boxes, &c., for preserving food, paints, oils, and other substances.	M. Pinner	1,804
Cans, Preserve	N. P. Stanton	1,656
Capstan and windlass, Ship's	J. P. Manton, W. H. and F. W. Reynolds, and W. H. Taylor.	1,604

Invention or Discovery.	Name of Patentee.	No.
Carriages, Railway	N. F. Bryant	1,611
Chair, Arm, Folding	J. G. English and E. F. Mesick	1,716
Chair, Folding	J. A., W. F., and I. N. Dann	1,623
Chair, Folding	J. G. English and E. F. Mesick	1,750
Chimneys, Lamp	W. L. Fish	1,596
Cases, cans, boxes, &c., for preserving food, paints, and other substances.	M. Pinner	1,804
Cigar machine	I. A. Heald	1,751
Clothes, Expressing water from, Roller for	S. A. Bailey, S. S. and B. M. Cook.	1,710
Clover bolts	E. K. Collins	1,690
Coal, &c., Distilling	J. Howarth	1,605
Collars, Forming	S. S. Gray	1,835
Collars, Forming	S. S. Gray	1,836
Collars, Horse, and hames	E. Whitney	1,607
Collars, Shirt	S. S. Gray	1,646
Collars, Shirt	W. E. Lockwood	1,828
Combs, Back	E. Brown	1,658
Couplings, Plough	G. Owen	1,598
Cutters, Straw	W. Gale	1,800
D.		
Door and sash fastening	R. Johnson	1,624
Dovetailing, Mitre	J. M. Nichols	1,754
Draught regulators	J. Briggs	1,671
Drills, Seed	J. Strayer	1,665
Drills, Seed	J. Strayer	1,666
Dyeing, &c., Fish water for use in, Treating	J. B. Herreshoff	1,618
E.		
Elevators, Hay	G. W. Gregory	1,613
Enamelling picture frames	O. L. Gardner	1,609
Eraser and pencil sharpener	A. G. Shaver	1,660
Eyelet machines	T. K. Reed and C. E. Howard	1,729
Eyelet machines	T. K. Reed and C. E. Howard	1,730
F.		
Fabrics, flocked, Manufacture of	The Simpson Waterproof Manufacturing Company.	1,688
Fabrics, waterproofing and coating, Composition for.	The Simpson Waterproof Manufacturing Company.	1,721
Fats and oils, Treating, for rendering them more useful for burning in lamps and lubricating machinery.	S. Lewis	1,647
Fertilizers, Sowing	J. F. Keller	1,718
Fibrous material, Surface sizing	W. Fuzzard and J. Hatch	1,649
Filters	J. Kedzie	1,664
Fire-arms, Breech loading	The Burnside Rifle Company	1,634
Fire-arms, Breech loading	The Spencer Repeating Rifle Company.	1,652
Fire arms, Breech loading	J. Rider and E. Remington	1,663
Fire-arms, Breech loading	E. H. Ashcroft	1,670
Fire-arms, Breech loading	Sharp's Rifle Company	1,720
Fire-arms, Revolving	The Morris Patent Fire-arms Company.	1,693
Fire-arms, Revolving	The Morris Patent Fire-arms Company.	1,694
Fire-arms, Revolving	E. Allen	1,737
Fire-arms, Revolving	E. Allen	1,738
Fire-arms, Revolving	R. White	1,802
Fire-arms, Revolving	The Brooklyn Fire-arms Company.	1,839
Fire-arms, Revolving, Base pin and lever of	W. H. Elliott	1,715
Fire-arms, Self-loading	A. Ball	1,635
Fire extinguishers	W. Kitson	1,796

Invention or Discovery.	Name of Patentee.	No.
Flax, hemp, &c., Cleaning and separating the fibres of.	G. W. Billings	1,761
Flour packer	N. Kinman	1,659
Food, articles of, Desiccating	M. B. Southwick	1,753
Forks and spoons	F. Grosjean	1,727
Foul air in vessels, Disinfecting	A. Pateler	1,654
Frames, Picture, Enamelling	O. L Gardner	1,609
Furnaces, Cupola and other	A. J. Smith and M. Sayre	1,843
Furnaces, radiators or generators, Heat	G. Chilson	1,782
G.		
Gas pipe fittings, Finishing	Malleable Iron Fittings Company.	1,752
Generator and radiator, heat, Furnace	G. Chilson	1,782
Gins, Cotton	E. Osgood	1,628
Gins, Cotton	T. C. Craven	1,677
Gold and silver, Amalgamating and grinding	W. H. Hepburn and G. K. Peterson.	1,827
Grain separator	J. Van Houton	1,657
Grain separator	A. Higley	1,662
Grain separator	J. A. Krake	1,786
Grain separator	J. Gray	1,795
Grain separator	J. L. Booth	1,826
Grate bars, Stove	P. P. Stewart	1,685
Gun and gun towers, Operating	J. B. Eads	1,808
Guns and gun towers, Operating	J. B. Eads	1,809
Guns and gun towers, Operating	J. B. Eads	1,810
Guns and gun towers, Operating	J. B. Eads	1,811
Guns and gun towers, Operating	J. B. Eads	1,812
H.		
Hames and horse collars	E. Whitney	1,607
Handcuffs	G. W. Reed	1,650.
Harness snaps	R. W. Jones	1,691
Harvesters	Mitchell, Vance & Co	1,626
Harvesters	D. T. Morgan and W. H. Seymour.	1,682
Harvesters	J. F. Seiberling	1,698
Harvesters	J. F. Seiberling	1,699
Harvesters	J, F. Seiberling	1,700
Harvesters	J. F. Seiberling	1,701
Harvesters	J. F. Seiverling	1,702
Harvesters	C. Wheeler, jr	1,722
Harvesters	C. Wheeler, jr	1,723
Harvesters	E. Jones	1,743
Harvesters	E. Jones	1,744
Harvesters	E. Jones	1,745
Harvesters	A. Whiteley	1,74
Harvesters	A. Whiteley	1,747
Harvesters	W. N. Whiteley	1,757
Harvesters	W. N. Whiteley	1,758
Harvesters	R. Dutton	1,762
Harvesters	R. Dutton	1,763
Harvesters	R. Brown	1,769
Harvesters	J. A. Saxton	1,775
Harvesters	J. A. Saxton	1,776
Harvesters	J. A. Saxton	1,777
Harvesters	J. A. Saxton	1,778
Harvesters	J. A. Saxton	1,779
Harvesters	J. A. Saxton	1,780
Harvesters	J. A. Saxton	1,781
Harvesters	D. S. McNamara	1,824
Harvesters, Grain and grass	C. Wheeler, jr	1,695
Harvesters, Grain and grass	C. Wheeler, jr	1,696
Harvesters, Grain and grass	J. R. Parsons	1,770

Invention or Discovery.	Name of Patentee.	No.
Harvesting machine	W. N. Whiteley, jr	1,614
Harvesting machine	W. N. Whiteley, jr	1,615
Harvesting machine	W. A. Kirby and D. M. Osborne	1,838
Hay, Cutting and pressing	C. Waste	1,889
Hemp, flax, &c., Cleaning and separating the fibres of.	G. W. Billings	1,761
Horse shoes	C. A. Howe	1,790
Horse shoes	B. Mee	1,829
Hut, Portable	A. Derrom	1,741
Hut, Portable	A. Derrom	1,742
Hydro-carbons, Petroleum and other, Burning	L. L. Hill	1,785
Hydro-carbon vapor with air, Combining	O. P. Drake	1,819
I.		
Inkstands	J. W. Rose	1,629
Inkstand, Barometer	T. S. Hudson	1,820
Iron, Manufacturing and refining	C. Shunk	1,686
K.		
Knitting machine	M. Marshall, W. Aldrich, and L. B. Tyng.	1,801
Knobs to spindles, Attaching	J. E. Parker and J. P. Whipple	1,645
L.		
Labels for periodicals, Accountant	R. Dick	1,679
Lamps	J. T. Van Kirk and W. M. Fulton	1,601
Lamps	Cahoon Manufacturing Company	1,735
Latches, Knob	C. A. Miller	1,595
Leather splitting machine	A. H. Van Gieson and E. A. Smith	1,767
Legs, Artificial		1,724
Locks	M. Briggs	1,725
Locks	W. H. Akins	1,806
Locomotive, Running gear of	T. H. Neal	1,620
M.		
Manure spreader	J. H. Stevens	1,599
Match box	E. Burke	2,016
Mattresses, Stuffing	H. A. Alden	1,749
Melodeons	S. A. Jewett	1,653
Mercury and amalgam from ore pulp, Collecting and separating.	Z. Wheeler	1,669
Metal, Boring	J. Meyer	1,765
Mills, Cider	H. K. Parsons	1,793
Mitre dovetailing	J. M. Nichols	1,754
N.		
Needles, Knitting	T. Sands	1,821
O.		
Oar	W. H. McMillan	1,766
Oil from oil wells, Forcing	The Bordentown Machine Company	1,789
Oils and fats, Treating, for rendering them more useful for burning in lamps, lubricating machinery, and for other purposes.	S. Lewis	1,647
Ordnance, Operating	J. B. Eads	1,641
Ordnance, Operating	J. B. Eads	1,642
Ordnance, Operating	J. B. Eads	1,643
Ordnance, Operating	J. B. Eads	1,644
Ore pulp, Mercury and amalgam from, Collecting and separating.	Z. Wheeler	1,669

Invention or Discovery.	Name of Patentee.	No.
P.		
Paper, Cutting, for paper, twine, &c.	J. B. Wortendyke	1,825
Pencil sharpener and eraser	Z. G. Shaver	1,660
Periodicals, Labels for, Accountant	R. Dick	1,679
Petroleum and other hydro-carbons, Burning	L. L. Hill	1,785
Piano-forte	H. Lindman	1,773
Pipe, Gas, Fitting for, Finishing	Malleable Iron Fittings Company	1,752
Pipe, Tobacco	C. Houghton	1,840
Ploughs	T. F. Smith	1,706
Ploughs	D. Harper	1,734
Plough couplings	G. Owen	1,598
Plough plates, Casting	F. F. Smith	1,705
Post office stamp	J. Shaver and A. C. Corse	1,748
Printers' inking rollers, Composition for making	L. Francis and C. H. Loutrel	1,771
Printers' inking rollers, Composition for making	L. Francis and C. H. Loutrel	1,772
Projectile for rifled ordnance	W. H. Smith, R. M. Basset, and C. D. Gibson.	1,788
Projectiles for rifled ordnance, Packing	W. H. Smith, R. M. Basset, and C. D. Gibson.	1,787
Pump, Steam. Direct action	W. Sewell and A. S. Cameron	1,731
R.		
Radiator and generator. Heat, Furnace or	G. Chilson	1,782
Railroad frogs	D. D. Lewis	1,602
Rakes, Horse	G. Peirce	1,640
Rakes, Horse	J. H. Shireman	1,832
Rakes, Revolving	S. E. Ament	1,732
Rakes to grain harvesters	W. Wright	1,632
Rakes to grain harvesters	W. Wright	1,633
Reaping machine	D. S. Morgan	1,683
Reaping machine	C. W. and W. W. Marsh	1,719
Regulators, Draught	J. Briggs	1,671
Regulators and ventilators, Draught	G. Chilson	1,739
Rollers, Inking, Printers', Composition for making.	L. Francis and C. H. Loutrel	1,771
Rollers, Inking, Printers', Composition for making.	L. Francis and C. H. Loutrel	1,772
Rollers for expressing water from clothes	S. A. Bailey, S. S. and B. M. Cook	1,709
S.		
Safes, Fire-proof. Fillings for	W. H. Butler, A. A. Valentine, and S. A. Holmes.	1,822
Sand, Washing	L. M. Speer	1,687
Sash and door fastening	R. Johnson	1,624
Saws, Reciprocating, Hanging	L. Anderson	1,733
Seats, School	R. Paton	1,756
Sewing machine	E. Townsend	1,600
Sewing machine	C. S. Patterson, E. Pincus, A. Hart, M. Moore, A. Mitchell, and H. H. Reed.	1,616
Sewing machine	A. B. and N. H. Shaw	1,625
Sewing machine	S. Pancoast	1,704
Sewing machine	The Union Button-hole and Embroidery Machine Company.	1,805
Sewing machine, Heating waxed threads in	A. Holbrook	1,831
Sewing machine guide	D. Barnum	1,760
Ships, Side lights for	E. S. Hidden	1,638
Ships' capstans and windlasses	J. P. Manton, W. H. and F. W. Reynolds, and W. H. Taylor.	1,604
Silicates to a liquid or gelatinous state, Reducing.	G. E. Vanderburg	1,674
Siliceous substances, Treating	G. E. Vanderburg	1,675
Silver, &c., from waste solutions, Saving	J. Shaw	1,651

Invention or Discovery.	Name of Patentee.	No.
Silver and gold, Amalgamating and grinding	W. H. Hepburn and G. K. Peterson.	1,827
Skates, Wheel	O. M. and T. J. Vail	1,639
Skirts, Hoop	C. Neumann	1,703
Shirts, Skeleton	C. Neumann	1,755
Skirts, Spring, Tape for	L. S. Scofield	1,655
Socket and head windlasses, Fitting the heaving.	C. Perley	1,603
Soda-water, Drawing	W. Gee	1,612
Sowing fertilizers, Machine for	J. F. Keller	1,718
Sorghum juice and sirup, Refining	J. F. Shelden	1,667
Spindles, Knobs to, Attaching	E. Parker	1,707
Spindles, Knobs to, Attaching	J. E. Parker and H. P. Whipple	1,645
Spinning machines, Drawing regulator for	E. D. and G. Draper	1,726
Spinning machines, Throstle for	C. H. Hunt	1,672
Spoons and forks	F. Grosjean	1,727
Stamp, Post office	J. Shaver and A. C. Corse	1,748
Stand, Hat, and other clothes-hanging apparatus.	J. B. Wickersham	1,630
Stave machine	J. E. Warner	1,713
Stave machine	T. Hanvey	1,717
Stirrups	C. W. Saladee	1,736
Stirrups. Riding, and their covers	R. N. Eagle	1,759
Stone, Artificial, Manufacture of	G. E. Vanderburg	1,676
Stopper, Bottle, Fastening for	H. W. Putnam	1,606
Steel, Treating, to render it tougher, stronger, and more elastic.	W. Hazen	1,833
Stove	S. B. Sexton	1,621
Stove	S. B. Sexton	1,622
Stove	S. B. Sexton	1,774
Stove	D. G. Littlefield	1,813
Stove	D. G. Littlefield	1,814
Stove	D. G. Littlefield	1,815
Stove	D. G. Littlefield	1,823
Stove, Cooking	P. P. Stewart	1,673
Stove, Cooking	J. Magee	1,678
Stove, Cooking	P. P. Stewart	2,684
Stove, Plates of a	N. S. Vedder	2,013
Stove, Plates of a	N. S. Vedder	2,014
Stove, Plates of a	N. S. Vedder and E. Ripley	1,015
Stove-grate bars	P. P. Stewart	1,685
Straw cutter	H. K. Parsons	1,648
Sugar, Cube	G. Finkin	1,799
Sugar, Manufacture of	J. F. Riggs	1,830
Syringes, Enema	M. Mattson	1,797
Sirup and sorghum juice, Refining	J. F. Shelden	1,667

T.

Invention or Discovery.	Name of Patentee.	No.
Tape for spring skirts	L. S. Scofield	1,655
Threshing machine	D. M. Cochran	1,617
Tooth picks	B. F. Sturtevant	1,661
Trade mark	I. A. Powell	2,017
Trucks for locomotives	L. Bissell	1,794
Twine, &c., Paper, Making	J. B. Wortendyke	1,817
Twine, &c., Paper, Making	J. B. Wortendyke	1,818

V.

Invention or Discovery.	Name of Patentee.	No.
Vapor, Hydro-carbon, with air, Combining	O. P. Drake	1,819
Ventilator and regulator, Draught	G. Chilson	1,739
Vessels, Foul air in, Disinfecting	A. Pateler	1,654
Vessels, Steam and sailing, for merchant and naval service, Construction of.	A. Walker	1,608
Vessels, Steam and sailing, for naval and merchant service.	A. Walker	1,631

W.

Invention or Discovery.	Name of Patentee.	No.
Water-closets	W. E. Parmenter and J. J. Grundy	1,697
Wells, Artesian, Boring	H. Hannon and J. Parker	1,837
Wheels, Carriage	H. G. Weibling	1,768
Wheels, Water	J. Leffel	1,791
Wheels, Water, Cases for	J. Leffel	1,792
Wheels, Water from, Elevating and delivering	J. Daykin	1,712
Windlasses, Head, Fitting the heaving socket to	C. Perley	1,603
Windlasses, Ships', and capstans	J. P. Manton, W. H. and F. W. Reynolds, and W. H. Taylor.	1,604
Wool, Oiling	G. Howard and G. H. Quincy	1,764
Wool and other material, Manufacture of	E. D. Jordan	1,714
Wringing clothes, Machine for	S. A. Bailey and S. S. and B. M. Cook.	1,710
Wringing or squeezing machine	S. A. Bailey and S. S. and B. M. Cook.	1,807

EXTENSIONS.

B.

Invention or Discovery.	Name of Patentee.	No.
Bedsteads, Sofa	R. Scarritt	7,707
Boilers, Steam	F. P. Dimpfel	7,506
Boilers, Steam	R. Montgomery	7,742
Bolt and rivet machine	W. E. Ward	7,538
Boot trees	W. Upfield	7,466
Buildings, Iron, Frame roof and floor of, Construction of.	J. Bogardus	7,337

C.

Invention or Discovery.	Name of Patentee.	No.
Carriage tops, Raising and lowering	S. Goddard and H. Warfield	7,100
Carriers, Straw	W. Pierpoint	7,349
Cat-head and shank painter stopper	C. Perley	7,249
Chairs, Railroad, Iron, Wrought	W. Van Anden	7,330
Chairs and supporters, Obstetric	A. Blood	7,590
Cloth, Shearing	A. Woolson	7,409
Cloth, Wide, Machinery for double folding	Z. Allen	7,502
Compasses for measuring, Joints for	T. Alteneder	7,501
Condensers, Surface, for steam engines	J. P. Prisson	7,250
Cutters, Straw	R. Daniels	7,472
Cutters, Straw	A. S. Macomber	7,756

F.

Invention or Discovery.	Name of Patentee.	No.
Forge-hammer to its helve, Attachment of the	D. Hicks	7,242
Furnaces, Boiler, Steam	B. Crawford	7,051
Furnaces, Portable	J. T. Davy	7,159

G.

Invention or Discovery.	Name of Patentee.	No.
Grain, Raking and binding	J. E. Heath	7,520

H.

Invention or Discovery.	Name of Patentee.	No.
Hammer, Forge, Attachment to its helve	D. Hicks	7,242
Hammers, Steam, Direct-actoin	J. H. Towne	7,623

I.

Invention or Discovery.	Name of Patentee.	No.
Ice, Manufacturing	A. C. Twining	10,221
India-rubber cloth, Rolling	F. D. Hayward and J. C. Bickford	7,189

Invention or Discovery.	Name of Patentee.	No.
K.		
Knitting machine	J. Hollen	7,509
L.		
Looms for piled fabrics	John and James Turnbull	7,061
M.		
Mattresses, Spring	W. F. Ressequie	7,429
Meat-cutting apparatus	J. G. Perry	7,123
Metal packing, Compound hard and soft	A. Fulton	7,214
O.		
Oil, Paraffine	J. Young	8,833
P.		
Packing, Metal, Compound hard and soft	A. Fulton	7,214
Paper, Folding	G. K. Snow	7,722
R.		
Rivet and bolt machine	W. E. Ward	7,538
S.		
Seeding machine	L. Moore	7,479
Sewing machine	A. B. Wilson	7,776
Smut machine	L. Smith	7,090
Spark arresters	J. W. Hunter	7,040
Spinning machine, Preventing fibres from winding in drawing rollers in.	J. C. Dodge	7,364
Splints, Surgeons'	B. Welch	7,626
Stoppers, Shank painter and cat-head	C. Perley	7,249
Straw carriers	W. Pierpoint	7,349
Supporters and chairs, Obstetric	A. Blood	7,390
T.		
Truss pads	F. M. Butler	7,517
Types, Metallic, Preparing the face of	L. V. V. Newton	7,581
V.		
Valves for governors	J. and A. Judson	7,755
W.		
Wheels, Water	T. Rose	7,674

REPORT

OF THE

COMMISSIONER OF PATENTS

FOR THE

YEAR ENDING 1864.

U.S. Patent Office

LETTER

FROM THE

COMMISSIONER OF PATENTS,

TRANSMITTING

HIS ANNUAL REPORT FOR THE YEAR 1864.

UNITED STATES PATENT OFFICE,
January 30, 1865.

SIR: I have the honor herewith to transmit the annual report of this office for the year 1864, to be laid before Congress.

I am, very respectfully, your obedient servant,

D. P. HOLLOWAY,
Commissioner of Patents.

HON. SCHUYLER COLFAX,
Speaker of House of Representatives,
Washington, D. C.

UNITED STATES PATENT OFFICE,
January 30, 1865.

SIR: In obedience to the requirements of the fourteenth section of the act of March 3, 1837, entitled "An act in addition to an act to promote the progress of science and the useful arts," I have the honor to submit a report of the operations of this office during the year 1864.

No. 1.

Number of applications during the year	6,972
Number of patents granted, including reissues and designs	5,020
Number of caveats filed during the year	1,063
Number of applications for extension of patents	52
Number of patents extended	48
Number of patents expired, 31st December, 1864	1,034

Of the patents granted, there were to—

Citizens of the United States	4,862
Subjects of Great Britain	89
Subjects of the French Empire	38
Subjects of other foreign governments	31
Total	5,020

No. 2.

Statement of money received during the year.

On applications for patents, reissues, &c., &c.	$220,864 76
For copies and for recording assignments	20,055 22
Total	240,919 98

No. 3.

Statement of expenditures from the patent fund.

For salaries	$89,500 54
For contingent expenses	68,717 74
For temporary clerks	70,137 72
For withdrawals	600 00
For refunding money paid by mistake	737 00
For Judges in appeal cases	175 00
Total	229,868 00

No. 4.

Statement of the patent fund.

Amount to the credit of the patent fund, January 1, 1864	$44,540 30
Amount of receipts during the year	240,919 98
Total	285,460 28
Deduct amount of expenditures during the year	229,868 00
Leaving a balance to the credit of the patent fund, January 1, 1865	55,592 28
Surplus of receipts over expenditures during the year 1864	11,051 98

Table exhibiting the business of the office for twenty-eight years ending December 31, 1863.

Years.	Applications filed.	Caveats filed.	Patents issued.	Cash received.	Cash expended.
1837	....	....	435	$29,289 08	$33,506 98
1838	....	....	520	42,123 54	37,402 10
1839	....	....	425	37,260 00	34,543 51
1840	765	228	473	38,056 51	39,020 67
1841	847	312	495	40,413 01	52,666 87
1842	761	291	517	36,505 68	31,241 48
1843	819	315	531	35,315 81	30,766 96
1844	1,045	380	502	42,509 26	36,344 73
1845	1,246	452	502	51,076 14	39,395 65
1846	1,272	448	619	50,264 16	46,158 71
1847	1,531	553	572	63,111 19	41,878 35
1848	1,628	607	660	67,576 69	58,905 84
1849	1,955	595	1,070	80,752 78	77,716 44
1850	2,193	602	995	86,927 05	80,100 95
1851	2,258	760	869	95,738 61	86,916 93
1852	2,639	996	1,020	112,056 34	95,916 91
1853	2,673	901	958	121,527 45	132,869 83
1854	3,324	868	1,902	163,789 84	167,146 32
1855	4,435	906	2,024	216,459 35	179,540 33
1856	4,960	1,024	2,502	192,588 02	199,931 02
1857	4,771	1,010	2,910	196,132 01	211,582 09
1858	5,364	943	3,710	203,716 16	193,193 74
1859	6,225	1,097	4,538	245,942 15	210,278 41
1860	7,653	1,084	4,819	256,352 59	252,820 80
1861	4,643	700	3,340	137,354 44	221,491 91
1862	5,038	824	3,521	215,754 99	182,810 39
1863	6,014	787	4,170	195,593 29	189,414 14
1864	6,972	1,063	5,020	240,919 98	229,868 00

Alphabetical list of States, with number of patents issued to each during the year 1864.

States.	No.	States.	No.
California	8	Maryland	58
Connecticut	246	New Hampshire	49
Delaware	8	New Jersey	161
Illinois	317	New York	1,337
Indiana	98	Ohio	308
Iowa	97	Oregon	......
Kansas	7	Pennsylvania	440
Kentucky	35	Rhode Island	81
Maine	46	Tennessee	3
Massachusetts	600	Vermont	42
Minnesota	14	Virginia	10
Missouri	48	West Virginia	6
Michigan	127	Wisconsin	81

Alphabetical list of Territories, with number of patents issued to each during the year 1864.

Territories.	No.	Territories.	No.
Colorado	7	Nevada	6
District of Columbia	81	Nebraska	10

Miscellaneous.

	No.		No.
Maine and New York	1	N. J. and Ill	1
Conn. and N. Y	1	Pa. and O	1
Mass. and N. J	1	Ia., Cal., and Mo	1
N. J. and N. Y	2	Mass. and Pa	1
N. Y. and Mo	1	O. and Ind	1
Pa. and N. J	3	U. S. army	4
N. J. and D. C	1	U. S. navy	1

I deem it my duty to call the attention of Congress to the necessity of some provision by law for the enjoyment by the office of the room in the Patent Office building indispensable for its operations. The primary object of this building is sufficiently indicated by the name which it bears by law. The occupation for any other purpose was originally intended to be merely temporary. Notwithstanding the unparalleled increase of the business of the office, it has less room at its command than four years ago. The inventors of the country, who have contributed over three hundred thousand dollars towards the construction of this building, may well complain of this state of things which seriously affects their interests. It is desirable, for the proper examination of applications for patents, that each examiner and his assistants having charge of a special class should occupy a single room. It has become necessary to crowd several classes into single rooms. Although there are twenty-six classes and divisions, there are but thirteen rooms at the service of the examiners. It is a cherished object of the office to form a complete technological library, to be made accessible to all the inventors of the country. The usefulness of this library, which is constantly increasing, is greatly impaired by want of room for arrangement of the books. The necessity for more room is painfully exhibited in the copyright department of this office. The collection of books and other works in the Patent Office, known as the library of copyrights, consists of such publications as have been secured to their authors and proprietors, during a period of more than seventy years, under the various copyright acts, and deposited among the archives of the government in this city. From 1790 to 1859, they were deposited in the Department of State; but, by act of Congress, in the spring of the latter year, they were transferred to the Department of the Interior, and placed in the charge of the Commissioner of Patents. Upon being conveyed to the Patent Office, no appropriate place for their reception could be found, the north wing not having been then completed, and a number of very small apartments in one of the angles of the model room, hitherto devoted to lumber and rubbish, were hastily furnished with shelves for their temporary accommodation. And here they were packed away, and here they now remain, after a lapse of nearly six years! When it is considered that this collection of copyright matter is entirely unique in character and exclusively national; that it consists almost entirely of American works, the offspring of American mind and genius and taste; that nothing like it exists, or can exist, elsewhere in this country, or in the world, and that if lost or damaged renewal would be impossible; that it embraces more than 50,000 works, comprising the ablest publications on law, medicine, divinity, science, art, and miscellaneous literature, and nearly two hundred thick volumes of sheet music bound, and the materials for two hundred more, and also thousands of maps, charts, and engravings in every style of art—when it is considered that a collection of American works of such a character, so extensive and valuable, has for years been packed away in dark and dusty closets, it is not strange that surprise should have been elicited from the scholars of our own and other lands, who have succeeded in finding the collection, at the seeming yet unavoidable neglect to which it has been subjected.

But apart from the manifest propriety of a more appropriate depository for these works, the absolute necessity will soon be imperative. The addition to the collection is now at the rate of about three thousand works, of all kinds, each year; and, very shortly, there will no longer be space on the already crowded shelves even for the close packing of volume on volume which is now indispensable. And should Congress think proper to authorize a system with reference to copyrights, which has been repeatedly solicited, similar to that now applied to patents, self-sustaining and independent, and which should require applications for copyright to be made directly to the Patent Office, and works for copyright, like models for patents, to be deposited there by the proprietors themselves, instead of through the medium of fifty different clerks of the district courts of the United States, the necessity for more appropriate apartments would be still more absolute.

In my report of the operations of this office for the year 1863, addressed to the present Congress, I had the honor to call your attention to the policy of the system of protection by patents; the advantages of our own system as compared with those of other leading industrial nations, and particularly Great Britain; the state of the industrial arts in this country as exhibited by the inventions examined in the office within the last one or two years; and the modifications of patent laws which, in my judgment, would give greater efficiency to our present system. I have nothing to add to what was then presented, except a review of the progress of the arts since 1863, which can be advantageously done after the lapse of another year.

D. P. HOLLOWAY.

ALPHABETICAL LIST OF PERSONS WHOSE PATENTS FOR INVENTIONS AND DISCOVERIES HAVE EXPIRED DURING THE YEAR 1864.

No.	Patentee.	Invention or discovery.	Date.	Class.
	Abbott, J. G. (*See* C. W. Warnick *et al.*)			
7,297	Abendroth, William	Stoves, cooking	Apr. 23, 1850	V.
7,205	Adams, Isaac	Printing presses and paper machines, apparatus for receiving and transferring to the pile sheets of paper from.	Mar. 26, 1850	XVIII.
7,421	Adams, Stephen H., and John A. Wood	Carding and mixing wool and cotton	June 11, 1850	III.
7,485	Adams, Joseph and Levi	Felloes, machine for cutting	July 9, 1850	XIV.
	Adams, Calvin. (*See* J. R. Livingston *et al.*)			
7,589	Adancourt, Clinton L.	Bits, expansible	July 9, 1850	XIV.
7,012	Adkins, Homer	Mowing machines	Jan. 15, 1850	I.
7,229	Aiken, Herrick	Wheels, wrought-iron car, clamp to be used in the manufacture of.	Apr. 2, 1850	X.
7,676	Aiken, Herrick	Wheels, wrought-iron car	Oct. 1, 1850	X.
7,777	Albertson, William	Harpoons, gun	Nov. 19, 1850	XXII.
7,609	Alexandre, Lambert	Vessels, submarine	Sept. 3, 1850	VII.
7,793	Allen, Enos G., and Charles Briggs	Planing machines, cutters for	Nov. 26, 1850	XIV.
7,097	Allen, John L.	Carriage tops, elevating and lowering	Feb. 19, 1850	X.
7,715	Allen, John L.	Carriage tops, braces for	Oct. 15, 1850	X.
7,355	Allen, Oratio P.	Clothes-pins, machines for slitting	May 14, 1850	XVII.
7,641	Allen, William W.	Tailors' measures	Sept. 10, 1850	XXI.
7,817	Allen, William D.	Boiler feeder, balanced	Dec. 10, 1850	VI.
7,502	Allen, Zachariah	Cloth, wide, machinery for double folding	July 16, 1850	III.
7,230	Allison, William C.	Hoisting, machines for	Apr. 2, 1850	XII.
7,501	Altender, Theodore	Compasses for measuring, joints for	July 16, 1850	VIII.
	Ambrose, Thomas A. (*See* Billings and Ambrose.)			
	Ames, Winslow. (*See* W. B. Gleason.)			
3,016	Andrews, Joel W.	Burning brick	Mar. 21, 1843	XV.
7,298	Andrews, John	Churns	Apr. 23, 1850	I.
	Andrews, William. (*See* Sidney A. Bantz and W. Andrews.)			
7,077	Andrews, Solomon	Barrel machinery	Feb. 12, 1850	XIV.
7,449	Andrews, Solomon	Vessels, model for	June 25, 1850	VII.
7,694	Anthony, David, jr.	Forks, hay, shanks of	Oct. 8, 1850	I.
7,767	Antisell, Thomas	Oils, filter for	Nov. 12, 1850	IV.
7,643	Armstrong, Samuel T., and Charles J. Gilbert	Gutta-percha, process of working	Sept. 17, 1850	IV.
	Arrowsmith, George A. (*See* Walter Hunt.)			
7,299	Asay, Abraham M.	Dentists' chairs	Apr. 23, 1850	XX.
7,279	Ashburn, James	Guitar heads and capo d'astra	Apr. 16, 1850	XVIII.
7,179	Ashcroft, Edward H.	Boilers, method of applying fusible metal to	Mar. 19, 1850	VI.
7,522	Ashley, Marcius B.	Water-wheels, directing water upon	July 30, 1850	XI.
	Ashmead, James H. (*See* Vine and Ashmead.)			
7,356	Atwood, Anson	Stoves	May 14, 1850	V.
7,768	Atwood, Charles, and George Kellogg	Jack chains, machine for making	Nov. 12, 1850	II.
7,317	Austin, Charles	Musical instruments, reed	Apr. 13, 1850	XVIII.
7,335	Austin, Frederick J.	Printing presses	May 7, 1850	XVIII.
7,792	Ayers, Frederick J.	Nail-plate, machine for feeding	Nov. 26, 1850	II.
7,064	Babbett, Avery	Spooling, machinery for	Feb. 5, 1850	III.
7,714	Babbett, Avery	Looms for weaving figured goods	Oct. 8, 1850	III.
	Babbit, Leander. (*See* Finch, Blaisdell, & Babbit.)			
	Babbit, Leander. (*See* Chase, Weston, & Babbit.)			
7,659	Bachelder, John	Sewing machine	Sept. 24, 1850	III.
7,373	Baeder, Charles	Whips, raw-hide, machine for polishing	May 21, 1850	XXII.
6,981	Bagley, Albert G.	Pen and pencil cases	Jan. 1, 1850	XVIII.
	Bagley, Daniel C. (*See* Carey & Bagley.)			
	Bailey, James S. (*See* Charles T. Tuttle.)			
7,013	Bailey, Jesse	Gates for fences	Jan. 15, 1850	IX.
	Bailey, Yarnall. (*See* Clayton & Bailey.)			
7,206	Baker, Collins B.	Brick-presses	Mar. 26, 1850	XV.
7,486	Baldwin, Ethan	Condensers of steam-engines	July 9, 1850	VI.
7,280	Baldwin, Hiram	Car-couplings	Apr. 16, 1850	X.
	Baldwin, Hiram. (*See* Morrill & Baldwin.)			
3,375	Ball, Jonathan	Coating water pipes	Dec. 15, 1843	
7,778	Ball, Hosea	Ovens, bake	Nov. 19, 1850	V.
7,627	Balls, Louisa	Stays, ladies'	Sept. 10, 1850	XXI.
7,131	Barker, Alex. W.	Bedsteads, invalid	Mar. 5, 1850	XVII.
7,557	Barlow, Nelson	Clutches, friction	Aug. 13, 1850	XIII.
7,132	Barnard, William B.	Door-springs, adjustable cord-hook for	Mar. 5, 1850	II.
7,155	Barnard, William B.	Sash-stopper, spiral spring	Mar. 12, 1850	II.
7,255	Barnard, William B.	Door-springs and levers, arrangement of	Apr. 9, 1850	II.
7,422	Barnes, James	Whiffletrees, connecting with carriages	June 11, 1850	X.
7,542	Barnes, Thomas J.	Whips, raw-hide, manufacture of	Aug. 6, 1850	XXII.
	Barnes, Turner. (*See* Fletcher & Barnes.)			
7,391	Barnes, William T.	Quilting-frames	May 28, 1850	XVII.
	Barnell, Jean Joseph Ernest. (*See* Leclaire & Barnell.)			
7,469	Barstow, Benjamin	Vessels, method of fitting the bows of	July 2, 1850	VII.
	Barstow, A. C. & Co. (*See* Apollos Richmond.)			
7,716	Bartlett, Daniel, jr.	Filtering-cocks	Oct. 15, 1850	XI.
3,293	Batten, Joseph	Breaking coal	Oct. 6, 1843	XXII.
7,032	Battle, William R.	Trusses for hernia	Jan. 22, 1850	XX.
7,571	Batty, Thomas	Sewing mallets	Aug. 20, 1850	VII.
7,281	Bauchman, Charles	Hides, machines for breaking	Apr. 16, 1850	XVI.
7,695	Beaumont, William D.	Compound for imparting a gloss to cloth	Oct. 8, 1850	IV.
7,231	Beers, Elias T.	Ranges, cooking, and heating air	Apr. 2, 1850	V.
7,806	Beers, Smith	Irregular forms, machines for turning	Dec. 3, 1850	XIV.
	Bell, Alfred. (*See* John Jack.)			
7,207	Bell, Hugh	Balloons and their appendages	Mar. 26, 1850	XI.
6,994	Bell, John	Type-cases, printers'	Jan. 8, 1850	XVIII.
7,726	Benedict, Charles, assignor to Hotchkiss & Merriman Manufacturing Company.	Buckles, suspender	Oct. 22, 1850	XXI.
7,558	Beniowski, Bartholomew	Printing presses, cylinder	Aug. 13, 1850	XVIII.
7,738	Beniowski, Bartholomew	Printing	Oct. 29, 1850	XVIII.
	Bennett, J. I. (*See* Benj. Crawford.)			
7,336	Benton, Ezra R.	Bran-dusters	May 7, 1850	XIII.
7,727	Bertholf, Henry W.	Straw-cutters, feeding apparatus for	Oct. 22, 1850	I.
8,137	Bessemer, Henry	Machine for expressing cane juice	June 3, 1851; antedated Dec. 21, '50	IV.
7,807	Beijemann, Henry I.	Mortises, machines for boring dove-tailed	Jan. 1, 1850	XIV.
7,374	Bevan, John	Girder, arched	May 21, 1850	IX.
	Bevington, Henry C. (*See* See Knowles & Bevington.)			
	Bickford, John C. (*See* Hayward & Bickford.)			
7,660	Bigelow Erastus B.	Loom for weaving tapestry and Brussels carpets	Sept. 24, 1850	III.

List of persons whose patents for inventions have expired, &c.—Continued.

No.	Patentee.	Invention or discovery.	Date.	Class.
7,450	Billings, A. M., and Thomas A. Ambrose	Hubs and axles, connecting and disconnecting	June 25, 1850	X.
7,256	Billings, Hosea	Composition for covering hams	Apr. 9, 1850	IV.
7,628	Billings, W. B.	Musical scales, mode of representing	Sept. 10, 1850	XVIII.
7,014	Binder, John	Bedsteads, folding	Jan. 15, 1850	XVII.
7,818	Bingham, Solon, jr.	Buckles for harness	Dec. 10, 1850	XVI.
7,208	Birdseye, Charles D., assignor to Warring Latting	Filter		XI.
7,644	Birdseye, Charles D.	Cream, process of preparing	Sept. 17, 1850	I.
	Bishop, George G. (*See* Arnold & Bishop.)			
7,357	Bissell, Levi	Connecting-rods of steam-engines and other machinery	May 14, 1850	XIII.
6,995	Black, James	Engines, operated by steam, air, and water	Jan. 8, 1850	XI.
7,065	Blackman, Samuel G.	Carding machines for preparing bats for felting	Feb. 5, 1850	III.
	Blaisdell, Jacob. (*See* Finch, Blaisdell & Babbit.)			
7,645	Blake, William	Spike machines	Sept. 17, 1850	II.
7,392	Blanchard, Alanson	Slats, boards, &c., apparatus for jointing	May 28, 1850	XIV.
7,015	Bleier, Frederick	Dampers for cleaning stove-pipes and regulating the draft in the same.	Jan. 15, 1850	V.
7,849	Bless, Eleazer	Fanning-mills	Dec. 17, 1850	I.
7,590	Blood, Asa	Chairs and supporters, obstetric	Aug. 27, 1850	XX.
3,380	Boardman, Luther	Buff for polishing spoons and other articles	Dec. 15, 1843	XXII.
7,337	Bogardus, James	Buildings, iron, construction of the frame, roof, and floor of	May 7, 1850	IX.
7,408	Bohrer, Joseph	Blinds, Venetian, suspending	June 4, 1850	IX.
7,133	Bonwill, George	Planing slats for blinds, machinery for	Mar. 5, 1850	XIV.
7,433	Bookhout, Edward, and Henry Cocben, jr.	Morocco, machines for finishing	June 18, 1850	XVI.
7,882	Boon, James	Wheels, cast-iron car	Jan. 7, 1851	X.
	Boon, Peter. (*See* Spring & Boon.)			
7,661	Booth, James C.	Gold, process of refining	Sept. 24, 1850	II.
7,066	Borden, Gail	Bread, portable soup, preparation of	Feb. 5, 1850	XVII.
7,116	Bowditch, Edwin B.	Sofa bedsteads	Feb. 26, 1850	XVII.
7,677	Bowerman, Stephen	Harvester, cotton-stalk	Oct. 1, 1850	I.
7,662	Bowers, George W.	Grain-cleaning machine	Sept. 24, 1850	I.
7,717	Boyd, Amos H.	Looms	Oct. 15, 1850	III.
	Boyes, Burritt C. (*See* Nichols & Boyes.)			
	Brackbill, William. (*See* Sherlock & Brackbill.)			
7,409	Bradford, Hezekiah, and Ephraim Morris.)	Ventilating railroad cars	June 4, 1850	V.
7,078	Bradshaw, Fields	Cotton-stalks, cutting in the field	Feb. 12, 1850	I.
7,850	Bragg, Thomas	Starch from maize, manufacture of	Dec. 24, 1850	IV.
7,503	Bramble, W. W. W. H. T.	Weighing machines, self, for grain, &c.	July 16, 1850	XII.
	Brecht, Elias. (*See* Trissler & Brecht.)			
7,404	Breed, Zephaniah	Rakes, hay, spring teeth of	May 28, 1850	I.
	Bridges, Albert. (*See* Davenport & Bridges.)			
	Briggs, Chas. (*See* Allen & Briggs.)			
7,358	Broomell, Benjamin F., assignor to Israel Jackson	Grinding, steaming grain preparatory to	May 14, 1850	XIII.
7,047	Brown, A. D.	Press, cotton	Jan. 22, 1850	XII.
7,318	Brown, A. H.	Pipes and hose, couplings for	Apr. 30, 1850	XI.
7,516	Brown, Charles F.	Steering apparatus	July 22, 1850	VII.
7,610	Brown, Charles F.	Harpoons, method of attaching lines to	Sept. 3, 1850	XXII.
7,115	Brown, Christopher F.	Gas generating apparatus	Feb. 26, 1850	IV.
7,016	Brown, Charles W.	Mills for grinding	Jan. 16, 1850	XIII.
7,663	Brown, David S.	Plants, machines for fumigating	Sept. 24, 1850	I.
	Brown, Edward R. (*See* Anthony W. Jones.)			
7,359	Brown, Hiram C.	Sash, balancing	May 14, 1850	II.
7,435	Brown, James M.	Neck yokes, attaching to poles of carriages	June 18, 1850	X.
7,410	Brown, Robert	Harpoon gun	June 4, 1850	XXII.
7,572	Brown, Robert	Harpoons and lances, gun	Aug. 20, 1850	XXII.
7,319	Broyles, Cain	Water, apparatus for drawing	Apr. 30, 1850	XI.
7,156	Bruen, John T.	Figures, cutting in relief on wood	Mar. 12, 1850	XVIII.
7,180	Bryant, Mertoun C.	Looms for weaving piled fabrics	Mar. 19, 1850	III.
7,452	Bryant, Mertoun C.	Looms for weaving piled fabrics	June 25, 1850	III.
7,067	Buck, James	Excavating auger	Feb. 5, 1850	IX.
7,470	Buckup, Ernst	Air engines, method of distributing the air over the heating and cooling surfaces of.	July 2, 1850	VI.
7,678	Buffum, Arnold, and Philip Thorpe	Washing gold, double-acting rocker for	Oct. 1, 1850	II.
7,739	Bulkley, Charles S.	Enunciators, electro-magnetic, for signals in hotels, &c.	Oct. 29, 1850	XVII.
7,769	Bulkley, Charles S.	Telegraphs, repeaters for electro-magnetic	Nov. 12, 1850	VIII.
7,794	Bulkley, Ralph	Ventilators, ship	Nov. 26, 1850	V.
	Bullock, Thomas. (*See* Hamilton & Bullock.)			
6,996	Bullock, William	Drills, grain	Jan. 8, 1850	I.
7,487	Bullock, William, assignor to Charles Graff	Lath-cutting machines	July 9, 1850	XIV.
	Bundy, Jonathan. (*See* White & Bundy.)			
7,591	Burdett, Stephen	Omnibuses, turning up the steps of	Aug. 27, 1850	X.
7,114	Burgess, George	Cap-fronts, machines for cutting	Feb. 26, 1850	XXI.
7,696	Burnham, George	Presses for copying letters	Oct. 8, 1850	XII.
7,851	Burnham, George	Copying presses, damping paper for	Dec. 24, 1850	XVIII.
7,852	Burridge, Thomas H.	Planing machines, means for preventing backlash in the feed-motion of.	Dec. 24, 1850	XIV.
	Burt, Enoch	Loom power		III.
3,275	Burt, Henry	Knitting machines	Sept. 23, 1843	II.
7,209	Burton, Russell	Gold-washers, method of connecting the sections of	Mar. 26, 1850	II.
7,764	Butcher, John	Cloth, apparatus for stretching and smoothing	Nov. 5, 1850	III.
7,517	Butler, Frederick M.	Truss pads	July 22, 1850	XX.
7,048	Butler, John	Brick presses	Jan. 29, 1850	XV.
7,646	Calvert, Francis A.	Cotton, machinery for ginning or picking	Sept. 17, 1850	III.
7,471	Cameron, Charles C.	Sash stopper	July 2, 1850	I.
7,592	Camp, Harry	Straw, machines for cutting	Aug. 27, 1850	I.
7,033	Camp, Herman	Candle-mould apparatus	Jan. 22, 1850	IV.
	Campbell, John. (*See* George Spafford.)			
	Cannon, John R. (*See* Joseph A. Hill.)			
7,770	Cannon, Samuel	Planters, seed	Nov. 12, 1850	I.
7,728	Card, Joseph	Presses, cheese	Oct. 22, 1850	XII.
7,079	Carey, Augustus C., and Daniel C. Bagley	Cloth, machinery for folding	Feb. 12, 1850	III.
7,017	Carnell, Charles	Brick presses	Jan. 15, 1850	XV.
	Carpenter, Jesse. (*See* Cullen Whipple.)			
7,647	Carpenter, Joseph W.	Preparing wheat for grinding, process for	Sept. 17, 1850	IV.
7,543	Carver, Hiram	Scrapers used by cabinetmakers	Aug. 6, 1850	XIV.
7,750	Cary, Alanson	Irregular forms, machines for dressing	Nov. 5, 1850	XIV.
7,779	Case, Jarvis	Bee-hives, working the doors of	Nov. 19, 1850	I.
7,338	Cathcart, James L.	Stoves, air-heating	May 7, 1850	V.

List of persons whose patents for inventions have expired, &c.—Continued.

No.	Patentee.	Invention or discovery.	Date.	Class.
7,504	Catheart, James L	Horse-powers	July 16, 1850	XIII.
7,050	Caulkins, Russell	Supporters, utero-vaginal	Jan. 29, 1850	XX.
	Chadbourne, Thomas. (*See* David M. Smith.)			
7,257	Chamberlain, Dexter H., assignor to C. W. and S. J. M. Horner and W. G. Ladd.	Dividers or compasses	Apr. 9, 1850	VIII.
7,300	Chamberlain, Dexter H., assignor to Thomas J. Whittemore.	Revolving fire-arms, method of attaching cylinder in	Apr. 23, 1850	XIX.
7,360	Chamberlain, Dexter H	Lock for fire-arms, toothed segment	May 14, 1850	XIX.
7,270	Chapin, Solomon	Exercising chairs	Mar. 26, 1850	XX.
7,573	Chase, F. H., Adan Weston, and Leander Babbit	Supporters, obstetrical	Aug. 20 1850	XX.
7,505	Chase, Mark L., assignor to William L. Chase	Ploughs, hill-side	July 16, 1850	I.
158	Chase, Moses, of whom George Law is assignee, of whom Richard S. Stewart is executor.	Carding and spinning machine	Mar. 23, 1842 (Extended)	
7,718	Chase, Silas E. and O. R., assignees of O. R. Chase	Sugar, machines for pulverizing	Oct. 15, 1850	XIII.
7,518	Chase, William L	Ploughs, fastening the shoes of hill-side	July 22, 1850	I.
	Chase, William M. (*See* Halvor Halvorson.)			
7,181	Chatain, John B. H	Mouldings, machines for planing ornamental	Mar. 19, 1850	XVIII.
7,611	Chichester, Lewis S	Staves, machines for dressing	Sept. 3, 1850	XIV.
7,411	Chilson, Gardner	Grates, fire-place	June 4, 1850	V.
7,436	Chilson, Gardner	Stoves, parlor	June 18, 1850	V.
7,780	Chilson, Gardner	Furnaces, air-heating	Nov. 19, 1850	V.
7,832	Child, Orlando	Sawing with circular saws, mills for	Dec. 17, 1850	XIV.
7,080	Chinnock, Charles	Rule and socket joints	Feb. 12, 1850	XIV.
7,593	Chollar, John B	Grates, coal-revolving	Aug. 27, 1850	V.
	Churchill, William A. (*See* L. E. Hicks.)			
7,134	Clark, Alinzor	Forks, hay and manure, fastening for	Mar. 5, 1850	I.
7,697	Clark, Adnzor	Forks, hay	Oct. 8, 1850	I.
7,098	Clark, Edward S	Curtains, window, adjustable rollers for	Feb. 19, 1850	XVII.
6,982	Clark, James M	Grinding and bolting machines, combined	Jan. 1, 1850	XIII.
7,393	Clark, P. J	Lamps, metallic, making the reservoirs of	May 28, 1850	V.
8,134	Claussen, Peter	Process for heating vegetable fibre	June 3, 1851; antedated Aug. 16, '50	IX.
7,594	Clayton, Sharpless, and Yarnall Bailey	Lamps, gas, self-generating	Aug. 27, 1850	V.
7,612	Clemens, S. A	Pressing cotton and other substances into bales	Sept. 3, 1850	XII.
7,451	Cleveland, John A.	Teeth, setting artificial, by atmospheric pressure	June 25, 1850	XX.
7,099	Clinton, Thomas G., George H., and Edward H. Knight	Lids for boiler holes of cooking-stoves	Feb. 19, 1850	V.
7,135	Clinton, Thomas G., George H., and Edward H. Knight	Carriage jacks	Mar. 5, 1850	X.
7,595	Clinton, Thomas G., George H., and Edward H. Knight	Stoves, coal, for roasting, baking, and broiling	Aug. 27, 1850	V.
	Clutê & Brothers. (*See* William L. Sanderson.)			
7,719	Coates, William B	Harvesters, hemp	Oct. 15, 1850	I.
	Cochen, Henry, jr. (*See* Bookhout & Cochen.)			
	Cole & Mosher. (*See* William L. Sanderson.)			
7,679	Coleman, Willis P	Mills for grinding	Oct. 1, 1850	XIII.
7,437	Collier, Elisha H	Nails, method of making by rolling	June 18, 1850	II.
7,232	Collins, Michael H	Chimney caps	Apr. 2, 1850	V.
7,361	Collins, Thomas M	Gold washer, cylinder and trough	May 14, 1850	II.
7,648	Collard, William A	Paper filers	Sept. 17, 1850	XVIII.
7,629	Colt, Samuel	Revolving chambered fire-arms	Sept. 10, 1850	XIX.
7,613	Colt, Samuel	Fire-arms, repeating	Sept. 3, 1850	XIX.
7,362	Colver, Nathaniel, assignor to Nathaniel Colver and W. S. Damrell.	Wrench, revolving-jaw	May 14, 1850	II.
7,680	Colvin, Robert J	Seed-planters, slides for	Oct. 1, 1850	I.
7,361	Combs, Abel.	Skeins, connecting, with axles	May 14, 1850	X.
7,833	Conant, Joseph, and Lucius Dimock	Silk, &c., machinery for doubling and twisting	Dec. 17, 1850	III.
7,182	Condit, Edward F., and Alfred Taylor, assignors to W. Eaglesfield.	Hat-bodies, machines for making	Mar. 19, 1850	XXI.
7,488	Cook, Charles H	Quilting-frames	July 9, 1850	XVII.
7,596	Cook, Nathan B	Lock for fire-arms	Aug. 27, 1850	XIX.
7,283	Cook, Ransom	Hydraulic blowers for furnaces, &c.	Apr. 16, 1850	XI.
7,211	Cook, Ransom	Blast-pipes for conveying heated air and gases to furnaces	Mar. 26, 1850	II.
7,423	Cook, Ransom	Hydraulic apparatus for producing blast	June 11, 1850	XI.
7,167	Cool, Peter B	Torrets, fastening of, in harness saddles	Mar. 12, 1850	XVI.
7,339	Coolidge, Charles C., assignor to Francis Harrington and Charles C. Coolidge.	Bedstead fastenings	May 7, 1850	XVII.
7,597	Coston, Benton P	Shirt studs and buttons	Aug. 27, 1850	XXI.
	Cotter, Thos. (*See* Charles A. Read.)			
7,795	Cowing, Henry	Ploughs, gang	Nov. 26, 1850	I.
	Cox, A. & Co. (*See* Joshua Crandall.)			
	Cox, D. B. (*See* J. Crandall.)			
6,983	Crafts, Ashley, and Ebenezer Weeks	Horses' hoofs, instrument for paring	Jan. 1, 1850	XXII.
6,997	Crafts, Ashley, and Ebenezer Weeks	Cultivators	Jan. 8, 1850	I.
6,984	Crane, Jonathan, and F. H. Hamilton	Hemp brakes	Jan. 1, 1850	III.
7,049	Crane, Stephen	Wash mixtures	Jan. 29, 1850	XVII.
7,051	Crawford, Benjamin, assignor to Wm. B. English, J. J. Bennett, A. D. Frisbee, and B. Crawford.	Furnaces, steam-boiler	Jan. 29, 1850	V.
7,729	Crocker, Luther H	Cores for casting, machines for making and holding	Oct. 22, 1850	II.
7,320	Crocker, Samuel E	Slates, machines for holding and dressing	Apr. 30, 1850	XV.
	Crossley, John, Joseph, and Francis. (*See* James Taylor.)			
	Crowell, Sommers. (*See* Krauser, Crowell & Krauser.)			
	Culbertson, James. (*See* Williams & Culbertson.)			
7,453	Culbertson, Thomas, and George Scott	Brick presses	June 25, 1850	XV.
7,158	Cunningham, James	Ventilating railroad cars	Mar. 12, 1850	V.
7,730	Cunningham, James	Locomotive engines, apparatus for reversing or stopping	Oct. 22, 1850	VI.
7,614	Current, David	Spinners, hand	Sept. 3, 1850	III.
7,375	Dakin, James H	Bagasse, machines for drying	May 21, 1850	V.
7,258	Dalton, John E., and Thomas Stevens	Bee-hives, entrance to	Apr. 9, 1850	I.
	Damrell, W. S. (*See* Nathaniel Colver.)			
7,649	Danford, Ebenezer	Harvesters, grain	Sept. 17, 1850	I.
7,472	Daniels, Reuben	Straw cutters	July 2, 1850	I.
7,681	Daniels, Reuben	Vegetable cutter	Oct. 1, 1850	I.
7,853	Darling, Jeremiah	Hydraulic blowers	Dec. 24, 1850	XI.
7,834	Datichiy, Florimond	Privies, apparatus for emptying	Dec. 17, 1850	XXII.
7,559	Davis, James G., assignor to A. B. Warner and James G. Davis.	Candles, manufacture of	Aug. 13, 1850	IV.
7,233	Davis, Robert W	Churns	Apr. 2, 1850	I.
7,340	Davis, Shadrach	Road-scrapers, adjustable mouth-piece to	May 7, 1850	IX.
7,234	Davis, Waitman	Saw mills	Apr. 2, 1850	XIV.
	Davis, William C. (*See* Lamb & Harris.)			
7,751	Davis, William H	Pumps, rotary	Nov. 5, 1850	XI.

List of persons whose patents for inventions have expired, &c.—Continued.

No.	Patentee.	Invention or discovery.	Date.	Class.
7, 159	Davy, John T	Furnaces for heating sad-irons	Mar. 12, 1850	V.
7, 284	Davy, John T	Grates for cooking stoves	Apr. 16, 1850	V.
7, 068	Day, David N., and Edward B. Day	Whip-lashes	Feb. 5, 1850	XXII.
	Day, Horace, H. (*See* John Pridham.)			
7, 650	Day, Horace H., and Richard McMullin	Hose, India-rubber	Sept. 17, 1850	XI.
7, 285	Day, Willard	Telescopes, submarine	Apr. 16, 1850	VIII.
7, 160	Dayton, Aaron O	Photographic pictures, coloring	Mar. 12, 1850	XVIII.
	Dawson, Rollin L. (*See* Hyde & Dawson.)			
	Dawson, Rollin L. (*See* Hyde & Dawson.)			
7, 341	Delluc, Marrellin	Leeches, mechanical	May 7 1850	XX.
	DeMussey, Robert. (*See* Mussey, Robert De.)			
8, 044	Dennison, Andrew	Machine for cutting out the corners and scoring the edges of paper for boxes.	Apr. 15, 1851; antedated Dec. 4, 1850	XVII.
7, 081	Dermond, John	Fliers and spindles, arrangement of	Feb. 12, 1850	III.
7, 376	Devlan, Patrick S	Propellers, screw, arrangement and connexion of	May 21, 1850	VII.
7, 576	Dibble, Richard E	Boiler, steam	Aug. 20, 1850	VI.
7, 519	Dickerson, Alexander	Iron, wrought, method of making directly from the ore	July 22, 1850	II.
7, 235	Dietz, Andrew	Harness hames	Apr. 2, 1850	XVI.
7, 259	Dietz, Andrew	Harness, &c., rings for	Apr. 9, 1850	XVI.
7, 808	Dilks, Joseph	Boilers, steam, the alarm and indicator for	Dec. 3, 1850	VI.
	Dimock, Lucius. (*See* Conant & Dimock.)			
7, 506	Dimpfel, Frederick P	Boilers, steam	July 16, 1850	VI.
7, 752	Dimpfel, Frederick P	Furnaces for steam boilers	Nov. 5, 1850	VI.
7, 136	Dixon, Joseph	Firing kilns for pottery-ware, black-lead crucibles, &c	Mar. 5, 1850	V.
7, 260	Dixon, Joseph	Steel, cast, process for making	Apr. 9, 1850	II.
7, 018	Dodd, Edwin D	Files for keeping papers	Jan. 15, 1850	XVIII.
7, 364	Dodge, John C	Spinning-machines, preventing fibres from winding on drawing-rollers in.	May 14, 1850	III.
7, 161	Dodge, Nehemiah	Pumps for deep wells	Mar. 12, 1850	XI.
7, 343	Dorn, Peter	Shoes, over	May 7, 1850	XVI.
7, 574	Dougherty, John	Propelling boats in shallow water, method of	Aug. 20, 1850	VII.
7, 183	Downer, Charles	Weighing-frames	Mar. 19, 1850	XII.
7, 575	Drake, Imla	Boxes, compound wagon	Aug. 20, 1850	X.
7, 630	Draper, William W	Paint mills	Sept. 10, 1850	XIII.
6, 998	Dubois, John	Gins, cotton	Jan. 8, 1850	III.
7, 321	Dudley, Martin R	Driers, grain	Apr. 30, 1850	V.
7, 394	Dunn, Arthur	Galvanic regulators for steam boilers	May 28, 1850	VIII.
7, 424	Durand, Francois, and Onesiphore Pecquaur, assignors to Richard E. Rabeau.	Leather, machine for cutting, into hollow ware forms	June 11, 1850	XVI.
	Dyer, E. G. (*See* J. E. Owens, *et al.*)			
	Englesfield, W. (*See* Condit & Taylor.)			
7, 438	Eastman, Robert	Stone, machines for dressing	June 18, 1850	XV.
7, 014	Eberly, David	Seeding apparatus, gearing and ungearing	Jan. 22, 1850	I.
7, 698	Eberly, David	Seed planters	Oct. 8, 1850	I.
	Ebert, J. (*See* J. E. Owens, *et al.*)			
7, 137	Eccles, Samuel	Looms for figured fabrics	Mar. 5, 1850	III.
6, 999	Eddy, George W	Wheels, car	Jan. 8, 1850	X.
	Eddy, George W. (*See* Ezra Ripley.)			
7, 771	Eddy, Oliver T	Printing machines	Nov. 12, 1850	XVIII.
7, 302	Edes, Oliver	Rocker, submerged, for separating ores	Apr. 23, 1850	II.
7, 138	Edwards, Nelson	Vessels' holds, apparatus for registering the depth of water in	Mar. 5, 1850	VII.
7, 035	Elder, Matthew	Bedstead fastenings	Jan. 22, 1850	XVII.
7, 781	Eldridge, David	Corn-shellers	Nov. 19, 1850	XIII.
7, 454	Ellicott, Peter F	Churns, atmospheric	June 25, 1850	I.
7, 322	Elliott, Hosea	Gearing for regulating speed	Apr. 30, 1850	XIII.
7, 731	Elliott, J. T	Presses, cotton	Oct. 22, 1850	XII.
7, 377	Embich, Jacob S	Buckles, harness	May 21, 1850	XVI.
7, 236	Emerson, Simeon F	Churns, atmospheric	Apr. 2, 1850	I.
7, 082	Engles, Henry Adolph	Furnaces, air-heating	Feb. 12, 1850	V.
7, 854	England, Lewis C	Vats for tanning hides.	Dec. 24, 1850	XVI.
	English, W. B. (*See* Benj. Crawford.)			
7, 473	Erb, John E	Straw-cutter, feeders of a	July 2, 1850	I.
7, 651	Erkson, Gerrett	Clevis, plough	Sept. 17, 1850	I.
7, 184	Evans, Evan L	Vessels, apparatus for trimming	Mar. 19, 1850	VII.
7, 664	Evans, Henry	Ropes, machinery for making	Sept. 24, 1850	III.
7, 323	Everett, Addison	Wooden bowls, machinery for turning out	July 30, 1850	XIV.
	Everett, Addison. (*See* P. Hutchins, jr.)			
7, 835	Everett, Edward and Charles, jr	Carriages	Dec. 17, 1850	X.
	Everett, Edward. (*See* Thomas Everett.)			
7, 237	Everett, Stephen	Temples used in weaving double cloth	Apr. 2, 1850	XI.
7, 185	Fehrney, Samuel, assignor to A. & J. Fahrney	Tools for preparing hubs for boxes	Mar. 19, 1850	XIV.
	Fairbanks, E. & T., & Co. (*See* William W. Pierce.)			
7, 652	Fairbank, John B	Printing machines	Sept. 17, 1850	XVIII.
	Farnsworth, Luke A. (*See* Lawrence & Farnsworth.)			
7, 837	Fawkes, Joseph W	Planters, seed	Dec. 17, 1850	I.
7, 286	Ferris, Charles M., and Nathan Swan	Brick machines, preparing clay for	Apr. 16, 1850	XV.
7, 238	Fessenden, Abijah	Filtering and drinking tubes, pocket	Apr. 2, 1850	XI.
7, 162	Fessenden, Asa	Pill boxes, machinery for making	Mar. 12, 1850	XIV.
7, 615	Field, William	Washers, &c., beveling the surfaces of	Sept. 3, 1850	XXII.
7, 598	Finch, Edward B	Stoves, with circular shaking grate	Aug. 27, 1850	V.
7, 019	Finch, William W., Jacob Blaisdell, and Leander Babbit	Supporters, obstetrical	Jan. 15, 1850	XX.
7, 261	Finkle, Milton	Heddles, wire, machinery for making	Apr. 9, 1850	III.
7, 616	Finzel, Conrad W	Sugars, draining	Sept. 3, 1850	IV.
7, 412	Fisher, Charles F	Shafts, &c , of sheet iron, method of making	June 4, 1850	II.
7, 507	Fisher, George	Saddles, spring	July 16, 1850	XVI.
7, 753	Fisher, Richard A	Washing machines	Nov. 5, 1850	XVII.
7, 186	Fitch, Samuel S	Supporters, abdominal	Mar. 19, 1850	XX.
3, 117	Fitzgerald, Daniel, assignee of Benj. G. Wilder	Fire-proof chests and safes	June 1, 1843	II.
7, 836	Flanders, Joseph F	Metal, sheet, machinery for cutting and bending	Dec. 17, 1850	II.
7, 083	Flautt, George	Boring machines, augers for	Feb. 12, 1850	XIV.
7, 212	Fletcher, George, sr	Bee moth traps	Mar. 26, 1850	I.
7, 213	Fletcher, George, sr., and Turner Barnes	Planters, seed	Mar. 26, 1850	I.
7, 301	Fletcher, George, sr	Drilling stone, machines for	Apr. 23, 1850	IX.
7, 163	Flory, Wm., and George A. Grove	Planter, cultivating seed	Mar. 12, 1850	I.
	Forbes, George. (*See* Silas Stevens.)			
7, 617	Forbush, Eliakin B	Writing and drawing, clamps for holding paper in	Sept. 3, 1850	XVIII.
7, 395	Foster, David	Boards, apparatus for jointing	May 28, 1850	XIV.

List of persons whose patents for inventions have expired, &c—Continued.

No.	Patentee.	Invention or discovery.	Date.	Class.
7, 117	Foster, Junius	Hubs, connecting, with axles	Feb. 26, 1850	X.
7, 439	Fowler, Benjamin	Furnaces for calcining gypsum	June 18, 1850	V.
	Frink, Stephen. (*See* Norths & Frink.)			
	Frisbee, A. D. (*See* Benjamin Crawford.)			
7, 782	Frost, William	Mills for grinding and crushing	Nov. 19, 1850	XIII.
7, 599	Fuller, Albert	Wheels, cast iron car	Aug. 27, 1850	X.
7, 268	Fuller, Joel B., and George W. Pierce	Trap for catching flies	Apr. 16, 1850	XXII.
7, 214	Fulton, Andrew	Packing, metal, compound hard and soft	Mar. 26, 1850	VI.
7, 699	Gardner, Gervis S., assignor to G. S. Gardner and G. Rohr	Seeding apparatus for seed planters	Oct. 8, 1850	I.
7, 118	Garlick, Isaac D	Churn dashers	Feb. 26, 1850	I.
7, 577	Garlick, Isaac D	Reciprocating motion, changing rotary motion into	Aug. 20, 1850	XIII.
7, 378	Garretson, John G	Looms, hand	May 21, 1850	III.
7, 783	Garvey, John	Annunciator or bell telegraph	Nov. 19, 1850	XVII.
	Gaylord, Charles S. (*See* Warner & Gaylord.)			
7, 440	George, Ammi M	Spike machine	June 18, 1850	II.
7, 052	Gesner, Abraham	Gas, manufacture of illuminating, from bitumen	Jan. 29, 1850	IV.
	Gilbert, Charles J. (See Armstrong & Gilbert.)			
7, 441	Gilbert, Lemuel	Piano fortes, upright	June 18, 1850	XVIII.
7, 830	Gilman, Samuel H	Cut-off motion for puppet valves	Dec. 10, 1850	VI.
7, 838	Gilman, Samuel H	Engines, horizontal, expansion gear for	Dec. 17, 1850	VI.
7, 344	Gitt, Daniel D	Plough cleaners	May 7, 1850	I.
	Gleason, Benona S. (*See* Smith & Gleason.)			
7, 489	Goble, Daniel W., assignor to Gilbert S. Ward and George F. Musselman.	Beef, dried, apparatus for cutting	July 9, 1850	XVII.
7, 100	Goddard, Solomon, and Henry Warfield	Carriage top, raising and lowering	Feb. 19, 1850	X.
7, 164	Goodhue, Perry	Stoves, air-heating	Mar. 12, 1850	V.
6, 986	Goodyer, Robert Burns, and Benjamin Hirst, assignors to Alfred Jenks.	Looms, operating shuttle boxes in	Jan. 1, 1850	III.
7, 396	Gordon, Cyrus D., and Samuel S. Gouldthrite	Smut machines	May 28, 1850	XIII.
7, 215	Gordon, George P.	Printing presses	Mar. 26, 1850	XVIII.
8, 080	Gorrie, John	Process for the artificial production of ice	May 6, 1851; antedated Aug. 22, '50	IV.
7, 000	Goshon, Joseph G	Smut machines	Jan. 8, 1850	XIII.
7, 740	Goshon, Joseph G	Winnowing machines	Oct. 29, 1850	I.
7, 239	Gosnell, Lemuel W	Stoves, parlor, air-heating	Apr. 2, 1850	V.
	Gould, Benjamin. (*See* Joseph W. Webb.)			
	Gouldthrite, S. S. (*See* Gordon & Gouldthrite.)			
	Graff, Charles. (*See* William Bullock.)			
7, 720	Grant, Isaac T., and Daniel H. Viall	Grain cradle	Oct. 15, 1850	I.
7, 139	Grant, William W	Flax and hemp, machinery for dressing	Mar. 5, 1850	III.
7, 653	Graves, Samuel L	Corn-shellers	Sep. 17, 1850	XIII.
7, 210	Gray, George H., sr	Sash-stopper	Apr. 2, 1850	II.
7, 425	Green, Duff	Embankments, levees, &c., method of forming	June 11, 1850	IX.
7, 113	Green, Rufus H	Séraphines	Feb. 19, 1850	XVIII.
6, 985	Greene, Chauncey O	Grates, coal	Jan. 1, 1850	V.
7, 772	Greene, Samuel S	Horse-shoe machinery	Nov. 12, 1850	II.

No.	Patentee.	Invention or discovery.	Date.	Class.
7, 426	Groat, Warner	Packing for oil boxes of axles, &c., adjusting	June 11, 1850	X.
7, 654	Groesbeeck, Sylvester	Cornices and mouldings, plaster, tool for forming	Sept. 17, 1850	IX.
7, 187	Groshon, John P	Planters, seed	Mar. 19, 1850	I.
	Grove, George A. (*See* Flory & Grove.)			
7, 216	Guiteau, Calvin	Magnetic needles, correcting	Mar. 26, 1850	VIII.
7, 140	Hacker, George S	Cars, railroad	Mar. 5, 1850	X.
7, 070	Haines, Joel	Washing machines	Feb. 5, 1850	XVII.
7, 665	Hall, Elijah	Looms, stop motion of	Sept. 24, 1850	III.
	Hallman, W. G. (*See* Charles Gilbert.)			
7, 682	Halvorson, Halvor, assignor to William M. Chase	Loom	Oct. 1, 1850	III.
7, 397	Hamilton, Edward	Tubes, copper, machinery for making	May 28, 1850	II.
	Hamilton, F. H. (*See* Crane & Hamilton.)			
6, 987	Hamilton, Farwell H., and Thomas Bullock	Hemp scutchers	Jan. 1, 1850	III.
7, 119	Hamilton, William	Railing, iron	Feb. 26, 1850	IX.
7, 508	Hardaway, Moore	Spike machines	July 16, 1850	II.
7, 578	Hardeman, J. Locke	Hemp, machines for cutting	Aug. 20, 1850	III.
7, 053	Hare, Robert	Manure, preparation of animal and other	Jan. 29, 1850	I.
	Harrington, Francis. (*See* Charles C. Coolidge.)			
	Harris, Conrad. (*See* Lamb & Harris.)			
7, 666	Harris, Darius W	Thrashing machine	Sept. 24, 1850	I.
7, 188	Harris, Sandy	Hoisting machines	Mar. 19, 1850	XII.
7, 600	Harrison, John W	Carriages, detaching horses from	Aug. 27, 1850	X.
7, 544	Hart, Edson	Planters, seed	Aug. 6 1850	I.
7, 700	Hart, George	Mowing machine, mounting cutters of a	Oct. 8, 1850	I.
7, 289	Harvey, Thomas	Fastener, combined shutter and sash	Apr. 16, 1850	II.
7, 741	Haskins, Nathan	Car couplings	Oct. 29, 1850	X.
	Hartshorn, James. (*See* W. B. Gleason.)			
7, 524	Hatch, George W	Stanchions for cattle	July 30, 1850	XXII.
7, 241	Haverstick, Levi	Planters, seed, construction of drill teeth in	Apr. 2, 1850	I.
7, 413	Hawkes, Charles W	Printing presses	June 4, 1850	XVIII.
7, 855	Hawkes, Charles W	Printing presses	Dec. 24, 1850	XVIII.
7, 165	Hayden, Whiting	Drawing rollers, regulators for	Mar. 12, 1850	III.
7, 765	Hayes, John P	Furnaces, portable	Nov. 5, 1850	V.
7, 561	Hayes, Adam	Splints for fractures	Aug. 13, 1850	XX.
7, 189	Hayward, Francis D., and John C. Bickford	India rubber cloth, process of rolling	Mar. 19, 1850	IV.
7, 020	Heath, John E	Harvesting machines	Jan. 15, 1850	I.
7, 520	Heath, John E	Grain machines for raking and binding	July 22, 1850	I.
7, 096	Heiss, James P	Studs for shirt-bosoms	Feb. 12, 1850	XVIII.
7, 521	Henderson, Albert N	Ayes and noes, application of electro-chemical printing in colors for taking.	July 22, 1850	XXII.
7, 683	Herndon, John J	Harvester, rice	Oct. 1, 1850	I.
3, 394	Hewitt, Samuel	Hay presses	Dec. 30, 1843	XII.
7, 701	Hey, Moses	Yarn, machinery for doubling and twisting	Oct. 8, 1850	III.
7, 474	Hibbs, Jonathan	Thrasher, clover, setting the teeth on the concave of a	July 2, 1850	I.
7, 242	Hicks, Daniel	Hammer, forge, attachment of the, to its helve	Apr. 2, 1850	II.
7, 839	Hicks, Lucien E., assignor to William A. Churchill and James Stanley.	Eyelets, machine for making	Dec. 17, 1850	II.
7, 490	Hight, Cornelius R. and John	Churn dashers, spiral	July 9, 1850	I.
7, 545	Hill, Joseph A., assignor to John R. Cannon and Abner Hobbs.	Ballot boxes	Aug. 6, 1850	XXII.
7, 166	Hills, Edwin	Presses, oil	Mar. 12, 1850	XII.
	Hirst, Benjamin. (*See* Goodyer & Hirst.)			

List of persons whose patents for inventions have expired, &c.—Continued.

No.	Patentee.	Invention or discovery.	Date.	Class.
7,190	Hoagland, George H	Steam, method of employing the exhaust	Mar. 19, 1850	VI.
7,036	Hoats, Daniel	Corn-shellers, concave of	Jan. 22, 1850	XIII.
	Hobbs, Abner. (*See* Joseph A. Hill.)			
	Hodges, Alexander. (*See* Cullen Whipple.)			
7,243	Hoffman, John W	Railroad frog, oscillating, self-adjusting	Apr. 2, 1850	IX.
7,303	Hoffman, John W	Lamps, safety	Apr. 23, 1850	V.
7,618	Hogle, Orange W	Rakes, hay, fastenings of	Sept. 3, 1850	I.
7,491	Holland, Joel K	Manure, carts for spreading	July 9, 1850	I.
7,509	Hollen, Joseph	Knitting machines	July 16, 1850	III.
7,702	Holt, William H	Comfits, kettle for manufacturing	Oct. 8, 1850	XVII.
	Homer, C. W. and S. J. M. (*See* Dexter H. Chamberlain.)			
7,601	Hoopes, John R	Dryers, grain	Aug. 27, 1850	V.
7,414	Hope, John W	Brick presses	June 4, 1850	XV.
7,415	Hope, Joseph D	Ploughs, gang	June 4, 1850	I.
7,455	Horn, George H	Telegraphs, electric	June 25, 1850	VIII.
7,809	Horton, William H	Tin-cutting and bending machines, arrangement of the bending rollers in.	Dec. 3, 1850	II.
	Hotchkiss & Merriman Manufacturing Co. (*See* Charles Benedict.)			
7,167	Hotchkiss, Gideon	Saw-mills, noddle irons for	Mar. 12, 1850	XIV.
7,101	Hotchstraser, Henry	Locking portable safes to the floor	Feb. 19, 1850	XXII.
7,365	Houghton, Joel	Table furniture, machines for washing	May 14, 1850	XVII.
7,840	Houghton, Joel	Grain-cradle fingers	Dec. 17, 1850	I.
7,562	Houston, George	Weighing machines	Aug. 13, 1850	XII.
7,084	Hovey, Alvan	Rakes, horse	Feb. 12, 1850	I.
7,563	Hovey, William H	Boxes and axles, packing	Aug. 13, 1850	X.
7,819	Hovey, William H	Axles and shafts, bearings for	Dec. 10, 1850	X.
	How, Thos. P. (*See* Yaw & How.)			
7,456	Howard, Jason G	Tacks, carpet, machine for forming washers and attaching them to	June 25, 1850	II.
7,667	Howe, Ephraim	Burning fluid	Sept. 24, 1850	V.
7,021	Howell, John and Wm. D., and Joseph Sipe	Clevis, substitute for the	Jan. 15, 1850	I.
7,001	Hoyt, Thomas	Tobacco stems, curing	Jan. 8, 1850	XXII.
7,085	Hubbard, M. G	Carriage bodies, hanging	Feb. 12, 1850	X.
7,796	Hubbard, M. G	Carriage bodies, hanging	Nov. 26, 1850	X.
7,037	Hubbard, William U	Valve, gridiron slide	Jan. 22, 1850	VI.
7,002	Hughes, William M	Ore washers	Jan. 8, 1850	II.
7,602	Hunter, James, assignor to Jeremiah Knight	Printing calico, mode of cleansing and drying gum-elastic bands in	Aug. 27, 1850	XVIII.
	Hunter, John W. (*See* Radley & Hunter.)			
7,191	Huntley, Hosea H	Stoves, cooking	Mar. 19, 1850	V.
7,069	Hutchinson, Charles B	Staves, machines for cutting	Feb. 5, 1850	XIV.
7,416	Hutchinson, Charles B	Rule, board and log	June 4, 1850	VIII.
7,217	Hyde, Ellsworth H., and Rollin L. Dawson	Pens, fountain	Mar. 26, 1850	XVIII.
7,345	Hyde, James R	Stoves, cooking	May 7, 1850	V.
7,086	Ingersoll, James	Trucks, railroad	Feb. 12, 1850	X.
7,192	Innis, James R	Hide-handling cylinders, beaters in	Mar. 19, 1850	XVI.
7,218	Iverson, Hans	Revolving-breech fire-arms	Mar. 26, 1850	XIX.
7,379	Jack, John, assignor to Alfred Bell	Wickets for lock gates	May 21, 1850	IX.
7,072	Jackson, Charles, and James Moir	Carding and drawing wool, engines for	Feb. 5, 1850	III.
7,304	Jackson, Henry	Stoves, double cooking	Apr. 23, 1850	V.
	Jackson, Israel. (*See* Benj. F. Broomell.)			
7,022	Jackson, Samuel	Cider mills	Jan. 15, 1850	XIII.
7,054	Janes, Adrian	Heating air by hot water, apparatus for	Jan. 29, 1850	V.
7,721	Jenkins, Jacob	Pegging jack	Oct. 15, 1850	XVI.
	Jenks, Alfred. (*See* Goodyer & Hirst.)			
7,380	Jenny, Edwin	Staves, machinery for sawing	May 21, 1850	XIV.
7,219	Jennings, Andrew	Cutters, machines for forming rotary	Mar. 26, 1850	II.
7,492	Jennings, Isaiah	Lamp tubes	July 9, 1850	V.
7,244	Jennings, Lewis	Lock, revolving plate and tumbler	Apr. 2, 1850	II.
7,619	Jewett, S. S., & F. H. Root	Stoves	Sept. 3, 1850	V.
7,457	Johnson, A. Livingston	Shutters, the hinge of rolling iron	June 25, 1850	II.
	Johnson, Cox & Fuller. (*See* Samuel Pierce.)			
	Johnson, Cox & Fuller. (*See* George W. Ring.)			
	Johnson, E. (*See* J. Crandall.)			
7,262	Johnson, Jasper	Vises, parallel, method of working the pawl in	Apr. 9, 1850	II.
7,168	Johnson, John, assignor to Elias Johnson	Looms for weaving piled fabrics	Mar. 12, 1850	III.
7,797	Johnson, M. Y., administrator of James H. Johnson	Cordage, processes for rendering uninflammable	Nov. 26, 1850	III.
	Jones, A. W. (*See* Conklin & Jones.)			
7,773	Jones, Aquilla	Prints, drying	Nov. 12, 1850	IV.
	Jones, Henry C. (*See* Thomas Slaight.)			
7,856	Jones, John	Window blinds and their slats, apparatus for operating	Dec. 24, 1850	II.
	Jones, Wm. B. (*See* Whipple & Jones.)			
7,564	Judd, Allen	Pentographs	Aug. 13, 1850	XVIII.
7,684	Judd, Oliver B	Saw-gate	Oct. 1, 1850	XIV.
7,755	Judson, Junius & Alfred, assignors to Junius Judson	Valves for governors	Nov. 5, 1850	V.
7,459	Keagy, Abraham	Stoves, cooking	June 25, 1850	V.
7,565	Kean, W. B	Bench hooks	Aug. 13, 1850	XIV.
7,245	Keeny, Abel	Grates, coal, agitating	Apr. 2, 1850	V.
7,323	Keep, James M	Plasters, gauges for spreading	Apr. 13, 1850	XX.
	Kellogg, George. (*See* Atwood & Kellogg.)			
7,417	Kelly, Oliver A	Looms, shuttle motion of	June 4, 1850	III.
7,810	Kelly, William	Casting large kettles, metallic flask for	Dec. 3, 1850	II.
7,025	Kelsey, George R	Buckles	Jan. 15, 1850	XVI.
7,120	Kempton, Humphrey	Clothes frames	Feb. 26, 1850	XVII.
7,023	Kennish, William, assignor to Cornelius S. Van Wagoner	Valves of hydraulic engines, arrangement of the	Jan. 15, 1850	XI.
7,525	Kershaw, Edward	Locks, prism, attachment of	July 30, 1850	II.
7,141	King, Robert J	Ploughs, corn	Mar. 5, 1850	I.
7,169	Kinsley, Lyman	Wheels, cast-iron car	Mar. 12, 1850	X.
7,170	Kinsley, Lyman	Wheels, cast-iron car	Mar. 12, 1850	X.
6,988	Kimball, John, and Harvey Rice	Brakes, connexions of, with cars	Jan. 1, 1850	X.
7,526	Kirkham, Peter	Hooks and eyes, attaching to paper cards	July 30, 1850	XXI.
7,024	Kittle, Robert	Tonguing and grooving, machinery for	Jan. 15, 1850	XIV.
	Knab, David C. (*See* Poisat & Knab.)			
	Knight, George H. and Edward H. (*See* Clinton & Knights.)			
	Knight, Jeremiah. (*See* James Hunter.)			
7,171	Knight, Sylvanus	Steam boilers, interior arrangement of	Mar. 12, 1850	VI.

List of persons whose patents for inventions have expired, &c.—Continued.

No.	Patentee.	Invention or discovery.	Date.	Class.
7, 546	Knowles, Calvin C	Gold, process for amalgamating	Aug. 6, 1850	IV.
7, 475	Knowles, Hazard, and Henry C. Bevington	Harvester, cutters and rakers of a grain and grass	July 2, 1850	I.
7, 603	Knowles, Hazard	Saws	Aug. 27, 1850	XIV.
7, 324	Knowles, Jonathan	Looms, let-off motion of	Apr. 30, 1850	III.
7, 774	Krauser, John, Sommers Crowell, and Cyrus Krauser	Railings, iron	Nov. 12, 1850	IX.
7, 798	Krebs, Charles W	Pens, fountain	Nov. 26, 1850	XVIII.
	Ladd, W. G. (*See* Dexter H. Chamberlain.)			
7, 263	Ladd, W. G., jr	Level, fluid	Apr. 9, 1850	VIII.
7, 055	Lamb, Josiah	Tables, self-waiting	Jan. 29, 1850	XVII.
7, 220	Lamborn, Lewis	Cultivator teeth	Mar. 26, 1850	I.
	Landry, Henry A. (*See* John W. Hoffman.)			
7, 476	Lane, Benjamin J	Respiring apparatus	July 2, 1850	XX.
7, 703	Lane, Thomas W	Gas metres	Oct. 8, 1850	IV.
7, 305	Lanergan, Henry	Bridges, arch truss for	Apr. 23, 1850	IX.
7, 784	Langenheim, Frederick	Photographic pictures on glass, &c	Nov. 19, 1850	XVIII.
7, 785	Larkin, John E	Augers, attaching to their handles	Nov. 19, 1850	XIV.
7, 121	Larrabee, Ephraim	Refrigerators	Feb. 26, 1850	XVII.
	Latting, Warring. (*See* Charles D. Birdseye.)			
	Law, George. (*See* Moses Chase.)			
	Lawrence, A. (*See* C. W. Warnick *et al.*)			
7, 246	Lawrence, Jabez F., and Luke A. Farnsworth	Blind and shutter opener and fastener	Apr. 2, 1850	II.
7, 841	Lazelle, William H	Fasteners, sash	Dec. 17, 1850	II.
	Learned, Billings P. (*See* Reuben J. Blanchard.)			
	Learned, B. P., and George H. Thatcher. (*See* Reuben J. Blanchard.)			
7, 668	Leavitt, O. S	Hemp, drawing and parting fibres of	Sept.24, 1850	III.
7, 351	Leclaire, Edme Jean, and Jean Joseph Ernest Barnel	Oxide of zinc, manufacture of the	May 7, 1850	IV.
7, 704	Lee, John	Eaves trough and gutter machine	Oct. 8, 1850	II.
7, 820	Leffel, James	Lever jacks	Dec. 10, 1850	XII.
	Leibrandt, F. (*See* C. W. Warnick *et al.*)			
7, 493	Leonard, George, jr	Fire-arms, revolving hammer	July 9, 1850	XIX.
7, 381	Lewis, Spencer	Wood, machines for sawing	May 21, 1850	XIV.
7, 264	Lewis, Spencer	Bedsteads, machinery for cutting screws on the rails of	Apr. 9, 1850	XVII.
7, 172	Lidgerwood, Thomas	Lewis lever	Mar. 12, 1850	XII.
7, 287	Lillie, John H	Electro-magnetic engines	Apr. 16, 1850	VIII.
7, 477	Locke, John	Levels, collimating	July 2, 1850	VIII.
7, 510	Locke, John	Compasses, surveyors'	July 16, 1850	VIII.
	Lombard, Sanford H. (*See* A. M. Rice.)			
7, 154	Long, James	Gas metres	Mar. 5, 1850	IV.
7, 247	Loomis, Osbert B	Churns, rotary	Apr. 2, 1850	I.
7, 842	Loper, Richard F., and John W. Nystrom	Engine, steam, arrangement of	Dec. 17, 1850	VI.
7, 265	Low, John	Harness hames	Apr. 9, 1850	XVI.
7, 685	Lupton, Lewis	Carriages, dashboard for	Oct. 1, 1850	X.
7, 142	Macgregor, James, jr	Ranges, cooking and air-heating furnaces connected therewith	Mar. 5, 1850	V.
7, 143	Macgregor, James, jr	Furnaces, air-heating	Mar. 5, 1850	V.
7, 193	Macgregor, James, jr	Stoves, double-oven cooking	Mar. 19, 1850	V.
	Macgregor, James, jr. (*See* Conklin and Jones.)			
7, 756	Macomber, A. S	Straw-cutters	Nov. 5, 1850	I.
6, 990	Maguire, William	Fastener and mover, blind and shutter	Jan. 1, 1850	II.
7, 003	Maguire, William	Sash, counterbalancing by means of a heavy weight	Jan. 8, 1850	II.
7, 026	Maguire, William	Lock, door	Jan. 15, 1850	II.
7, 669	Mahan, Jason M	Stereotype plates, casting	Sept.24, 1850	XVIII.
7, 511	Mallerd, William	Compounds, sizing, for warps or yarns	July 16, 1850	IV.
7, 655	Mallory, George	Daguerreotype-plate holders	Sept.17, 1850	XVIII.
7, 442	Maltby, Benjamin K., assignor to Ira M. Mead	Grate, apparatus for raising the, in cooking stoves	June 18, 1850	V.
6, 989	Mareau, Ransom	Washing machines	Jan. 1, 1850	XVII.
7, 173	Marquart, John, jr., assignor to Henry Schreiner	Water casks, gauge for	Mar. 12, 1850	XI.
7, 527	Marsh, Joseph	Churn dashers	July 30, 1850	I.
7, 443	Marstoe, William W	Breech-pin piston, devices for holding and moving	June 18, 1850	XIX.
7, 342	Massy, Robert de	Sugar, defecating	May 7, 1850	IV.
7, 811	Mather, Orville	Spokes, machine for dressing	Dec. 3, 1850	XIV.
7, 636	Mathews, Moses M	Ink, printers', use of rosin oil in	Sept.10, 1850	IV.
7, 821	Mathiot, George	Electrotyping	Dec. 10, 1850	XVIII.
7, 799	May, H. H	Rails of railroads, method of securing	Nov. 26, 1850	IX.
	May, Philip. (*See* Bathelemy Thimmonier, sr.)			
7, 418	May, Samuel S	Chairs, nursery	June 4, 1850	XVII.
7, 857	Mayfield, William D	Pumps, attachment to, for agitating the surface of the water in the well.	Dec. 24, 1850	XI.
7, 382	Maynard, James A	Tuyers, devices for discharging ashes from	May 21, 1850	II.
7, 757	McCoy, William	Kilns, lime	Nov. 5, 1850	XV.
7, 670	McCulloh, Richard S	Gold bullion, process of reducing	Sept.24, 1850	II.
7, 122	McDougal, Samuel T	Scale-beams	Feb. 26, 1850	XII.
7, 248	McElwee, John V	Mattresses, spring	Apr. 2, 1850	XVII.
	McGriff, Allen R. (*See* Joseph Pollock.)			
7, 566	McKinney, A	Wagon tops, apparatus for regulating the setting of bows in	Aug. 13, 1850	X.
, 056	McLaughlin, Thomas	Valves, puppet, expansion gear for	Jan. 29, 1850	VI.
	McMullin, Richard. (*See* Day & McMullin.)			
, 800	McNair, Simon	Sausage stuffers	Nov. 26, 1850	XVII.
	Mead, Ira M. (*See* Benjamin K. Maltby.)			
7, 528	Meinicke, Charles J	Distilling spirits of turpentine	July 30, 1850	IV.
7, 858	Mellish, Henry	Vaccinating instruments	Dec. 24, 1850	XX.
7, 057	Melsens, Louis Henri F., assignor to Louis de Saulles	Sugar, manufacture of	Jan. 29, 1850	IV.
7, 174	Menefee, Alexander F	Flouring mills	Mar. 12, 1850	XIII.
	Merrick, S. V. (*See* John H. Towne.)			
7, 671	Metcalf, Joseph	Electricity, removing, from wool in the process of manufacture	Sept.24, 1850	III.
7, 494	Meyer, Conrad	Pianos, sounding boards for	July 9, 1850	XVIII.
7, 786	Middleton, Elijah C. Edward, Nevers, and Rob. Neale	Printing presses, copper and steel plate	Nov. 19, 1850	XVIII.
7, 579	Millar, John C	Fulling mills	Aug.20, 1850	III.
7, 478	Miller, Joseph R	Amalgamator, reimmersing	July 2, 1850	II.
7, 004	Miller, Lewis W	Boring instruments, connecting cutters to shafts of	Jan. 8, 1850	XIV.
7, 567	Milligan, Robert	Ornamenting textile fabrics	Aug.13, 1850	XVII.
7, 529	Milner, George B	Valve gear for steam-engines	July 30, 1850	VI.
	Moir, James. (*See* Jackson & Moir.)			
7, 073	Montgomery, Richard	Punching between rollers, method of	Feb. 5, 1850	II.
7, 346	Montgomery, Richard	Excavator, the screw	May 7, 1850	IX.
7, 742	Montgomery, Richard	Boilers, corrugated	Oct. 29, 1850	VI.
7, 221	Moore, Leverett	Printing floor oil-cloth	Mar. 26, 1850	XVIII.

List of persons whose patents for inventions have expired, &c.—Continued.

No.	Patentee.	Invention or discovery.	Date.	Class.
7,479	Moore, Lewis	Planters, seed, seeding apparatus of	July 2, 1850	I.
7,427	Morgan, Gideon	Cars for plank roads, wooden rails, &c	June 11, 1850	X.
	Morgan, Peter U. (*See* Arnold & Bishop.)			
7,604	Morrill, Alden R., and Hiram Baldwin	Drilling machines, self-acting, adjustable feed gear for	Aug. 27, 1850	II.
	Morris, Ephraim. (*See* Bradford & Morris.)			
7,743	Morrison, John	Bedstead fastenings	Oct. 29, 1850	XVII.
7,656	Morrison, William	Ploughs, spring beams to	Sept. 17, 1850	I.
7,260	Mortimer, Charles	Paint, process of making, from bituminous coal	Apr. 9, 1850	IV.
7,347	Mott, Jordan L	Stoves, cooking	May 7, 1850	V.
7,366	Mott, Jordan L	Stoves, cooking	May 14, 1850	V.
7,657	Mott, Jordan L	Road-way for railroad cars and ordinary vehicles	Sept. 17, 1850	IX.
7,687	Murkland, William, and Joseph Milner	Weavers' shuttle	Oct. 1, 1850	III.
	Musselman, Geo. F. (*See* Daniel W. Goble.)			
7,460	Myers, Nathaniel, and Frederick C. Smith	Sash-stopper, arrangement of	June 25, 1850	II.
7,271	Nash, Adkins	Threshers, endless aprons for	Apr. 9, 1850	I.
7,348	Nash, William R	Churn-dasher, working a rotary and vertical	May 7, 1850	I.
7,620	Neal, David S	Car-couplings	Sept. 3, 1850	X.
	Neale, Robert. (*See* Middleton, Nevers & Neale.)			
7,144	Nelson, Charles M	Stoves, cooking	Mar. 5, 1850	V.
7,401	Nelson, John R	Straw cutters, mounting the knife of	June 25, 1850	I.
	Nevers, Ed. (*See* Middleton, Nevers & Neale.)			
7,580	Nevins, William R	Crackers, machines for cutting	Aug. 20, 1850	XVII.
	New England Screw Co. (*See* Cullen Whipple.)			
7,787	Newman, Martin, 2d	Excavating machines	Nov. 19, 1850	IX.
7,581	Newton, Luke Vanderveer	Types, metallic, engraved plates, &c., preparing the face of	Aug. 20, 1850	XVIII.
7,306	Nichols, William R., and Hurritt C. Boyes	Grates, furnace, coal-stirrers for	Apr. 23, 1850	V.
7,480	Nock, Joseph	Lock bolt for shutters	July 2, 1850	II.
7,027	Norcross, Nicholas G	Saw-mills, circular	Jan. 15, 1850	XIV.
7,087	Norcross, Nicholas G	Planing machines	Feb. 12, 1850	XIV.
7,398	North, Alvin and Oliver B., and Stephen Frink	Buckles, machinery for making four-sided	May 28, 1850	XVI.
7,194	Nystrom, John W	Propeller, centripetal	Mar. 19, 1850	VI.
	Nystrom, John W. (*See* Loper & Nystrom.)			
7,605	Odeon, Tilgath	Trusses, method of attaching yards to	Aug. 27, 1850	VII.
7,530	Olcott, Adrian	Stone, rubbing and polishing	July 30, 1850	XV.
7,175	O'Meara, Mary W	Supporters, abdominal	Mar. 12, 1850	XX.
7,531	O'Neal, John	Churns, atmospheric	July 30, 1850	I.
7,195	Ostrander, Wm., and Wm. Webster	Tubes, method of forming sheet-metal	Mar. 19, 1850	II.
7,621	Ostrander, J. F	Planing machines	Sept. 3, 1850	XIV.
7,812	Otis, Melville	Nail-plate feeder and turner	Dec. 3, 1850	II.
7,732	Pagett, Wm. C	Ploughs, subsoil	Oct. 22, 1850	I.
7,642	Palmer, Aaron	Planters, seed, seeding rollers of a	Sept. 10, 1850	I.
7,672	Palmer, P. A	Ovens, heating elevated	Sept. 24, 1850	V.
	Palmer, Wm. R. (*See* Walter Hunt.)			
7,547	Pannabecker, Jesse	Barrels for fire-arms, method of making	Aug. 6, 1850	XIX.
7,145	Paris, Charles E. and Charles H	Composition for enamelling hollow ware	Mar. 5, 1850	IV.
7,608	Park, Austin F	Telegraph, electric, manipulator	Aug. 27, 1850	VIII.
7,428	Parker, Charles H	Bedstead fastenings	June 11, 1850	XVII.
7,307	Parkhurst, Stephen R	Gins, cotton	Apr. 23, 1850	III.
7,548	Parkinson, Thomas	Gates, hanging and operating	Aug. 6, 1850	IX.
7,074	Parmalee, Dubois D	Calculating machines	Feb. 5, 1850	VIII.
7,125	Parry, John C	Casting chilled rolls, method of giving a rotary motion to metal in.	Feb. 26, 1850	II.
7,383	Parry, John C	Casting rolls, method of giving rotary motion to fluid iron in	May 21, 1850	II.
7,859	Parry, John C	Castings, hollow, method of loosening metallic cores from	Dec. 24, 1850	II.
7,325	Parsons, E. H. and S. E	Saws, hanging in saw-mills	Apr. 30, 1850	XIV.
7,367	Patterson, Horace	Splint machines	May 14, 1850	XIV.
7,290	Patterson, James	Carriages	Apr. 16, 1850	X.
7,038	Pawling, John	Tuyere	Jan. 22, 1850	II.
7,399	Payne, Charles	Preserving wood, processes for	May 28, 1850	IV.
7,146	Payne, William	Cars, apparatus for retaining on the rails	Mar. 5, 1850	X.
7,058	Pearl, Oliver	Bobbins upon spindles, driving	Jan. 29, 1850	III.
7,744	Pease, Dan., jr	Grain screens, rotary	Oct. 29, 1850	I.
7,267	Pease, Julius A	Sash-bearer, elastic roller	Apr. 9, 1850	II.
7,326	Peck, Samuel	Daguerreotype plates, holding	Apr. 30, 1850	XVIII.
	Pecqueur, Onesiphore. (*See* Durand & Pecqueur.)			
7,268	Pierson, Jacob	Planters, seed, gearing for	Apr. 9, 1850	II.
7,481	Pierson, Jacob	Harvester, arrangement of cutters in a grass and grain	July 2, 1850	I.
7,368	Pelton, A. S	Threshing machines	May 14, 1850	I.
7,495	Pennock, Samuel and Morton	Planters, seed, seeding apparatus of	July 9, 1850	I.
7,822	Pennock, Samuel and Morton	Planters, seed	Dec. 10, 1850	I.
7,482	Pepper, John W	Lozenges, machines for cutting	July 2, 1850	XVIII.
7,496	Percival, Orville B., and Asa Smith	Chargers attached to fire-arms	July 9, 1850	XIX.
7,249	Perley, Charles	Stoppers, cat-head and shank painter	Apr. 2, 1850	VII.
7,532	Perley, Charles	Windlass, jigger	July 30, 1850	XII.
7,147	Perry, Alonzo D	Cartridges, winged metallic	Mar. 5, 1850	XIX.
	Perry, David. (*See* Slaughter & Perry.)			
7,123	Perry, John G	Meat-cutting apparatus	Feb. 26, 1850	XVII.
7,059	Phelps, Edward	Gearing for sugar-cane mills	Jan. 29, 1850	XIII.
3,354	Phelps, James	Machines for washing rags	Nov. 24, 1843	III.
	Phillips, Alonzo D. (*See* E. T. Swift.)			
7,629	Phillips, William H	Fire, apparatus for extinguishing	Sept. 10, 1850	V.
	Pierce, Geo. W. (*See* Fuller & Pierce.)			
7,775	Pierce, Samuel	Stoves, cooking	Nov. 12, 1850	V.
7,270	Pierce, William P., assignor to E. and T. Fairbanks & Co.	Scale beams	Apr. 9, 1850	XII.
7,349	Pierpont, William	Straw-carriers	May 7, 1850	I.
7,758	Pine, Joseph, assignor to Benjamin Pine	Carriages, running gear of	Nov. 5, 1850	X.
7,568	Pirsson, James	Pianofortes	Aug. 13, 1850	XVIII.
7,250	Pirsson, Joseph P	Condenser, surface, for steam engines	Apr. 2, 1850	VI.
7,272	Pitcher, Leman B	Regulators for machinery, hydraulic	Apr. 9, 1850	XIII.
	Plumb, Hiram. (*See* West & Plumb.)			
7,197	Pohl, Henry	Paper, machinery for measuring pulp in the manufacture of	July 9, 1850	III.
7,124	Poisat, Anthony M., and David C. Knab	Distilling oleaginous matter	Feb. 26, 1850	IV.
7,582	Pollock, George	Registers, hot-air	Aug. 20, 1850	V.
7,104	Pollock, Joseph, Allen R. McGriff, administrator of the estate of.	Hulling clover seed	Feb. 19, 1850	I.
7,005	Pomeroy, Ebenezer G	Iron, coating with copper, or its alloy	Jan. 8, 1850	II.

List of persons whose patents for inventions have expired, &c.—Continued.

No.	Patentee.	Invention or discovery.	Date.	Class.
7,102	Pomeroy, Elisha M	Buttons, process of varnishing	Feb. 19, 1850	XXI.
7,512	Poppenhusen, Conrad	Veneers, &c., machines for cutting	July 16, 1850	XIV.
7,444	Post, Nathan	Stirrups, safety	June 18, 1850	XVI.
7,745	Porter, Bennett, jr	Hats, machinery for pressing	Oct. 29, 1850	XXI.
7,462	Potter, Nathaniel	Roads, machine for repairing	June 25, 1850	IX.
7,060	Potts, Lawrence H	Piles, &c., method of sinking hollow, by exhausting the air from the interior of the same.	Jan. 29, 1850	IX.
	Powers, D A. E. & N. B. (*See* James Hutchinson)			
7,228	Powers, Nathaniel B	Printing floor oil-cloths	Mar. 26, 1850	XVIII.
	Pratt, David. (*See* Wager, Pratt & Richmond.)			
	Prescott, Jedediah. (*See* Rembert & Prescott.)			
7,273	Price, Joseph D	Sprinkling streets, &c., apparatus for	Apr. 9, 1850	XI.
7,196	Pridham, John, assignor to Horace H. Day	India-rubber, use of oxide of tin in the manufacture of	Mar. 19, 1850	IV.
7,181	Purdy, Peter M	Fences, portable	Feb. 19, 1850	IX.
7,733	Pyron, Tapley B	Carriages, apparatus for releasing horses from	Oct. 22, 1850	X.
7,197	Quimby, Phineas P	Steering apparatus	Mar. 19, 1850	VII.
7,705	Quincy, Edmund	Harvester, grain and maize	Oct. 8, 1850	I.
	Rabeau, Richard E. (*See* Durand & Pecqueur.)			
7,040	Radley, James, and John W. Hunter	Spark arresters	Jan. 22, 1850	VI.
7,106	Ramsdell, Orrin, assignor to Jos. B. & Sylvanus Sawyer	Harness, breast-plate for	Feb. 19, 1850	XVI.
7,107	Ramsey, Robert	Bedstead fastenings	Feb. 19, 1850	XVII.
7,198	Ransom, Franklin	Pumps for ships, &c	Mar. 19, 1850	XI.
7,483	Ransom, S. H	Stoves, cooking, construction of	July 2, 1850	V.
7,251	Ray, Fowler M	India-rubber springs for cars, &c., manufacture of	Apr. 2, 1850	IV.
7,706	Ray, Fowler M	Spring, vulcanized India-rubber	Oct. 8, 1850	X.
7,673	Read, Charles A., and Thomas Cotter, assignors to Charles A. Read.	Fulling cloth, machinery for	Sept. 24, 1850	III.
7,274	Reasin, James F	Plough cleaners	Apr. 9, 1850	I.
7,126	Reed, Jesse	Steering apparatus, parallelogram	Feb. 26, 1850	VII.
7,061	Reed, John M., and William B. Willis	Flour bolts	Jan. 29, 1850	XIII.
7,028	Reed, Josiah G	Spindles, bobbins for spinning	Jan. 28, 1850	III.
7,843	Rees, Edward	Cores for castings, composition for making	Dec. 17, 1850	II.
7,222	Rembert, Samuel S	Threshing harvesters	Mar. 26, 1850	I.
7,631	Rembert, Samuel S., and Jedediah Prescott	Cotton, picking from the bolls in the field	Sept. 10, 1850	I.
7,734	Renwick, Edward S	Chair, wrought-iron railroad	Oct. 22, 1850	IX.
7,429	Ressigine, William F	Mattresses, spring	June 11, 1850	XVII.
7,221	Reynolds, Ira	Ploughs, clevis	Mar. 26, 1850	I.
7,369	Reynolds, O. L	Sewing machines	May 14, 1850	III.
7,821	Rhodes, Dexter B	Planters, seed	Dec. 10, 1850	I.
7,275	Rice, Augustus M., assignor to Sandford H. Lombard and A. M. Rice.	Chimney caps	Apr. 9, 1850	V.
	Rice, Harvey. (*See* Kimball & Rice.)			
7,583	Rice, James D	Boilers, steam, registers for	Aug. 20, 1850	VI.
7,350	Richardson, Cyrus	Valves, slide, arrangement of several in the same steam chest	May 7, 1850	VI.
	Richmond, Volney. (*See* Wager, Pratt & Richmond)			

No.	Patentee.	Invention or discovery.	Date.	Class.
7,533	Rider, Elias P	Cotton batting apparatus for sizing and drying	July 30, 1850	III.
7,105	Rider, Henry N	Dough, method of kneading	Feb. 19, 1850	XVII.
7,148	Riley, George	Glucose, process in the manufacture of	Mar. 5, 1850	IV.
3,237	Rillieux, Norbert, assignor to Merrick & Towne	Sugar works	Aug. 26, 1843	IV
7,291	Ripley, Ezra	Stands, the construction of bases for	Apr. 16, 1850	XVII.
7,006	Robbins, Zenas C	Churns	Jan. 8, 1850	I.
7,400	Roberts, Jesse	Fanning mills	May 28, 1850	I.
	Robertson, John W. (*See* John G. Webster.)			
7,824	Robinson, Frederick R	Sewing machines	Dec. 10, 1850	III.
7,788	Robinson, Jonathan H	Pessaries	Nov. 19, 1850	XX.
7,569	Robinson, Warren	Ventilators, ship	Aug. 13, 1850	V.
7,088	Rockwell, Francis A	Bedclothes clasps	Feb. 12, 1850	XVII.
7,461	Rodger, Charles	Cultivator, weed cutters of a	June 25, 1850	I.
6,991	Rogers, John	Stump extractor, wheel and axle	Jan. 1, 1850	IX.
7,844	Rogers, John, jr	Mills for grinding	Dec. 17, 1850	XIII.
	Roggen, John J. (*See* L. R. Livingston & Co.)			
7,513	Rohr, George	Planters, seed, seeding apparatus of	July 16, 1850	I.
	Rohr, George. (*See* Gervis S Gardner.)			
7,845	Rohr, David E	Seeding cylinders, oscillating	Dec. 5, 1850	I.
	Root, F. H. (*See* Jewett & Root)			
	Root, F. H. (*See* Jewett & Root.)			
7,674	Rose, Timothy	Water wheels	Sept. 24, 1850	XI.
7,089	Rosensteel, William H	Tanning apparatus	Feb. 12, 1850	XVI.
7,384	Ross, Charles	Canals, feed, regulators for	May 21, 1850	IX.
7,759	Rouse, Wanton	Spinners, cop, operating the copping rail of	Nov. 5, 1850	III.
7,199	Routzahn, Nathaniel	Churn dashers	Mar. 19, 1850	I.
7,327	Rowe, Bradford	Leather, apparatus for splitting and stretching	Apr. 30, 1850	XVI.
7,292	Ruck, John	Piano-forte action	Apr. 16, 1850	XVIII.
7,308	Ruck, John	Piano-fortes	Apr. 23, 1850	XVIII.
7,584	Ruggles, Stephen P	Metal, sheet, &c., machine for cutting	Aug. 20, 1850	II.
7,149	Russell, Charles W	Fireplaces and throats of chimneys, construction of	Mar. 5, 1850	V.
3,092	Russell, Isaac D., and Cornelia Waterman, administrators of Stephen Waterman, deceased.	Machine for sawing off logs	May 19, 1843	XIV.
7,534	Sabbaton, Joseph A	Gas, coal, purifying	July 30, 1850	IV.
7,813	Sabin, Harvey W	Rakes, horse	Dec. 3, 1850	I.
7,293	Sage, Marcus and Silas S	Planter, seed, attachment of harrow to	Apr. 16, 1850	I.
7,294	Sandoe, Anthony	Planters, seed, gearing of	Apr. 16, 1850	I.
7,688	Sanford, Gelston	Auger handle	Oct. 1, 1850	II.
	Saulles, Louis de. (*See* Louis H. F. Melsens.)			
7,150	Saunders, William H	Axles, mail	Mar. 5, 1850	X.
7,200	Sawyer, Edmund	Spike machines, movement of the pointing dies in	Mar. 19, 1850	II.
	Sawyer, Jos. B. and Sylvanus. (*See* Orrin Ramsdell.)			
7,309	Sawyer, Nathan	Brick presses	Apr. 23, 1850	XV.
7,846	Scales, Charles	Ships' timbers, instruments for laying down curves of	Dec. 17, 1850	VII.
7,370	Scarlett, William	Buckles, suspender	May 14, 1850	XXI.
7,707	Scarritt, Russell	Sofa bedsteads	Oct. 8, 1850	XVII.
7,385	Schiele, Christian	Rubbing surfaces for regulating abrasion, form of	May 21, 1850	XIII.
7,760	Schindler, Carl W	Fats and oils, hardening	Nov. 5, 1850	IV.
	Schreiner, Henry. (*See* John Marquart, jr.)			
	Scott, George. (*See* Culbertson & Scott.)			
7,630	Scott, Melchi	Smiths' strikers	Sept. 10, 1850	II.
7,419	Scripture, Eliphalet S	Horses, flying	June 4, 1850	XX.

List of persons whose patents for inventions have expired, &c.—Continued.

No.	Patentee.	Invention or discovery.	Date.	Class.
7, 535	Scripture, Eliphalet S	Hubs with axles, connecting	July 30, 1850	X.
7, 224	Searle, Flavius	Dental and surgical chairs	Mar. 26, 1850	XX.
7, 386	Seely, John M., and William E. Tomlinson	Attachments to mills for preparing corn in the cob for grinding	May 21, 1850	XIII.
	Seibert, Peter. (*See* Cresson, Stuart & Seibert.)			
	Seibert, Peter. (*See* Peterson, Stuart & Seibert.)			
7, 498	Sellers, George Escol	Locomotive engines for working heavy grades, boilers and gearing of.	July 9, 1850	VI.
7, 225	Severance, Augustus N	Presses, cheese	Mar. 26, 1850	XII.
7, 328	Severance, Augustus N	Press boxes or vats for cheese	Apr. 30, 1850	XII.
7, 658	Severson, Benjamin	Wheels, cast-iron railroad car	Sept. 17, 1850	X.
7, 075	Sewell, William, jr	Water meters	Feb. 5, 1850	XI.
	Sexton, S. B. & Co. (*See* James H. Conklin.)			
7, 295	Seymour, Alfred B	Rail, compound tubular	Apr. 16, 1850	IX.
7, 549	Shaw, E. M	Turning machines	Aug. 6, 1850	XIV.
7, 860	Shaw, James	Portfolios	Dec. 24, 1850	XVIII.
7, 633	Shaw, William C., and James Stalcup	Bedsteads, camp	Sept. 10, 1850	XVII.
7, 636	Shellenberger, John	Scribing lumber, machines for	Sept. 10, 1850	XIV.
7, 607	Sheperd, Henry L	Stoves, cooking, arrangement of dampers in	Aug. 27, 1850	V.
7, 445	Sherlock, John, and William Brackbill	Feed apparatus for mills	June 18, 1850	XIII.
7, 550	Sherman, Robert S	Churn dashers	Aug. 6, 1850	I.
7, 634	Shield, George	Cylinders, steam, exhaust passages for	Sept. 10, 1850	VI.
	Shipton, Thomas N. (*See* Signer & Shipton.)			
7, 789	Shoenberger, Edwin F	Tables, extension	Nov. 19, 1850	XVII.
7,387	Shuttleworth, John	Looms, power	May 21, 1850	III.
7, 831	Signer, John, and Thomas N. Shipton	Planters, seed	Dec. 10, 1850	I.
	Sipe, Joseph. (*See* Howells & Sipe.)			
7, 176	Slaight, Thomas, assignor to Henry C. Jones	Lock bolts, method of operating	Mar. 12, 1850	IX.
6, 992	Slaughter, Franklin, and David Perry	Cordage, cotton, machinery for making	Jan. 1, 1850	III.
7, 007	Slaughter, Franklin, and David Perry	Cordage, cotton, machinery for making	Jan. 8, 1850	III.
7, 747	Sleeper, James P	Musical instruments, reed	Oct. 29, 1850	XVIII.
7, 499	Sloan, Thomas J	Screws, machines for cutting	July 9, 1850	II.
7, 748	Sloan, Thomas J	Screws, wood, machines for nicking the heads of	Oct. 29, 1850	II.
7, 801	Sloan, Thomas J	Screw threading machine	Nov. 26, 1850	II.
7, 446	Smith, Alexander	Parti-coloring yarn, apparatus for	June 18, 1850	IV.
7, 825	Smith, Alexander	Carpets, manufacture of two and three ply	Dec. 10, 1850	III.
	Smith, Asa. (*See* Percival & Smith.)			
7, 310	Smith, Benjamin M	Propellers and chimneys for canal-boats, arrangement of	Apr. 21, 1850	XIII.
7, 296	Smith, David M., assignor to Thomas Chadbourne	Sewing machines	Apr. 16, 1850	III.
3, 114	Smith, Francis N	Corn shellers	June 1, 1843	I.
	Smith, Josiah M. (*See* Pecare & Smith.)			
7, 090	Smith, Leonard	Smut machines	Feb. 12, 1850	XIII.
7, 420	Smith, Samuel B	Electro-magnetic machines for shocks	June 4, 1850	VIII.
7, 689	Smith, William W	Calipers	Oct. 1, 1850	VIII.
7, 690	Snead, Charles S	Dryers, grain	Oct. 1, 1850	V.
7, 091	Snedaker, Samuel B	Fasteners and window shutter openers, method of bolting in	Feb. 12, 1850	II.
7, 722	Snow, George K	Paper, machines for folding	Oct. 15, 1850	XVIII.
7, 430	Snyder, Elisha S	Threshing machines	June 11, 1850	I.
7, 826	Sommers, Henry B	Vessels, apparatus attached to, for indicating the depth of water	Dec. 10, 1850	VII.
7, 708	Southward, Eli F	Grummet strap	Oct. 8, 1850	VII.
7, 827	Southworth, Daniel H	Planing machines	Dec. 10, 1850	XIV.
7, 551	Spencer, Robert	Saddles, harness	Aug. 6, 1850	XVI.
7, 635	Spencer, Smith	Mortising machines	Sept. 10, 1850	XIV.
7, 723	Sprague, John A	Excavating and conveying earth	Oct. 15, 1850	IX.
7, 008	Spratt, James	Alloys for points of lightning rods	Jan. 8, 1850	IV.
7, 076	Spratt, James	Lightning conductors, attachments for	Feb. 5, 1850	VIII.
7, 536	Spring, Charles A., and Peter Boon	Planing machines, arrangement of pressure and feed-rollers in	July 30, 1850	XIV.
7, 637	Stadden, Robert	Hullers, clover	Sept. 10, 1850	I.
7, 447	Stafford, J. R	Mills for grinding	June 18, 1850	XIII.
7, 735	Stagg, Thomas G	Beefsteak, preparing for cooking	Oct. 22, 1850	XVII.
	Stalcup, James. (*See* Shaw & Stalcup.)			
	Stanley, James. (*See* L. E. Hicks.)			
6, 993	Stark, Lewis	Branding tools	Jan. 1, 1850	XIV.
7, 276	Starkey, David G	Oil cans	Apr. 9, 1850	XIII.
7, 746	Starks, Nathan	Wheels, car, machines for making wrought-iron	Oct. 29, 1850	X.
7, 766	Starkweather, George	Curing meat, process for	Nov. 5, 1850	IV.
7, 724	Stebbins, Erastus	Molasses gates	Oct. 15, 1850	XI.
7, 814	Steele, Elisha	Buckles, suspender	Dec. 3, 1850	XXI.
7, 431	Stevens, James	Traps, arrangement of mirrors in	June 11, 1850	XXII.
7, 802	Stevens, Joshua	Locking apparatus, the, of repeating fire-arms	Nov. 26, 1850	XIX.
7, 388	Stevens, Silas, assignor to George Forbes	Knives, spiral, machine for grinding	May 21, 1850	II.
	Stevens, Thomas. (*See* Dalton & Stevens.)			
7, 484	Stewart, Franklin	Lamps, safety-tubes for	July 2, 1850	V.
	Stewart, Richard S. (*See* Moses Chase.)			
8, 074	St. John, John R	Hand logs	May 6, 1851; antedated Dec. 27, '50	XIV.
8, 085	St. John, John R., assignor to James Renwick, Geo. F. Barnard, and Edward B. St. John.	Method of supporting the vanes of aquatic velocimeters	May 13, 1851; antedated Dec. 27, '50	XI.
7, 041	Stiles, Ann F	Daguerreotype pictures, cases for	Jan. 22, 1850	XVIII.
7, 514	Stiles, David, jr	Straw cutters, feeding apparatus of	July 16, 1850	I.
7, 151	Stimpson, Frederick H	Ranges, cooking	Mar. 5, 1850	V.
7, 401	Stimpson, Herbert H. and Frederick H	Ranges, cooking, water backs for	May 28, 1850	V.
7, 402	Stocker, Amos	Tailors' measures	May 28, 1850	XXI.
7, 847	Stone, W. C	Legs, artificial	Dec. 17, 1850	XX.
7, 338	Stoner, John B	Clevises, plough	May 7, 1850	I.
7, 537	Stout, Joseph, and James T. Stanton	Tubes of sheet metal, machines for forming	July 30, 1850	II.
7, 608	Stuart, David, assignor to William P. Cresson	Stoves, Franklin, blowers of	Aug. 27, 1850	V.
	Stuart, David. (*See* Cresson, Stuart & Seibert.)			
	Stuart, David. (*See* Peterson, Stuart & Seibert.)			
7, 108	Subers, Isaiah	Fences	Feb. 19, 1850	IX.
7, 352	Swan, Amos L	Melodeon	May 7, 1850	XVIII.
	Swan, Nathan. (*See* Ferris & Swan.)			
7, 127	Sweeney, Peter	Stoves	Feb. 26, 1850	V.
7, 252	Sweet, Joseph	Scrapers, removable teeth for	Apr. 2, 1850	IX.
7, 790	Sweet, Samuel	Spark arresters	Nov. 19, 1850	VI.
7, 749	Swift, Horatio N	Spike machines	Oct. 29, 1850	II.
7, 128	Swope, Zuriel	Hydrolator	Feb. 26, 1850	XI.
7, 624	Tatham, William P	Pipe, lead, manufacture of	Sept. 3, 1850	XI.
	Taylor, Alfred. (*See* Condit & Taylor.)			
7, 403	Taylor, Jas., ass'or to John, Joseph, and Francis Crossley	Pile for rugs, &c., preparation of	May 28, 1850	III.

List of persons whose patents for inventions have expired, &c.—Continued.

No.	Patentee.	Invention or discovery.	Date.	Class.
7, 030	Taylor, Timothy, assignor to Mortimer Taylor	Harness hames, fastenings for	Jan. 15, 1850	XVI.
7, 570	Tennent, John C., and John Workman	Safety apparatus for steam boilers	Aug. 13, 1850	VI.
3, 168	Terry, Harriet V., administratrix of William D. Terry, deceased.	Cast iron	July 12, 1843	II.
	Thatcher, George H. (*See* Reuben J. Blanchard.)			
7, 815	Thayer, Augustus	Auger handle	Dec. 3, 1850	XIV.
7, 351	Theaker, Thomas C	Valves, oscillating, of steam engines	May 7, 1850	VI.
7, 389	Theaker, Thomas C	Saw-mills, apparatus for setting logs in	May 21, 1850	XIV.
7, 621	Thimmonier, Barthelemy, sr., assignor to Philip May	Sewing machines	Sept. 3, 1850	III.
7, 500	Thomas, Evan O	Store counters	July 9, 1850	XXII.
7, 861	Thomas, Samuel T., and Edward Everett	Looms for weaving figured fabrics	Dec. 24, 1850	III.
7, 092	Thomas, William S	Telegraphs, electric	Feb. 12, 1850	VIII.
7, 311	Thompson, Henry G	Lathe for turning a peculiar species of curve	Apr. 23, 1850	II.
7, 848	Thompson, Robert	Lamps for lighting gas-burners	Dec. 17, 1850	V.
	Thorpe, Philip. (*See* A. Buffum.)			
7, 464	Timby, T. R	Water-wheels, for increasing or diminishing their diameters	June 25, 1850	XI.
7, 585	Tingle, George	Paddle-wheels, opening and closing bucket for	Aug. 20, 1850	VII.
7, 201	Tingley, Albert H., assignor to E. W., H. F. and A. H. Tingley.	Marble, machines for sawing	Mar. 19, 1850	XV.
7, 625	Tomlinson, Seymour	Horses, apparatus for breaking	Sept. 3, 1850	XXII.
	Tomlinson, W. E. (*See* Seely & Tomlinson.)			
7, 623	Towne, John H., assignor to S. V. Merrick	Hammer, direct-action steam	Sept. 3, 1850	II.
7, 691	Townsend, Ashley	Threshing machines and grain cleaners, endless aprons for	Oct. 1, 1850	I.
7, 277	Townsend, Benjamin M	Hay, machines for raking and loading	Apr. 9, 1850	I.
7, 639	Totten, Joseph M	Friction rollers	Sept. 10, 1850	X.
7, 560	Tozer, Junius F	Vaccinating, instruments for	Aug. 13, 1850	XX.
7, 371	Trees, James	Propeller, shell	May 14, 1850	VII.
7, 329	Trissler, W. H., and Elias Brecht	Coffee roasting	Apr. 30, 1850	XVII.
7, 816	Trotter, Jonathan T	India-rubber, vulcanizing	Dec. 3, 1850	IV.
7, 515	Truscott, Samuel	Car wheels, apparatus for regulating the contraction of	July 16, 1850	II.
7, 253	Tucker, Hiram	Mantelpiece	Apr. 2, 1850	IX.
7, 061	Turnbull, James, jr., and John	Looms for piled fabrics	Jan. 29, 1850	III.
7, 312	Ulam, David	Smut machines	Apr. 23, 1850	XIII.
7, 093	Ulman, Solomon B	Castors for furniture	Feb. 12, 1850	XVII.
7, 465	Underwood, John	Presses, cheese, self-acting	June 25, 1850	XII.
7, 466	Upfield, William	Boot-trees	June 25, 1850	XVI.
7, 330	Van Anden, William	Chairs, machine for making wrought-iron railroad	Apr. 30, 1850	IX.
7, 586	Van Brocklin, John	Bolts, rivets, &c., machine for heading	Aug. 20, 1850	II.
7, 094	Vanderhoof, George	Trucks, connecting with car bodies	Feb. 12, 1850	X.
7, 311	Vanderveer, Benjamin M	Rules, board and log	Apr. 30, 1850	VIII.
	Van Wagoner, Cornelius S. (*See* William Kennish.)			
	Viall, Daniel H. (*See* Grant & Viall.)			
7, 552	Vine, William, and James H. Ashmead	Gold, machines for beating	Aug. 6, 1850	II.
7, 553	Vogel, Kasimir	Harness, weavers', machinery for dressing	Aug. 6, 1850	III.
7, 761	Vrooman, Henry S	Emery wheels, clamps for girding	Nov. 5, 1850	XXII.
7, 226	Wales, Gideon	Tobacco, method of dressing cut	Mar. 26, 1850	XXII.
7, 109	Wakefield, Charles A	Planting barrows, seed	Feb. 19, 1850	I.
7, 110	Wakefield, Charles A	Planters, seed	Feb. 19, 1850	I.
7, 862	Walker, Joseph N	Mills for grinding	Dec. 24, 1850	XIII.
	Walker, Robert. (*See* Welch & Walker.)			
7, 554	Walker, William and Matthew C	Churn dashers	Aug. 6, 1850	I.
7, 354	Walter, Amos	Stone, machine for polishing	May 7, 1850	XV.
	Ward, Gilbert S. (*See* Daniel W. Goble.)			
7, 538	Ward, William E	Bolt and rivet machine	July 30, 1850	II.
	Warfield, Henry. (*See* Goddard & Warfield.)			
7, 863	Waring, George E	Furnaces, hot-air	Dec. 24, 1850	V.
	Warner, A. B. (*See* James G. Davis.)			
7, 332	Warner, Chapman	Pipe coupling	Apr. 30, 1850	XI.
7, 372	Warner, James N	Stove pipes, joints of	May 14, 1850	V.
7, 762	Warner, Ezra J	Hooks and eyes, fastening upon cards	Nov. 12, 1850	XXI.
7, 709	Warner, Orra, and Charles J. Gaylord	Grapple springs	Oct. 8, 1850	XXII.
	Warner, R. F. (*See* Archer & Warner.)			
7, 404	Warren, A. G	Sofa bedsteads	May 28, 1850	XVII.
7, 640	Warren, David	Plough cleaner	Sept. 10, 1850	I.
	Warren, George. (*See* Green & Warren.)			
	Warren, George. (*See* Green & Warren.)			
7, 539	Warren, Thomas E	Car-seat backs	July 30, 1850	X.
7, 710	Washburn, Nathan	Wheels, cast-iron car	Oct. 8, 1850	X.
7, 129	Waterman, Nathaniel	Coffee, apparatus for making	Feb. 26, 1850	XVII.
7, 467	Watkins, Miles S	Carriages	June 25, 1850	X.
7, 725	Watson, William	Harvester, maize	Oct. 15, 1850	I.
7, 062	Webb, Joseph W., assignor to Benjamin Gould	Mills for grinding	Jan. 29, 1850	XIII.
7, 711	Webb, Joseph W., assignor to Benjamin Gould	Straw cutters, adjustment of knives in	Oct. 8, 1850	I.
7, 112	Webster, John G., assignor to John W. Robertson and John G. Webster.	Cloth, measuring on looms	Feb. 19, 1850	III.
	Webster, William. (*See* Ostrander & Webster.)			
	Weeks, Ebenezer. (*See* Crafts & Weeks.)			
7, 405	Weidman, John	Fanning mills	May 28, 1850	I.
7, 031	Weikart, Andrew	Boring machines	Jan. 15, 1850	XIV.
7, 009	Welch, Augustus, and Robert Walker	Shingles, machinery for dressing	Jan. 8, 1850	XIV.
7, 626	Welch, Benjamin	Splints, surgeons'	Sept. 3, 1850	XX.
7, 177	Welch, William T., jr.	Brakes for carriages	Mar. 12, 1850	X.
7, 042	Welch, George	Shutters, window, chain and flange apparatus for opening and closing	Jan. 22, 1850	II.
7, 692	Wescott, Amos	Door spring	Oct. 1, 1850	II.
7, 095	West, Solomon, and Hiram Plumb	Umbrella sticks, &c., machinery for turning	Feb. 12, 1850	XIV.
7, 406	Westbrook, C., and Henry J. Rogers	Telegraphs, electro-chemical	May 28, 1850	VIII.
	Weston, Adam. (*See* Chase, Weston, & Babbit.)			
	Wheeler, Russel. (*See* Bailey & Wheeler.)			
7, 130	Whipple, Cullen, assignor to Jesse Carpenter	Yarn, machinery for spinning and making rope	Feb 26, 1850	III.
7, 458	Whipple, John A., and William B. Jones	Photographic pictures, producing upon transparent media	June 25, 1850	XVIII.
7, 390	White, J. D.	Lathes for turning	May 21, 1850	XIV.
7, 555	White, James	Stoves, cooking	Aug. 6, 1850	V.
7, 828	White, Jesse, and Jonathan Bundy	Flour, elevating, cooling, and conveying	Dec. 10, 1850	XIII.
7, 829	White, Nelson D.	Pill boxes, machines for making	Dec. 10, 1850	XIV.
7, 043	White, Stephen	Gases, preparing illuminating	Jan. 22, 1850	IV.
7, 540	Whitehead, Jesse	Speeder, counter-twist	July 30, 1850	III.
7, 152	Whiteley, Edward	Chimney caps	Mar. 5, 1850	V.

List of persons whose patents for inventions have expired, &c.—Continued.

No.	Patentee.	Invention or discovery.	Date.	Class.
7,202	Whitney, Asa	Wheels, cast-iron car	Mar. 19, 1850	X.
7,313	Whitman, Sheperd	Brick presses	Apr. 23, 1850	XV.
7,712	Whitmarsh, Samuel	Bedstead and sacking bottom, portable	Oct. 8, 1850	XVII.
7,314	Whiton, E. F	Cloth, instruments for measuring	Apr. 23, 1850	III.
	Whittemore, Thomas J. (*See* Dexter H. Chamberlain.)			
7,736	Whittlesey, Austin and Austin K	Coulters to ploughs, fastenings of	Oct. 22, 1850	I.
7,227	Wicks, Edward	Planter, seed, the seed roller of a	Mar. 26, 1850	I.
7,278	Wilder, Mark	Gudgeons, wing	Apr. 9, 1850	XIII.
7,803	Willcox, Thomas T	Looms, shuttle motions in	Nov. 26, 1850	III.
7,203	Williams, David R	Blind-slat operator	Mar. 19, 1850	II.
7,178	Williams, Edwin, and James Culbertson	Rifles, machine for giving increased twist in cutting	Mar. 12, 1850	XIX.
7,044	Willis, William B	Planters, seed	Jan. 22, 1850	I.
	Willis, William B. (*See* Reed & Willis.)			
7,763	Wilmot, Samuel R	Fly brushes	Nov. 5, 1850	XVII.
7,864	Wilmot, Samuel R	Weighing grain, machines for	Dec. 24, 1850	XII.
7,776	Wilson, Allen B	Sewing machines	Nov. 12, 1850	III.
7,587	Winslow, J. A	Vessels, method of carrying, over shoals	Aug. 20, 1850	VII.
7,254	Winslow, Seth E	Sash-stopper, spring, inclined plane and roller	Apr. 2, 1850	II.
7,045	Wisell, Eli K	Chucks for boring and mortising machines	Jan. 22, 1850	XIV.
7,556	Wisell, Eli K	Tenon bits	Aug. 6, 1850	XIV.
7,541	Wode, George	Bureau drawers, fastenings for	July 30, 1850	XVII.
7,315	Wolf, David	Plough, corn, adjustable shares of	Apr. 23, 1850	I.
7,432	Woodbury, James A	Planes for tonguing and grooving boards, &c	June 11, 1850	XIV.
7,111	Wood, Hamilton	Burning ornamental figures upon wood	Feb. 19, 1850	XVIII.
	Wood, John A. (*See* Adams & Wood.)			
7,448	Wood, John F	Scraper, combination of a guide tooth with an inclined	June 18, 1850	IX.
7,804	Wood, Loftis	Boiler, cupola, and grate combined	Nov. 26, 1850	V.
7,805	Wood, Loftis	Stoves, cooking	Nov. 26, 1850	V.
7,010	Wood, William	Shingles, machines for cutting	Jan. 8, 1850	XIV.
7,713	Woodside, Peter G	Registers, warm-air	Oct. 8, 1850	V.
7,693	Woodward, Isaac	Straw cutter	Oct. 1, 1850	I.
7,407	Woolson, Amasa	Cloth, machines for shearing	May 28, 1850	III.
	Workman, John. (*See* Tennent & Workman.)			
7,333	Wright, Franklin	Smut machines, the rubbers of	Apr. 30, 1850	XIII.
7,675	Wright, George	Caps, percussion, machine for forming and charging	Sept. 24, 1850	XIX.
7,011	Wright, Oliver	Irregular forms, mills for sawing	Jan. 8, 1850	XIV.
7,334	Wurflein, John	Gun, percussion, method of preventing accidental discharge in the	Apr. 30, 1850	XIX.
7,737	Wurtz, Jacob H	Alum, processes for manufacturing	Oct. 22, 1850	IV.
7,153	Wyeth, Nathaniel J	Ice, scraper for removing snow from	Mar. 5, 1850	XXII.
7,316	Yates, Peter	Reciprocating motion, a, changing into a rotary motion	Apr. 23, 1850	XIII.
7,468	Yaw, Hiram, and Thomas P. How	Waste gates	June 25, 1850	XI.
7,204	Yerger, George W	Legs, artificial	Mar. 19, 1850	XX.
7,588	Young, James	Stannates of potash or soda, processes for making	Aug. 20, 1850	IV.
7,046	Young, John	Churns, atmospheric	Jan. 22, 1850	I.
7,791	Zaiser, Wilhelm	Bedsteads	Nov. 19, 1850	XVII.

ALPHABETICAL LIST OF PERSONS WHOSE PATENTS FOR DESIGNS HAVE EXPIRED DURING THE YEAR 1864.

No.	Patentee.	Invention or discovery.	Date.
894	Ball, Thomas	Bust of Napoleon Bonaparte	June 9, 1857.
918	Ball, William	Medallions of Franklin to mark pens and pen-holders	July 21, 1857.
923	Barry, Thomas	Stoves, (Vesuvian)	Aug. 25, 1857.
924	Barry, Thomas	Stoves, superior	Aug. 25, 1857.
925	Barry, Thomas	Stoves, (Polar)	Aug. 25, 1857.
926	Barry, Thomas	Stoves farm	Aug. 25, 1857.
927	Barry, Thomas	Stoves, home	Aug. 25, 1857.
928	Barry, Thomas	Stoves, (Centurion)	Aug. 25, 1857.
939	Barry, Thomas	Stoves, column	Sept. 1, 1857.
872	Barstow, A. C	Stoves, wood	Feb. 17, 1857.
881	Barstow, A. C	Stoves, for the plates of	Apr. 14, 1857.
968	Barstow, A. C	Stoves, laundry	Dec. 15, 1857.
886	Beesley, Jacob, and E. J. Delany, assignors to Cresson, Stuart & Peterson.	Stoves, cooking	May 19, 1857.
901	Beesley, Jacob, and E. J. Delany, assignors to Cresson, Stuart & Peterson.	Stoves	June 23, 1857.
909	Bendix, John E., assignor to S. B. Sexton & Co	Stove fronts, grate or	July 7, 1857.
876	Bernhard, Joseph, assignor to J. Bernhard, J. Hendermeyer and L. Gansz.	Soda-water apparatus	Mar. 24, 1857.
860	Blanchard, Abner J	Stoves, upright	Jan. 6, 1857.
889	Bonte, A. P. C	Picture-frames	May 26, 1857.
890	Bronson, Willis S	Furnaces	May 26, 1857.
863	Bruce, George	Printing types	Jan. 6, 1857.
940	Bruce, George	Type	Sept. 8, 1857.
874	Burleigh, M. C	Stove doors	Mar. 10, 1857.
948	Chase, Ira, jr., (2)	Brackets, shelf	Oct. 13, 1857.
949	Chase, Ira, jr., (1)	Brackets, shelf	Oct. 13, 1857.
958	Chase, Ira, jr., (3)	Brackets, shelf	Oct. 20, 1857.
957	Chase, Ira, jr	Borders, grave	Oct. 20, 1857.
862	Chinnock, Charles	Clock-case fronts	Jan. 6, 1857.
916	Chinquini, Pietro	Clock cases	Oct. 6, 1857.
935	Chinquini, Pietro	Clock-case front	Aug. 26, 1857.
946	Chinquini, Pietro, assignor to W. D. Bradley, W. Hubbard and N. L. Bradley.	Clock cases	Oct. 6, 1857.
963	Coggeshall, William T	Stoves	Nov. 3, 1857.
873	Comstock, Allen	Stoves, cooking	Mar. 10, 1857.
914	Cridge, E. J	Stoves, parlor	July 14, 1857.
1,433	Chaffee, Charles S	Tumblers	June 25, 1861.
919	Dexter, Henry, assignor to William Carleton	Statue of General Warren	Aug. 4, 1857.
920	Dulley, J. J., and Russell Mann, assignors to Geo. W. Eddy	Stoves	Aug. 4, 1857.
969	Dunklee, B. W	Stoves	Dec. 15, 1857.
943	Foster, George B	Gas-burners, shade for	Sept. 22, 1857.
888	Gallaher, John S., jr	Churns, egg-beaters, &c	May 19, 1857.
895	Gibbs, S. W	Stoves	June 16, 1857.
899	Gibbs, S. W., assignor to North, Chase & North	Stoves, cooking	June 23, 1857.

List of persons whose patents for designs have expired during the year 1864—Continued.

No.	Patentee.	Invention or discovery.	Date.
908	Gibbs, S. W., assignor to Rathbone & Co., (A)	Stoves	July 7, 1857.
906	Gibbs, S. W., assignor to Rathbone & Co., (B)	Stoves	July 7, 1857.
907	Gibbs, S. W., assignor to Rathbone & Co., (D)	Stoves	July 7, 1857.
912	Gibbs, S. W., assignor to Rathbone & Co., (C)	Stoves	July 7, 1857.
913	Gibbs, S. W., assignor to Rathbone & Co., (E)	Stoves	July 14, 1857.
941	Gibbs, S. W., assignor to Winne & Abeel	Stoves, sad-iron	Sept. 8, 1857.
921	Gibbs, S. W., assignor to Young & Brother	Stoves	Aug. 4, 1857.
896	Harris, Conrad, and Paul W. Zoiner	Stoves, coal, cooking, No. 1	June 23, 1857.
897	Harris, Conrad, and Paul W. Zoiner	Stoves, wood, parlor, No. 2	June 23, 1857.
898	Harris, Conrad, and Paul W. Zoiner	Stoves, dining-room, No. 3	June 23, 1857.
1,421	Hawley, Samuel R	Design for hats	May 28, 1861.
1,434	Hayden, H. W	Design for a mat for daguerreotype cases	June 25, 1861.
868	Howard, James L	Stoves, railroad-car	Jan. 27, 1857.
873	Hutchinson, James, assignor to J. E. Whipple and Stephen E. Haskell.	Oil-cloths, floor	Mar. 10, 1857.
1,435	Hutchinson, James	Design for oil-cloth pattern	June 25, 1861.
915	Hyde, James R	Stoves, cooking	July 14, 1857.
882	Ingraham, Elias	Clock cases	Apr. 14, 1857.
970	Ingraham, Elias	Clock fronts	Dec. 22, 1857.
917	Jenkins, Henry, assignor to the New York Wire Railing Company.	Railings, iron	July 21, 1857.
883	Jerome, Chauncey	Clock case fronts	Apr. 14, 1857.
954	Jerome, Samuel B	Clock cases	Oct. 20, 1857.
861	Knapp, John H	Pencil-cases, ever-pointed	Jan. 6, 1857.
910	Maguire, J., Joseph A. Read and Duncan Wright, assignors to Charles Gilbert.	Stoves, cooking	July 14, 1857.
893	Marshbank, John D	Stoves, cook's	June 2, 1857.
879	Maurer, William, assignor to K. Krenkle	Bedsteads, legs and posts of	Mar. 31, 1857.
944	Meyer, Julius, assignor to M. Greenwood & Co	Shovels and tongs, stands to hold, (B)	Sept. 29, 1857.
945	Meyer, Julius, assignor to M. Greenwood & Co	Shovels and tongs, stands to hold, (A)	Sept. 29, 1857.
1,429	Morrisett, James G	Design for hats	May 28, 1861.
950	Muller, Nicholas, (A)	Clock fronts	Oct. 13, 1857.
951	Muller, Nicholas, (B)	Clock fronts	Oct. 13, 1857.
864	Pratt, Samuel F., assignor to Treadwell, Perry & Norton	Stove, parlor	Jan 13, 1857.
929	Ransom, S. H	Stoves, (Northern Light)	Aug. 25, 1857.
930	Ransom, S. H	Stoves, (Crescent)	Aug. 25, 1857.
931	Ransom, S. H	Stoves, (Peruvian)	Aug. 25, 1857.
932	Ransom, S. H	Stoves, (Ocean)	Aug. 25, 1857.
933	Ransom, S. H	Stoves, (Evening Star)	Aug. 25, 1857.
934	Ransom, S. H	Stoves, (Snow-Bird)	Aug. 25, 1857.
952	Rehn, C. L., and H. Everett	Keys, metal	Oct. 13, 1857.
953	Richardson, N. P., and William W. Stevens	Stoves, six-plate	Oct. 13, 1857.
954	Richardson, N. P., and William W. Stevens	Stoves	Oct. 13, 1857.
860	Shepard, Charles J	Ranges, cooking	Feb. 10, 1857.
936	Shell, G. W., and Charles Stewart	Brick, ornamental design for	Aug. 25, 1857.

No.	Patentee.	Invention or discovery.	Date.
967	Smith, G., and H. Brown, assignors to Wolf, Moore & Company.	Stoves, cook's	Dec. 8, 1857.
956	Smith, G., H. Brown and J. A. Read, assignors to Leibrant, McDowell & Co.	Stoves, cooking	Oct. 13, 1857.
955	Smith, G., H. Brown and J. Read, assignors to Leibrant, McDowell & Co.	Stoves	Oct. 13, 1857.
891	Smith, G., H. Brown and S. H. Sailor, assignors to J. G. Abbott and A. Lawrence.	Stoves	May 26, 1857.
962	Smith, Garretson, and Hen. Brown, assignors to Leibrant, McDowell & Co.	Stoves	Oct. 20, 1857.
961	Smith, Garretson, and Hen. Brown, assignors to Leibrant, McDowell & Co.	Stoves, parlor	Oct. 20, 1857.
960	Smith, Garretson, and Hen. Brown, assignors to Leibrant, McDowell & Co.	Stoves, cooking	Oct. 20, 1857.
942	Smith, Garretson, Henry Brown and Samuel H. Sailor, assignors to J. G. Abbott and A. Lawrence.	Stoves	Sept. 8, 1857.
905	Smith, John C., assignor to W. Resor & Co	Stoves	July 7, 1857.
885	Steffe, Jacob, James Horton and John Currie, assignors to F. H. Church.	Stoves	May 5, 1857.
972	Steffe, Jacob, James Horton and John Currie, assignors to M. W. Jackson and W. H. Woodin.	Stove, cooking	Dec. 22, 1857.
870	Stevenson, J. E	Stoves, cooking	Feb. 10, 1857.
1,408	Thompson, Henry G	Design for carpet	May 7, 1861.
1,409	Thompson, Henry G	Design for carpet	May 7, 1861.
1,410	Thompson, Henry G	Design for carpet	May 7, 1861.
1,411	Thompson, Henry G	Design for carpet	May 7, 1861.
1,412	Thompson, Henry G	Design for carpet	May 7, 1861.
1,413	Thompson, Henry G	Design for carpet	May 7, 1861.
1,414	Thompson, Henry G	Design for carpet	May 7, 1861.
1,415	Thompson, Henry G	Design for carpet	May 7, 1861.
1,416	Thompson, Henry G	Design for carpet	May 7, 1861.
1,417	Thompson, Henry G	Design for carpet	May 7, 1861.
1,418	Thompson, Henry G	Design for carpet	May 7, 1861.
947	Thulemeyer, Gottfried	Coal-scuttles	Oct. 6, 1857.
964	Timby, Theodore R	Barometer cases	Nov. 10, 1857.
877	Vedder, N. S., assignor to Galbraith & Cassel	Stoves, radiator	Mar. 24, 1857.
865	Vedder, N. S., assignor to Newberry, Filley & Co	Stoves, cooking	Jan. 13, 1857.
900	Vedder, N. S., assignor to North, Chase & North	Stoves	June 23, 1857.
911	Vedder, N. S., assignor to North, Chase & North	Stoves	July 14, 1857.
938	Vedder, N. S., assignor to North, Chase & North	Stoves	Sept. 1, 1857.
878	Vedder, N. S., assignor to John S. and Merritt Peckham	Stoves, cooking	Mar. 24, 1857.
884	Vedder, N. S., assignor to Smith & Sheldon	Stove, cooking, plates of a	Apr. 14, 1857.
866	Vedder, N. S., assignor to Wolf & Warren	Stoves, cook	Jan. 27, 1857.
867	Vedder, N. S., assignor to Wolf & Warren	Stoves, parlor cook	Jan. 27, 1857.
902	Vose, Samuel D	Stove ornaments	July 7, 1857.
903	Vose, Samuel D	Stove ornaments	July 7, 1857.
904	Vose, Samuel D	Stove ornaments	July 7, 1857.
965	Waters, Elisha	Match boxes	Nov. 17, 1857.
887	Wheeler, Russell, and Stephen A. Bailey	Stoves	May 19, 1857.
971	Willoughby, James D	Plough springs, &c., trade marks on	Dec. 22, 1857.
871	Wilson, Daniel, assignor to Union Stove Company	Stoves, parlor cooking	Feb. 10, 1857.
880	Wood, Robert	Railings, iron	Apr. 7, 1857.

List of persons whose patents for designs have expired during the year 1864—Continued.

No.	Patentee.	Invention or discovery.	Date.
898	**Wood, Thomas H., Henry S. Hubboll and John E. Roberts**	Stoves, cooking	June 2, 1857.
937	**Worrall, Thomas D**	Stoves	Aug. 25, 1857.
922	**Young, Elias**	Stoves, cooking	Aug. 4, 1857.
966	**Young, Elias, assignor to Chamberlain & Company**	Stoves, cook's	Dec. 1, 1857.
1,419	**Young, Hiram**	Design for tea-pot	May 7, 1861.

ALPHABETICAL LIST OF PATENTEES OF INVENTIONS, DESIGNS, AND REISSUES, FOR THE YEAR 1864.

No.	Patentee.	Residence.	Invention or discovery.	Date.
	Abbe, Horatio H., and William H. Nichols. (*See* Nichols & Abbe.)			
42,999	Abbe, J. Randolph	Providence, R. I.	Piston packing	June 7, 1864.
44,058	Abbey, F. G	Sandisfield, Mass	Card cutter	Sept. 6, 1864.
41,418	Abbott, Granville	U. S. army	Knapsack hammock	Feb. 2, 1864.
	Abbott, J. G., and C. Noble. (*See* Smith & Brown, ass'ors.) Design.			
43,823	Abbott, John H	Frederick, Md.	Cigar knife	Aug. 16, 1864.
41,467	Abbott, Orrin	New York, N. Y	Heaters	Feb. 9, 1864.
41,131	Abeel, C. S	Chicago, Ill	Hooks, safety	Jan. 5, 1864.
45,570	Abercrombie, R. M	Rahway, N. J	File, pamphlet	Dec. 27, 1864.
42,263	Abernethy, John, and William H. White	Woodbury, Conn	Shears, manufacture of	Apr. 12, 1864.
	Aborn, C., and C. A. Baldwin. (*See* Baldwin & Aborn.)			
41,668	Absterdam, John	New York, N. Y	Projectiles for rifled ordnance, packing	Feb. 23, 1864.
45,553	Acker, Frederick, deceased, by Annie Acker, adm'x	San Francisco, Cal	Barrels, bung staves for	Dec. 20, 1864.
43,276	Ackley, Rodney W. and Samuel	Lima, Mich	Vehicles, wheel	June 28, 1864.
44,035	Adams, Aaron B., assignor to self and William C. Street	Westport, Conn	Hoe, weeding	Aug. 30, 1864.
44,148	Adams, Andrew J	Climax Prairie, Mich	Straw cutter	Sept. 13, 1864.
41,588	Adams, Henry W., and W. S. Worthington	New York, N. Y	Amalgamating and collecting gold and silver	Feb. 16, 1864.
45,214	Adams, Henry W	New York, N. Y	Amalgamating gold and silver, apparatus for	Nov. 29, 1864.
44,377	Adams, John S	Taunton, Mass	Fire-arm, breech-loading	Sept. 27, 1864.
43,277	Adams, Joseph	Janesville, Wis	Washing machine	June 28, 1864.
41,468	Adams, Michael J	Bedford, Pa	Railroads, track-clearers for	Feb. 9, 1864.
41,660	Adams, Sanford, assignor to Joel Nourse	Boston, Mass	Separators, grain	Feb. 16, 1864.
44,924	Adams, S. H	Coulterville, Ill	Ploughs, gang	Nov. 8, 1864.
1,650	Adams, William V., assignor to Geo. W. Reed	New York, N. Y	Hand-cuffs (Reissue)	Apr. 5, 1864.
42,060	Adamson, William	Philadelphia, Pa	Pulverizing machine	Mar. 29, 1864.
43,466	Adamson, William	Philadelphia, Pa	Process for treating hairs	July 12, 1864.
45,007	Adamson, William	Philadelphia, Pa	Oils, mineral, apparatus for purifying	Nov. 15, 1864.
45,008	Adee, Daniel M	New York, N. Y	Steel, cast, manufacture of	Nov. 15, 1864.
	Adlam, Samuel, jr., *et al.* (*See* Cross, Wm. R. P., ass'or.)			
42,151	Agnew, John	Bath, Pa	Planters, corn	Apr. 5, 1864.
43,379	Agnew, J. R	Lancaster, Pa	Globes, school, moulds for making	July 5, 1864.
45,379	Ahl, David	Newville, Pa	Barrels, oil, composition for coating	Dec. 6, 1864.
42,824	Aiken, Walter	Franklin, N. H	Knitting-machine needle	May 24, 1864.
43,170	Aiken, Walter	Franklin, N. H	Knitting machines	June 21, 1864.
45,571	Ainsworth, Seymour	Saratoga Springs, N. Y	Basket, work, ladies'	Dec. 27, 1864.
	Akin, Nelson P. (*See* Carr, W. H., assignor.)			
43,558	Akins, William H	Dryden, N. Y	Motion, converting	July 19, 1864.
43,824	Akins, William H	Dryden, N. Y	Valves, steam, cylindrical	Aug. 16, 1864.
1,806	Akins, William H	Dryden, N. Y	Locks (Reissue)	Nov. 8, 1864.
42,264	Aland, Samuel	Rome, N. Y	Ploughs	Apr. 12, 1864.
44,497	Albee, James	Boston, Mass	Furnace	Oct. 4, 1864.
42,721	Albee, Simeon W., assignor to self and Henry Hodson	Charlestown, N. H	Inhaling gas, apparatus for	May 10, 1864.
44,684	Albertson, Albert, assignor to J. N. McIntire	New York, N. Y	Bottles, method of stopping	Oct. 11, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
44,685	Albertson, Albert, assignor to J. N. McIntire	New York, N. Y	Bottles, apparatus for filling	Oct. 11, 1864.
44,912	Albertson, Albert, assignor to J. N. McIntire	New York, N. Y	Bottles, stopper for	Nov. 1, 1864.
45,112	Albertson, Albert, assignor to J. N. McIntire	New York, N. Y	Bottles, stopping	Nov. 15, 1864.
45,113	Albini, Augusto, assignor to James Henderson	Italy	Ships-of-war, armament of	Nov. 15, 1864.
43,467	Albright, George	Oskaloosa, Iowa	Spinning and reeling, machine for	July 12, 1864.
42,825	Alcan, Louis	Newport, Ky	Boots and shoes, wooden soles to	May 24, 1864.
43,732	Alcorn, William H	New York, N. Y	Knife and scissors sharpener	Aug. 9, 1864.
	Alden, Charles. (*See* Miller, J. A., assignor.)			
41,347	Alden, Henry A., assignor to the New York Rubber Co.	Matteawan, N. Y	Rubber, &c., moulds for vulcanizing	Jan. 19, 1864.
41,589	Alden, Henry A	Matteawan, N. Y	Mattresses, &c., stuffing for	Feb. 16, 1864.
1,749	Alden, Henry A	Matteawan, N. Y	Mattresses, stuffing for (Reissue)	Aug. 30, 1864.
44,925	Alden, Henry A	Matteawan, N. Y	Springs	Nov. 8, 1864.
41,268	Aldrich, John H	Holyoke, Mass	Spinning machines, flyers for	Jan. 19, 1864.
43,961	Aldrich, John H., and S. L. Pattee	Northbridge, Mass	Spinning frames, flyers for	Aug. 30, 1864.
	Aldrich, W., *et al.* (*See* Marshall, Moses, assignor.) Reissue.			
45,009	Alexander, F. W	Baltimore, Md	Bayonets	Nov. 15, 1864.
41,898	Alexander, Joseph B	Baltimore, Md	Calculating machines	Mar. 15, 1864.
43,559	Alexander, Thomas K	Decatur, Ill	Planter, corn	July 19, 1864.
44,498	Alisee, John J	New York, N. Y	Bridges	Oct. 4, 1864.
44,586	Alisee, John J	Washington, D. C	Fire-arms, ball screw for	Oct. 11, 1864.
44,376	Alison, Alexander, and James Halliwell	England	Railway, atmospheric	Sept. 20, 1864.
45,010	Allan, Alexander	Scotland	Gauges, pressure	Nov. 15, 1864.
42,545	Allardice, Charles	Cohoes, N. Y	Knitting machine burrs	May 3, 1864.
42,546	Allen, Alvin	North Brookfield, Mass	Soles, tool for channelling	May 3, 1864.
	Allen, Anthony B. (*See* Dutton, Rufus, assignor.)			
	Allen, Anthony B. (*See* Dutton, Rufus, assignor.)			
44,499	Allen, D. Henry B	Chelsea, Vt	Limb supporters	Oct. 4, 1864.
	Allen, Edwin F., and Jas. G. Stowe. (*See* Stowe & Allen.)			
41,590	Allen, Enos G	Boston, Mass	Cartridges, metallic	Feb. 16, 1864.
45,306	Allen, E. G	Boston, Mass	Bullet for small-arms	Dec. 6, 1864.
1,737	Allen, Ethan	Worcester, Mass	Fire-arms, revolving (Reissue)	Aug. 16, 1864.
1,738	Allen, Ethan	Worcester, Mass	Fire-arms, revolving (Division B of reissue)	Aug. 16, 1864.
1,834	Allen, R. N	Cleveland, Ohio	Car axle boxes, railroad (Reissue)	Dec. 20, 1864.
41,591	Allen, Samuel F	Chicago, Ill	Locomotives, feed-water heater for	Feb. 16, 1864.
41,185	Allen, Stephen M	Woburn, Mass	Flax, &c., treating, to produce short fibre for spinning	Jan. 12, 1864.
41,348	Allen, Stephen M., assignor to Edward Richmond	Woburn, Mass	Leather paper, &c., drying	Jan. 19, 1864.
42,265	Allen, Stephen M	Woburn, Mass	Hemp, flax, &c., new manufacture for	Apr. 12, 1864.
43,171	Allen, Stephen M	Woburn, Mass	Roofing material	June 21, 1864.
44,500	Allen, William	Worcester, Mass	Harvesting machines	Oct. 4, 1864.
	Allen, Wm. H. (*See* Bain, Alexander, assignor.)			
	Allen, Zachariah	Providence, R. I	Cloth, wide, machine for double folding (Extension.)	June 27, 1864.
1,709	Allender, John, assignor, through mesne assignments, to Selden A. Bailey and Simeon S. and Benedict M. Cook.	Woonsocket, R. I	Clothes, roller for expressing water from (Reissue)	June 28, 1864.
1,807	Allender, John, assignor, through mesne assignments, to Seldon A. Bailey and Simeon S. and Benedict M. Cook.	New London, Conn	Wringing and squeezing machine (Reissue)	Nov. 8, 1864.
43,468	Allenwood, Joseph M	Timbuctoo, Cal	Ore, hydraulic machine for washing	July 12, 1864.
45,011	Allerton, Amos	Aztalan, Wis	Racks, sheep	Nov. 15, 1864.
42,453	Allin, Thomas	New York, N. Y	Iron, cast, hardening	Apr. 26, 1864.
42,454	Allstatter, N	Hamilton, Ohio	Harvesters, rakes for	Apr. 26, 1864.
44,844	Allyn, Isaac W	Philadelphia, Pa	Grates, apparatus for raising	Nov. 1, 1864.
	Alteneder, Theodore	Philadelphia, Pa	Compasses for measuring, joints for (Extension)	July 13, 1864.
41,186	Althouse, M. J	Waupun, Wis	Pumps	Jan. 12, 1864.
44,036	Ambler, A. J., assignor to self and Gustavus Shepard	Chicago, Ill	Car-brakes. (Antedated August 25, 1864)	Aug. 30, 1864.
42,455	Ambrose, Joshua A	Jersey City, N. J	Lamps, coal-oil	Apr. 26, 1864.
44,268	Ament, Edward G	Oswego, Ill	Capstans, portable	Sept. 13, 1864.
41,469	Ament, Sylvester E	Oswego, Ill	Rakes, revolving	Feb. 9, 1864.
1,732	Ament, Sylvester E	Oswego, Ill	Rakes, revolving (Reissue)	July 26, 1864.
	American Button Hole Sewing Machine Company. (*See* Rehfuss, George, assignor.)			
	American Flask and Cap Company. (*See* Luther, Thomas C., assignor.)			
	American Projectile Company. (*See* Stafford, C. W., ass'r.)			
	American School Apparatus Company. (*See* Bugbee, H. K., assignor.)			
	American Watch Company. (*See* Fogg, Charles W., ass'r.)			
41,809	Ames, Horace B., assignor to Theodore D. Day and Gilbert Horton.	Brooklyn, N. Y	Skirts, hoop	Mar. 1, 1864.
43,825	Ames, Horatio	Falls Village, Conn	Cannon, wrought, manufacture of	Aug. 16, 1864.
	Ames Manufacturing Company. (*See* Hathaway, Addison, assignor.)			
	Ames, N., and Jos. P. Woodbury. (*See* Woodbury & Ames.)			
41,969	Ames, Nathan	Saugus Center, Mass	Buttons, &c., attachment of	Mar. 22, 1864.
43,869	Ames, Nathan	Saugus Center, Mass	Hoe, weed-puller	Aug. 16, 1864.
41,173	Amiel, Gaetano, assignor to Thorvald F. Hammer	Copenhagen, Denmark	Shell, illuminating and signal	Jan. 5, 1864.
41,353	Amos, C. E., and John Francis	Great Britain	Slates, machines for dressing. (Patented in England July 27, 1861.)	Jan. 26, 1864.
41,187	Amos, Daniel W	Bedford, Pa	Rakes, horse	Jan. 12, 1864.
44,845	Amos, Daniel W	Bedford, Pa	Planters, corn	Nov. 1, 1864.
43,380	Amos, James	New York, N. Y	Skirt-formers, adjustable	July 5, 1864.
41,824	Amsden, Amory	Springfield, Ohio	Scales, hydrostatic, for indicating tonnage of boats	Mar. 8, 1864.
	Anderson, Abraham. (*See* Magliocco, Melchiore F., assig'r.)			
44,059	Anderson, Alexander	Milwaukie, Wis	Paper machines, apparatus for washing the felts of	Sept. 6, 1864.
	Anderson, Joseph, and Thomas K. Schermerhorn. (*See* Schermerhorn & Anderson.)			
1,733	Anderson, Leonard	Painesville, Ohio	Saws, reciprocating, method of hanging (Reissue)	Aug. 2, 1864.
41,592	Anderson, Thomas K	Hornellsville, N. Y	Stove-pipe thimbles	Feb. 16, 1864.
43,450	Anderson, Wm. T., assignor to self and Hezekiah S. Archer	Brooklyn, N. Y	Books, embossed covers for	July 5, 1864.
45,465	Andrews, Emory, and William Tucker	Springfield, Mass	Match splints, machines for making	Dec. 20, 1864.
	Andrews, E., and C. B. Brown. (*See* Brown & Andrews.)			
45,572	Andrews, John H	Avon, Conn	Fuze, safety	Dec. 27, 1864.
41,749	Andrews, Solomon	Perth Amboy, N. J	Truss pads	Mar. 1, 1864.
43,449	Andrews, Solomon, assignor to Solomon Andrews, jr	Perth Amboy, N. J	Aerostats	July 5, 1864.
44,846	Andrews, Solomon, jr	Westfield, N. Y	Engines, steam	Nov. 1, 1864.
45,554	Andrews, Wm. H., assignor to Burton Mallory	New Haven, Conn	Match safe	Dec. 20, 1864.
43,080	Angenard, Louis P	New York, N. Y	Gilding china, glass, and other wares, solution for	June 14, 1864.
43,890	Anger, Jos., and Jos. Prestele	New York, N. Y	Sewing machine	Aug. 23, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
43, 962	Augeroth, Charles G., jr	Philadelphia, Pa	Mattresses, &c., treating moss for	Aug. 30, 1864.
	Angier, J. D., and Frederick Crocker. (*See* Mowbray, George M., assignor.)			
44, 587	Angier, J. D., and Frederick Crocker	Titusville, Pa	Wells, oil, ejectors for	Oct. 11, 1864.
45, 463	Angier, J. D., and Frederick Crocker	Titusville, Pa	Wells, oil, ejectors for	Dec. 13, 1864.
45, 114	Annis, H. K., assignor to Jason Kidder and Hiram C. Baker	Enfield, N. H	Water wheels	Nov. 15, 1864.
44, 763	Annis, John, assignor to self and Norton Kelsey	Galva, Ill	Trap, animal	Oct. 18, 1864.
	Anthony, Benj. F. (*See* Harrington, Wm. T., assignor.)			
41, 750	Anthony, Henry T	New York, N. Y	Paper, albumenized, mode of preparing	Mar. 1, 1864.
42, 061	Anthony, Henry T	New York, N. Y	Photographic purposes, cuvettes and trays for	Mar. 29, 1864.
	Ansly, George W., and Eder Johnson, jr. (*See* Johnson & Ansly.)			
41, 739	Antonides, Peter, assignor to self and George W. Mayher	Freehold, N. J	Diggers, potato	Feb. 23, 1864.
	Apple, Adam. (*See* Blackmore, Henry, assignor.)			
45, 466	Appleby, John F	Mazomanie, Wis	Fire-arm, magazine or self-loading	Dec. 20, 1864.
	Archer and Pancoast. (*See* Deavs, Charles, assignor.)			
	Archer and Pancoast. (*See* Deavs & Archer, assignors.)			
	Archer, Ellis, and Charles Deavs. (*See* Deavs & Archer.)			
44, 060	Archer, Ellis	New York, N. Y	Air, apparatus for carburetting	Sept. 6, 1864.
	Archer, Hezekiah S. (*See* Anderson, William T., assignor.)			
44, 137	Archer, William, assignor to self and William P. Downer	New York, N. Y	Distilling hydro-carbon oils	Sept. 6, 1864.
44, 481	Archer, William, assignor to self and William P. Downer	New York, N. Y	Oils, hydro-carbon, refining	Sept. 27, 1864.
44, 061	Arick, Clifford	St. Clairsville, Ohio	Fuze, time and concussion, combined	Sept. 6, 1864.
44, 588	Arick, Clifford	St. Clairsville, Ohio	Shells, explosive, fuze for	Oct. 11, 1864.
45, 128	Arick, Clifford	St. Clairsville, Ohio	Shells, combined time and concussion fuze for	Nov. 22, 1864.
	Arms, George. (*See* Drake, Francis E., assignor.)			
44, 273	Armstrong, J., jr	Elmira, Ill	Planter, corn	Sept. 20, 1864.
43, 081	Armstrong, William	Milwaukie, Wis	Awnings	June 14, 1864.
	Army and Navy Button Company. (*See* Monroe, George O., assignor.)			
43, 172	Arnd, Gustavus	New York, N. Y	Barrels, &c., lining	June 21, 1864.
	Arnold, Alfred. (*See* Brown, Henry S., assignor.)			
	Arnold, Alfred. (*See* Brown, Henry S., assignor.)			
44, 037	Arnold, A. R., assignor to the Manhattan Fire-arms Co	Newark, N. J	Drills, twist, machine for making	Aug. 30, 1864.
43, 381	Arnold, Edward R	Providence, R. I	Engines, steam, valves for	July 5, 1864.
42, 152	Arnold, G. W	Morgantown, West Va	Ambulances	Apr. 5, 1864.
43, 963	Arnold, J. W., and H. W. Couch	West Macedon, N. Y	Sawing machines	Aug. 30, 1864.
44, 926	Arnold, Louis L., and Francis X. Hazman	New York, N. Y	Cigarettos, implement for making	Nov. 8, 1864.
	Arnold, William E. (*See* Greenwood, Jeremiah, assignor.)			
43, 891	Arnold, William M	New York, N. Y	Iron, composition	Aug. 23, 1864.
44, 250	Arrott, Alexander R., assignor to John B. Meldrum	England	Bleaching, process of	Sept. 13, 1864.
42, 062	Arthur, James S	Cordaville, Mass	Wrenches and other tools, nut for	Mar. 29, 1864.
43, 660	Arthur, James S	Cordaville, Mass	Hinges	Aug. 2, 1864.
	Asbury, Thomas H., *et al.* (*See* Baker, John G., assignor.)			
41, 970	Ashcroft, Edward H	Lynn, Mass	Salinometer cases	Mar. 22, 1864.

No.	Patentee.	Residence.	Invention or discovery.	Date.
44, 776	Ashcroft, Edward H	Lynn, Mass	Peat, machine for cleaning	Oct. 25, 1864.
	Ashcroft, E. H. (*See* Lawrence, Richard S., assignor.) Reissue.			
44, 062	Ashcroft, Edward H., and Albert Batteley	Lynn, Mass Boston, Mass	Fuel, peat, apparatus for preparing	Sept. 6, 1864.
45, 573	Ashcroft, E. H	Lynn, Mass	Pumps, oil-well	Dec. 27, 1864.
42, 336	Ashe, Edward David	England	Engines, propeller	Apr. 19, 1864.
44, 149	Ashford, Stephen	Philadelphia, Pa	Moulding apparatus	Sept. 13, 1864.
44, 364	Ashley, Charles C., assignor to James L. Harlem	Brooklyn, N. Y	Tobacco boxes, &c., clasp for	Sept. 20, 1864.
	Ashworth, John, and Darius Chase Brown. (*See* Brown & Ashworth.)			
1, 632	Atkins, Jearum, assignor, through mesne assignments, to Walter Wright	Chicago, Ill	Harvesters, grain, rakes to (Reissue)	Mar. 8, 1864.
1, 633	Atkins, Jearum, assignor, through mesne assignments, to Walter Wright	Chicago, Ill	Harvesters, grain, rakes to (Division of reissue)	Mar. 8, 1864.
44, 589	Atkinson, Richard	Mount Vernon, N. Y	Pavements, composition for	Oct. 11, 1864.
43, 278	Atterbury, Thomas B	Pittsburg, Pa	Glass, kiln for annealing	June 28, 1864.
44, 063	Atwater, Bryan	Berlin, Conn	Sewing machine	Sept. 6, 1864.
41, 047	Atwater, J. B	Chicago, Ill	Pumps, railroad, automatic	Jan. 5, 1864.
43, 382	Atwater, John B	Chicago, Ill	Ordnance, provision for the recoil of	July 5, 1864.
43, 964	Atwater, John B	Chicago, Ill	Hay, machines for loading	Aug. 30, 1864.
44, 274	Atwater, John B	Chicago, Ill	Pumps, cattle	Sept. 20, 1864.
44, 501	Atwater, John B	Chicago, Ill	Pumps, railroad	Oct. 4, 1864.
42, 153	Atwood, J. E., and G. Holland	Mansfield, Conn	Silk, sewing, manufacture of	Apr. 5, 1864.
43, 279	Atwood, James E	Trenton, N. J	Washing rollers	June 28, 1864.
44, 378	Atwood, James E., and Cassius P. Stimets	Trenton, N. J New York, N. Y	Dancer, automatic	Sept. 27, 1864.
41, 751	Atwood, Lewis J	Waterbury, Conn	Lamps	Mar. 1, 1864.
41, 593	Augspurger, Samuel	Trenton, Ohio	Harvesters	Feb. 16, 1864.
45, 215	Auguste, Louis	New York, N. Y	Cigar-holder	Nov. 29, 1864.
43, 631	Augustin, Francis E	Dubuque, Iowa	Boots, &c., adjusting patterns for	July 26, 1864.
	Austin, E. H. (*See* Guy, William B., assignor.)			
41, 337	Austin, F. J., deceased, by Jane Austin, administratrix	New York, N. Y	Books, machine for cutting	Jan. 19, 1864.
	Austin, James A., *et al.* (*See* Bean, B. T., assignor.)			
41, 899	Austin, John	Rockford, Ill	Cultivators	Mar. 15, 1864.
	Automatic Bottle Closing Company. (*See* Hamilton, Edward, assignor.)			
	Automatic Bottle Closing Company. (*See* Beard & Fairbanks, assignors.)			
42, 547	Avery, Cyrus	Ashtabula, Ohio	Kettles, camp	May 3, 1864.
43, 965	Avery, Cyrus	Ashtabula, Ohio	Frying pan and kettle	Aug. 30, 1864.
42, 632	Ayling, Henry A	Boston, Mass	Caoutchouc, &c., product from	May 10, 1864.
42, 633	Ayling, Henry A	Boston, Mass	Caoutchouc, &c., process for changing, curing, or treating	May 10, 1864.
44, 590	Ayres, Samuel, and Henry J. Chamberlin	Worcester, Mass	Toaster or broiler, wire	Oct. 11, 1864.
41, 470	Babbett, Avery	Auburn, N. Y	Loops, machine for making	Feb. 9, 1864.
44, 379	Babbit, A. S	Keeseville, N. Y	Car seats, railroad	Sept. 27, 1864.
	Babcock, A., and Simeon Howes. (*See* Howes & Babcock.)			
43, 151	Babcock, Moses, assignor to James F. and E. P. Monroe	Charlestown, Mass	Bullet ladle	June 14, 1864.
42, 634	Babcock, S. P	Jordan, N. Y	Harness hook	May 10, 1864.
44, 150	Babillion, John	Detroit, Mich	Dryer, grain	Sept. 13, 1864.
44, 380	Bachmann, John	Hoboken, N. J	Vessel, submarine, and life-boat	Sept. 27, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
43,469	Bacon, F. W., and Solon Dike	Jersey City, N. J New York, N. Y	Boots and shoes, metallic sole plate for	July 12, 1864.
1,634	Bacon, George R., assignor to the Burnside Rifle Company	North Providence, R. I	Fire-arm, breech-loading (Reissue)	Mar. 15, 1864.
	Bacon, James D. (*See* McIntyre, James, assignor.)			
43,632	Bacon, Leonard	Charlotte, Mich	Churns	July 26, 1864.
	Bacon, William E., and James Ferris. (*See* Ferris & Bacon.)			
	Badger, A. M. (*See* Dale, John D., assignor.)			
41,971	Badger, Willard, jr	North Chelsea, Mass	Springs, door. (Antedated March 15, 1864)	Mar. 22, 1864.
42,063	Bagley, Henry	Mechanicsville, Iowa	Traps, animal	Mar. 29, 1864.
43,381	Bailey, Alfred M., and John O. Couch	Middlefield, Conn	Screws, machine for driving	July 5, 1864.
	Bailey, Allen L. (*See* Bryant, John, assignor.)			
43,383	Bailey, Franklin L	Boston, Mass	Printing press	July 5, 1864.
45,461	Bailey, Franklin L	Boston, Mass	Printing press	Dec. 13, 1864.
44,381	Bailey, Frederick	New York, N. Y	Inkstand, pen-cleaner, &c., arrangement of	Sept. 27, 1864.
1,998	Bailey, Frederick	New York, N. Y	Bottle, ink (Design)	Nov. 15, 1864.
42,635	Bailey, G. B	Greenfield, Ind	Screen, grain	May 10, 1864.
43,544	Bailey, Harry, assignor to George D. Brown	Pittsford, N. Y	Vehicles, wheel, joint clip and spoke socket for	July 12, 1864.
43,966	Bailey, H. L., and S. S. Williams	Pittsburg, Pa	Water elevators	Aug. 30, 1864.
42,040	Bailey, John A., and John J. Speed	Brooklyn, N. Y Gorham, Me	Telegraphs, machines for covering wires for. (Patented in England December 14, 1863.)	Mar. 22, 1864.
	Bailey, J. C. W. (*See* Goodwin, Caleb, assignor.)			
	Bailey, Selden A., *et al.* (*See* Allender, John, assignor.) Reissue.			
	Bailey, Selden A., *et al.* (*See* Allender, John, assignor.) Reissue.			
1,710	Bailey, S. A., assignor to self and Simeon S. and Benedict M. Cook.	Woonsocket, R. I	Clothes, machine for wringing (Reissue)	June 28, 1864.
43,661	Bailey, Selden A	Woonsocket, R. I	Wringing machine	Aug. 2, 1864.
	Bailey, Stephen A., and Russell Wheeler. (*See* Wheeler & Bailey.)			
	Bailey, Stephen A., and Russell Wheeler. (*See* Wheeler & Bailey.) Design.			
41,471	Bailey, Thomas H	Troy, N. Y	Water cylinders, relief valves for	Feb. 9, 1864.
	Bailey, William. (*See* Goeway, George, assignor.)			
44,777	Baillie, R. P	Detroit, Mich	Valves, steam balance	Oct. 25, 1864.
44,064	Baily, George	Wiscotta, Iowa	Harvesters. (Antedated December 11, 1861)	Sept. 6, 1864.
43,618	Bain, Alexander, assignor to William H. Allen	New York, N. Y	Telegraphic purposes, machines for punching paper for	July 19, 1864.
45,012	Bain, Alexander	New York, N. Y	Faucets	Nov. 15, 1864.
45,013	Bain, Alexander	New York, N. Y	Liquids, apparatus for drawing	Nov. 15, 1864.
42,154	Baird, John	New York, N. Y	Engines, steam, slide valves for	Apr. 5, 1864.
	Baird, Robert. (*See* Stains, Henry T., assignor.)			
	Baird, Utilles, and William S. Colwell. (*See* Colwell & Baird.)			
43,753	Baker, David H	Jersey City, N. J	Car seats, railroad, mode of locking	Aug. 9, 1864.

No.	Patentee.	Residence.	Invention or discovery.	Date.
42,337	Baker, Edward John	Philadelphia, Pa	Fluid metres	Apr. 19, 1864.
45,014	Baker, Halsey H	New Market, N. J	Locks	Nov. 15, 1864.
	Baker, Hiram C., and Jason Kidder. (*See* Annis, H. K., assignor.)			
45,115	Baker, James M., assignor to self and Elliott P. Gleason	Providence, R. I	Looms for weaving palm leaf, straw, &c	Nov. 15, 1864.
41,088	Baker, James R	Kendallsville, Ind	Lamp-burners	Jan. 5, 1864.
42,266	Baker, James R	Kendallsville, Ind	Lamps	Apr. 12, 1864.
41,419	Baker, John G	Washington, D. C	Saws, grinding	Feb. 2, 1864.
44,915	Baker, John G., assignor to self, Thomas S. Diston and Thomas H. Asbury.	Philadelphia, Pa	Lathes, turning	Nov. 1, 1864.
	Baker, O. T., and S. L. Sage. (*See* Sage & Baker.)			
41,049	Baker, R. H	Jamestown, N. Y	Fruit boxes, case for conveying	Jan. 5, 1864.
43,280	Baker, Theodore	Stillwater, N. Y	Paper-making machines, self-acting felt guide for	June 28, 1864.
41,669	Baker, Walter	Ilion, N. Y	Gun-barrels, manufacture of	Feb. 23, 1864.
43,281	Baker, William	East Templeton, Mass	Splints, tools for riving	June 28, 1864.
44,038	Baker, W. C., assignor to self and John J. Smith	New York, N. Y	Damper, air, automatic, for hot-water heating apparatus	Aug. 30, 1864.
44,582	Balans, Raymond	France	Sail, jib, rings	Oct. 4, 1864.
43,385	Balbach, Edward	Newark, N. J	Silver and gold from lead, process of separating	July 5, 1864.
	Baldwin, A. C., and C. H. Warren. (*See* Warren & Baldwin.)			
44,502	Baldwin, C. A., and C. Aborn	Independence, Iowa	Seeding machine	Oct. 4, 1864.
44,591	Baldwin, Charles A	Boston, Mass	Casks and barrels, method of repairing	Oct. 11, 1864.
	Baldwin, Cyrus W., and Daniel J. Browne. (*See* Browne & Baldwin.)			
	Baldwin, David, and Thomas H. McBride. (*See* McBride & Baldwin.)			
	Baldwin, Henry, jr. (*See* Forker, William H., assignor.)			
43,282	Baldwin, John	St. Paris, Ohio	Harvesters, rakes for	June 28, 1864.
	Baldwin, J. E. (*See* Hurd, Horace, assignor.)			
42,826	Baldwin, Oren	Summitville, Iowa	Washing machine	May 24, 1864.
43,826	Baldwin, Oren	Summitville, Iowa	Pumps	Aug. 16, 1864.
44,382	Baldwin, Stephen W	Baldwinsville, N. Y	Leather work, nails for	Sept. 27, 1864.
1,635	Ball, Albert	Worcester, Mass	Fire-arms, self-loading (Reissue)	Mar. 15, 1864.
43,827	Ball, Albert	Worcester, Mass	Fire-arms, breech-loading, self-feeding	Aug. 16, 1864.
45,307	Ball, Albert	Worcester, Mass	Fire-arms, magazine	Dec. 6, 1864.
45,216	Ball, Cortland	Augusta, Mich	Grubbing machines	Nov. 29, 1864.
44,503	Ball, Jonathan	New York, N. Y	Lathes, turning	Oct. 4, 1864.
41,752	Ball, J. C	Ionia county, Mich	Presses, wool	Mar. 1, 1864.
45,382	Ball, William	Peru, Mass	Potato-masher	Dec. 13, 1864.
43,892	Ball, William Walden	Grand View, Ill	Tuyere	Aug. 23, 1864.
41,354	Ballard, Allen S	Mt. Pleasant, Iowa	Stoves, drum	Jan. 26, 1864.
44,151	Ballard, Allen S., and Thomas L. Sergeant	Mt. Pleasant, Iowa	Steaming grain, apparatus for	Sept. 13, 1864.
43,283	Ballentine, A. T	New York, N. Y	Fire-escapes	June 28, 1864.
	Ballinger, Charles, and Frederick McKee. (*See* McKee & Ballinger.)			
44,383	Bamber, John	Rochester, N. Y	Stoves, dining-room. (Antedated September 19, 1864)	Sept. 27, 1864.
43,000	Bancroft, E. W	Columbus, Ohio	Oil cups	June 7, 1864.
	Bancroft, Joseph B., and Sumner R. Bixby. (*See* Bixby & Bancroft.)			
45,372	Bangs, William H., jr., assignor to Nath'l L. Bradley and Walter Hubbard.	West Meriden, Conn	Measures, tape, spring	Dec. 6, 1864.
41,050	Banister, Isaac	Newark, N. J	Sewing machines, thread-waxing device for	Jan. 5, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
41, 900	Banister, Isaac	Newark, N. J	Buckles	Mar. 15, 1864.
44, 927	Banister, Isaac	Newark, N. J	Buckles	Nov. 8, 1864.
	Banker and Carpenter. (*See* Prince, Geo. W., assignor.)			
42, 137	Banks, Thaddeus C., assignor to self and Samuel A. Banks	New York, N. Y	Signal whistles	Mar. 29, 1864.
43, 560	Banning, Edmund P	New York, N. Y	Trusses for uterine support	July 19, 1864.
44, 913	Banning, Edmund P	New York, N. Y	Trusses	Nov. 1, 1864.
44, 914	Banning, Edmund P	New York, N. Y	Braces, body	Nov. 1, 1864.
45, 217	Banta, George A	New York, N. Y	Refrigerator. (Antedated November 16, 1864)	Nov. 29, 1864.
43, 173	Barbaires, Felix	Solano county, Cal	Paddle-wheel, feathering	June 21, 1864.
	Barber, S. E., *et al.* (*See* Hawley & Stafford, assignors.)			
42, 827	Barbor, William Henry	Greenfield, Mass	Bits and other tools, device for holding	May 24, 1864.
41, 188	Barcalo, Myron J	Mt. Morris, N. Y	Separator, grain	Jan. 12, 1864.
42, 155	Bardoux, Lucien	France	Paper pulp, manufacture of	Apr. 5, 1864.
42, 456	Bardsley, James, and Allen W. Gordon	Willimantic, Conn	Looms, picker for	Apr. 26, 1864.
	Barker, B., jr. (*See* Thomas, Joshua, jr., assignor.)			
42 921	Barker, Peleg	Battle Creek, Mich	Threshing machines	May 31, 1864.
43, 893	Barber, William, and Gaylord Martin	Schenectady, N. Y	Brick machine	Aug. 23, 1864.
42, 738	Barkley, Robert, and Louis Semple	Philadelphia, Pa	Grindstone dresser	May 17, 1864.
44, 384	Barnard, William	Deerfield, Mass	Carpet fastening. (Antedated September 16, 1864)	Sept. 27, 1864.
44, 928	Barnard, William B	Waterbury, Conn	Metallic surfaces, mode of uniting	Nov. 8, 1864.
45, 574	Barnard, William B	Waterbury, Conn	Shears, lamp-trimmers'	Dec. 27, 1864.
45, 015	Barnes, Henry D	New Haven, Conn	Metal hoops, flaring	Nov. 15, 1864.
45, 383	Barnes, John	Rockford, Ill	Harvesters	Dec. 13, 1864.
45. 129	Barnes, John H	Brooklyn, N. Y	Latches, knob	Nov. 22, 1864.
43, 662	Barnes, Joshua	New York, N. Y	Bed bottom, spring	Aug. 2, 1864.
	Barnes, W. C. (*See* Richard, S., assignor.)			
45, 130	Barnett, G. W	Urbana, Ohio	Carriages, steam	Nov. 22, 1864.
43, 470	Barney, Frank	Bloomington, Ill	Cultivators	July 12, 1864.
	Barney, John F., *et al.* (*See* Smith, Wm. G., assignor.)			
43, 386	Barney, William H	Columbus, Ohio	Lathes, rest for turning	July 5, 1864.
1, 760	Barnum, Daniel	New York, N. Y	Sewing-machine guide (Reissue)	Sept. 13, 1864.
44, 504	Barnum, N. G	Malaga, N. J	Saws, machine for filing	Oct. 4, 1864.
41, 410	Barrett, James C., assignor to Joseph R. Van Marter	Stamford, Conn	Water elevators	Jan. 26, 1864.
43, 619	Barrett, M. W., assignor to self and Geo. Milburn	Mishawaka, Ind	Tuyeres	July 19, 1864.
44, 385	Barry, Job R	Philadelphia, Pa	Bilge-water gauge	Sept. 27, 1864.
41, 355	Barstow, Amos C	Providence, R. I	Ranges, cooking	Jan. 26, 1864.
45, 308	Bartelett, Clara A	Ferndale, Cal	Saddles, side	Dec. 6, 1864.
41, 269	Bartholomew, F. H	New York, N. Y	Water-closet valves	Jan. 19, 1864.
45, 667	Bartle, T. C., and C. F. Putney, ass'ors to T. C. Bartle	Independence, Iowa	Evaporators, steam pans for	Dec. 27, 1864.
	Bartlett, D. L., *et al.* (*See* Smith & Brown, ass'ors.) Design.			
44, 698	Bartlett, H. F	La Grange, Mo	Sugar, evaporating pan for	Oct. 18, 1864.
42, 267	Bartlett, Harvey S	Smithfield, R. I	Spinning, self-acting mules for	Apr. 12, 1864.
44, 152	Bartlett, John	La Salle, Mich	Tile machine	Sept. 13, 1864.
44, 386	Barton, Ezra P	Windsor, N. Y	Water elevators	Sept. 27, 1864.
43, 663	Barton, James	Peru, Ill	Wind mills	Aug. 2, 1864.
1, 798	Barton, Jason, assignor, through mesne assignments, to Wm. L. and N. L. Bradley and Walter Hubbard.	Middle Haddam, Conn	Bells, pressure (Reissue)	Oct. 25, 1864.
42, 457	Bassett, Charles H	Derby, Conn	Corset steels, &c., japanning	Apr. 26, 1864.
	Bassett, R. M., *et al.* (*See* Smith, Wilson H., assignor.)			
	Bassett, Royal M. (*See* Clemons, Andrew B., assignor.)			
	Bassett, Royal M. (*See* Smith, Wilson H., assignor.)			
	Bassett, R. M., *et al.* (*See* Smith, W. H., assignor.) Reissue.			
	Bassett, R. M. (*See* Smith, W. H., assignor.)			
41, 251	Batchelder, John, assignor to A. Batchelder	Canaan, N. H	Bungs, machines for making	Sept. 13, 1864.
43, 174	Batchelder, W. W	New York, N. Y	Piano-fortes	June 21, 1864.
41, 132	Batchelor, Nathaniel A	New York, N. Y	Metals, mode of ornamenting	Jan. 5, 1864.
	Bate, Thos. H., and Wm. Mills. (*See* Van Gieson, Wm. H., assignor.)			
44, 390	Bates, Caleb	Kingston, Mass	Ordnance, carriages for raising and transporting	Sept. 27, 1864.
	Bates, George. (*See* Packer, Charles W., assignor.)			
	Bates, George. (*See* Packer, Charles W., assignor.)			
44, 778	Bates, Isaac	Poughkeepsie, N. Y	Penmanship, diagram for teaching	Oct. 25, 1864.
	Battin, A. J. (*See* Tattershall, Richard, assignor.)			
42, 722	Baudissin, Julius O., assignor to self and S. Vangranfelland.)	St. Louis, Mo	Balances, hydrostatic	May 10, 1864.
	Baudonin, F. M. and A. (*See* Jouannin & Baudonin.)			
44, 929	Bauer, C., and W. C. Mander	Newark, N. J	Boxes, machines for nailing	Nov. 8, 1864.
42, 064	Bauer, Peter	Newark, N. J	Punch, spring	Mar. 29, 1864.
41, 189	Baughman, D. C	Adams, Ohio	Saw-mills, adjusting logs in	Jan. 12, 1864.
42, 326	Baumgras, Peter, assignor to self and Chas. E. Livingston	Syracuse, N. Y	Fur, vegetable, &c., manufacture of	Apr. 12, 1864.
42, 814	Baumgras, Peter, assignor to self and Chas. E. Livingston	Syracuse, N. Y	Green brier, berries of the, obtaining useful products from the.	May 17, 1864.
43, 894	Baxendale, Samuel	South Malden, Mass	Wadding, &c., machine for surface-sizing	Aug. 23, 1864.
42, 548	Baxter, Joel	North Greece, N. Y	Beans, machine for pulling	May 3, 1864.
44, 065	{ Baxter, Samuel W., and { J. Winslow Chapman	Dennis, Mass Barnstable, Mass	Vessels, square-rigged, courses (or lower sails) of	Sept. 6, 1864.
	Bayley, A. L. (*See* Curtis, Philip, assignor.)			
44, 699	Bayley, George D	Boston, Mass	Knife, fork, and pie-crimper. (Antedated Oct. 1, 1864)	Oct. 18, 1864.
44, 153	Bayley, Oliver W	Boston, Mass	Steam-generators	Sept. 13, 1864.
	Baymount, N. P., *et al.* (*See* Ochiltree, Weir & Baymount.)			
41, 753	Beach, Abel	Iowa City, Iowa	Cistern regulator, automatic	Mar. 1, 1864.
42, 039	Beach, A. Ely	Stratford, Conn	Railroads, street	Mar. 22, 1864.
44, 387	Beach, Charles	Penn Yan, N. Y	Flax, machine for cleaning	Sept. 27, 1864.
44, 067	Beach, Edgar B	West Meriden, Conn	Chuck, self-centering	Sept. 6, 1864.
	Beach, Levi, *et al.* (*See* Mozart, Beach & Hubbell.)			
41, 270	Beach, Lorenzo	Montrose, Pa	Rakes, horse	Jan. 19, 1864.
42, 338	Beach, Thaddeus	New York, N. Y	Castor wheels	Apr. 19, 1864.
42, 428	Beach, William H., assignor to J. S. Beach	Chicago, Ill	Steam bell ringers	Apr. 19, 1864.
43, 620	Beach, Wm. W., assignor to self and Frederick Chamberlain.	New York, N. Y	Cravats, vulcanized rubber	July 19, 1864.
42, 922	Beackley, John W	Philadelphia, Pa	Photographic album	May 31, 1864.
43, 284	Beals, Fordyce	New Haven, Conn	Fire-arms, breech-loading	June 28, 1864.
45, 016	Beals, Fordyce, and C. T. Grilley	New Haven, Conn	Fastening, sash	Nov. 15, 1864.
43, 068	Bean, B. T., assignor to self, Seth D. Woodbury and James A. Austin.	Lynn, Mass	Neck-tie supporters	June 7, 1864.
41, 115	Bean, Edward E., assignor to self, L. H. Straw, J. A. Lockie and E. Leland.	Boston, Mass	Ordnance, disabling	Jan. 5, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
45, 467	Bean, John	Hudson, Mich	Pumps	Dec. 20, 1864.
43, 082	Beane, Eben J	Providence, R. I	Boots and shoes, shaving the heels of	June 14, 1864.
42, 156	Beanes, Edward	England	Treating animal charcoal	Apr. 5, 1864.
43, 748	Beanes, Edward	England	Charcoal, animal, mode of treating	Aug. 2, 1864.
	Bearce, A. M., *et al.* (*See* Devereux, John H., assignor.)			
45, 373	Beard, J., and Moses Fairbanks, assignors to Automatic Bottle Closing Co.	Boston, Mass	Bottling still liquids	Dec. 6, 1864.
41, 594	Beard, James J	Columbus, Ohio	Bridges, iron	Feb. 16, 1864.
	Beards and Cummings. (*See* Crump, Samuel, jr., assignor.)			
	Beardsley, James H. (*See* Hall, David E., assignor.)			
45, 468	Beath, John M	San Francisco, Cal	Amalgamator, ore	Dec. 20, 1864.
44, 505	Beaton, William	Grinnell, Iowa	Churn	Oct. 4, 1864.
45, 131	Beaton, William	Grinnell, Iowa	Cloth in the piece or roll, device for measuring	Nov. 22, 1864.
41, 670	Becher, Joseph, and William Tustin	Philadelphia, Pa	Feed bags	Feb. 21, 1864.
45, 218	Beckers, Alexander	New York, N. Y	Tubes, flexible, device for making curvature in	Nov. 29, 1864.
	Beckwith, P. D., *et al.* (*See* Wheeler, S. H., assignor.)			
42, 157	Bedford, Elizabeth F. and Sidney S	Johnstown, N. Y	Leggins, ladies'	Apr. 5, 1864.
43, 895	Beebe, Alonzo, and Francis L. Bestor	Enfield, Mass	Looms, friction device for the yarn beam of	Aug. 23, 1864.
44, 039	Beecher, Evelyn, assignor to Hoadley, Beecher & Co	Plymouth, Conn	Basket	Aug. 30, 1864.
42, 923	Beecher, L. W	New Haven, Conn	Fruit basket	May 31, 1864.
41, 255	Beers, Jno. C., assignor to self and R. E. Skidmore	Brooklyn, N. Y	Lamps, collars for	Jan. 12, 1864.
42, 636	Beers, Sidney A	Brooklyn, N. Y	Railroad rails (Antedated May 3, 1864)	May 10, 1864.
	Beeston, W. R., *et al.* (*See* Groves, John, assignor.)			
41, 661	Behel, Jacob	Earleville, Ill	Grain-binders	Feb. 16, 1864.
44, 139	Behel, Jacob, and Wheeler Hedges, assignors to Jacob Behel.	Earleville, Ill	Harvesters, binding attachments to	Sept. 6, 1864.
	Behel, Jacob, and Wm. H. Robinson. (*See* Robinson & Behel.)			
	Belden, B. H., *et al.* (*See* Hall, A. W., assignor.)			
	Belden, R. H., *et al.* (*See* Hall, A. W., assignor.)			
	Belden, R. H., *et al.* (*See* Hall, A. W., assignor.)			
	Belden, R. H., *et al.* (*See* Hall, A. W., assignor.)			
43, 754	Belding, H. V	Oppenheim, N. Y	Milking machine	Aug. 9, 1864.
43, 175	Bell, John S., assignor to self, J. Mitchell and J. Marlett	Hackettstown, N. J	Car-coupling	June 21, 1864.
	Bell, Wm. S. (*See* Spofford & Fogerty, assignors.)			
	Bell, Wm. S., jr., and Charles Spofford. (*See* Spofford & Bell.)			
43, 755	Bemis, Wm. A	Lyndon Centre, Vt	Pumps	Aug. 9, 1864.
	Benham, Nathan. (*See* Boynton, E. S., assignor.)			
43, 664	Benjamin, J. R	New York, N. Y	Excavators, sub-marine	Aug. 2, 1864.
41, 595	Bennett, Erasmus	Clarkville, N. Y	Wagon brake	Feb. 16, 1864.
41, 671	Bennett, Henry	England	Iron and steel, machinery to aid in puddling. (Patented in England May 18, 1863.)	Feb. 23, 1864.
41, 356	Benster, Alfred	Detroit, Mich	Barrel-head machine	Jan. 26, 1864.
42, 339	Benton, Henry	Guilford, Conn	Knives, butter, holder for	Apr. 19, 1864.
44, 154	Bentz, Charles	Mindenville, N. Y	Boat, canal, two-line attachment	Sept. 13, 1864.
43, 665	Berg, Ezechel	New York, N. Y	Cigarettes	Aug. 2, 1864.
45, 575	Berg, Ezechel	New York, N. Y	Cigarettes, apparatus for filling	Dec. 27, 1864.
45, 202	Bergen, A. J., and D. Williamson, assignors to Moores' Patent Fire-arms Company.	Brooklyn, N. Y	Fire-arms, breech-loading	Nov. 22, 1864.
42, 815	Bergen, Cornelius J., assignor to Moores' Patent Fire-arms Company.	Brooklyn, N. Y	Cartridges, metallic	May 17, 1864.
44, 066	Bergner, Theodore	Philadelphia, Pa	Skate fastenings	Sept. 6, 1864.
	Berkel, Lorenz, and George Quirin. (*See* Quirin & Berkel.)			
	Bernard, Schaffer & Co. (*See* Jaeckel, Fred'k A., assignor.)			
42, 458	Berney, Alfred	Jersey City, N. J	Forts, &c., by means of inflammable liquids, destroying. (Antedated April 19, 1864.)	Apr. 26, 1864.
	Berney, Alfred. (*See* Turner, Chas. B., assignor.) Reissue.			
	Berney, Alfred. (*See* Turner, Chas. B., assignor.) Reissue.			
43, 561	Berrey, E	Auburn, Ind	Sawing machines	July 19, 1864.
	Berry, James S., and Albert H. Gilman. (*See* Gilman & Berry.)			
41, 116	Berry, Lewis M., and Nathaniel S. Graves, assignors to Lewis M. Berry and James A. Woodbury.	Boston, Mass	Saws, jig	Jan. 5, 1864.
42, 065	Bertola, Joseph A	New York, N. Y	Ores, auriferous, apparatus for concentrating. (Antedated March 21, 1864.)	Mar. 29, 1864.
42, 340	Bertola, Joseph A	New York, N. Y	Ores, metallic, anti-friction stampers for	Apr. 19, 1864.
42, 341	Bertola, Joseph A	New York, N. Y	Ores, metallic, "Chilian mills" for pulverizing	Apr. 19, 1864.
41, 357	Best, Benjamin	Dayton, Ohio	Filters	Jan. 26, 1864.
	Best, Josiah. (*See* Granger, T. P., assignor.)			
	Bestor, Francis L., and Alonzo Beebe. (*See* Beebe & Bestor.)			
	Betteley, Albert, and Edward H. Ashcroft. (*See* Ashcroft & Betteley.)			
41, 051	Betts, Lewis F	Albion, Mich	Heaters	Jan. 5, 1864.
42, 549	Betts, Robert W	New York, N. Y	Box for mustard and the like articles	May 3, 1864.
42, 813	Betts, Rodney L. and Albert C	Brunswick, N. Y	Ploughs	May 17, 1864.
41, 358	Bevis, George, assignor to John R. Graham, jr	Rochester, N. Y	Bed bottom; spring	Jan. 26, 1864.
42, 828	Bickel, J. G	Buffalo, N. Y	Faucet and vent, beer, combined	May 24, 1864.
41, 596	Bickel, William	Pottsville, Pa	Stoves	Feb. 16, 1864.
	Bickford, John C., and Francis D. Hayward. (*See* Hayward & Bickford.)			
42, 905	Bidwell, Jason A., assignor to self, A. Churchill, H. T. Litchfield and Daniel M. Robertson.	Boston, Mass	Screws, wood	May 24, 1864.
44, 930	Bidwell, Salmon	Philadelphia, Pa	Air, gas, &c., apparatus for compressing	Nov. 8, 1864.
	Bigalow, Nelson. (*See* Snyder, John H., assignor.)			
	Bigelow Carpet Co. (*See* Stevenson, Peter, assignor.)			
	Bigelow, H. B. (*See* Wilder, Moses G., assignor.)			
41, 672	Bignall, B. B	Owego, N. Y	Water elevators	Feb. 23, 1864.
42, 924	Bignall, L. C	Lockport, N. Y	Fastener, window and door	May 31, 1864.
41, 901	Bignall, M. C	Seneca Falls, N. Y	Water elevators. (Antedated March 1, 1864)	Mar. 15, 1864.
41, 825	Billings, George W	New York, N. Y	Flax and hemp, retting. (Antedated February 21, 1864)	Mar. 8, 1864.
41, 826	Billings, George W	New York, N. Y	Flax and hemp, cleaning and separating the fibres of. (Antedated February 21, 1864.)	Mar. 8, 1864.
41, 902	Billings, George W	New York, N. Y	Flax and hemp machine. (Antedated March 5, 1864)	Mar. 15, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
41,903	Billings, George W	New York, N. Y	Flax and hemp, machine for breaking. (Antedated February 28, 1864.)	Mar. 15, 1864.
1,761	Billings, George W	New York, N. Y	Flax, hemp, &c., cleaning and separating the fibres of. (Reissue.)	Sept. 13, 1864.
42,618	Billings, Wm., assignor to Abraham W. Godfrey	Brooklyn, N. Y	Pegging jack	May 3, 1864.
44,592	Billings, Wm. B	Brooklyn, N. Y	Lamps, petroleum	Oct. 11, 1864.
44,700	Billings, Wm. B	New York, N. Y	Baker attached to coal-oil lamp	Oct. 18, 1864.
42,429	Billon, Louis, assignor to self and John Foggan	Brooklyn, N. Y	Collars, shirt, steel	Apr. 19, 1864.
41,884	Binger, C. H., and W. E. Fischer, assignors, through mesne assignments, to Alfred B. Ely.	Boston, Mass	Pegging machine, hand	Mar. 8, 1864.
45,384	Bingham, Thomas	Newburg, N. Y	Lamp wicks. (Antedated January 31, 1863)	Dec. 13, 1864.
41,052	Bingham, T. F	Gowanda, N. Y	Beehives	Jan. 5, 1864.
43,756	Bingham, T. F	Gowanda, N. Y	Beehives	Aug. 9, 1864.
43,562	Bird, Josiah N	New York, N. Y	Steel, manufacture of	July 19, 1864.
	Birdsall, David, and James Howell. (*See* Howell & Birdsall.)			
	Birdsall, David, and James Howell. (*See* Howell & Birdsall.)			
	Birdsall, David, and James Howell. (*See* Howell & Birdsall.)			
	Birdsall, E. M., and J. W. Prentiss. (*See* Prentiss & Birdsall.)			
44,847	Birdsall, William B., and Edwin B. Cogswell	Hudson, Mich	Harvesting machines	Nov. 1, 1864.
44,506	Birkbeck, George, jr	New York, N. Y	Gun-carriages	Oct. 4, 1864.
41,472	Birkenhead, John	Ilion, N. Y	Fire-arms, trigger cover for	Feb. 9, 1864.
42,829	Birkenhead, John	Ilion, N. Y	Spinning frames, ring and traveller, mode of adjusting rings and ring rails in.	May 24, 1864.
	Biser, Mahlon K., and Wm. Ridenour. (*See* Ridenour & Biser.)			
42,066	Bishop, Albert D	New York, N. Y	Carriages, ball. (Antedated February 17, 1864)	Mar. 29, 1864.
44,507	Bishop, E. F	Burton, Ohio	Straw-cutters	Oct. 4, 1864.
45,576	Bishop, Theophilus L., and George L. Hall	Boston, Mass	Twine-cutting ring	Dec. 27, 1864.
1,794	Bissell, Levi, assignor to the Locomotive Engine Safety-Truck Company.	New York, N. Y	Locomotives, trucks for	Oct. 18, 1864.
43,828	Bixby, Sumner R., and Joseph B. Bancroft	Worcester, Mass Milford, Mass	Looms, shuttle-guides or guards for	Aug. 16, 1864.
	Black, James, and R. A. Rogers. (*See* Rogers & Black.)			
42,158	Blackham, Job W	Brooklyn, N. Y	Sewing machines, device for sewing hat-linings in	Apr. 5, 1864.
43,633	Blackie, John	Washington, D. C	Magnetic annunciator	July 26, 1864.
42,041	Blackmore, Henry, assignor to self and Adam Apple	Pittsburg, Pa	Car coupling	Mar. 22, 1864.
42,159	Blackwood, Ruel	Philadelphia, Pa	Tubes and tube sheets, method of expanding	Apr. 5, 1864.
42,083	Blair, J. B	Philadelphia, Pa	Photographic card press. (Antedated May 24, 1864)	June 14, 1864.
42,739	Blair, John S	Boston, Mass	Fire-places	May 17, 1864.
1,920	Blake, Edward F., deceased, by Eli W. Blake, adm'r	New Haven, Conn	Nut-cracker (Design)	Mar. 15, 1864.
41,473	Blake, E. S	Pittsburg, Pa	Lamp chimneys	Feb. 9, 1864.
44,508	Blake, E. S	Pittsburg, Pa	Lamp chimneys	Oct. 4, 1864.
42,327	Blake, George F., assignor to self and Peter Hubbell	Medford, Mass	Engines, steam, valves for	Apr. 12, 1864.
44,155	Blake, George W	New York, N. Y	Radiators, steam, air valves for	Sept. 13, 1864.
44,156	Blake, George W	New York, N. Y	Radiators, steam-heating	Sept. 13, 1864.
	Blake, Lyman R., and Gordon McKay. (*See* McKay & Blake.)			
	Blake, Lyman R., and Gordon McKay. (*See* McKay & Blake.)			
	Blake, Lyman R., and Gordon McKay. (*See* McKay & Blake.)			
	Blake, Lyman R., and Gordon McKay. (*See* McKay & Blake.)			
	Blake, Lyman R., and Gordon McKay. (*See* McKay & Blake.)			
44,275	Blake, Lyman R	Quincy, Mass	Soles and vamps, stitch for	Sept. 20, 1864.
44,388	Blake, Lyman R	Quincy, Mass	Boots and shoes	Sept. 27, 1864.
42,067	Blake, Philos	New Haven, Conn	Suspender buckles	Mar, 29, 1864.
	Blake, Robert, and Lysander Button. (*See* Button & Blake.)			
44,389	Blake, S. E	Worcester, Mass	Twine-cutters	Sept. 27, 1864.
41,662	Blakeley Theophilus A	England	Ordnance	Feb. 16, 1864.
44,779	Blakeman, Eben, and Joseph R. Hill	Charleston, Ill	Clothes-wringer	Oct. 25, 1864.
41,271	Blakeman, Horace A	Cuyler, N. Y	Cheese curd cutters	Jan. 19, 1864.
44,365	Blakeslee, Chas. W., assignor to Nathaniel Wheeler	Northfield, Conn	Knitting machine	Sept. 20, 1864.
45,409	Blakeslee, Erastus	Plymouth, Conn	Cartridge box	Dec. 20, 1864.
	Blanchard, Emery, and E. S. Clapp. (*See* Clapp & Blanchard.)			
41,272	Bland, Henry	Great Britain	Sewing machine, tension device for	Jan. 19, 1864.
43,387	Blandy, Henry and Frederick J. L	Zanesville, Ohio	Pump gear	July 5, 1864.
43,471	Blandy, Henry and Frederick J. L	Zanesville, Ohio	Engines, steam, valve gear for	July 12, 1864.
44,701	Blerzer, Henry W	Buffalo, N. Y	Heater, sad-iron	Oct. 18, 1864.
41,053	Blinval, A. M	New York, N. Y	Preserving eggs	Jan. 5, 1864.
45,309	Bliss, J. W	Hartford, Conn	Egg beater and agitator. (Antedated Nov. 20, 1864)	Dec. 6, 1864.
44,068	Blodgett, Theodore	Belchertown, Mass	Dumping cart	Sept. 6, 1864.
45,219	Blood, Abijah E. and Josiah B	Lynn, Mass	Tobacco cutters	Nov. 29, 1864.
	Blood, Asa, sr	Janesville, Wis	Obstetric chairs and supporters (Extension)	Aug. 16, 1864.
45,132	Blood, Asa, sr	Janesville, Wis	Gates	Nov. 22, 1864.
41,673	Blood, H. S	New Orleans, La	Sweeping machines, street	Feb. 23, 1864.
42,160	Blood, H. S	New Orleans, La	Clothes-dryer	Apr. 5, 1864.
41,190	Blood W. H	San Francisco, Cal	Clothes-washing machine	Jan. 12, 1864.
45,017	Bloodgood, John H., and Moses A. Johnson	New York, N. Y Lowell, Mass	Felting machines	Nov. 15, 1864.
45,555	Bloomer, Chas. G., assignor to Eberhard Faber	Wickford, R. I	Lathes, turning	Dec. 20, 1864.
42,550	Bloss, Reuben	Rochester, N. Y	Mortise and draw-bore delineators	May 3, 1664.
1,724	Bly, Douglas	Rochester, N. Y	Legs, artificial (Reissue)	July 12, 1864.
42,161	Boardman, Charles T	Bergen Point, N. J	Heaters	Apr. 5, 1864.
45,310	Boardman, Harris	Lancaster, Pa	Corkwood, machines for slicing	Dec. 6, 1864.
	Boardman, S. S. (*See* Luckey, D. B., assignor.)			
44,276	Bockman, Marcus	Brooklyn, N. Y	Windlass	Sept. 20, 1864.
43,451	Bodley, J. T., J. Reynolds and S. Van Emon, assignors to J. T. Bodley and P. P. Lane.	Cincinnati, Ohio	Hoisting apparatus	July 5, 1864.
41,674	Bodwell, Luke W	Ann Arbor, Mich	Sugar evaporators, working and using	Feb. 23, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
42,268	Boekel, William	Philadelphia, Pa	Projectiles for rifled ordnance, packing	Apr. 12, 1864.
	Bogardus, James	New York, N. Y	Buildings, iron, construction of the frame, roof and floor of. (Extension.)	Apr. 23, 1864.
	Bogert, Horatio. (*See* Bradford, Hezekiah, assignor.)			
41,191	Bogert, Seba	New York, N. Y	Button, sleeve	Jan. 12, 1864.
41,597	Bogia, Matthew C	Philadelphia, Pa	Stamps, handles for	Feb. 16, 1864.
45,577	Bohen, George T	San Francisco, Cal	Cesspool	Dec. 27, 1864.
	Bohler, Daniel. (*See* Cressman, Isaac, assignor.)			
43,959	Bolette, Jean Sebastian	Belgium	Carding and other machines, apparatus for feeding wool, &c., to.	Aug. 23, 1864.
42,740	Bollerman, Charles	New York, N. Y	Bushes, cloth, in holes, mode of securing	May 17, 1864.
1,837	Bolles, J. N., assignor, through mesne assignments, to H. Hannen and John Parker.	Philadelphia, Pa.	Wells, artesian, apparatus for boring (Reissue)	Dec. 20, 1864.
41,133	Bollinger, Cornelius	Harrisburg, Pa.	Pumps	Jan. 5, 1864.
	Bolton, John, and John Dykeman. (*See* Dykeman & Bolton.)			
42,830	Bolton, S. R	Prescott, Wis	Wagons	May 24, 1861.
43,472	Bond, Caleb	Richmond, Ind	Sorghum evaporators	July 12, 1864.
44,069	Bond, Caleb	Richmond, Ind	Saw-mills	Sept. 6, 1864.
42,831	Bond, N. Oscar	Needham, Mass	Stoves, fire pots for	May 24, 1864.
44,702	Bond, Richard E	Detroit, Mich	Boilers, steam, feed-water regulators for	Oct. 18, 1864.
42,162	Bond, William Eugene	Cleveland, Ohio	Ladder, step	Apr. 5, 1864.
43,084	Bond, W. E	Cleveland, Ohio	Skiff or boat	June 14, 1864.
42,269	Bonwill, William G. A	Dover, Del	Lamps	Apr. 12, 1864.
45,133	Bonwill, William G. A	Dover, Del	Screws	Nov. 22, 1864.
44,391	Boober, Jesse, assignor to George W. Hoglen	Dayton, Ohio	Ladder, step	Sept. 27, 1864.
45,311	Boon, Alonzo T., assignor to self and Chas. L. Stevens	Galesburg, Ill	Bolts, flour	Dec. 6, 1864.
43,001	Boon, Alonzo T., and John Collins	Galesburg, Ill	Planing machines	June 7, 1864.
	Boon, Alonzo T., and Charles S. Stevens. (*See* Stevens & Boon.)			
43,085	Boone, Jonathan	Clintonville, Ky	Post hole digger	June 14, 1864.
45,134	Boore, Lewis	Buffalo, N. Y	Furnace soldering	Nov. 22, 1864.
43,452	Boorum, John L., and Clebron D. Palmiter	Homer, N. Y	Flax and hemp brake	July 5, 1864.
41,273	Booth, Caleb H	Dubuque, Iowa	Dryers, grain	Jan. 19, 1864.
1,826	Booth, Jonathan L	Rochester, N. Y	Separators, grain (Reissue)	Nov. 29, 1864.
	Booth, Samuel. (*See* Graham, Ralph, assignor.)			
	Booth, Samuel. (*See* Graham, Ralph, assignor.)			
44,764	Boothby, Erastus, assignor to self and Chas. A Shaw	Saco, Maine	Paper-hangings, apparatus for trimming	Oct. 18, 1864.
43,563	Boothby, John S	Portland, Maine	Tanning leather	July 19, 1864.
	Bordentown Machine Company. (*See* Molyneux, John, assignor.) Reissue.			
45,220	Borgfeldt, N. H	New York, N. Y	Pumps, air	Nov. 29, 1864.
	Borst, Charles, and J. V. Murray. (*See* Murray & Borst.)			
	Bostwick, J. W., and O. A. White. (*See* White & Bostwick.)			
41,054	Boswell, Edward H	Philadelphia, Pa	Skids for drays	Jan. 5, 1864.
44,575	Bottlcher, Morris, assignor to Richard Burr and Max Haarburger.	Washington, D. C	Engines, steam and other, packing for stuffing boxes of	Oct. 4, 1864.
	Bottomley, Thos., *et al.* (*See* Groves, John, assignor.)			
43,175	Bottum, James M	New York, N. Y	Hat bodies, composition for stiffening	June 21, 1864.
44,252	Bourne, Charles S., assignor to self and Wm. E. Udell	Springfield, Mass	Lamp heating and shaving apparatus	Sept. 13, 1864.
	Bouton, N. S. (*See* Hurlbut & Potter, assignors.)			
43,378	Bouvet, Jean, assignor to Moritz Pinner	France	Cans, cases, boxes, &c., metal, for preserving food, gunpowder, liquids, paints, oils, and other articles.	June 28, 1864.
1,804	Bouvet, Jean, assignor to Moritz Pinner	France	Cans, cases, boxes, &c., metal, for preserving food, paints, oils, and other substances (Reissue)	Nov. 1, 1864.
44,765	Bovee, William H., and Charles Partinsky	San Francisco, Cal	Ironing machine	Oct. 18, 1864.
45,380	Bowen, L. K	Baltimore, Md	Tobacco pipes	Dec. 6, 1864.
42,925	Bowerman, Stephen	Battle Creek Mich	Roofing, cement for	May 31, 1864.
45,470	Bowerman, Stephen	Battle Creek, Mich	Evaporating apparatus	Dec. 20, 1864.
	Bowers, E. E. (*See* Merriman, J. A., assignor.)			
43,757	Bowers, J. W	Cincinnati, Ohio	Engines, steam, valve gear for. (Antedated January 27, 1864.)	Aug. 9, 1864.
41,359	Bowker, Daniel	Boston, Mass	Brush and holder, blacking	Jan. 26, 1864.
	Bowker, S. H. (*See* Holden, Cyrus B., assignor.)			
42,637	Bowlsby, George W. and Wm. H	Monroe, Mich	Photographic printing frame	May 10, 1864.
43,473	Bowlsby, Wm. H. and Geo. W	Monroe, Mich	Musical demonstrating board	July 12, 1864.
41,360	Bowman, W. W	Graves county, Ky	Propeller, endless chain. (Antedated January 20, 1864)	Jan. 26, 1864.
43,733	Bowness, James	Prince Edward's Island	Fire-arms, breech-loading	Aug. 2, 1864.
45,312	Bowser, John	Basil, Ohio	Apple corer and cutter. (Antedated November 23, 1864).	Dec. 6, 1864.
	Boyd, Robert H., and William W. Grier. (*See* Grier & Boyd.)			
44,780	Boyden, Alexander	East Foxboro', Mass	Scythe-fastenings	Oct. 25, 1864.
43,564	Boyers, H. C	Danville, Iowa	Bee-hives	July 19, 1864.
42,618	Boylan, Patrick	Gloucester, N. J	Looms, power, let-off mechanism for	May 10, 1864.
42,430	Boyle, James E., assignor to self, Dudley Kavanaugh and George Stevenson.	Brooklyn, N. Y	Gas-regulator	Apr. 19, 1864.
41,055	Boynton, A. E. and George R	Hartford, Wis Chicago, Ill	Stump machine	Jan. 5, 1864.
45,578	Boynton, Almanzor W	Norwalk, Conn	Skirts, felted, ladies'. (Antedated December 13, 1864)	Dec. 27, 1864.
44,157	Boynton, E. S., assignor to self and Nathan Benham	Hartford, Conn	Coal and ash sifter	Sept. 13, 1864.
42,042	Boynton, Leander W., assignor to self and Levi L Tower	Hampton, Conn	Washing machine	Mar. 22, 1864.
43,388	Boynton, Leander W	Hartford, Conn	Carriages, attaching horses to	July 5, 1864.
45,579	Boynton, Leander W	Hartford, Conn	Sugar for table use, machine for moulding	Dec. 27, 1864.
41,754	Bradford, Alexander	Raynham, Mass	Anchor	Mar. 1, 1864.
43,363	Bradford, Hezekiah, assignor to Horatio Bogert	New York, N. Y	Ores, desulphurizing	June 28, 1864.
42,741	Bradford, L. H	Boston, Mass	Fire-arms, nipple primer for. (Antedated December 29, 1863.)	May 17, 1864.
42,742	Bradford, Peleg S	Bridgewater, Mass	Nail plate feeders	May 17, 1864.
43,967	Bradford, Thomas	Boston, Mass	Ranges, water-back for	Aug. 30, 1864.
	Bradley, David, *et al.* (*See* Lacey, John, assignor.)			
41,361	Bradley, Jacob	St. Mary's, Ohio	Engines, steam, slide valves of	Jan. 26, 1864.
43,829	Bradley, J. Davis	Washington, D. C	Billiard tables	Aug. 16, 1864.
43,830	Bradley, J. Davis	Washington, D. C	Caster for furniture, &c	Aug. 16, 1864.
41,277	Bradley, Jeremy	Cedar Falls, Iowa	Harvesting machines	Sept. 20, 1864.
	Bradley, L., *et al.* (*See* Goessling, Frederick W., assignor.)			
	Bradley, Nathaniel L., and Walter Hubbard. (*See* Bangs, Wm. H., jr., assignor.)			

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
44, 931	Bradley, Robert D	Preston, Md	Hydraulic indicator	Nov. 8, 1864.
	Bradley, Samuel A. (*See* Lear, Peter, assignor.)			
	Bradley, Wm. L. and N. L., *et al.* (*See* Barton, Jason, ass'r.)			
42, 551	Bradner, J. J	Pine Creek, N. Y	Sieves, grain	May 3, 1864.
42, 832	Brady, Alfred	New York, N. Y	Vehicles, tires for	May 24, 1864.
43, 002	Brady, Alfred	New York, N. Y	Bathing tubs	June 7, 1864.
44, 781	Brady, O. G	New York, N. Y	Shirt bosoms, metal	Oct. 25, 1864.
41, 134	Brainerd, John, and W. H. Burridge	Cleveland, Ohio	Clothes rack, adjustable	Jan. 5, 1864.
43, 086	Brand, Charles D	Oak Hill, N. Y	Presses, screw, portable	June 14, 1864.
1, 995	Brand, Charles F., assignor to Harrison Brothers & Co	Philadelphia, Pa	Can, paint (Design)	Nov. 8, 1864.
41, 675	Brandeis, Leopold	Brooklyn, N. Y	Lead pipe, protecting, against the action of water	Feb. 23, 1864.
	Brasher, Herriman & Co. (*See* Robley, Joseph, assignor.) Design.			
	Brasher, Wm. M., and S. H. Herriman. (*See* Neil, John, assignor.) Design.			
	Brassington, W. J., and G. W. B. Gedney. (*See* Gedney & Brassington.)			
42, 833	Bratt, Moses	Maysville, Ky	Stoves	May 24, 1864.
42, 816	Braun, Ferdinand, assignor to Joseph Heindle	Bavaria	Furnace for burning sawdust	May 17, 1864.
1, 996	Braunhold, Henry	New York, N. Y	Trunk cover (Design)	Nov. 8, 1864.
	Bray, Edward P., and Joseph Merwin. (*See* Merwin & Bray.)			
44, 597	Brayton, George B	Providence, R. I	Steam generators	Oct. 11, 1864.
44, 598	Brayton, George B	Providence, R. I	Steam generators	Oct. 11, 1864.
44, 599	Brayton, George B	Providence, R. I	Steam generators	Oct. 11, 1864.
44, 600	Brayton, George B	Providence, R. I	Steam generators	Oct. 11, 1864.
44, 601	Brayton, George B	Providence, R. I	Steam generators	Oct. 11, 1864.
45, 116	Brayton, George B., assignor to Brayton Rivet Co	Providence, R. I	Rivets, machine for making	Nov. 15, 1864.
44, 782	Brear, Abel	Saugatuck, Conn	Water, &c., apparatus for raising	Oct. 25, 1864.
	Breed, C. H., *et al.* (*See* Cross, Wm. R. P., assignor.)			
	Breed, C. H. (*See* Cross, Wm. R. P., assignor.)			
	Breed, Henry A. (*See* Griffin, C. H., assignor.)			
43, 474	Breitenstein, William	New York, N. Y	Spools, machine for filling	July 12, 1864.
41, 056	Breisford, M. C	Girard, Ill	Plough-beam and handles	Jan. 5, 1864.
	Bremenkamp, Henry, and Henry Schnoutz. (*See* Schnoutz & Bremenkamp.)			
42, 552	Brett, James	Matteawan, N. Y	Gun batteries, many-barrelled	May 3, 1864.
41, 827	Brettell, Edward W	New York, N. Y	Locks	Mar. 8, 1864.
45, 385	Brewer, C. D. and W. S	Lewisburg, Pa	Hay and straw cutter	Dec. 13, 1864.
41, 475	Brewster, E. C	Bristol, Conn	Gridirons	Feb. 9, 1864.
42, 270	Briansky, Diodor	Russia	Mirrors, coating and protecting the silvering of	Apr. 12, 1864.
45, 313	Brickley, John F	Huntsville, Ind	Railroad switches	Dec. 6, 1864.
	Bridge, Beach & Co. (*See* DeZouche, Isaac, ass'r.) Design.			
	Bridge, Beach & Co. (*See* DeZouche, Isaac, ass'r.) Design.			
	Bridge, Beach & Co. (*See* DeZouche, Isaac, ass'r.) Design.			

No.	Patentee.	Residence.	Invention or discovery.	Date.
42, 068	Bridge, John Francis	Deadwood, Cal	Forge, blacksmith's, portable	Mar. 29, 1864.
41, 362	Bridges, Albert	Jersey City, N. J	Truss pads	Jan. 26, 1864.
44, 278	Bridges, Alfred	Newton, Mass	Cars to trucks, mode of connecting	Sept. 20, 1864.
41, 566	Briggs, Alden B., assignor to self and Dexter Childs	South Deerfield, Mass	Harvesters	Feb. 9, 1864.
41, 117	Briggs, H. A., and Samuel A. Hopkins, assignors to selves and C. A. Converse.	Norwich, Conn	Fire-arms, revolving	Jan. 5, 1864.
	Briggs, H. F., *et al.* (*See* Goessling, Frederick W., assignor.)			
	Briggs, Ira G., and Benjamin G. Watson. (*See* Watson & Thurber, assignors.)			
41, 598	Briggs, John	Roxbury, Mass	Stoves and furnaces, draft regulator for	Feb. 16, 1864.
1, 671	Briggs, John	Roxbury, Mass	Draft regulators (Reissue)	May 17, 1864.
44, 158	Briggs, John	Roxbury, Mass	Heater, steam, regulating apparatus of a	Sept. 13, 1864.
	Briggs, Joseph. (*See* Gardiner, Nathan A., assignor.)			
	Briggs, Martin. (*See* Covert, H. W., assignor.) Reissue.			
44, 848	Brightman, Albert	New Bedford, Mass	Cans, milk, cover for	Nov. 1, 1864.
44, 070	Brinckmann, C. G. A	New York, N. Y	Cigar machine	Sept. 6, 1864.
	Brindley, T. E. C. (*See* Ryan, William H., assignor.)			
42, 271	Brinkerhoff, Jacob	Auburn, N. Y	Corn-sheller	Apr. 12, 1864.
41, 755	Bristol, Charles B	New Haven, Conn	Currycombs	Mar. 1, 1864.
43, 828	Bristol, Howard C	St. Clair, Mich	Envelope	Mar. 8, 1864.
41, 274	Britain, Clarissa	St. Joseph, Mich	Lantern dinner-pail	Jan. 19, 1864.
43, 087	Britain, Clarissa	St. Joseph, Mich	Boilers, vegetable	June 14, 1864.
43, 088	Britain, Clarissa	St. Joseph, Mich	Dish-drainer	June 14, 1864.
44, 393	Britain, Clarissa	St. Joseph, Mich	Lamp-burners	Sept. 27, 1864.
43, 565	Brittan, N	Chicago, Ill	Lightning conductors	July 19, 1864.
43, 003	Britton, J. Blodget	Philadelphia, Pa	Furnace for calcining ores	June 7, 1864.
43, 968	Broad, John H	Lodi, N. Y	Planter, corn	Aug. 30, 1864.
43, 553	Broadwell, Lewis Wells, assignor to William Isaac Townsend.	Great Britain	Ordnance, breech-loading	July 12, 1864.
41, 599	Brocksieper, F. W	Bridgeport, Conn	Gas regulator	Feb. 16, 1864.
41, 581	Brocksieper, Frederick W	New Britain, Conn	Iron hat-holder. (Antedated July 10, 1862)	Dec. 27, 1864.
45, 386	Brockway, George F	Washington, D. C	Stitching-horse	Dec. 13, 1864.
44, 932	Brockway, Henry	Cohoes, N. Y	Knitting machines, circular, take-up of	Nov. 8, 1864.
42, 743	Brodie, James	San Francisco, Cal	Stamp-mills or crushers, device for collecting the dust from	May 17, 1864.
43, 462	Brodie, James	San Francisco, Cal	Amalgamating barrels	July 5, 1864.
45, 582	Brodie, James	San Francisco, Cal	Rock or ore crushers	Dec. 27, 1864.
43, 634	Brombacher, Charles	New York, N. Y	Shears, gauge for	July 26, 1864.
44, 279	Bromiley, James	Pawtucket, R. I	Bed bottom	Sept. 20, 1864.
	Brooklyn Fire-arms Company. (*See* Slocum, Frank P., assignor.) Reissue.			
42, 069	Brooks, Alexander	Factoryville, N. Y	Drills, grain	Mar. 29, 1864.
45, 221	Brooks, David	Philadelphia, Pa	Telegraph wires, insulators for	Nov. 29, 1864.
44, 509	Brooks, E. B	Michigan City, Indiana	Water wheels	Oct. 4, 1864.
	Brooks, H. P., and O. L. Hopson. (*See* Hopson & Brooks.)			
	Brooks, H. P., and O. L. Hopson. (*See* Hopson & Brooks.)			
41, 135	Brooks, Lyman B	Salem, Mass	Toilet and writing case combined	Jan. 5, 1864.
41, 567	Brooks, Roswell R., assignor to self and G. H. Horton	Weedsport, N. Y	Water wheels	Feb. 9, 1864.
	Brooks, Samuel R., and Jefferson Brown, jr. (*See* Brown & Brooks.)			
43, 089	Brooks, Thomas	Middlefield, Conn	Wringers, clamp for	June 14, 1864.
44, 510	Broughton, John	New York, N. Y	Faucets, flexible lined	Oct. 4, 1864.
44, 783	Broughton, John	New York, N. Y	Water-closet cocks	Oct. 25, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

*No.	Patentee.	Residence.	Invention or discovery.	Date.
44,933	Broughton, John	New York, N. Y	Faucets	Nov. 8, 1864.
45,135	Brower, John	Newark, N. J	Water-closet bells	Nov. 22, 1864.
	Brown, Alzirus, *et al.* (*See* Kniffen, L. G., assignor.)			
44,935	Brown, Alzirus, L. G. Kniffen, and Thomas H. Dodge	Worcester, Mass	Mowing machines	Nov. 8, 1864.
	Brown, Burton, and Seth F. Cornell. (*See* Cornell & Brown.)			
44,511	Brown, C. B., and E. Andrews	Placerville, Cal	Lamps, coach	Oct. 4, 1864.
41,829	Brown, Charles H.	Fitchburg, Mass	Pulley, fast and loose	Mar. 8, 1864.
43,090	Brown, Charles H.	Fitchburg, Mass	Steam-traps	June 14, 1864.
42,553	Brown, Darius C.	Lowell, Mass	Looms, wire heddles for	May 3, 1864.
43,252	Brown, Darius Chase, and John Ashworth, assignors to Darius C. Brown.	Lowell, Mass	Knitting-loom harness, shuttles for machines for	June 21, 1864.
44,071	Brown, Edward	Philadelphia, Pa	Engines, steam, valve gear for	Sept. 6, 1864.
	Brown, Elias. (*See* Gray, Abel, assignor.)			
44,159	Brown, Francis A	Ithaca, N. Y	Engines, steam, links for	Sept. 13, 1864.
43,004	Brown, Frank	Russell, Ohio	Husking pin	June 7, 1864.
43,285	Brown, Franklin H	Chicago, Ill	Sewing machines. (Antedated June 18, 1864)	June 28, 1864.
	Brown, George. (*See* Wright, Edward S., assignor.)			
41,904	Brown, George A	Milford, Mass	Boots, mode of cutting	Mar. 15, 1864.
	Brown, George D. (*See* Bailey, Harry, assignor.)			
42,177	Brown, George W	Galesburg, Ill	Planters, corn	Apr. 5, 1864.
42,178	Brown, George W	Galesburg, Ill	Planters, corn	Apr. 5, 1864.
42,179	Brown, George W	Galesburg, Ill	Planters, corn	Apr. 5, 1864.
42,744	Brown, George W	New York, N. Y	Ice-cream freezer	May 17, 1864.
	Brown, Henry, and Garrettson Smith. (*See* Smith & Brown.) Design.			
	Brown, Henry, and Garrettson Smith. (*See* Smith & Brown.) Design.			
42,043	Brown, Henry S., assignor to Alfred Arnold	New York, N. Y	Sewing machines, gathering mechanism for	Mar. 22, 1864.
43,943	Brown, Henry S., assignor to Alfred Arnold	New York, N. Y	Fabrics, gathered	Aug. 23, 1864.
43,177	Brown, J. C	Brooklyn, N. Y	Splints, machines for cutting	June 21, 1864.
43,091	Brown, James E	Philadelphia, Pa	Food and diet, articles of, from cerealine	June 14, 1864.
44,703	Brown, James R	Boston, Mass	Wrench, pipe	Oct. 18, 1864.
41,420	Brown, J. S	Washington, D. C	Book-holding stand	Feb. 2, 1864.
42,525	Brown, James S., assignor to Joseph R. Brown and Lucien Sharpe.	Pawtucket, R. I	Friction clutch	Apr. 27, 1864.
42,745	Brown, J. S	New York, N. Y	Baby-tender	May 17, 1864.
43,005	Brown, James S	Pawtucket, R. I	File blanks, machine for grinding	June 7, 1864.
43,006	Brown, James S	Pawtucket, R. I	Furnace, bath, metallic	June 7, 1864.
44,593	Brown, J. S	Washington, D. C	Water elevators	Oct. 11, 1864.
41,192	{ Brown, Jefferson, jr., and Samuel R. Brooks	New York, N. Y St. Louis, Mo }	Steam vessels, refuse, ejectors for	Jan. 12, 1864.
45,294	Brown, Joseph R., assignor to self and Lucien Sharpe	Providence, R. I	Gear wheels, cutter for cutting	Nov. 29, 1864.
41,476	Brown, Lorenzo D	Lafayette, Ind	Vehicle, wheel	Feb. 9, 1861.
42,526	Brown, Myron E., assignor to Frank O'Drullard and Amy C. Hubbard.	Buffalo, N. Y	Grates, locomotive and furnace	Apr. 26, 1864.
45,580	Brown, N. B	Antwerp, N. Y	Sawing machines	Dec. 27, 1864.
42,070	Brown, Nicholas S	Litchfield, N. Y	Stoves, cooking	Mar. 29, 1864.
1,769	Brown, Robert	Newark, Ohio	Harvesters (Reissue)	Sept. 20, 1864.
41,477	Brown, Robert D	Covington, Ky	Harvesters	Feb. 9, 1864.
41,600	Brown, Robert D	Covington, Ky	Hames	Feb. 16, 1864.
41,421	Brown, R. E	St. Louis, Mo	Ovens, hot-blast	Feb. 2, 1864.
42,906	Brown, Thomas, jr., assignor to self and James McLean	Alleghany county, Pa	Lantern guards	May 24, 1864.
41,676	Brown, William H	Worcester, Mass	Blinds or shutters, iron, opening and closing	Feb. 23, 1864.
42,986	Brown, William P	New York, N. Y	Looms for weaving corsets and articles of irregular form	May 31, 1864.
45,136	Browne, Daniel J., and Cyrus W. Baldwin	Boston, Mass	Pistons, &c., mode of lubricating packing of	Nov. 22, 1864.
41,136	Brownell, Franklin C	Brooklyn, N. Y	Ink wells. (Antedated Dec. 30, 1863)	Jan. 5, 1864.
44,594	Browning, John W	Mattoon, Ill	Motion, device for transmitting	Oct. 11, 1864.
43,812	Bryant, John, assignor to self and Allen M. Bailey	Akron, Ind	Hemp and flax brake	Aug. 9, 1864.
1,611	Bryant, Nahum Franklin	Boston, Mass	Carriages, railway (Reissue)	Feb. 2, 1864.
45,583	Bryant, Nahum F	Boston, Mass	Car trucks	Dec. 27, 1864.
42,926	Bryent, Isaac C	Philadelphia, Pa	Bricks and drainage pipes	May 31, 1864.
43,342	Bryent, Walter	Boston, Mass	Fireplaces	Apr. 19, 1864.
44,040	Bryer, D. E., assignor to self and E. Maurer	Logansport, Ind	Biscuit-board and flour chest	Aug. 30, 1864.
44,849	Buchanan, Alex	New York, N. Y	Valves, slide, balanced. (Antedated Oct. 30, 1864.)	Nov. 1, 1864.
44,394	Buchanan, Andrew	New York, N. Y	Valves, slide. (Antedated Sept. 16, 1864)	Sept. 27, 1864.
45,222	Buchanan, Andrew	Brooklyn, N. Y	Quartz crushers. (Antedated Nov. 26, 1864)	Nov. 29, 1864.
41,677	Buchner, C. J	Paxton, Ill	Cultivators	Feb. 23, 1864.
42,343	Buck, Henry A	Meadville, Pa	Car coupling	Apr. 19, 1864.
42,554	Buckham, Andrew	Newark, N. J	Breast-strap slides	May 3, 1864.
	Buckley, Sidney. (*See* Lord, Edmund, assignor.)			
	Bucklin, S. S., *et al.* (*See* Gray, Joshua, assignor.)			
	Bucklin, S. S., *et al.* (*See* Gray, Joshua, assignor.)			
41,474	Bucknell, James	Decorah, Iowa	Drills, grain	Feb. 9, 1864.
41,256	Budd, Henry L., assignor to self and George H. Thorp	New York, N. Y	Heaters	Jan. 12, 1864.
43,475	Budd, William, and J. L. Husband	Philadelphia, Pa	Boiler, steam	July 12, 1864.
43,476	Budd, William, and J. L. Husband	Philadelphia, Pa	Fuel, artificial	July 12, 1864.
42,555	Budding, Benjamin Q	Milford, Mass	Boots and shoes, machine for polishing heels of	May 3, 1864.
	Budenberg, Christian, and B. Schaffer. (*See* Vaesson, Hubert Jos., assignor.)			
	Budenberg, Christian *et al.* (*See* Thomas, George, ass'nor.)			
	Budenberg, Christian. (*See* Schaffer, Bernhard, assignor.)			
44,595	Buel, Ebenezer	Sheridan, N. Y	Churn	Oct. 11, 1864.
43,069	Buell, Henry, assignor to self and Henry A. Green	Mt. Morris, N. Y	Clothes frame	June 7, 1864.
45,018	Buell, J. Nelson	Middletown, Conn	Centre-boards, device for operating	Nov. 15, 1864.
44,512	Buell, Jonathan S., and Samuel A. W. Marsh	Buffalo, N. Y	Dryer, grain	Oct. 4, 1864.
45,471	Buell, Jonathan S., and Samuel A. W. Marsh	Buffalo, N. Y	Dryer, grain	Dec. 20, 1864.
43,545	Bugbee, H. K., assignor to American School Apparatus Company.	New York, N. Y	Arithmetical frames. (Antedated July 7, 1864.)	July 12, 1864.
41,678	Buhler, Gaspard	Newark, N. J	Breastpins, fastening for	Feb. 23, 1864.
42,163	Buisson, Pierre	New York, N. Y	Fuel, artificial	Apr. 5, 1864.
41,119	Bullard, A. B. W., assignor to August Richardson	Worcester, Mass	Paint, composition for	Jan. 5, 1864.
43,092	Bullard, John S	Chagrin Falls, Ohio	Boring butter moulds, tools for	June 14, 1864.
44,832	Bullen, Wm. S., assignor to self and Wm. O. McIntire	Indianapolis, Ind	Scrubber and mop	Oct. 25, 1864.
42,071	Bullinger, E. W	New York, N. Y	Stoves, gas	Mar. 29, 1864.
43,666	Burchardt, C. Theador	Brooklyn, N. Y	Rubber, articles of, mode of inlaying and ornamenting	Aug. 2, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
42, 344	Burdick, Orrin H	Auburn, N. Y	Printing frame, photographic	Apr. 19, 1864.
43, 007	Burdick, O. H	Auburn, N. Y	Harvesters, rakes for	June 7, 1864.
42, 543	Burdick, Orrin H, assignor to self and David M. Osborne	Auburn, N. Y	Flasks or moulds, fastenings for	Apr. 26, 1864.
43, 286	Burdick, J. D	Ashway, R. I	Clothes wringers, clamp for	June 28, 1864.
44, 072	Burdick, J. D	Ashway, R. I	Fastenings, blind slat	Sept. 6, 1864.
41, 137	Burdict, O. C	New Haven, Conn	Nut machine, die for	Jan. 5, 1864.
41, 275	Burgess, Hugh	Royer's Ford, Pa	Flax, hemp, &c., fibre for	Jan. 19, 1864.
41, 276	Burgess, Hugh	Royer's Ford, Pa	Flax, hemp, &c., disintegrating or cottonizing	Jan. 19, 1864.
42, 345	Burgess, Phineas	Brooklyn, N. Y	Ships, bilge blocks for docking	Apr. 19, 1864.
	Burke, Edward	Philadelphia, Pa	Match box (Design)	Dec. 20, 1864.
45, 019	Burke, John M	Dansville, N. Y	Cultivator	Nov. 16, 1864.
44, 306	Burkhardt, G. F	Roxbury, Mass	Faucets	Oct. 11, 1864.
44, 581	Burley, Richard	England	Shafts, axles, &c., material for lining bearings of	Oct. 4, 1864.
45, 314	Burlock, Samuel D	Philadelphia, Pa	Photographic album, machine for cutting the front edge of	Dec. 6, 1864.
	Burnet & Co. (*See* Jackson, George R., assignor.)			
41, 422	Burnet, William	New York, N. Y	Brush for mucilage bottles	Feb. 2, 1864.
1, 972	Burnett, Marshall	South Boston, Mass	Lamps	Mar. 22, 1864.
43, 287	Burnham, Charles	Springfield, Mass	Wash boilers, bottoms of	June 28, 1864.
41, 679	Burnham, John P	Chicago, Ill	Governors	Feb. 23, 1864.
42, 164	Burnham, John P	Chicago, Ill	Wind wheels	Apr. 5, 1864.
44, 704	Burns, Jabez	New York, N. Y	Coffee roaster	Oct. 18, 1864.
	Burnside Rifle Co. (*See* Bacon, Geo. R., assignor.) Reissue.			
	Burnside Rifle Co. (*See* Stowe & Allen, assignors.)			
41, 478	Burr, Amos A	Rockdale, N. Y	Lathes, tool for turning	Feb. 9, 1864.
44, 160	Burr, Melbourne C	New Albany, Ind	Scrubber	Sept. 13, 1864.
	Burr, Richard, and Max Haarberger. (*See* Botticher, Morris, assignor.)			
45, 225	Burridge, W. H	Cleveland, Ohio	Fastenings, car sash	Nov. 29, 1864.
	Burridge, W. H., and John Brainerd. (*See* Brainerd & Burridge.)			
42, 619	Burrill, Joseph, assignor to self, A. S. Moore and J. A. Johnson.	Lynn, Mass	Leather, &c., treating	May 3, 1864.
43, 831	Burrows, Francis	Peoria, Ill	Photographic printing frame	Aug. 16, 1864.
45, 224	Burson, A. F	Mt. Blanchard, Ohio	Engraving copper, &c., process for	Nov. 29, 1864.
44, 513	Burson, W. W	Rockford, Ill	Grain binders	Oct. 4, 1864.
44, 161	Burt, Merritt	Cleveland, Ohio	Watches	Sept. 13, 1864.
43, 389	Burton, A. G	Shelburne Falls, Mass	Melodeons, &c., attaching keys to	July 5, 1864.
	Busby, Little & Co. (*See* Little, Arthur, assignor.)			
41, 363	Busfield, John G	Feltonville, Mass	Leather rolling machine	Jan. 26, 1864.
1, 888	Bush, William R	Fall River, Mass	Engine, hand (Design)	Jan. 26, 1864.
41, 568	Bushee, James A., assignor to self and George R. Eager	East Boston, Mass	Scarf, neck, and collar supporters	Feb. 9, 1864.
	Buss, Ezra. (*See* Hotchkiss, James, assignor.)			
43, 969	Bussey, William C	Jackson, Cal	Car coupling	July 26, 1864.
43, 178	Butler, Darwin E	Chesterfield, Ohio	Sugar cane, machine for stripping leaves from	June 21, 1864.
1, 939	Butler, Edward K	Boston, Mass	Slipper pattern (Design)	May 10, 1864.
	Butler, Frederick M	New York, N. Y	Truss pads (Extension)	July 19, 1864.
43, 566	Butler, Harlow	Chesterfield, Ohio	Sugar, manufacture of	July 19, 1864.
44, 850	Butler, Harlow	Chesterfield, Ohio	Sugar evaporator	Nov. 1, 1864.
42, 556	Butler, James D	Brooklyn, N. Y	Locomotive truck	May 3, 1864.
42, 072	Butler, Samuel B	Middletown, Conn	Sails, "lazy jacks" for	Mar. 29, 1864.
	Butler, Wm. H., and R. G. Holmes. (*See* Holmes & Butler.) Reissue.			
1, 600	Butterfield, Wm., assignor, through mesne assignments, to Elmer Townsend.	Boston, Mass	Sewing machine (Reissue)	Jan. 5, 1864.
	Butterworth, John, jr., and H. R. Withington. (*See* Quick, J. H., assignor.)			
42, 459	Buttles, O. B	Milwaukie, Wis	Stoves, drum, or radiators	Apr. 26, 1864.
	Button, Charles P. (*See* Goodman, Joseph, assignor.)			
42, 557	Button, Lysander, and Robert Blake	Waterford, N. Y	Fire engines, steam	May 3, 1864.
45, 472	Cadwell, Jason R	Dexter, Mich	Hay-fork, horse	Dec. 20, 1864.
1, 735	Cahoon, Charles W., assignor to Cahoon Manufacturing Co	Portland, Maine	Lamps (Reissue)	Aug. 9, 1864.
47, 766	Cain, Thomas James, assignor to self and Wm. G. & J. Lawrence.	Cleveland, Ohio	Legs, artificial	Oct. 18, 1864.
	Caldwell, Charles, *et al.* (*See* Simonds, Silvester & Caldwell.)			
43, 832	Calkins, T. T., and D. E. Wing	Coxsackie, N. Y	Hay elevating forks	Aug. 16, 1864.
45, 449	Callcott, William	England	Scenic effects, apparatus for producing	Dec. 13 1864.
43, 667	Callender, Mills L	New York, N. Y	Shells, material for filling. (Antedated Feb. 12, 1864)	Aug. 2, 1864.
1, 641	Callender, Mills L., and N. W. Northrup, assignors, through mesne assignments, to James B. Eads.	St. Louis, Mo	Ordnance, operating (Reissue)	Mar. 29, 1864.
1, 642	Callender, Mills L., and N. W. Northrup, assignors, through mesne assignments, to James B. Eads.	St. Louis, Mo	Ordnance, operating (Div'n B of reissue)	Mar. 29, 1864.
1, 643	Callender, Mills L., and N. W. Northrup, assignors, through mesne assignments, to James B. Eads.	St. Louis, Mo	Ordnance, operating (Div'n C of reissue)	Mar. 29, 1864.
1, 644	Callender, Mills L., and N. W. Northrup, assignors, through mesne assignments, to James B. Eads.	St. Louis, Mo	Ordnance, operating (Div'n D of reissue)	Mar. 29, 1864.
43, 568	Calvert, F. A	Lowell, Mass	Engines, steam. (Patented in England Sept. 14, 1860)	July 19, 1864.
41, 756	Camerer, William	Reading, Pa	Valve, safety, attachment	Mar. 1, 1864.
	Cameron, Adam S., and William Sewell. (*See* Sewell & Cameron.)			
	Cameron, Adam S., and William Sewell. (*See* Sewell & Cameron.)			
	Cameron, Adam S., and William Sewell. (*See* Sewell & Cameron.), Reissue.			
	Cameron, Adam S., and William Sewell. (*See* Sewell & Cameron.)			
42, 834	Caminoul, Philip	New York, N. Y	Bat for cricket, &c	May 24, 1864.
41, 885	Camp, Edwin Gillard	England	Brush, hair, rotary. (Patented in England March 11, '62)	Mar. 8, 1864.
44, 395	Camp, E. H	Jackson, Mich	Shear and stake holder	Sept. 27, 1864.
	Camp, Wm., *et al.* (*See* Webster, Camp & Stall.)			
42, 527	Campbell, Abraham, and Charles B. Hardick, assignors to selves and John Hardick and Albert B. Campbell.	Brooklyn, N. Y	Engines, direct-acting	Apr. 26, 1864.
43, 008	Campbell, Andrew J	New York, N. Y	Tool for making metallic sashes	June 7, 1864.
43, 833	Campbell, Augustine	Brooklyn, N. Y	Valve, pressure. (Antedated September 22, 1862)	Aug. 16, 1864.
42, 639	Campbell, Cornelius L	Binghamton, N. Y	Augers, hollow	May 10, 1864.
...	Campbell, George, and John Clute. (*See* Ward, Samuel, assignor.)			

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
43, 567	Campbell, J. W. H	San Francisco, Cal	Grain bags	July 19, 1864.
45, 473	Campbell, R. E	New York, N. Y	Propeller shaft, stern bearing for	Dec. 20, 1864.
41, 479	Campbell, Stillman P	Rochester, Minn	Harrows	Feb. 9, 1864.
41, 601	Campbell, Stillman P	Rochester, Minn	Yoke, neck	Feb. 16, 1864.
	Campbell, T., *et al.* (*See* Paton, Campbell & Paton.)			
41, 602	Campbell, William	Waterloo, Pa	Washstand and water closet, combination of a	Feb. 16, 1864.
44, 602	Campbell, William	New York, N. Y	Curtain or shade fixture	Oct. 11, 1864.
43, 635	Canfield, James	Sabula, Iowa	Cultivators	July 26, 1864.
42, 073	Cannon, John	New Richmond, Pa	Oil on surface of rivers, mode of collecting	Mar. 29, 1864.
43, 255	Cannon, J. S., assignor to self, Andrew J. Cutler and Elias M. Hanover.	New Haven, Conn	Pictures, &c., frame for	June 21, 1864.
43, 569	Card, M. H.; and Thomas Tripp	Chicago, Ill	Car coupling	July 19, 1864.
41, 480	Carey, Charles H	Detroit, Mich	Boilers, steam, water indicators for	Feb. 9, 1864.
43, 734	Carey, Ebenezer, assignor to self and Horace H. Hawley	Burlington, Iowa	Car coupling	Aug. 2, 1864.
45, 225	Carhart, J. W	Cohoes, N. Y	Valves, oscillating	Nov. 29, 1864.
42, 835	Carkhuff, Ralph	Lewisburg, Pa	Car coupling, railroad	May 24, 1864.
43, 668	Carkhuff, Ralph	Lewisburg, Pa	Gas, apparatus for manufacturing	Aug. 2, 1864.
42, 746	Carpenter, Coles A	Glen Cove, N. Y	Dumping carts	May 17, 1864.
44, 280	Carpenter, Henry	New York, N. Y	Fruit basket	Sept. 20, 1864.
43, 179	Carpenter, Lauren	Lake City, Minn	Horses' feet, mode of securing shoes to	June 21, 1854.
42, 558	Carpenter, Nicholas, assignor to self, S. B. Smith, E. J. Gennet and H. Keller.	Ellenville, N. Y	Ores, machine for cleaning and separating	May 3, 1864.
41, 757	Carpenter, Rosanna	Portsmouth, N. H	Raisin-stoner	Mar. 1, 1864.
41, 973	Carpenter, Samuel	Cedar Rapids, Iowa	Broom	Mar. 22, 1864.
44, 705	Carpenter, Thomas	Battle Creek, Mich	Meat and vegetable slicer	Oct. 18, 1864.
41, 481	Carr, Peter Francis	Wyalusing, Pa	Gun-barrels, implement for cleaning the bores of	Feb. 9, 1864.
43, 636	Carr, W. H., assignor to self and Nelson P. Akin	Troy, N. Y	Knitting-machine burrs	July 26, 1864.
45, 315	Carr, William S	New York, N. Y	Urinals	Dec. 6, 1864.
42, 817	Carroll, Thomas, assignor to W. W. Wilcox and Joseph Hall, jr.	Middletown, Conn	Clew thimble	May 17, 1864.
42, 559	Carse, Henry	Pittsburg, Pa	Bottling soda water under pressure	May 3, 1864.
41, 277	Carsley, Robert B	New Bedford, Mass	Lathes for turning spherical shapes	Jan. 19, 1864.
42, 074	Carson, Alfred	New York, N. Y	Stoves, fireplace	Mar. 29, 1864.
	Carswell, G. H., and D. F. Dimon. (*See* Dimon & Carswell.)			
	Carter, George R., and D. H. Goodall. (*See* Pratt, E. L., assignor.)			
	Carter, George R., and D. H. Goodell. (*See* Pratt, E. L., assignor.)			
	Carter, George R., and D. H. Goodell. (*See* Pratt, E. L., assignor.)			
42, 272	Carter, Henry T	Portland, Me	Engines, steam, valve gear of	Apr. 12, 1864.
44, 514	Carter, John V. B., and Charles F. Orcutt	Albany, N. Y	Refrigerating liquids, vessel for	Oct. 4, 1864.
44, 073	Carter, M. E., and Elisha Mets	Rochester, N. Y	Tables, extension, slides for	Sept. 6, 1864.
41, 830	Carter, Thomas	Covington, Ky	Hatching, egg, apparatus	Mar. 8, 1864.
45, 662	Cartwright, James, assignor to self and H. C. Sweetser	South Reading, Mass	Casting solder, drop plate for	Dec. 27, 1864.
1, 992	Carty, Martin	New York, N. Y	Photographic album leaf (Design)	Oct. 18, 1864.
43, 180	Carver, Aaron	Little Falls, N. Y	Pumps, force	June 21, 1864.
41, 365	Carver, James	Bellevue, Ohio	Boat, submarine	Jan. 26, 1864.
42, 631	Cary, Ferdinand F	New York, N. Y	Plough	May 3, 1864.
45, 387	Case, A. W	South Manchester, Conn	Husking corn, machine for	Dec. 13, 1864.
	Case, Henry L., *et al.* (*See* Robbins, Richard C., assignor.)			
41, 423	Case, Jarvis	Lafayette, Ind	Cultivators	Feb. 2, 1864.
41, 667	Case, Jarvis	Lafayette, Ind	Sawing wood, machines for	Feb. 16, 1864.
	Case, Jesse P., *et al.* (*See* Cowles, Case & Vierow.)			
44, 515	Castle, Orlando Lane	Upper Alton, Ill	Broom head, metallic	Oct. 4, 1864.
43, 228	Castor, L. H	Edington, Ill	Ploughs, corn	June 28, 1864.
45, 316	Castor, Thomas	Philadelphia, Pa	Cars, railway	Dec. 6, 1864.
42, 075	Caswell, Ezra	Newport, Mich	Wagon hubs, machine for boring	Mar. 29, 1864.
	Catanach, Archibald and Adam. (*See* Kinloch, John, assignor.)			
43, 570	Catlin, H. W	Burlington, Vt	Vehicles, holdback and trace fastening for	July 19, 1864.
43, 621	Catlin, H. W., assignor to W. H. Clarke	Burlington, Vt	Casks, metal locks for wooden hoops for	July 19, 1864.
	Caton, J. D. (*See* Henning, Robert, assignor.)			
41, 278	Caudwell, Henry	England	Ships-of-war, construction of. (Patented in England April 10, 1863.)	Jan. 19, 1864.
45, 295	Caulkins, E. M., assignor to self and John J. Powers	Worcester, Mass	Railroad frogs	Nov. 29, 1864.
42, 431	Center, Hartzell H., assignor to self and Theodore Marsh	Cincinnati, Ohio	Window frame, self-fastening	Apr. 19, 1864.
44, 281	Chaffee, Edwin M	Providence, R. I	Cloth, apparatus for flocking	Sept. 20, 1864.
	Challiss, George T. (*See* Fortune, Thomas L., assignor.)			
	Challiss, George T. (*See* Fortune, Thomas L., assignor.)			
	Challiss, George T. (*See* Fortune, Thomas L., assignor.)			
	Chamberlain & Co. (*See* Crowley, John B., assignor.)			
42, 432	Chamberlain, Addis E., assignor to Chamberlain & Co	Cincinnati, Ohio	Stoves, cooking	Apr. 19, 1864.
43, 896	Chamberlain, Edwin	Lansingburg, N. Y	Whip socket fastenings	Aug. 23, 1864.
	Chamberlain, Frederick. (*See* Beach, William W., assignor.)			
42, 747	Chamberlain, W. C	Dubuque, Iowa	Separator, grain	May 17, 1864.
42, 346	Chamberlin, C. A	Alleghany, Pa	Anchor	Apr. 19, 1864.
	Chamberlin, E., and Edward Robinson. (*See* Hicks, William C., assignor.)			
	Chamberlin, Henry J., and Samuel Ayres. (*See* Ayres & Chamberlin.)			
45, 226	Chambers, Charles F	Hutsonville, Ill	Pans, sheet-metal, machine for making	Nov. 29, 1864.
45, 388	Chambers, George	Ithaca, N. Y	Coal scuttle	Dec. 13, 1864.
44, 851	Champlin, John R	Laconia, N. H	Ice cream machine	Nov. 1, 1864.
44, 074	Chandler, Charles H	Foxcroft, Me	Screws, mode of forming	Sept. 6, 1864.
41, 364	Chandler, Frederic A	Charlestown, Mass	Cringle and clew, sail	Jan. 26, 1864.
	Chandler, Henry P. (*See* Gaw, John, assignor.)			
44, 934	Chandler, Richard	New York, N. Y	Fire-escape	Nov. 8, 1864.
42, 985	Chandor, L	Russia	Sulphuric acid, manufacture of	May 31, 1864.
42, 748	Chapin, Linus N	New Lisbon, N. Y	Fire-arms, breech-loading	May 17, 1864.
44, 397	Chapin, Newton	Chicago, Ill	Bridges, clamps for. (Antedated June 28, 1864)	Sept. 27, 1864.
44, 398	Chapin, Newton	Chicago, Ill	Bridges, keys or packing blocks for. (Antedated June 28, 1864.)	Sept. 27, 1864.
43, 758	Chapman, D. B	Hopedale, Mass	Soap	Aug. 9 1864.
	Chapman, Daniel C., and Earle H. Smith. (*See* Smith & Chapman.)			
42, 560	Chapman, John C	Charlestown, Mass	Drills, ratchet	May 3, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
	Chapman, J. Winslow, and Samuel W. Baxter. (*See* Baxter & Chapman.)			
43,094	Chapman, Samuel	New York, N. Y	Corset fastenings	June 14, 1864.
44,075	Chapman, William Z. W.	New York, N. Y	Inhaling gases, apparatus for	Sept. 6, 1864.
43,813	Chappell, Thomas, and William Ashley Jones	Winona, Minn	Iron, process of hardening	Aug. 9, 1864.
42,347	Chappell, William H	St. Louis, Mo	Pavements, wooden	Apr. 19, 1864.
	Charlton, Henry. (*See* Lilly, Benjamin, assignor.)			
42,165	Chase, Amos	Weare, N. H	Currier's arm or grain board	Apr. 5, 1864.
42,749	Chase, Elisha	Chicago, Ill	Stoves, cooking, parlor	May 17, 1861.
43,637	Chase, Francis A	Jordan, N. Y	Pumps, piston, hollow, double-acting	July 26, 1864.
45,140	Chase, J. E., and Joseph Toy	Simsbury, Conn	Fuze, safety	Nov. 22, 1864.
42,836	Chase, John W. and Charles F	North Weare, N. H	Skiving machine	May 24, 1864.
42,076	Chase, Joseph, and J. M. Stone	Worcester, Mass North Andover, Mass	Drawing-frames, mode of operating the rollers in	Mar. 29, 1864.
43,093	Chase, Lucius C.	Boston, Mass	Buckles and loops, attaching	June 14, 1864.
43,735	Chase, Oliver R., assignor to self and Lewson E. Chase	Boston, Mass	Confectioners' pipe, machine for making	Aug. 2, 1864.
41,424	Chase, Otis N	Boston, Mass	Diggers, potato. (Antedated Jan. 27, 1864)	Feb. 2, 1864.
42,271	Chase, Otis N	Boston, Mass	Coal sifters	Apr. 12, 1864.
41,279	Chase, Samuel C.	Charlestown, Mass	Gloves, kid, &c., mode of coloring	Jan. 19, 1864.
41,482	Chatterton, Richard D	Bath, England	Elevators for loading cars	Feb. 9, 1864.
41,483	Chatterton, Richard D	Bath, England	Cars, railroad, buffers for	Feb. 9, 1864.
43,375	Chatterton, Richard Dover	Great Britain	Car coupling, railroad	June 28, 1864.
44,396	Chauncey, Robert	Syracuse, N. Y	Chair, rocking	Sept. 27, 1864.
	Cheever, John H. (*See* Horsford, E. N., assignor.)			
	Cheever, John H. (*See* Horsford, E. N., assignor.)			
	Chenoweth, Joseph. (*See* McLain, John, assignor.)			
44,516	Cherry, James N	Zanesville, Ohio	Metal, sheet, machine for cutting	Oct. 4, 1864.
	Chesebrough, Robert A. (*See* Warren, J. T., assignor.)			
	Chesebrough, Robert A., and J. T. Warren. (*See* Warren & Chesebrough.)			
43,181	Chesney, E. E.	Abingdon, Ill	Planters, corn	June 21, 1864.
42,077	Chess, Harvey B	Pittsburg, Pa	Screw-head	Mar. 29, 1864.
42,837	Chester, Richard	Chicago, Ill	Stoves	May 24, 1864.
	Chichester, James L., and Edward Town. (*See* Town & Chichester.)			
41,905	Chichester, Lewis S	Brooklyn, N. Y	Dryers, grain	Mar. 15, 1864.
41,906	Chichester, Lewis S	New York, N. Y	Weighers, grain	Mar. 15, 1864.
	Chickering & Sons. (*See* Pratt, George, assignor.)			
43,970	Chilcott, John	Brooklyn, N. Y	Gas-retorts, composition for luting. (Antedated August 24, 1864.)	Aug. 30, 1864.
44,517	Chilcott, John	Brooklyn, N. Y	Composition for coating steam pipes, boilers, &c. (Antedated September 19, 1864.)	Oct. 4, 1864.
45,584	Chilcott, John	Brooklyn, N. Y	Extracts from animal and vegetable substances, apparatus for making. (Antedated December 20, 1864.)	Dec. 27, 1864.
	Child, Elisha, jr. (*See* Paige, William H., assignor.)			

No.	Patentee.	Residence.	Invention or discovery.	Date.
	Childs, Dexter. (*See* Briggs, Alden B., assignor.)			
1,739	Chilson, Gardner	Boston, Mass	Draft regulator and ventilator (Reissue)	Aug. 16, 1864.
43,897	Chilson, Gardner	Boston, Mass	Draft regulator and ventilator	Aug. 23, 1864.
1,782	Chilson, Gardner	Boston, Mass	Furnace, or heat generator and radiator (Reissue)	Sept. 27, 1864.
41,193	Chipman, Edgar	New York, N. Y	Churns	Jan. 12, 1864.
41,194	Chipman, Edgar	New York, N. Y	Washing machine	Jan. 12, 1864.
43,289	Chittenden, Horace H	New Haven, Conn	Sewing machine, braiding attachment for	June 28, 1864.
44,603	Chittenden, Morgan	Danbury, Conn	Horseshoes	Oct. 11, 1864.
43,453	Christian, Thomas, assignor to self and Z. De Bow	Washington, D. C	Wagon brakes	July 5, 1864.
42,328	Christian, James, assignor to Alfred W. Craven, as trustee for the Metropolitan Fair and United States Sanitary Commission.	New York, N. Y	Lamp, night, cap to contract the flame for a	Apr. 12, 1864.
41,175	Christl, Joseph	Newark, N. J	Bracelets, constructing flat chains for	Jan. 5, 1864.
	Church, Harvey, *et al.* (*See* Cox & Davy, assignors.)			
	Churchill, A., *et al.*			
45,585	Churchill, Thomas and Jehiel	Detroit, Mich	Baskets, machines for forming	Dec. 27, 1864.
45,317	Clabaugh, N. B.	Frederick, Md	Washing machine	Dec. 6, 1864.
44,936	Clapp, E. S	Montague, Mass	Trunks	Nov. 8, 1864.
42,166	Clapp, E. S., and Emory Blanchard	Montague, Mass Amherst, Mass	Fences	Apr. 5, 1864.
42,274	Clapp, John C	South Boston, Mass	Numbering machine	Apr. 12, 1864.
	Clapp, Joseph H. (*See* Tisdale, Charles D., assignor.)			
43,182	Clark, Augustus D	Wilkinsville, Mass	Looms, shuttle for	June 14, 1864.
43,290	Clark, C. A	Pulaski, Iowa	Washing machine	June 28, 1864.
44,937	Clark, Eliphalet M	Detroit, Mich	Unloading grain from cars	Nov. 8, 1864.
43,571	Clark, Francis	North Oxford, Mass	Fire-arms, breech-loading	July 19, 1864.
42,348	Clark, George	Buffalo, N. Y	Dryers, grain	Apr. 19, 1864.
	Clark, Harvey, *et al.* (*See* Rayner, Joseph, assignor.)			
43,572	Clark, Hawkins, and Frank A. Wilder	San Francisco, Cal	Shirts, over, India-rubber	July 19, 1864.
	Clark, Isaac H. (*See* Jenks, Lemuel P., assignor.)			
	Clark, James R., and Charles A. Shaw. (*See* Shaw & Clark.)			
45,137	Clark, Joseph Linus	Chester, Conn	Corkscrew	Nov. 22, 1864.
43,971	Clark, L. N	Brighton, Mich	Threshing machines	Aug. 30, 1864.
	Clark, Nelson W. (*See* Clough, Aaron Y., assignor.)			
44,604	Clark, Thomas	Ware, Mass	Loom shuttles	Oct. 11, 1864.
41,680	Clark, William H., and Walter E. Edgerton	Cincinnati, Ohio Spiceland, Ind	Mills, sugar-cane	Feb. 23, 1864.
43,669	Clark, William J	Southington, Conn	Bolts, method of making	Aug. 2, 1864.
44,706	Clark, William J	Southington, Conn	Bolts, dies for making	Oct. 18, 1864.
43,736	Clark, William P., assignor to self and Wm. T. Vose	Charlestown, Mass	Faucets, basin	Aug. 2, 1864.
44,707	Clark, William R	Piqua, Ohio	Beehives	Oct. 18, 1864.
44,482	Clarke, Elizur E., assignor to Franklin N. Clarke	New Haven, Conn	Umbrellas	Sept. 27, 1864.
42,838	Clarke, George B	Leonardsville, N. Y	Ploughs	May 24, 1864.
44,938	Clarke, Joseph	Syracuse, N. Y	Pavements, roofing, &c., composition for	Nov. 8, 1864.
42,528	Clarke, Orlando, assignor to self and Isaac Utter	Rockford, Ill	Press, cider	Apr. 26, 1864.
43,095	Clarke, Orlando	Rockford, Ill	Mills, cider	June 14, 1864.
	Clarke, W. H. (*See* Catlin, H. W., assignor.)			
41,974	Class, William, and Ernst Rubenow	Cincinnati, Ohio	Extracts, apparatus for making	Mar. 22, 1864.
44,253	Class, Wm. T., assignor to E. Rubenow and Chas. Joseph	Cumminsville, Ohio	Filters	Sept. 13, 1864.
43,658	Clavel, Charles Adolphe	France	Files and rasps, mode of hardening and repairing	July 26, 1864.
43,390	Clees, J. N	Darbyville, Ohio	Separators, grain	July 5, 1864.
42,858	Cleland, William	England	Gas purifiers, heating and utilizing oxides of iron from	May 24, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
41, 484	Clement, D. B	Brooklyn, N. Y	Hay forks, horse	Feb. 9, 1864.
	Clement, Nathan S., and Frederick Townsend. (*See* Townsend & Clement.)			
41, 349	Clemm, Christian Gustave, assignor to Charles Clemm	Germany	Magnesia compounds in chemical manufactures, employment of.	Jan. 19, 1864.
42, 433	Clemons, Andrew B., assignor to self and Royal M. Bassett	Derby, Conn	Iron, rollers for rolling	Apr. 19, 1864.
45, 020	Clew, John F	New York, N. Y	Ordnance exhausted of air, tompion cap for the muzzles of	Nov. 15, 1864.
45, 021	Clew, John F	New York, N. Y	Projectiles for fire-arms. (Antedated November 6, 1864)	Nov. 15, 1864.
45, 022	Clew, John F	New York, N. Y	Projectiles, enamelled. (Antedated Oct. 30, 1864.)	Nov. 15, 1864.
45, 023	Clew, John F	New York, N. Y	Projectiles, ordnance, sabots for. (Antedated Oct. 30, 1864)	Nov. 15, 1864.
45, 024	Clew, John F	New York, N. Y	Shells, explosive, &c., fuze for	Nov. 15, 1864.
45, 474	Clew, John F	New York, N. Y	Shot, case	Dec. 20, 1864.
45, 475	Clew, John F	New York, N. Y	Portholes, submarine	Dec. 20, 1864.
45, 586	Clew, John F	New York, N. Y	Ordnance, elastic breech for. (Antedated Dec. 22, 1864)	Dec. 27, 1864.
44, 283	Cleveland, E. C	Worcester, Mass	Spinning machine	Sept. 20, 1864.
43, 391	Cleveland, Orestes	Jersey City, N. J	Pencils	July 5, 1864.
	Clifford, C., *et al.* (*See* Mey, Frederick H. C., assignor.)			
	Clifford, John C. (*See* Nimbs, A. B., assignor.)			
	Clifford, John C., and A. B. Nimbs. (*See* Kellogg & McKee, asignors.)			
1, 764	Clissold, Wm., assignor to Geo. Harwood and Geo. H. Quincy	Boston, Mass	Wool, machine for oiling (Reissue)	Sept. 13, 1864.
45, 489	Clogston, Thomas S	Boston, Mass	Heating apparatus	Dec. 13, 1864.
42, 927	Close, Daniel	Harmonsburg, Pa	Rack and trough, feed, combined	May 31, 1864.
43, 392	Close, Daniel	Harmonsburg, Pa	Excavators	July 5, 1864.
45, 138	Closs, Frederic	New Haven, Conn	Boots, &c	Nov. 22, 1864.
43, 254	Clough, Aaron Y., assignor to self and Nelson W. Clark	Clarkston, Mich	Straw cutters. (Antedated June 18, 1864)	June 21, 1864.
41, 758	Clough, Francis W	Springfield, Mass	Engines, steam, valves for	Mar. 1, 1864.
1, 971	Clough, Isaac S., and Vincent Fountain, jr	Brooklyn, N. Y Castleton, N. Y	Lantern (Design)	July 19, 1864.
1, 982	Clough, Isaac S., and Vincent Fountain, jr	Brooklyn, N. Y Castleton, N. Y	Bow, toy (Design)	Aug. 16, 1864.
43, 759	Clough, Isaac S., and Vincent Fountain, jr	Brooklyn, N. Y North Shore, N. Y	Dancer, automaton	Aug. 9, 1864.
41, 057	Clough, Richard W	Williamsburg, N. Y	Fastenings, sash	Jan. 5, 1864.
41, 759	Cluff, Matthew John	Waltham, Mass	Wringing machine	Mar. 1, 1864.
43, 478	Clum, Jacob, and George A. Fisher	Shelby, N. Y Alabama, N. Y	Separator, grain	July 12, 1864.
	Cinte, John, and Geo. Campbell. (*See* Ward, Saml., ass'or.)			
	Coates, Ezra Jenks. (*See* De Telescheff, Nicholas, ass'or.)			
43, 393	Coburn, Samuel	Stamford, Conn	Detergent. (Antedated June 23, 1864)	July 5, 1864.
	Cochran, Andrew. (*See* Marshall, Loomis G., assignor.)			
	Cochran, Andrew. (*See* Marshall, Loomis G., assignor.)			
1, 617	Cochran, David M	Richmond, Ind	Threshing machines (Reissue)	Feb. 16, 1864.
43, 638	Cochran, John D	Keen River, Cal	Picks	July 26, 1864.
44, 399	Cochran, John D	Milford, N. H	Bedsteads, hospital	Sept. 27, 1864.
42, 989	Cochran, Samuel Beach, assignor to James Willcox	Great Britain	Sewing machines, binding guides for	May 31, 1864.
45, 556	Cocker, Peter, assignor to self and John Taylor	Philadelphia, Pa	Stove-pipe drum	Dec. 20, 1864.
44, 605	Codding, C. A	Battle Creek, Mich	Eaves troughs, finishing. (Antedated September 30, 1864)	Oct. 11, 1864.
42, 167	Cody, John	New York, N. Y	Drill, rock	Apr. 5, 1864.
41, 603	Coe, Orman	Fort Washington, Wis	Ploughs	Feb. 16, 1864.
45, 318	Coffee, George W	Aurora, Nevada	Quartz, casting stamps and dies for crushing	Dec. 6, 1864.
43, 291	Coffin, E. B	Olneysville, R. I	Elevating and transporting device	June 28, 1864.
45, 587	Coggeshall, Thomas J	New York, N. Y	White lead, apparatus for making	Dec. 27, 1864.
	Coggshall, Henry F. (*See* Foster, Samuel E., assignor.)			
	Cogswell, Edwin H., and Wm. B. Birdsall. (*See* Birdsall & Cogswell.)			
44, 282	Cohick, John K., and Jacob Fesher	Mountville, Pa	Pumps	Sept. 20, 1864.
41, 810	Colborn, Wells L., assignor to self and John M. D. Greene	Elmira, N. Y	Engines, steam, cut-off valve gear of	Mar. 1, 1864.
42, 839	Colburn, George F. J	Newark, N. J	Lantern and lamp frame	May 24, 1864.
43, 670	Colburn, George F. J	Newark, N. J	Hinges, butt	Aug. 2, 1864.
44, 076	Colburn, George F. J., assignor to the Scoville Manufacturing Company.	Newark, N. J	Hinge, stop	Sept. 6, 1864.
41, 852	Colburn, G. F. J	Newark, N. J	Jars, stopper for	Nov. 1, 1864.
44, 853	Colburn, G. F. J	Newark, N. J	Coat and hat hook	Nov. 1, 1864.
1, 695	Colburn, Sylvester, assignor to Cyrenus Wheeler, jr	Poplar Ridge, N. Y	Harvesters, grain and grass (Reissue)	June 7, 1864.
1, 696	Colburn, Sylvester, assignor to Cyrenus Wheeler, jr	Poplar Ridge, N. Y	Harvesters, grain and grass (Division of reissue)	June 7, 1864.
43, 972	Coldwell, John H	New York, N. Y	Baby jumper and walker	Aug. 30, 1864.
41, 168	Cole, James L	Chariton, Iowa	Spading machines	Jan. 5, 1864.
41, 195	Cole, R. S	Mount Pleasant, Iowa	Sugar evaporator	Jan. 12, 1864.
43, 973	Cole, Samuel S. and Gideon W	Canton, Ill	Apple bin	Aug. 30, 1864.
43, 477	Coleman, John	Argyle, N. Y	Lathes, turning, for wood turning	July 12, 1864.
42, 044	Collen, John B., assignor to self, A. Rex and J. T. Rowand	Philadelphia, Pa	Injectors, water	Mar. 22, 1864.
41, 831	Coller, Isaac H	Poughkeepsie, N. Y	Harvester-cutter sharpener	Mar. 8, 1864.
	Collins Company. (*See* Smith, F. F., assignor.) Reissue.			
	Collins Company. (*See* Smith, F. F., assignor.) Reissue.			
41, 139	Collins, Ebenezer L	Wellfleet, Mass	Casks or barrels, rolling	Jan. 5, 1864.
1, 690	Collins, Edward K	Chili, N. Y	Bolts, clover (Reissue)	June 7, 1864.
43, 394	Collins, Giles H	Wayne, Mich	Weather strips	July 5, 1864.
43, 834	Collins, H. A	Springfield, Mass	Hook, check	Aug. 16, 1864.
45, 476	Collins, James P	Troy, N. Y	Shaft coupling	Dec. 20, 1864.
42, 561	Collins, James V	Georgetown, D. C	Derricks, floating	May 3, 1864.
	Collins, John, and Alonzo T. Boon. (*See* Boon & Collins.)			
43, 096	Collins, Michael Henry	Chelsea, Mass	Quartz crushers	June 14, 1864.
42, 349	Collins, Owen	New York, N. Y	Ships-of-war and of defensive-armor fortifications, construction for defence of.	Apr. 19, 1864.
	Collins, Samuel W., president of the Collins Company. (*See* Smith, F. F., assignor.)			
41, 485	Collins, Selah B	Lyndon, Mich	Steamer, vegetable, revolving. (Antedated Jan. 27, 1864)	Feb. 9, 1864.
42, 460	Collins, Smith	New Haven, Conn	Corsets	Apr. 26, 1864.
44, 939	Collins, Smith	New Haven, Conn	Hats, spring-brim	Nov. 8, 1864.
43, 763	Colomb, Philip Howard	Great Britain	Signalling, apparatus for	Aug. 9, 1864.
	Colquitt, C. A., and F. W. Ritterhoff. (*See* Ritterhoff & Colquitt.)			
	Colt, E. N. (*See* Thompson, John, assignor.)			
41, 682	Colton, Francis	Brooklyn, N. Y	Bedstead, sofa	Feb. 23, 1864.
41, 186	Colvin, L. O	Philadelphia, Pa	Milkers, cow	Jan. 12, 1864.
44, 784	Colvin, Robert K	Lancaster, Pa	Gun and pistol bayonet, combined	Oct. 25, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
	Colwell, William, and Albert Rakestraw. (*See* Rakestraw & Colwell.)			
44, 606	Colwell, William S., and Utilles Baird	Pittsburg, Pa. Alleghany, Pa	Saw-mills	Oct. 11, 1864.
	Comins, Reuben, and Henry Stanley. (*See* Stanley & Comins.)			
42, 640	Comstock, Albert M	Old Lyme, Conn	Paddle-wheel	May 10, 1864.
45, 477	Conant, Leander T	New Lisbon, Ohio	Sewing machine, basting gauge for	Dec. 20, 1864.
	Conant, Wm. H., and Geo. A. Shepardson. (*See* Richards, Celius E., assignor.)			
41, 682	Cone, Nathan F	La Crosse, Wis	Bell, door	Feb. 23, 1864.
	Coneys, Thomas H. (*See* Maguire, Francis, assignor.)			
43, 898	Congdon, Isaac H	Springfield, Ill	Engines, locomotive	Aug. 23, 1864.
45, 588	Congdon, Samuel G., and Daniel C. Mowry	Mansfield, Mass Milford, Mass	Hats, machines for pressing. (Antedated Sept. 24, 1864)	Dec. 27, 1864.
42, 350	Conger, Wheeler M	Sugar Valley, Ohio	Drills, grain	Apr. 19, 1864.
41, 197	Conk, Jonathan	Red Bank, N. J	Journal boxes, packing for	Jan. 12, 1864.
41, 604	Conklin, Isaiah B	Pemberton, N. J	Dumping carts or wagons	Feb. 16, 1864.
45, 669	Conklin, James H., assignor to George P. Marshall	Yorktown, N. Y	Plane, edge. (Antedated December 1, 1863)	Dec. 27, 1864.
41, 785	Conkling, George S	Goshen, N. Y	Plaster and seed sower combined	Oct. 25, 1864.
43, 814	Conkling, Gurdon, assignor to Caroline A. Conkling	Conklingsville, N. Y	Boots and shoes, device for tapping	Aug. 9, 1864.
	Conkling, Theodore H. (*See* Tunstill, William, assignor.)			
45, 227	Connel, J. M	Newark, Ohio	Cartridges, ordnance, scraping disk or wad for	Nov. 29, 1864.
43, 253	Connel, James M., assignor to self and H. Eshbaugh	York, Ohio	Pumps, chain	June 21, 1864.
43, 256	Connel, James M., assignor to self and H. Eshbaugh	York, Ohio	Pump, chain, chains	June 21, 1864.
43, 097	Connelly, Joseph H	Wheeling, West Va	Wick, lamp, machine for making	June 14, 1864.
43, 760	Connelly, Joseph H	Wheeling, West Va	Coal, composition for desulphurizing	Aug. 9, 1864.
43, 671	Connolly, George W	Rochester, N. Y	Cultivators. (Antedated July 20, 1864)	Aug. 2, 1864.
41, 684	Conover, George	Middletown, Conn	Ammunition, fixed, for fire-arms	Feb. 23, 1864.
41, 366	Conover, Peter	Kingsessing, Pa	Hitching strap	Jan. 26, 1864.
42, 462	Conover, Peter	Franklin, Ohio	Single-trees, mode of attaching	Apr. 26, 1864.
41, 058	Conover, Stephen B	New York, N. Y	Diggers, potato	Jan. 5, 1864.
	Conrad, Osborn. (*See* Hall, John D., assignor.)			
	Conrad, Osborn. (*See* Hall, John D., assignor.)			
	Conrad, Osborn. (*See* Hall, John D., assignor.)			
43, 835	Converse, B. C	Cincinnati, Ohio	Projectiles for rifled ordnance. (Antedated Aug. 5, 1864)	Aug. 16, 1864.
	Converse, C. A. (*See* Briggs & Hopkins, assignors.)			
41, 198	Converse, Charles Crozat	Dubuque, Iowa	Stoves	Jan. 12, 1864.
43, 974	Converse, Charles Crozat	Dubuque, Iowa	Fruit basket	Aug. 30, 1864.
44, 400	Converse, Charles Crozat	Dubuque, Iowa	Fruit basket	Sept. 27, 1864.
1, 722	Cook, A. J., assignor to Cyrenus Wheeler, jr	Poplar Ridge, N. Y	Harvesters (Reissue)	July 5, 1864.
1, 723	Cook, A. J., assignor to Cyrenus Wheeler, jr	Poplar Ridge, N. Y	Harvesters (Division of reissue)	July 5, 1864.
41, 569	Cook, Arlon M., assignor to self, Artemus B. Vant and Horace Cook.	Chicago, Ill	Cultivators	Feb. 9, 1864.
41, 486	Cook, E. F	Omaha, Nebraska Territory	Bath tubs	Feb. 9, 1864.

No.	Patentee.	Residence.	Invention or discovery.	Date.
42, 750	Cook, E. R	Trenton, N. J	Cup, molasses	May 17, 1864.
42, 463	Cook, Isaac	St. Louis, Mo	Flour packer	Apr. 26, 1864.
44, 284	Cook, Luman W	Dowagiac, Mich	Washing machines	Sept. 20, 1864.
	Cook, Simeon S. and Benedict M. (*See* Allender, John, assignor.) Reissue.			
	Cook, Simeon S. and Benedict M. (*See* Bailey, S. A., assignor.) Reissue.			
	Cook, Simeon S. and Benedict M. (*See* Allender, John, assignor.) Reissue.			
41, 760	Cool, Reuben R	Millen's Bay, N. Y	Gates	Mar. 1, 1864.
	Coombs, S. G. B. (*See* Simonds, Warren A., assignor.)			
44, 607	Coon, Simeon	Havre-de-Grace, Md	Watches	Oct. 11, 1864.
42, 562	Cooper, Henry D	Boston, Mass	Boilers, steam	May 3, 1864.
43, 098	Cooper, Hugh M	Xenia, Ohio	Suture instruments	June 14, 1864.
45, 319	Cooper, James Maslin	Pittsburg, Pa	Cartridges for revolving fire-arms	Dec. 6, 1864.
42, 168	Corbett, Virgil P	Washington, D. C	Garments, sleeping, for travellers	Apr. 5, 1864.
44, 401	Corbin, James S	New Richmond, Ohio	Sugar evaporator	Sept. 27, 1864.
	Corey, Thomas. (*See* Stearns, Caleb S., assignor.)			
	Corey, Thomas. (*See* Stearns, Caleb S., assignor.)			
44, 576	Cornelius, Maxwell, assignor to self and R. B. More	Cincinnati, Ohio	Claw bars	Oct. 4, 1864.
42, 840	Cornelius, Robert	Philadelphia, Pa	Electrical apparatus for lighting gas	May 24, 1864.
44, 708	Cornelius, Robert	Philadelphia, Pa	Electricity, instruments for lighting gas by. (Antedated August 20, 1863.)	Oct. 18, 1864.
44, 994	Cornell, John, deceased, by John H. Cornell, administrator, assignor to Charles Noble.	Brooklyn, N. Y	Fuel, artificial	Nov. 8, 1864.
43, 672	Cornell, Seth F., and Burton Brown	Jacksonville, Ill	Washing machine	Aug. 2, 1864.
41, 199	Cornick, T. R	Independence, Iowa	Drills, seed	Jan. 12, 1864.
	Corse, Albert C., and Jacob Shavor. (*See* Shavor & Corse.)			
	Corse, Albert C., and Jacob Shavor. (*See* Norton, Marcus P., assignor.) Reissue.			
43, 070	Corser, George A., assignor to self and Anthony Haukey	Leicester, Mass	Paper-mill engines, bed plates for	June 7, 1864.
42, 251	Corser, Samuel A., assignor to self, Robert G. and Wm. R. Marsh and John A. Sims.	Northampton, Mass	Castings, moulds for making. (Antedated March 28, '64)	Apr. 5, 1864.
42, 841	Cory, Christopher	Lima, Ind	Fruits, juices of, mode of clarifying and condensing the	May 24, 1864.
43, 292	Cory, Christopher	Lima, Ind	Potato rot, mode of preventing the	June 28, 1864.
44, 162	Cory, Christopher	Lima, Ind	Furnace for clarifying cider, &c	Sept. 13, 1864.
43, 071	Cosfeldt, Clemoire F., jr., and Thomas T. Pears, assignors to selves and Alfred Martin.	Philadelphia, Pa	Metals for casting stereotype plates, apparatus for melting.	June 7, 1864.
41, 685	Cotelle, Eugene Alphonse	Paris, France	Alcohol from olefiant gas, mode of manufacturing	Feb. 23, 1864.
43, 099	Cottrell, Albert	Newport, R. I	Bridges	June 14, 1864.
	Couch, H. W., and J. W. Arnold. (*See* Arnold & Couch.)			
	Couch, John O., and Alfred M. Bailey. (*See* Bailey & Couch.)			
41, 832	Couturet, Dominic E	New York, N. Y	Fuel, artificial, preparing. (Antedated March 1, 1864)	Mar. 8, 1864.
42, 464	Covel, E. Hall	New York, N. Y	Disinfecting vessels, apparatus for	Apr. 26, 1864.
42, 641	Covel, E. Hall	New York, N. Y	Coffins	May 10, 1864.
42, 351	Covell, Edward T	Brooklyn, N. Y	Cans, tin, manufacture of	Apr. 19, 1864.
1, 725	Covert, H. W., assignor to Martin Briggs	Rochester, N. Y	Locks (Reissue)	July 12, 1864.
44, 940	Covert, Richard	Brooklyn, N. Y	Coal, lump, artificial	Nov. 8, 1864.
45, 127	Covington, Richard	Washington, D. C	Propeller, marine	Nov. 15, 1864.
42, 642	Covington, Samuel F	New Albany, Ind	Vessels, steam, steering apparatus for	May 10, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
45, 589	Cowan, Benjamin F	New York, N. Y	Rollers, steam	Dec. 27, 1864.
45, 320	Cowden, Thomas	Norristown, Pa	Weather strip	Dec. 6, 1864.
	Cowell, Joseph. (*See* George, Wm. E., assignor.)			
1, 987	Cowing, George	Seneca Falls, N. Y	Pump (Design)	Sept. 20, 1864.
43, 975	Cowing, John P	Seneca Falls, N. Y	Pump pipes	Aug. 30, 1864.
44, 285	Cowles, George A., Jesse P. Case and Victor Vierow	New York, N. Y	Composition for water-proofing and preserving vegetable fibres.	Sept. 20, 1864.
42, 751	Cowles, James A	Chicago, Ill	Lanterns, springs for	May 17, 1864.
42, 928	Cowles, James A	Chicago, Ill	Lanterns	May 31, 1864.
44, 163	Cowles, John	Rochester, N. Y	Shoe uppers, fitting	Sept. 13, 1864.
44, 786	Cowles, L. D	Armada, Mich	Buckle, harness	Oct. 25, 1864.
44, 787	Cowles, L. D	Armada, Mich	Buckles for harnesses, &c	Oct. 25, 1864.
	Cox and Church. (*See* Vedder, Nicholas S., assignor.) Design.			
42, 563	Cox, Albert W	Dublin, Ind	Ditching machine	May 3, 1864.
44, 833	Cox, David B., and John T. Davy, assignors to David B. Cox and Harvey Church.	Troy, N. Y	Stove, parlor and cooking	Oct. 25, 1864.
45, 478	Cox, David B., assignor to self and Harvey Church	Troy, N. Y	Stove	Dec. 20, 1864.
43, 836	Cox, John, and John A. Throp	Three Rivers, Mich	Cultivators	Aug. 16, 1864.
43, 100	Cox, Oliver	Washington, D. C	Needle threaders, magnet	June 14, 1864.
42, 643	Coy, John	Oswego, N. Y	Tiles, drain, casting	May 10, 1864.
45, 025	Craig, J. E., and J. Madden	Cleveland, Ohio	Steam generators	Nov. 15, 1864.
43, 479	Crain, Hiram A	Whitestown, N. Y	Cans, sheet-metal	July 12, 1864.
41, 886	Cram, John, assignor to self and John S. Cram	Boston, Mass	Washing and wringing machines	Mar. 8, 1864.
43, 899	Cram, John	Boston, Mass	Washing machine	Aug. 23, 1864.
45, 026	Cramer, A. W	Bethany, Pa	Churn dashers	Nov. 15, 1864.
42, 275	Cramton, Giles	Marshall, Mich	Churn	Apr. 12, 1864.
41, 570	Crandall, Jesse A., assignor to Mary Crandall	New York, N. Y	Horse, rocking, spring	Feb. 9, 1864.
42, 452	Crandell, Germond	Georgetown, D. C	Car doors, holders for	Apr. 19, 1864.
44, 788	Crandell, John	Ilion, N. Y	Hay forks, horse	Oct. 25, 1864.
43, 396	Crane, Elliott H	Jonesville, Pa	Trap, animal	July 5, 1864.
42, 169	Crane, Isaac C	Edgerton, Ohio	Harvester sickles	Apr. 5, 1864.
42, 732	Crane, Isaac C	Edgerton, Ohio	Harvesters, raking attachments to	May 17, 1864.
43, 573	Crane, Moses G	Charlestown, Mass	Gun barrels, scraper for cleaning	July 19, 1864.
45, 027	Crane, Moses G	Charlestown, Mass	Gun cleaner	Nov. 15, 1864.
43, 269	Cranston, Robert	Scotland	Washing machine. (Patented in England Sept. 17, '62)	June 21, 1864.
44, 608	Crate, Jos. V. C	Waterbury, Conn	Hinge	Oct. 11, 1864.
	Craven, Alfred W. (*See* Christison, James, assignor.)			
41, 487	Craven, Thomas C	Greenbush, N. Y	Gins, cotton. (Antedated January 27, 1864)	Feb. 9, 1864.
1, 677	Craven, Thomas C	Greenbush, N. Y	Gins, cotton (Reissue)	May 24, 1864.
	Crawford, Benjamin	Allegheny City, Pa	Furnaces, steam-boiler (Extension)	Jan. 20, 1864.
	Crawford, H., *et al.* (*See* Myers, H. B., assignor.)			
43, 101	Crawford, Oliver Perry	Wabashaw county, Minn	Reaping machines	June 14, 1864.
44, 609	Crenger, Jonathan	Cincinnati, Ohio	Sawing machines	Oct. 11, 1864.
41, 400	Cressman, Isaac, assignor to self and Daniel Bohler	Philadelphia, Pa	Stoves for heating soldering irons	Jan. 12, 1864.
45, 490	Cresson, Charles M	Philadelphia, Pa	Gas regulating valves. (Antedated Dec. 3, 1864)	Dec. 13, 1864.
	Cresson, Clement. (*See* Witsil, George L., assignor.)			
	Crider, John J., and George Stevenson. (*See* Stevenson & Crider.)			
2, 006	Cridge, Edmund, jr	Troy, N. Y	Stove, cook (Design)	Dec. 13, 1864.
42, 929	Crighton, William	Fall River, Mass	Fastener, blind and shutter	May 31, 1864.
45, 139	Crisman, Aaron, and Michael Witmer	Sugar Creek, Iowa	Planters, seed	Nov. 22, 1864.
42, 329	Crispin, Silas, assignor to Thomas Poultney	New York, N. Y	Cartridges	Apr. 12, 1864.
43, 183	Critchett, Oliver G	Stoneham, Mass	Heel-cutter machine	June 21, 1863.
44, 610	Crocker, Frederick	Titusville, Pa	Pumps, lifting	Oct. 11, 1864.
	Crocker, Frederick, and J. D. Angier. (*See* Angier & Crocker.)			
	Crocker, Frederick, and J. D. Angier. (*See* Angier & Crocker.)			
	Crocker, Frederick, and J. D. Angier. (*See* Mowbray, George M., assignor.)			
42, 461	Crompton, George	Worcester, Mass	Looms, let-off for	Apr. 26, 1864.
41, 488	Crondal, A. C	New York, N. Y	Bed bottom, spring	Feb. 9, 1864.
44, 941	Crondal, A. C	New York, N. Y	Hats, cork	Nov. 8, 1864.
42, 352	Cronk, M. C	Auburn, N. Y	Washing machine	Apr. 19, 1864.
43, 944	Cronkhite, Willard F., assignor to Henry Noxon and Orville M. Cronkhite.	Syracuse, N. Y	Paint, composition for	Aug. 23, 1864.
41, 201	Crooke, John J	New York, N. Y	Hinges	Jan. 12, 1864.
44, 767	Crosby, Augustine B., and Robert L. Thompson	Gilpin county, Colorado Ter	Ores of gold and silver, apparatus for roasting and treating.	Oct. 18, 1864.
41, 140	Crosby, C. O	New Haven, Conn	Collars, ladies'	Jan. 5, 1864.
41, 290	Crosby, C. O	New Haven, Conn	Ruffles	Jan. 19, 1864.
41, 907	Crosby, C. O	New Haven, Conn	Collarettes	Mar. 15, 1864.
41, 605	Crosby, D. E	Brooklyn, N. Y	Calendars, pocket	Feb. 16, 1864.
41, 833	Crosby, Josiah	Rome, N. Y	Curd-cutters	Mar. 8, 1864.
43, 900	Crosby, Josiah	Manchester, N. H	Beds, invalid	Aug. 23, 1864.
41, 908	Crosby, Pearson	New York, N. Y	Saw-mills	Mar. 15, 1864.
43, 164	Cross, Daniel H	Shaftsbury, N. Y	Photographic prints, apparatus for gumming, cutting, and mounting.	June 21, 1864.
45, 590	Cross, J. R. and A. J	Chicago, Ill	Graining pails, apparatus for	Dec. 27, 1864.
42, 045	Cross, William R. P., assignor to self, Samuel Adlam, jr., and C. H. Breed.	Portland, Me	Cone and chimney elevator	Mar. 22, 1864.
44, 575	Cross, William R. P., assignor to self and Charles H. Breed	Portland, Me	Lantern guards	Oct. 4, 1864.
41, 686	Crothers, F. R	Sparta, Ill	Ploughs, gang	Feb. 23, 1864.
44, 942	Crouse, Henry P	Hartland, Mich	Mills, grinding	Nov. 8, 1864.
42, 353	Crowell, H. C	Morgan, Ohio	Shingle machines	Apr. 19, 1864.
42, 138	Crowley, John B., assignor to Chamberlain & Co	Cincinnati, Ohio	Hollow ware, bailed	Mar. 29, 1864.
42, 859	Cruikshank, Robert		School desks and seats	May 24, 1864.
2, 007	Crump, Samuel, jr., assignor to Beards & Cummings	New York, N. Y	Label of a mustard box (Design)	Dec. 13, 1864.
43, 480	Culp, G. W. D	Allensville, Ind	Press, hay	July 12, 1864.
43, 837	Culver, Ephraim	Shelburne, Mass	Meat and vegetable cutter and grater	Aug. 16, 1864.
45, 491	Cumming, David, jr	New York, N. Y	Inkstand	Dec. 13, 1864.
41, 059	Cumming, James	Boston, Mass	Shot and shell, sizing and smoothing	Jan. 5, 1864.
44, 402	Cummings, Daniel M., and Allen Hayes	Enfield, N. H	Flannel and other cloths, machine for drying	Sept. 27, 1864.
1, 645	Cummings, G. N., assignor to John E. Parker and Henry J. P. Whipple.	West Meriden, Conn	Knobs to spindles, mode of attaching (Reissue)	Mar. 29, 1864.
43, 009	Cummings, John A	Boston, Mass	Gums and palates, artificial	June 7, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
43,546	Cummings, Thomas W., assignor to J. Littledale	New York, N. Y	Fishing-rods, attaching reels to	July 12, 1864.
41,606	Cundy, John	Philadelphia, Pa	Dish, soap	Feb. 16, 1864.
42,170	Cuppers, Gustavus	New York, N. Y	Belt clasps	Apr. 5, 1-64.
44,164	Cuppers, Gustavus	New York, N. Y	Cocks, stop	Sept. 13, 1864.
45,591	Cuppers, Gustavus	New York, N. Y	Stone cutting machines	Dec. 27, 1864.
42,252	Curtis, Corwin S., assignor to self and L. B. Wolcott	Farmington, Ohio	Sap conductor	Apr. 5, 1864.
41,281	Curtis, Frederick	Newton Lower Falls, Mass	Fire-arms, breech-loading	Jan. 19, 1864.
41,489	Curtis, Frederick	Newton Lower Falls, Mass	Fire-arms, breech-loading, gas check for	Feb. 9, 1864.
	Curtis, Frederick and Francis. (*See* Dunlop, John M., assignor.)			
42,930	Curtis, George S. and Henry	Chicago, Ill	Harvesters	May 31, 1864.
44,709	Curtis, Hiram	New York, N. Y	Harvesters, raking attachments to	Oct. 18, 1864.
44,077	Curtis, James	Chicago, Ill	Plough, steam	Sept. 6, 1864.
45,228	Curtis, John	Hackettstown, N. J	Harvesters	Nov. 29, 1864.
	Curtis, Matthew. (*See* Lakin & Wayne, assignors.)			
43,072	Curtis, Philip, assignor to self and A. L. Bayley	Amesbury, Mass	Hats	June 7, 1864.
42,564	Curtis, Thomas	New Hudson, Mich	Harvesters	May 3, 1864.
42,565	Curtis, Thomas	New Hudson, Mich	Ladder, step	May 3, 1864.
44,078	Curtis, Thomas	New Hudson, Mich	Car wheels for railroads	Sept. 6, 1864.
41,571	Cushman, A. F., assignor to Horace B. Langdon and Rollin J. Ives.	Hartford, Conn	Planes or scrapers, box	Feb. 9, 1864.
	Cushman, W. H. W. (*See* Elward, John H., assignor.)			
	Cushman, W. H. W. (*See* Elward, John H., assignor.)			
	Cushman, W. H. W. (*See* Elward, John H., assignor.)			
	Cushman, W. H. W. (*See* Elward, John H., assignor.)			
43,293	Custer, George	Monroe, Mich	Horseshoe	June 28, 1864.
43,102	Custer, J. D	Norristown, Pa	Bullet machine	June 14, 1864.
	Cutler, Andrew J., *et al.* (*See* Cannon, J. S., assignor.)			
	Dabis, Florian, and Charles Robitaill. (*See* Robitaill & Dabis.)			
	Daily, S. G. (*See* Riggs, John Findley, assignor.)			
43,628	Daire, Emile	France	Candle-holder	July 19, 1864.
41,607	Dake, D. M., and S. L. Heckert	Pittsburg, Pa	Supporters, uterine	Feb. 16, 1864.
41,202	Dalbey, R. M	Springfield, Ohio	Jar, fruit, &c., closing	Jan. 12, 1864.
44,686	Dale, John D., assignor to self, A. M. Badger and John D. Dale.	Rochester, N. Y	Sewing machine, running-stitch	Oct. 11, 1864.
43,294	Dalton, Joseph	Brooklyn, N. Y	Knitting machines, stop-motion for	June 28, 1864.
44,403	Dalton, Joseph	Brooklyn, N. Y	Knitting machine, circular	Sept. 27, 1864.
1,969	Damon, Henry	Boston, Mass	Trade mark. (Design. Antedated June 7, 1864)	July 12, 1864.
41,490	Danforth, D. A	Elkhart, Ohio	Stump extractors	Feb. 9, 1864.
	Daniels, Clinton K., and Daniel Shattuck. (*See* Shattuck & Daniels.)			
43,761	Daniels, John H	Boston, Mass	Ferrotype card mount	Aug. 9, 1864.
41,282	Daniels, Philander	Le Roy, N. Y	Legs, artificial	Jan. 19, 1864.
43,103	Daniels, Philander	Le Roy, N. Y	Railroad switches, portable	June 14, 1864.

No.	Patentee.	Residence.	Invention or discovery.	Date.
	Daniels, Reuben	Woodstock, Vermont	Straw-cutters (Extension)	June 21, 1864.
1,623	Dann, John A., William F. and Isaac N	New Haven, Conn	Chair, folding (Reissue)	Feb. 23, 1864.
45,479	Dann, William	Cincinnati, Ohio	Hospital, field, cots and stretchers	Dec. 20, 1864.
44,165	Danner, John	Canton, Ohio	Washing machine, tub	Sept. 13, 1864.
43,104	Danner, John and Samuel	Canton, Ohio	Bed-bottoms, spring	June 14, 1864.
	Darling, Lyman W., and Martin W. Pond. (*See* Pond & Darling.)			
44,611	Darling, Samuel	Bangor, Me	Weighing apparatus	Oct. 11, 1864.
	Darlington, J. Henry, and Albert H. Hook. (*See* Hook & Darlington.)			
43,737	Darlington, J. H., assignor to self, H. B. Tainter and F. D. Jackson.	New York, N. Y	Collars, paper, folding	Aug. 2, 1864.
44,286	Darragh, William E	Middletown, N. Y	Shoe lacings, clasp for	Sept. 20, 1864.
45,028	Dart, Anson	Dartford, Wis	Oil, compound	Nov. 15, 1864.
43,976	Datichy, Jean P. F	New York, N. Y	Hydro-atmospheric condensers	Aug. 30, 1864.
41,491	Davenport, F. S	Jerseyville, Ill	Ploughs, gang	Feb. 9, 1864.
44,079	Davenport, Moses	Minerva, Ohio	Rakes, horse	Sept. 6, 1864.
44,710	Davey, George W	Groton, N. Y	Weed eradicator	Oct. 18, 1864.
44,166	David, James	Beech Creek township, Pa	Stove, drying, portable	Sept. 13, 1864.
42,354	Davidson, J. B	Oberlin, Ohio	Churn	Apr. 19, 1864.
41,608	Davidson, William F	Cincinnati, Ohio	Bottle-filling machine	Feb. 16, 1864.
41,909	Davies, Henry	Portsmouth, Ohio	Valves, slide, balanced	Mar. 15, 1864.
42,465	Davies, Henry	Portsmouth, Ohio	Capstan	Apr. 26, 1864.
43,880	Davies, Morgan J., assignor to self and William T. Davies	Zanesville, Ohio	Furnaces, puddling	Aug. 16, 1864.
42,171	Davis, David, Joseph Hiebeler and Samuel A. Porter	Prescott, Wis	Harvesters, raking attachments to	Apr. 5, 1864.
43,901	Davis, D. M., assignor to self and W. L. F. Jones	Asbury, Ill	Cultivators	Aug. 23, 1864.
41,060	Davis, James W	Washington, D. C	Brushes, paint and other, socket for	Jan. 5, 1864.
42,529	Davis, Jarvis, assignor to Patrick Smith	Buffalo, N. Y	Fire-arms, breech-loading	Apr. 26, 1864.
43,010	Davis, John	Alleghany, Pa	Car brakes, railroad. (Antedated Jan. 2, 1864)	June 7, 1864.
43,395	Davis, John	Alleghany, Pa	Cultivators	July 5, 1864.
44,404	Davis, Joshua N	Martinsville, Ohio	Clods in the field, implement for dividing	Sept. 27, 1864.
44,854	Davis, J. Phelps	Middletown, Conn	Shoe nails, making	Nov. 1, 1864.
42,567	Davis, M. C., and L. C. Keith	Folsom, Cal	Washing and pressing machine	May 3, 1864.
41,142	Davis, Samuel	Providence, R. I	Washing machine	Jan. 5, 1864.
44,695	Davis, S	Montreal, Canada	Cigar	Oct. 14, 1864.
42,644	Davis, Seneca B	New York, N. Y	Tobacco, knives for cutting	May 10, 1864.
43,977	Davis, S. W	Wilmington, Del	Horseshoe machine	Aug. 30, 1864.
44,366	Davis, Thomas B., assignor to Stephen G. Taylor	Boston, Mass	Furnaces, boiler	Sept. 20, 1864.
43,169	Davis, W. B	Brooklyn, N. Y	Ship's bottom, composition for protecting	June 14, 1864.
41,492	Davis, William C	Cincinnati, Ohio	Kettles, tea	Feb. 9, 1864.
	Davy, John T	Troy, N. Y	Furnace for heating sadirons (Extension)	Mar. 9, 1864.
	Davy, John T., and David B. Cox. (*See* Cox & Davy.)			
42,899	Dawes, Wm. H	England	Iron, manufacture of	May 24, 1864.
	Day, Austin G. (*See* White, George W., assignor.)			
42,530	Day, Benjamin, assignor to W. G. Lord, C. Ponomaroff and J. S. Talbot.	Hoboken, N. J	Printing press, relief	Apr. 26, 1864.
43,295	Day, George W	Charlestown, Mass	Boots and shoes	June 28, 1864.
42,842	Day, Samuel F	Ballston Spa, N. Y	Telegraphs, electro-magnetic	May 24, 1864.
44,855	Day, Samuel F	Ballston Spa, N. Y	Telegraphic instruments	Nov. 1, 1864.
44,287	Day, Theodore D	Brooklyn, N. Y	Skirts, skeleton	Sept. 20, 1864.
45,392	Day, Theodore D	New York, N. Y	Skirts, hoop	Dec. 13, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
	Day, Theodore D., and Gilbert Horton. (*See* Ames, Horace B., assignor.)			
1,712	Daykin, James	Cleveland, Ohio	Water from wells, method of elevating and delivering. (Reissue.)	June 28, 1864.
45,229	Dayton, Edwin	Meriden, Conn	Pipes, drain, flasks for	Nov. 29, 1864.
42,645	Dayton, H. G	Maysville, Ky	Stoves, heating	May 10, 1864.
44,711	Dayton, H. G	Maysville, Ky	Stills, mode of heating	Oct. 18, 1864.
44,712	Dayton, H. G	Maysville, Ky	Distillates, apparatus for cooling	Oct. 18, 1864.
45,230	Dean, Alexander	Penn Yan, N. Y	Motion, changing rotary into reciprocating	Nov. 29, 1864.
44,789	Dearborn, Jonathan	Seabrook, N. H	Water elevators	Oct. 25, 1864.
1,904	Deavs, Charles, assignor to Archer and Pancoast	New York, N. Y	Lamp burners, jacket for (Design)	Mar. 1, 1864.
43,257	Deavs, Charles, and Ellis S. Archer, assignor to Archer and Pancoast.	New York, N. Y	Lanterns	June 21, 1864.
	Debaun, Cornelius B., *et al.* (*See* Smith, Isaac, assignor.)			
	De Bow, Z. (*See* Christian, Thomas, assignor.)			
43,630	De Bussy, Charles, assignor to Moitz Pluner	France	Iron from corrosion, preserving	July 19, 1864.
44,612	Decker, Henry	Duncansville, Pa	Stoves, cooking and heating	Oct. 11, 1864.
41,203	Deere, John	Moline, Ill	Steel, moulds for casting	Jan. 12, 1864.
42,172	Deere, John	Moline, Ill	Steel, cast, moulds	Apr. 5, 1864.
	De Forest, Thomas B. (*See* Sanders, Leopold, assignor.)			
44,496	De Forest, Thomas B	Birmingham, Conn	Tags, folded, machine for making	Sept. 27, 1864.
45,029	De Forest, Thomas B. and Linson	Birmingham, Conn	Labels or tags	Nov. 15, 1864.
41,761	Degel, Christian	New York, N. Y	Vegetable cutter	Mar. 1, 1864.
41,283	De Groot, Wm. H	New York, N. Y	Stone gatherers	Jan. 19, 1864.
43,185	Deihm, John R., and Jasper Snell	Pottsville, Pa	Coal screens	June 21, 1864.
41,609	Deisher, William S	Hamburg, Pa	Grain cleaner	Feb. 16, 1864.
45,394	De Lacée, Leopold	Newark, N. J	Hay, machines for loading	Dec. 13, 1864.
43,270	De Lafarge, J. J. L. Rousseau	France	Photographic pictures, apparatus for obtaining	June 21, 1864.
	Delaugre, Laurent, *et al.* (*See* Roussel, Delaugre & Robin.)			
44,790	De Long Joseph	Upper Sandusky, Ohio	Pumps, force	Oct. 25, 1864.
43,186	De Mackiewiczo, Seidel	New York, N. Y	Match safes	June 21, 1864.
43,461	De Maniquet, Jean Antoine	France	Cords, ropes, &c., machine for manufacturing	July 5, 1864.
43,978	Dement, John	Dixon, Ill	Ploughs	Aug. 30, 1864.
45,141	De Mortimer, Edwin	Cincinnati, Ohio	Soap composition	Nov. 22, 1864.
42,931	Demuth, A. Wm	New York, N. Y	Buttons, glass	May 31, 1864.
41,367	Denison, G. H	Suspension Bridge, N. Y	Slats for window blinds, machine for cutting	Jan. 26, 1864.
45,142	Denison, Roswell	Grand Rapids, Mich	Mills, grinding, bolts for	Nov. 22, 1864.
44,288	Denman, Daniel N	Millburn, N. J	Diggers, potato	Sept. 20, 1864.
45,143	Dennis, Henry P	Peoria, Ill	Metal vessels, soldering	Nov. 22, 1864.
	Dennison, E. W. (*See* Moseley, Charles S., assignor.)			
41,284	Denton, Druke W	Ithaca, N. Y	Coffins and other articles from asphaltic compositions, manufacture of.	Jan. 19, 1864.
	Denzler, Frederick, and Caspar Jagy. (*See* Jagy & Denzler.)			
42,276	Deputy, Jesse J	Peoria, Ill	Saw-mills	Apr. 12, 1864.
42,277	Deputy, Jesse J	Peoria, Ill	Saw-mills	Apr. 12, 1864.
41,368	Derington, Theophilus	Du Quoin, Ill	Lathes for turning spokes	Jan. 26, 1864.
	Derocquigny, F. C. A., and F. J. B. Hubert. (*See* Hubert & Derocquigny.)			
1,741	Derrom, Andrew	Paterson, N. J	Hut, portable (Reissue)	Aug. 23, 1864.
1,742	Derrom, Andrew	Paterson, N. J	Hut, portable (Division of reissue)	Aug. 23, 1864.
44,405	Descamp, Bernard	Rochester, N. Y	Starch, manufacture of	Sept. 27, 1864.
45,368	Desens, Louis	France	Bathing machine. (Patented in France Sept. 24, 1862)	Dec. 6, 1864.
42,713	Despre'aux, Alexandre Adrien	Paris, France	Printing and ornamenting textile fabrics	May 10, 1864.
43,979	Destouy, August	New York, N. Y	Metals, mouldings of	Aug. 30, 1864.
42,531	De Telescheff, Nicolas, assignor to Ezra Jenks Coates	St. Petersburg, Russia	Metals, machines for cutting and punching. (Patented in England January 24, 1863.)	Apr. 26, 1864.
41,493	Detrick, A. J	Dryden, N. Y	Horse-power	Feb. 9, 1864.
42,646	Dever, E. M., and Ira C. Pratt	Peoria Co., Ill	Cultivators	May 10, 1864.
42,751	Devereux, John H., assignor to self, H. B. Goodyear and H. M. Bearce.	Alexandria, Va	Chair, easy	May 17, 1864.
42,173	Devoe, D. D	Ilion, N. Y	Grain cradles	Apr. 5, 1864.
42,355	Devoe, Frederick W	New York, N. Y	Cans, tin, manufacture for	Apr. 19, 1864.
41,910	Dewey, Morris	Clarendon, N. Y	Sawing machines, wood	Mar. 15, 1864.
44,406	Deyo, Samuel D	Strawberry Point, Iowa	Seeding machines	Sept. 27, 1864.
1,979	De Zouche, Isaac, assignor to Bridge, Beach & Co	St. Louis, Mo	Stove, cook's, plates of a (Design)	July 26, 1864.
1,980	De Zouche, Isaac, assignor to Bridge, Beach & Co	St. Louis, Mo	Stove, cook's, parlor, plates of a (Design)	July 26, 1864.
1,981	De Zouche, Isaac, assignor to Bridge, Beach & Co	St. Louis, Mo	Stove, cook's, plates of a (Design)	Aug. 2, 1864.
44,518	Dick, David	Meadville, Pa	Rock and ore crushers	Oct. 4, 1864.
1,679	Dick, Robert	Buffalo, N. Y	Labels, accountant, for periodicals, &c (Reissue)	May 31, 1864.
44,856	Dick, Wm. C	New York, N. Y	Cans, tin, tool for opening	Nov. 1, 1864.
42,723	Dickerman, Elliott, assignor to Metropolitan Washing Machine Company.	Middlefield, Conn	Washing machine	May 10, 1864.
41,762	Dickerson, Edward N	New York, N. Y	Boilers, steam	Mar. 1, 1864.
45,145	Dickerson, Henry J	Gloversville, N. Y	Gloves, machine for cutting	Nov. 22, 1864.
43,574	Dickey, Julius C	Saratoga Springs, N. Y	Gold, apparatus for washing and amalgamating. (Antedated July 11, 1864.)	July 19, 1864.
45,144	Dickey, Julius C	Saratoga, Springs, N. Y	Amalgamating gold and silver, machine for. (Antedated November 19, 1864.)	Nov. 22, 1864.
45,455	Dickinson, Charles W., assignor to self and Geo. Rowden	Newark, N. J	Lathe, engine-turning	Dec. 13, 1864.
42,990	Dickinson, D. A., assignor to Tobacco Pipe Company	Baltimore, Md	Tobacco pipes, machines for trimming the bowls of	May 31, 1864.
42,991	Dickinson, D. A., assignor to Tobacco Pipe Company	Baltimore, Md	Tobacco pipes, machines for making	May 31, 1864.
44,407	Dickinson, E. S., and Wm. D. Nelson	New York, N. Y	Journal boxes. (Antedated September 18, 1864)	Sept. 27, 1864.
44,289	Dickson, Joseph A	Sandwich, Ill	Pumps, cattle	Sept. 20, 1864.
44,408	Dickson, Perry	Erie, Pa	Mills, cider	Sept. 27, 1864.
45,393	Dietz, A	New Orleans, La	Bedstead, wardrobe	Dec. 13, 1864.
	Diggins, Henry M., and Henry W. Wansbrough. (*See* Wansbrough & Diggins.)			
	Dike, Solon, and F. W. Bacon. (*See* Bacon & Dike.)			
	Dill, Reuben. (*See* Heneage, Robert, assignor.)			
	Diller, Isaac R. (*See* Hockstatter, H., assignor.)			
	Diller, Isaac R. (*See* Wetherill, Charles M., assignor.)			
	Diller, Isaac R. (*See* Wetherill, Charles M., assignor.)			
41,763	Diltz, John S	Mt. Ophir, Cal	Amalgamating gold and silver, apparatus for	Mar. 1, 1864.
44,687	Dimock, Martial, assignor to Fitch, Estee & Co	Newark, N. J	Envelopes, &c., apparatus for cutting and creaming paper for.	Oct. 11, 1864.
43,575	Dimon, D. F., and G. H. Carswell	Fishkill Landing, N. Y	Book-holder	July 19, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
	Dimpfel, F. P	Philadelphia, Pa	Boilers, steam (Extension)	June 28, 1864.
	Dinsmore, T. P. (*See* Olmstead, Joseph, assignor.)			
	Disston Thomas S., *et al.* (*See* Baker, John G., assignor.)			
45, 321	Dixon, John W	Philadelphia, Pa	Paper pulp, manufacture of	Dec. 6, 1864.
45, 480	Dixon, John W	Philadelphia, Pa	Paper pulp from wood, manufacture of	Dec. 20, 1864.
45, 231	Doak, John	Keithburg, Ill	Ploughs, cultivator	Nov. 29, 1864.
45, 395	Doak, John	Keithburg, Ill	Planter, corn	Dec. 13, 1864.
42, 278	Doble, Abner	San Francisco, Cal	Tamping bars	Apr. 12, 1864.
44, 613	Dodder, Abraham	Washington, Iowa	Weather strips	Oct. 11, 1864.
43, 111	Dodder, Jacob	Washington, Iowa	Washing machine	June 7, 1864.
45, 322	Dodds, George and Elihu	Allegheny, Pa	Valve gear, variable	Dec. 6, 1864.
	Dodds, William B. (*See* Macneale, Neil, assignor.)			
41, 141	Dodge, Daniel	Keeseville, N. Y	Horseshoe nails, machine for making	Jan. 5, 1864.
	Dodge, John C	Dodgeville, N. Y	Spinning machines, preventing fibres from winding on drawing rollers in. (Extension.)	
43, 187	Dodge, John C	Brooklyn, N. Y	Spinning frames, ring and traveller	June 21, 1864.
41, 687	Dodge, John W	New York, N. Y	Vermin, preparation for destroying. (Antedated February 21, 1864.)	Feb. 23, 1864.
42, 568	Dodge, M. B	Black Hawk Point, Colorado Terr'y	Amalgamating, machines for	May 3, 1864.
	Dodge, M. B. (*See* Stanton, J. W., assignor.)			
	Dodge, Thomas H. (*See* Taft, George C., assignor.)			
	Dodge, Thomas H. (*See* Taft, George C., assignor.)			
	Dodge, Thomas H. (*See* Taft, George C., assignor.)			
	Dodge, Thomas H. (*See* Edgecomb, Joseph, assignor.)			
	Dodge, Thomas H., *et al.* (*See* Kniffen, L. G., assignor.)			
	Dodge, Thomas H., *et al.* (*See* Brown, Kniffen & Dodge.)			
45, 481	Dodge, Thomas H	Worcester, Mass	Rakes, horse	Dec. 20, 1864.
42, 754	Dodge, William C	Washington, D. C	Caster, adjustable	May 17, 1864.
43, 902	Dodge, William C	Washington, D. C	Calf feeder	Aug. 23, 1864.
44, 290	Dodge, William C	Washington, D. C	Fire-arm, breech-loading	Sept. 20, 1864.
43, 105	Doen, Edward	New Britain, Conn	Latches, cupboard	June 14, 1864.
44, 167	Doering, Justus	Philadelphia, Pa	Bedstead fastening	Sept. 13, 1864.
45, 396	Doerksen, Jacob	Derry Church, Pa	Straw cutters, affixing knives to	Dec. 13, 1864.
43, 296	Dolan, Thomas	Albany, N. Y	Safes	June 28, 1864.
45, 482	Dolbeer, John D	San Francisco, Cal	Counting, machines for	Dec. 29, 1864.
41, 257	Dole, L. A., assignor to self and A. R. Silver	Salem, Ohio	Tire-upsetting machine	Jan. 12, 1864.
45, 117	Dole, L. A., assignor to self and Albert R. Silver	Salem, Ohio	Saw-gummer	Nov. 17, 1864.
	Donan, S., *et al.* (*See* Illofsky, Ignatz, assignor.)			
43, 838	Doncaster, Daniel	Punnsutawney, Pa	Water-wheels	Aug. 16, 1864.
42, 724	Donisthorpe, Geo. Edmund, Wm. Firth and Robert Ridley	England	Coal-mining apparatus. (Patented in England November 26, 1861.)	May 10, 1864.
44, 614	Doolittle, Harrison	Aurora, Ind	Churns	Oct. 11, 1864.
41, 975	Dopp, H. W	Buffalo, N. Y	Stoves, vapor	Mar. 22, 1864.
42, 756	Dorman, James A	New York, N. Y	Mills, floating	May 17, 1864.
43, 481	Dorr, Edward	Rockford, Ill	Baling hay and other materials, mode of	July 12, 1864.
43, 482	Dorr, Edward	Rockford, Ill	Baling hay and other materials, machines for	July 12, 1864.
44, 615	Dorsch, M. P	New York, N. Y	Collars, paper, folding	Oct. 11, 1864.
41, 369	Doty, William M	New York, N. Y	Addressing newspapers, &c., apparatus for	Jan. 26, 1864.
43, 483	Doty, William M	New York, N. Y	Washing machine	July 12, 1864.
42, 757	Doty, Z. S	Janesville, Wis	Paint-oil, compound	May 17, 1864.
44, 281	Doubleday, William E	Brooklyn, N. Y	Hats and bonnets, apparatus for pressing	Sept. 20, 1864.
41, 811	Doubler, J. W. H., assignor to self and John E. Wynne	Warren, Ill	Drills, grain	Mar. 1, 1864.
44, 713	Doudna, L. M	Elmira, N. Y	Hay wagons, loading attachments to	Oct. 18, 1864.
42, 714	Dougall, James	Scotland	Lubricating substances, mode of applying	May 10, 1864.
41, 494	Dougherty, Andrew	Brooklyn, N. Y	Fishing-line reel	Feb. 9, 1864.
41, 688	Dougherty, John B	Rochester, N. Y	Barrel hoops, machines for making splints for	Feb. 23, 1864.
42, 434	Douglas, Alexander, assignor to self and Sam'l S. Sherwood	English Neighborhood, N. J	Cuff fasteners	Apr. 19, 1864.
42, 279	Douglas, R. B	Cleveland, Ohio	Camera stand	Apr. 12, 1864.
43, 903	Douglass, William	Corry, Pa	Gun, battery	Aug. 23, 1864.
	Dow, Lorenzo, and Algernon K. Johnston. (*See* Johnston & Dow.)			
	Dow, Lorenzo, and Algernon K. Johnston. (*See* Johnston & Dow.)			
	Dow, Lorenzo, and Algernon K. Johnston. (*See* Johnston & Dow.)			
41, 976	Dowler, George	England	Match boxes	Mar. 22, 1864.
	Downer, William P. (*See* Archer, William, assignor.)			
	Downer, William P. (*See* Archer, William, assignor.)			
44, 519	Downer, William Porter	New York, N. Y	Petroleum and other oils, refining. (Patented in England January 7, 1863.)	Oct. 4, 1864.
42, 078	Dows, Gustavus D	Boston, Mass	Soda fountains, draught-tube for	Mar. 29, 1864.
41, 204	Doyle, John	Hoboken, N. J	Skate fastening	Jan. 12, 1864.
44, 409	Doyle, John J	Brooklyn, E. D., N. Y	Pulley blocks	Sept. 27, 1864.
45, 592	Drake, E	Gardiner, Maine	Shingle machines	Dec. 27, 1864.
43, 152	Drake, Francis E., assignor to self and George Arms	Chicopee, Mass	Clasp or button, spring	June 14, 1864.
43, 839	Drake, Frederick H	Middletown, Conn	Sewing machine bobbins, thread-winding device for. (Antedated August 4, 1864.)	Aug. 16, 1864.
41, 740	Drake, James B., assignor to A. B., E. T., S. E. and L. B. Sprout.	Picture Rock, Pa	Rakes, horse	Feb. 23, 1864.
1, 819	Drake, Oliver P	Boston, Mass	Hydro-carbon vapor with air, apparatus for combining. (Reissue.)	Nov. 17, 1864.
	Draper, E. D. and George. (*See* Wyllys, Newell, assignor.)			
41, 834	Draper, George	Milford, Mass	Looms, yarn-delivering mechanism for	Mar. 8, 1864.
	Draper, George, and Albert H. Saunders. (*See* Saunders, Benjamin, assignor.)			
42, 907	Draper, Virgil, assignor to Oscar M. Draper	North Attleboro', Mass	Metal, stamping, &c	May 24, 1864.
42, 647	Draper, William W	Greenfield, Mass	Tool-holder	May 10, 1864.
44, 269	Drayson, Henry Edwin	Great Britain	Gunpowder, manufacture of	Sept. 13, 1864.
44, 616	Dresing, Gerhard F	Buffalo, N. Y	Leather-pressing machine	Oct. 11, 1864.
43, 106	Drey, Abraham	Baltimore, Md	Shirt bosoms, plaited. (Antedated June 5, 1864)	June 14, 1864.
43, 107	Drey, Abraham	Baltimore, Md	Shirt bosoms, plaited. (Antedated June 10, 1864)	June 14, 1864.
41, 977	Driggs, Spencer B	New York, N. Y	Piano-fortes	Mar. 22, 1864.
1, 882	Drummond, James F	New York, N. Y	Bas-relief of General G. B. McClellan (Design)	Jan. 5, 1864.
41, 835	Drummond, John W	New York, N. Y	Motion, mode of converting	Mar. 8, 1864.
42, 356	Dubber, J. F	Brooklyn, N. Y	Scoop and funnel	Apr. 19, 1864.
41, 285	Du Bois, John	Williamsport, Pa	Flumes, building, for floating logs	Jan. 19, 1864.
43, 065	Dubrunfaut, Auguste Pierre	France	Saccharine liquids, process of purifying	June 7, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
44,080	Duckworth, Christopher	Mt. Carmel, Conn	Looms, stop-motion for	Sept. 6, 1864.
43,673	Dudgeon, Richard	New York, N. Y	Drills	Aug. 2, 1864.
45,397	Duff, James B	Patchogue, N. Y	Envelope blanks, gumming and feeding	Dec. 13, 1864.
41,978	Duffield, Samuel P	Detroit, Mich	Silicate, soluble	Mar. 22, 1864.
41,979	Duffield, Samuel P	Detroit, Mich	Salt, common, manufacture of	Mar. 22, 1864.
41,980	Duffield, Samuel P	Detroit, Mich	Salt, common, manufacture and purifying of	Mar. 22, 1864.
42,280	Duffield, Samuel P	Detroit, Mich	Salt-brine, mode for the purification of	Apr. 12, 1864.
45,593	Dugdale, Edward	New York, N. Y	Thills to axles, mode of attaching	Dec. 27, 1864.
43,576	Dugdale, Thomas A	West Richmond, Ind	Wood, machines for splitting	July 19, 1864.
	Dumke, August F., and Sylvester A. Wood. (*See* Wood & Dumke.)			
42,174	Dummer, Samuel R	New York, N. Y	Measure and funnel, combined	Apr. 5, 1864.
41,205	Dunbar, Henry D	Hartland Four Corners, Vt	Engines, steam, pistons for	Jan. 12, 1864.
42,079	Dunham, Orson D	Plainwell, Mich	Rakes, horse	Mar. 29, 1864.
41,286	Dunkerley, James, and John Knight	Paterson, N. J	Composition for pasting "cops"	Jan. 16, 1864.
	Dunlap, Charles W. (*See* Murray, Edgar, assignor.)			
44,911	Dunlop, John M., assignor to self and Frederick and Francis Curtis.	England	Cotton machinery, sizing-rolls for. (Patented in England June 7, 1858.)	Nov. 1, 1864.
	Dunn, D. (*See* Fellows, John H., assignor.)			
	Dunn, D. (*See* Fellows, John H., assignor.)			
42,357	Dunn, George R	Newark, N. J	Hooks, snap	Apr. 19, 1864.
1,966	Dunn, Robert	Greenpoint, N. Y	Clock-case (Design)	June 28, 1864.
43,188	Dunseith, Samuel	Philadelphia, Pa	Tanning, composition for	June 21, 1864.
	Dunster, John, *et al.* (*See* Hines, J. P., assignor.)			
44,617	Dunton, Jacob	Philadelphia, Pa	Stove, camp	Oct. 11, 1864.
44,168	Duparck, U. H	Albion, Mich	Trap, animal	Sept. 13, 1864.
44,270	Durand, Francois	France	Pottery-wares, mode of moulding and finishing	Sept. 13, 1864.
42,932	Durant, A. P	Atlanta, Ill	Cultivators	May 31, 1864.
41,610	Durning, Robert	Lawrenceville, Pa	Buckles, tools for making	Feb. 16, 1864.
42,358	Duryea, Wright	Glen Cove, N. Y	Starch deposits, machine for removing	Apr. 19, 1864.
43,554	Dusantoy, Auguste Francois, assignor to Moritz Pinner	France	Heating sad-irons	July 12, 1864.
1,762	Dutton, Rufus	Brooklyn, N. Y	Harvesters (Reissue.)	Sept. 13, 1864.
1,763	Dutton, Rufus	Brooklyn, N. Y	Harvesters (Division of reissue.)	Sept. 13, 1864.
41,460	Dutton, Rufus, assignor to self and Anthony B. Allen	Brooklyn, N. Y	Mowing machine	Feb. 2, 1864.
41,958	Dutton, Rufus, assignor to self and Anthony B. Allen	Brooklyn, N. Y	Mowing machines	Mar. 15, 1864.
45,398	Duvall, Alfred	Baltimore, Md	Pumps	Dec. 13, 1864.
41,981	Dyer, Whitman S	Portland, Me	Burners, gas	Mar. 22, 1864.
43,484	Dykeman, John, and John Bolton	Greenbush, N. Y	Locomotives, variable exhaust for	July 12, 1864.
41,836	Dyson, George Walter	Great Britain	Bars and tubes, cylindrical, apparatus for straightening and polishing.	Mar. 8, 1864.
	Dyson, Jeptha	Philadelphia, Pa	Carding engines (Disclaimer)	Sept. 19, 1864.
	Eads, James B. (*See* Callender & Northrup, assignors.) Reissue.			
	Eads, James B. (*See* Callender & Northrup, assignors.) Reissue			

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
	Eads, James B. (*See* Callender & Northrup, assignors.) Reissue.			
	Eads, James B. (*See* Callender & Northrup, assignors.) Reissue.			
41,206	Eads, James B	St. Louis, Mo	Ordnance, heavy, operating	Jan. 12, 1864.
41,207	Eads, James B	St. Louis, Mo	Turret and pilot-house for ships-of-war and other war structures.	Jan. 12, 1864.
41,611	Eads, James B	St. Louis, Mo	Ordnance, operating	Feb. 16, 1864.
42,566	Eads, James B	St. Louis, Mo	Ordnance, operating	May 3, 1864.
1,808	Eads, James B	St. Louis, Mo	Guns and gun towers, operating (Reissue)	Nov. 8, 1864.
1,809	Eads, James B	St. Louis, Mo	Guns and gun towers, operating...(Division of reissue)	Nov. 8, 1864.
1,810	Eads, James B	St. Louis, Mo	Guns and gun towers, operating...(Division of reissue)	Nov. 8, 1864.
1,811	Eads, James B	St. Louis, Mo	Guns and gun towers, operating...(Division of reissue)	Nov. 8, 1864.
1,812	Eads, James B	St. Louis, Mo	Guns and gun towers, operating...(Division of reissue)	Nov. 8, 1864.
	Eager, George R. (*See* Bushee, James A., assignor.)			
42,180	Engle, Robert Nelson	Washington, D. C	Saddles, riding	Apr. 5, 1864.
44,081	Engle, Robert Nelson	Washington, D. C	Lamps	Sept. 6, 1864.
44,291	Engle, Robert Nelson	Washington, D. C	Stirrups, riding	Sept. 20, 1864.
44,292	Engle, Robert Nelson	Washington, D. C	Stirrups, riding, &c	Sept. 20, 1864.
1,759	Engle, Robert Nelson	Washington, D. C	Stirrups, riding, and their covers (Reissue)	Sept. 20, 1864.
41,572	Eames, Albert, and Clark Marsh, assignors to Wheeler & Wilson Manufacturing Company.	Bridgeport, Ct	Sewing machines	Feb. 9, 1864.
44,943	Earhart, Jacob and Henry A	Campbellstown, Pa	Beehives	Nov. 8, 1864.
41,425	Earle, Timothy	Valley Falls, R. I	Cans, preserve, closing	Feb. 2, 1864.
45,594	Earle, Timothy	Valley Falls, R. I	Jar, preserve	Dec. 27, 1864.
	Early, George W. (*See* Myers, Samuel, assignor.)			
41,495	Eastman, H. G	Poughkeepsie, N. Y	Penman's assistant	Feb. 9, 1864.
44,082	Eastman, H. G	Poughkeepsie, N. Y	Desks for school-rooms, arrangement of	Sept. 6, 1864.
44,714	Eastman, Henry W	Baltimore, Md	Table, folding, and toilet glass	Oct. 18, 1864.
41,982	Eaton, A. K	New York, N. Y	Paper pulp from straw, &c., manufacture of	Mar. 22, 1864.
42,569	Eaton, James	Boston, Mass	Spinning machines, spindle lubricators for	May 3, 1864.
	Eberhard, Wm., and M. C. Kilgore. (*See* Kilgore & Eberhard.)			
43,980	Eberly, S	Mechanicsburg, Pa	Rakes, horse	Aug. 30, 1864.
44,618	Eccles, Wm. M	Oberlin, Ohio	Sheep, machine for shearing	Oct. 11, 1864.
	Eddy, Augustus J., and John B. Wilber	Winnesheik and Howard counties, Iowa	Traps, animal	Dec. 13, 1864.
44,169	Eddy, H. C	Jersey City, N. J	Photographic-plate-holder, catch for a	Sept. 13, 1864.
41,496	Eddy, Williard Tracy	West Hoboken, N. J	Stoves, petroleum	Feb. 9, 1864.
41,689	Edge, Isaac	Jersey City, N. J	Rockets	Feb. 23, 1864.
44,294	Edgecomb, Joseph	Worcester, Mass	Heater, glue and water	Sept. 20, 1864.
43,364	Edgecomb, Joseph, assignor to Thomas H. Dodge	Worcester, Mass	Boring machines	June 28, 1864.
	Edgerton, Walter E., and Wm. H. Clark. (*See* Clark & Edgerton.)			
	Edmands, B. F., and James Hamblet, jr. (*See* Hamblet & Edmands.)			
	Edsall, James. (*See* Guyon, Henry G., assignor.)			
42,080	Edson, Jacob	Boston, Mass	Windlasses, devices for operating	Mar. 29, 1864.
	Edson, William, and J. Herbert Shedd. (*See* Shedd & Edson.)			
44,170	Edwards, Alfred	Chicago, Ill	Radiating heat regulators	Sept. 13, 1864.
41,061	Edwards, Asa C	Southampton, Mass	Radiators, heat	Jan. 5, 1864.
41,426	Edwards, Charles H	Quincy, Mass	Railways, marine	Feb. 2, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
43,674	Edwards, Charles R	Niagara City, N. Y	Pianos, tension scale for tuning. (Antedated Aug. 1, '64.)	Aug. 2, 1864.
	Edwards, George. (*See* Palmer, Charles H., assignor.)			
44,410	Edwards, James J	Columbus, Wis	Churns	Sept. 27, 1864.
41,062	Edwards, John	New York, N. Y	Head-dresses for ladies	Jan. 5, 1864.
41,690	Ehrsam, John N	Hoboken, N. J	Refrigerator. (Antedated February 12, 1864)	Feb. 23, 1864.
43,702	Eliaers, A	Boston, Mass	Stud or button, elastic	Aug. 9, 1864.
45,146	Eliaers, Augustus	Boston, Mass	Chair, folding	Nov. 22, 1864.
45,483	Eliaers, Augustus	Boston, Mass	Boring holes, tools for	Dec. 20, 1864.
41,427	Elbreg, Geo	Cincinnati, O	Chimney tops	Feb. 2, 1864.
	Eldridge, E. H., *et al.* (*See* Gray, Joshua, assignor.)			
	Eldridge, E. H., *et al.* (*See* Gray, Joshua, assignor.)			
42,758	Eley, Philip	New York, N. Y	Manure spreaders	May 17, 1864.
42,466	Elliot, Wm. H	Plattsburg, N. Y	Hay loaders	Apr. 26, 1864.
42,648	Elliot, Wm. H	Plattsburg, N. Y	Fire-arm, many-barrelled	May 10, 1864.
42,649	Elliot, Wm. H	Plattsburg, N. Y	Fire-arm, many-barrelled	May 10, 1864.
43,840	Elliot, Wm. H	Plattsburg, N. Y	Fire-arms, breech-loading, double-barrelled	Aug. 16, 1864.
1,715	Elliot, Wm. H	Plattsburg, N. Y	Fire-arms, revolving, base pin and lever for...(Reissue)	July 5, 1864.
	Elliot, W. H., and R. I. Howland. (*See* Howland & Elliot.)			
44,083	Ellis, Charles R	Brooklyn, N. Y	Furnaces, hot-water, boilers for	Sept. 6, 1864.
43,485	Ellis, Darwin	Waterbury, Ct	Fishing-line reels	July 12, 1864.
42,843	Ellis, John	New York, N. Y	Microscopes	May 24, 1864.
43,297	Ellis, John P	Flushing, N. Y	Fastenings, window-sash	June 28, 1864.
1,636	Ellis, William M. and Jonas B	Washington, D. C	Boilers, steam (Reissue)	Mar. 15, 1864.
1,637	Ellis, William M. and Jonas B	Washington, D. C	Boilers, steam (Division of reissue)	Mar. 15, 1864.
45,030	Ellis, Zabina	Philadelphia, Pa	Furnace and cupola	Nov. 15, 1864.
45,031	Ellis, Zabina	Philadelphia, Pa	Heating, boiler for	Nov. 15, 1864.
44,791	Elis, Edgar S., and Elis, George F	Fairhaven, Vt Troy, N. Y	Cards, hand	Oct. 25, 1864.
41,431	Elmer, William	New York, N. Y	Gas, illuminating, manufacturing	Feb. 2, 1864.
44,520	Elsberg, Louis	New York, N. Y	Process for solidifying peat	Oct. 4, 1864.
41,176	Elward, John H., assignor to self and W. H. W. Cushman	Ottawa, Ill	Planters, corn	Jan. 5, 1864.
42,532	Elward, John H., assignor to self and W. H. W. Cushman	Ottawa, Ill	Harvesters	Apr. 26, 1864.
44,857	Elward, John H., assignor to self and W. H. W. Cushman	Ottawa, Ill	Harvesters	Nov. 1, 1864.
44,858	Elward, John H., assignor to self and W. H. W. Cushman	Ottawa, Ill	Reaping machines	Nov. 1, 1864.
41,573	Elwell, Henry H., assignor to the Norwalk Lock Company	South Norwalk, Conn	Locks	Feb. 9, 1864.
41,741	Elwell, Henry H., assignor to the Norwalk Lock Company	South Norwalk, Conn	Locks and latches	Feb. 23, 1864.
	Ely, Alfred B. (*See* Hall, Luther, assignor.)			
	Ely, Alfred B. (*See* Binger & Fischer, assignors.)			
	Ely, Alfred B. (*See* Wells, William, assignor.)			
	Ely, Alfred B. (*See* Thompson, Rosavell, assignor.)			
	Ely, Alfred B. (*See* Hall, Luther, assignor.)			
	Ely, Alfred B. (*See* Stevens, E. M., assignor.)			
	Ely, A. B. (*See* Fischer, William E., assignor.)			
44,084	Emerson, Daniel L	Rockford, Ill	Harvesters	Sept. 6, 1864.

44,834	Emerson, Daniel L., assignor to Mary Manny	Rockford, Ill	Harvesters, driving wheels of	Oct. 25, 1864.
1,604	Emerson, James, assignor, through mesne assignments, to Joseph P. Manton, William H. and F. W. Reynolds and William H. Taylor.	Providence, R. I	Capstans and windlasses, ships' (Reissue)	Jan. 12, 1864.
44,521	Emery, A. H	New York, N. Y	Cannon, casting. (Antedated September 24, 1864.)	Oct. 4, 1864.
42,650	Emery, G. Alexander	Boston, Mass	Photographers' head-rests	May 10, 1864.
	Emery, John A., and Simeon Goodwin. (*See* Goodwin & Emery.)			
41,911	Emery, Thomas W	Buffalo, N. Y	Windows, railroad car	Mar. 15, 1864.
	England, Lewis C	Wellsville, N. Y	Tanning hides, vats for (Extension)	Dec. 17, 1864.
42,933	Engle, S. D	Hazleton, Pa	Teeth, artificial	May 31, 1864.
41,691	English, Edward B	Philadelphia, Pa	Kilns, lime	Feb. 23, 1864.
	English, James G., and E. F. Mersick. (*See* Golightly & Twitchell, assignors.)			
	English, James G., and E. F. Mersick. (*See* Golightly & Twitchell, assignors.) Reissue.			
	English, James G., and E. F. Mersick. (*See* Swan, James H., assignor.) Reissue.			
44,941	Erhard, Amelie	New York, N. Y	Cloth, paper, &c., composition for flocking	Nov. 8, 1864.
41,208	Ericsson, John	New York, N. Y	Ordnance, constructing	Jan. 12, 1864.
41,612	Ericsson, John	New York, N. Y	Engines, steam	Feb. 16, 1864.
43,298	Ericsson, John	New York, N. Y	Gun carriage	June 28, 1864.
44,052	Ermen, Godfrey, and Robert Smith	Great Britain	Cotton, &c., machine for spooling. (Patented in England November 25, 1862.)	Aug. 30, 1864.
44,295	Ernst, Adam	Milwaukie, Wis	Stove or furnace, heating	Sept. 20, 1864.
43,981	Ernst, Otto	New York, N. Y	Collars, shirt, metallic	Aug. 30, 1864.
	Ernst Otto, *et al.* (*See* Woodwards, Priest & Ernst.)			
	Eshbaugh, H. (*See* Connel, James M., assignor.)			
	Eshbaugh, H. (*See* Connel, James M., assignor.)			
15,147	Evans, David	Philadelphia, Pa	Drill, rock	Nov. 22, 1864.
44,619	Evans, George E	Boston, Mass	Saccharine liquids, apparatus for evaporating	Oct. 11, 1864.
41,983	Evans, George Franklin	Norway, Maine	Plane stocks	Mar. 22, 1864.
44,171	Evans, George F	Norway, Maine	Horse, clipping the hair of	Sept. 13, 1864.
41,143	Evans, John	New Haven, Conn	Fires, forge, Lehigh	Jan. 5, 1864.
41,692	Evans, Nathaniel, jr	Boston, Mass	Collars, shirt, turn-over	Feb. 23, 1864.
42,570	Everett, Alexander J	New York, N. Y	Ores, lead, smelting	May 3, 1864.
42,844	Everett, Alexander J	New York, N. Y	Lead, process for refining and softening	May 24, 1864.
41,209	Everett, Dennis	Attleboro', Mass	Eye protectors	Jan. 12, 1864.
1,927	Everett, H	Philadelphia, Pa	Oil can (Design)	Apr. 5, 1864.
43,764	Everitt, William M	Malden, N. Y	Furnaces, blast, tuyeres for. (Antedated Feb. 4, 1864)	Aug. 9, 1864.
42,934	Ewbank, James S	New York, N. Y	Pepper-box top	May 31, 1864.
	Faber, Eberhard. (*See* Warth, Albin, assignor.)			
	Faber, Eberhard. (*See* Bloomer, Chas. G., assignor.)			
	Faber, Eberhard. (*See* Schrag, Philip, assignor.)			
44,945	Fachs, Henry	New York, N. Y	Pans, sheet-metal, machine for raising	Nov. 8, 1864.
41,764	Fairbank, James K	Waupan, Wis	Pumps	Mar. 1, 1864.
42,281	Fairbanks, Horatio	Boston, Mass	Lamp burners	Apr. 12, 1864.
	Fairbanks, Joseph O. (*See* Wait, Windsor B., assignor.)			
	Fairbanks, Moses, and Josiah Beard. (*See* Beard & Fairbanks.)			
43,365	Fairchild, C. T., assignor to William A. Veer	Salisbury, N. Y	Saw-mills	June 28, 1864.
44,085	Fake, Henry	Chicago, Ill	Car coupling	Sept. 6, 1864.
	Falconer, John. (*See* McFarlane, John, assignor.)			

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
42,533	Falke, Oscar, and Philip Schrag, assignors to selves and Thomas A. Jenckes.	New York, N. Y	Fabric manufacture from caoutchouc, &c	Apr. 26, 1864.
43,397	Fallows, James	Philadelphia, Pa	Lamp-shade holders	July 5, 1864.
45,232	Fanckboner, George C	Schoolcraft, Mich	Seed sower, hand	Nov. 29, 1864.
41,210	Fanning, R	Clarksfield, Ohio	Sawing machines	Jan. 12, 1864.
	Fanning, Thomas C., *et al.* (*See* Millet, John W., assignor.)			
	Fanyon, Joseph. (*See* Otis, Nathaniel, assignor.)			
42,935	Fares, Sebastian, and William Miller	Cincinnati, Ohio	Stoves, cooking	May 31, 1864.
42,359	Faries, Robert	Indianapolis, Ind	Valves, slide-balanced	Apr. 19, 1864.
44,086	Farmer, Moses G	Salem, Mass	Aluminum	Sept. 6, 1864.
41,715	Farmer, William	New York, N. Y	Blowers, fan	Oct. 18, 1864.
	Farrar, Alonzo. (*See* Loftus, Robert G., assignor.)			
	Farrel, Franklin, *et al.* (*See* Stevens, John, assignor.)			
	Farrell, A. D. (*See* Stillwell, R., assignor.)			
42,175	Fasoldt, Charles	Rome, N. Y	Watches, regulating	Apr. 5, 1864.
	Fassler, Jerome, *et al.* (*See* Fisher, Henry, assignor.)			
	Faxon, William. (*See* Thayer, Luther F., assignor.)			
41,912	Fay, C. J	Hammonton, N. J	Saw horses, folding	Mar. 15, 1861.
42,936	Fay, Lucian	Cincinnati, Ohio	Coffins	May 31, 1864.
43,299	Fay, William Henry	Chester, Mass	Photographs, apparatus for exhibiting	June 28, 1864.
43,904	Faye, James	Philadelphia, Pa	Bills of fare, apparatus for displaying	Aug. 23, 1864.
	Fell, Pelton & Brearley. (*See* Pelton, Samuel, assignor.)			
43,112	Fellows, J. H	Belvidere, Ill	Washing machine	June 7, 1864.
45,558	Fellows, John H., assignor to self and D. Dunn	Lewisport, Ky	Press, tobacco	Dec. 20, 1864.
45,559	Fellows, John H., assignor to self and D. Dunn	Lewisport, Ky	Compress, double-acting	Dec. 20, 1864.
44,620	Felt, George H	New York, N. Y	Sails, reefing and furling. (Antedated Sept. 25, 1864)	Oct. 11, 1864.
41,211	Felter, Philo S	Cincinnatus, N. Y	Locks	Jan. 12, 1864.
44,859	Felter, Philo S	Cincinnatus, N. Y	Locks	Nov. 1, 1864.
42,845	Fenn, Joel	Plainville, Conn	Horses' feet, mode of securing shoes to	May 24, 1864.
44,411	Fenner, A. R	Coldbrook, N. Y	Saw-set	Sept. 27, 1864.
43,189	Ferguson, G. W. and H. H	New York, N. Y	Enamelling elliptical frames, &c., machine for	June 21, 1864.
	Ferguson, Kilby, *et al.* (*See* Merryman, John M., assignor.)			
44,172	Ferris, James, and William E. Bacon	Litchfield, Ill	Tire, device for shrinking	Sept. 13, 1864.
43,982	Ferris, Thomas R	Monroe, Mich	Washing machine	Aug. 30, 1861.
41,984	Ferriss, George H	Utica, N. Y	Ordnance, breech-loading. (Antedated March 9, 1864)	Mar. 22, 1864.
42,571	Ferriss, George H	Utica, N. Y	Ordnance, construction of. (Antedated April 19, 1864)	May 3, 1864.
44,053	Fesquet, Adolphe A	France	Acid, acetic, method of purifying	Aug. 30, 1864.
45,233	Fessenden, Abijah	East Boston, Mass	Tobacco pipe	Nov. 29, 1864.
1,704	Fetter, George, assignor to S. Pancoast	Philadelphia, Pa	Sewing machine (Reissue)	June 21, 1864.
44,412	Ficht, Frank	Isle Royal Mine, Mich	Dumping apparatus	Sept. 27, 1864.
43,300	Fichter, John	Newark, N. J	Stirrups, saddle	June 28, 1864.
43,905	Fickett, Henry E	Brooklyn, N. Y	Clothes and hat rack	Aug. 23, 1864.
43,454	Fickey, Frederick, jr., assignor to Wm. H. Fickey	Baltimore, Md	Tobacco pipes, stems of	July 5, 1864.
42,182	Field, Ben, and George M. Pullman	Albion, N. Y Chicago, Ill	Cars, sleeping	Apr. 5, 1864.
43,675	Field, Thomas B	Nantucket, Mass	Wind wheels	Aug. 2, 1864.
42,360	Field, William	Providence, R. I	Metals, rolling	Apr. 19, 1864.
45,032	Field, William	Providence, R. I	Mosquito bar	Nov. 15, 1864.
	Fielder, John W. (*See* Whipple, Cullen, assignor.)			
43,013	Fields, William, and Israel Townsend	Wilmington, Del	Tanning hides and skins	June 7, 1864.
1,970	Filley, Giles F	St. Louis, Mo	Stove, doors of a (Design)	July 12, 1864.
44,041	Finch, Reuben R., jr., assignor to self, U. Hill and N. S. Finch.	New York, N. Y	Ranges, cooking	Aug. 30, 1864.
44,173	Fink, Jeremiah	Baldwinsville, N. Y	Whiffletree hooks	Sept. 13, 1864.
1,799	Finken, Gustavus	Brooklyn, N. Y	Sugar, cube, apparatus for manufacturing (Reissue)	Oct. 25, 1861.
42,467	Finn, Felix A	New York, N. Y	Stave-jointing machines	Apr. 26, 1864.
	Firth, Wm., *et al.* (*See* Donisthorpe, Firth & Ridley.)			
	Fischer, P. A., *et al.* (*See* Waterman, L. B., assignor.)			
44,916	Fischer, Wm. E., assignor to A. B. Ely	Boston, Mass	Lasting machines	Nov. 1, 1864.
	Fischer, W. E., and C. H. Binger. (*See* Binger & Fischer.)			
	Fish, James, and George A. Mariner. (*See* Mariner & Fish.)			
1,596	Fish, Warren L	Newark, N. J	Lamp chimneys (Reissue)	Jan. 5, 1864.
41,497	Fisher, Charles	Waukon, Iowa	Collars, horse	Feb. 9, 1864.
42,176	Fisher, Cyrus	Leesburg, Ohio	Trees, fruit, retarding blooming of	Apr. 5, 1861.
	Fisher, Geo. A., and Jacob Clum. (*See* Clum & Fisher.)			
41,411	Fisher, Henry, assignor to self, Wm. N. Whiteley, Jerome Fassler and Oliver S. Kelly.	Alliance, Ohio	Harvesters	Jan. 26, 1864.
41,985	Fisher, Henry S	Newburg, Pa	Cans, fruit, &c., sealing	Mar. 22, 1864.
	Fisher, Jacob, and John H. Cobick. (*See* Cobick & Fisher.)			
45,484	Fisher, L. A	Chicago, Ill	Pumps, chain	Dec. 20, 1864.
	Fitch, Estee & Co. (*See* Dimock, Martial, assignor.)			
	Fitch, Estee & Co. (*See* Shepard, Richard, assignor.)			
	Fitch, J. L. (*See* Temple, Alonzo, assignor.)			
	Fitts, Benaiah, and Edward Wright. (*See* Wright & Fitts.)			
44,483	Fitz, Henry, deceased, by Julia A. W. Fitz, administ'x	New York, N. Y	Lenses, achromatic. (Antedated September 22, 1864)	Sept. 27, 1864.
	Fitzgerald, Daniel, and W. R. Terwilliger. (*See* Terwilliger & Fitzgerald.)			
43,841	Fitzpatrick, Lewis, and Wm. W. Gardner	Nicholsville, Ohio	Signals, railroad	Aug. 16, 1864.
41,287	Flanagan, J. H., and Wm. Laning	Chicago, Ill Stoughton, Wis	Grubbing machines	Jan. 19, , 1864.
43,301	Flanders, L. B	Philadelphia, Pa	Boilers, steam	June 28, 1864.
43,577	Flanders, L. B	Philadelphia, Pa	Boilers, steam. (Antedated June 17, 1864)	July 19, 1864.
43,842	Flanders, L. B	Philadelphia, Pa	Propeller to the shaft, means of affixing. (Antedated August 5, 1864.)	Aug. 16, 1864.
44,296	Flanders, L. B	Philadelphia, Pa	Cylinders, apparatus for boring	Sept. 20, 1864.
41,370	Flanders, L. D	Cleveland, Ohio	Spoke socket and felly clamp	Jan. 26, 1864.
42,181	Flanders, W. A	Shelby, Ohio	Beehives	Apr. 5, 1864.
45,235	Flautt, J. M	Reedsburg, Wis	Saddle, riding	Nov. 29, 1864.
45,595	Flautt, J. M	Reedsburg, Wis	Traps, animal	Dec. 27, 1864.
42,046	Fleetwood, Caleb V., and Edward W. Morten	Vincennes, Ind	Presses, baling	Mar. 22, 1861.
43,578	Fleischman, Levi	Rochester, N. Y	Stops to sash, fastening	July 19, 1864.
	Fleischman, Moritz. (*See* Rice, Herman, assignor.)			
43,555	Fleischman, Alois	Austria	Process of treating maize, barley and other cereals for the manufacture of alcohol. (Pat'd in Austria June 14, '62.)	July 12, 1864.
44,621	Fleming, Henry	Chicago, Ill	Anchor clutch	Oct. 11, 1864.
	Fleming, J., *et al.* (*See* Tansley, Wm., assignor.)			
44,792	Fletcher, A. V. and A. T	Athol, Mass	Pumps	Oct. 25, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
44,413	Fletcher, Matthew	Louisville, Ky	Presses, hay	Sept. 27, 1864.
	Fleury, Anthony, and John G. Kershaw. (*See* Ruschhaupt, F. M., assignor.)			
	Fleury, Anthony, and John G. Kershaw. (*See* Ruschhaupt, F. M., assignor.)			
42,652	Flock, John	Newark, N. J	Collice	May 10, 1864.
41,063	Flowers, Andrew B. J	Indianapolis, Ind	Sawing machines, cross-cut	Jan. 5, 1864.
	Floyd, Erastus L. (*See* Jones, Samuel F., assignor.)			
	Floyd, Erastus L. (*See* Jones, Samuel F., assignor.)			
41,986	Fobes, Zabina E	Troy, N. Y	Washstand	Mar. 22, 1864.
43,190	Fogerty, Valentine	Boston, Mass	Collar clasps	June 21, 1864.
	Fogerty, V., and C. Spofford. (*See* Spofford & Fogerty.)			
41,461	Fogg, Charles W., assignor to American Watch Company	Waltham, Mass	Watches	Feb. 2, 1864.
1,708	Fogg, Luther, assignor to Frederick Stevens	Harrison Township, N. J	Buckles (Reissue)	June 21, 1864.
	Foggan, John. (*See* Billon, Louis, assignor.)			
44,297	Fogle, Jacob	Putnam, Ohio	Oil cups	Sept. 20, 1864.
41,371	Foley, D. D	Washington, D. C	Ploughing machines	Jan. 26, 1864.
43,906	Foley, D. D	Washington, D. C	Smoker, cigar-shaped	Aug. 23, 1864.
43,907	Foley, D. D	Washington, D. C	Tobacco pipe stem	Aug. 23, 1864.
44,174	Foley, D. D	Washington, D. C	Sweeping and sprinkling machines, street	Sept. 13, 1864.
42,846	Folsom, Hannibal	Milford, Mass	Sewing machines, welt and thread cutters for	May 24, 1864.
1,905	Folsom, John G	Winchendon, Mass	Sewing machines, spool-holder for (Design)	Mar. 1, 1864.
1,945	Folsom, John G	Winchendon, Mass	Sewing machine, arm of a (Design)	May 17, 1864.
45,236	Folsom, John G	Winchendon, Mass	Sewing machines	Nov. 29, 1864.
41,212	Foote, Chas. R., and James Orton	Williamstown, Mass	Cars, freight	Jan. 12, 1864.
45,148	Foote, Elisha	Saratoga Springs, N. Y	Skates	Nov. 22, 1864.
45,149	Foote, Eunice N	Saratoga Springs, N. Y	Paper-making machines	Nov. 22, 1864.
45,237	Foote, George F	Cincinnati, Ohio	Stove, safety, ship and car-heating	Nov. 29, 1864.
44,175	Foote, Obed	Indianapolis, Ind	Stove, cooking, camp	Sept. 13, 1864.
	Forbes, Tobias, and A. D. Humphrey. (*See* Humphrey & Forbes.)			
44,298	Force, Wm. M	Newark, N. J	Mills, chasing. (Antedated June 6, 1864)	Sept. 20, 1864.
44,716	Ford, Elias T	Stillwater, N. Y	Digger, potato. (Antedated October 11, 1864)	Oct. 18, 1864.
43,191	Foreman, Benjamin S	Morrison, Ill	Railroad ties, preserving	June 21, 1864.
	Foreman, Milton. (*See* Springer, Joseph H., assignor.)			
44,522	Forker, Wm. H	Meadville, Pa	Horses' hoofs, securing shoes to	Oct. 4, 1864.
44,484	Forker, Wm. H., assignor, through mesne assignments, to self and Henry Baldwin, jr.	Meadville, Pa	Car-coupling	Sept. 27, 1864.
44,254	Forsyth, James B., assignor to self and Charles McBurney	Roxbury, Mass	Rubber, India, hose-belting, &c., machine for making	Sept. 13, 1864.
44,176	Forsyth, O. C., jr	Washington, D. C	Skates	Sept. 13, 1864.
43,455	Fortune, Thos. L., assignor to self and George T. Challiss	Weston, Mo	Bedstead, wardrobe	July 5, 1864.
43,654	Fortune, Thos. L., assignor to self and George T. Challiss	Weston, Mo	Hemp brakes	July 26, 1864.
43,655	Fortune, Thos. L., assignor to self and George T. Challiss	Weston, Mo	Ordnance, breech-loading	July 26, 1864.
41,837	Foster, Carlton	Oshkosh, Wis	Car-coupling	Mar. 8, 1864.
42,183	Foster, Clinton	Prairie City, Ill	Grading machines, road	Apr. 5, 1864.
43,302	Foster, D. P	Shelburne Falls, Mass	Brace or bit stock	June 28, 1864.
41,913	Foster, Joseph S	Virginia, Nevada Ter	Drilling, rock, machine	Mar. 15, 1864.
45,596	Foster, Randolph S	New York, N. Y	Pumps, rotary	Dec. 27, 1864.
44,835	Foster, Samuel E., assignor to self and Henry F. Coggshall	Fitchburg, Mass	Furnace	Oct. 25, 1864.
45,150	Foster, Walter K	Bangor, Maine	Carriage wheels	Nov. 22, 1864.
	Fountain, Vincent, jr., and Isaac S. Clough. (*See* Clough & Fountain.) Design.			
	Fountain, Vincent, jr., and Isaac S. Clough. (*See* Clough & Fountain.)			
	Fountain, Vincent, jr., and Isaac S. Clough. (*See* Clough & Fountain.) Design.			
	Fourdinier, George Henry, *et al.* (*See* Wood, Fourdinier & Haselden.)			
43,487	Fowler, Boltis M	Brooklyn, N. Y	Harvesters, corn	July 12, 1864.
43,843	Fowler, F. G	Mechanicsburg, Ill	Wind wheels	Aug. 16, 1864.
42,184	Fowler, George	Waterbury, Conn	Sewing machine, cloth holder for	Apr. 5, 1864.
45,485	Fowler, George	Macon, Ill	Car replacer	Dec. 20, 1864.
43,676	Fowler, Herbert E	Northford, Conn	Fasteners, key	Aug. 2, 1864.
41,213	Fowler, Maltby	North Branford, Conn	Garments, hooks for	Jan. 12, 1864.
45,238	Fowler, Maltby	Northford, Conn	Hooks and eyes, machine for separating	Nov. 29, 1864.
43,303	Fox, Henry A	Cincinnati, Ohio	Lanterns	June 28, 1864.
	Fox, James A., *et al.* (*See* Parr, Samuel, assignor.)			
45,597	Fox, John, and John W. Van Hook	Uniontown, D. C	Harvesters, raking attachments to	Dec. 27, 1864.
41,987	Foy, Lavinia H	Worcester, Mass	Skirt supporters, corset	Mar. 22, 1864.
45,296	Foy, Lavinia H., assignor to James H. Foy	Worcester, Mass	Skirt supporters, corset	Nov. 29, 1864.
	Frabrier, Stephen, *et al.* (*See* Richers, Charles F., ass'nr.) Design.			
41,765	France, Edward	Cobleskill, N. Y	Carriages	Mar. 1, 1864.
	Francis, John, and C. E. Amos. (*See* Amos & Francis.)			
41,288	Francis, Joseph	New York, N. Y	Pontoon, metallic, wagon boats	Jan. 19, 1864.
43,192	Francis, Lewis, and F. W. Letmate	New York, N. Y	Printers' ink rollers	June 21, 1864.
41,887	Francis, Lewis, assignor to self and Cyrus H. Loutrel	New York, N. Y	Printers' inking rollers	Mar. 8, 1864.
1,771	Francis, Lewis, assignor to self and Cyrus H. Loutrel	New York, N. Y	Printers' inking rollers, composition for making. (Reissue)	Sept. 27, 1864.
1,772	Francis, Lewis, assignor to self and Cyrus H. Loutrel	New York, N. Y	Printers' inking rollers, composition for making. (Div. of reissue.)	Sept. 27, 1864.
45,598	Frank, Andrew H	Buffalo, N. Y	Beehives	Dec. 27, 1864.
44,414	Franks, Edward S	Boston, Mass	Pipes or smoking apparatus	Sept. 27, 1864.
43,677	Frary, James D	New Britain, Conn	Gun, toy	Aug. 2, 1864.
	Frash, C. G., and Theodore Schumann. (*See* Schumann & Frash.)			
41,693	Frazier, S. D	Tekonsha, Mich	Churns	Feb. 23, 1864.
41,613	Frederick, Levi W	Ray, Ind	Rakes, horse	Feb. 16, 1864.
	Free, John W., and Harrison Ogborn. (*See* Ogborn & Free.)			
43,014	Freed, George W	Lancaster, Pa	Galvanic batteries	June 7, 1864.
42,739	Freeman, William	New Haven, Conn	Shoestring	May 17, 1864.
44,367	French, Erastus S., assignor to self and Luke Sawyer	Hubbardstown, Mass	Chairs and other articles, machines for scraping	Sept. 20, 1864.
	French, George P., and James M. Thompson. (*See* Thompson & French.)			
	French, George P., *et al.* (*See* Thompson, French & Tripp.)			
41,289	French, John S	Boston, Mass	Lathes, centring heavy articles in	Jan. 19, 1864.
43,844	Frey, D., and Delos Sanders	Homer, N. Y	Churns	Aug. 16, 1864.
41,914	Frey, John A	Washington, D. C	Ovens, portable	Mar. 15, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
43,622	Fribourg, Salmon, assignor to S. Fribourg, Cahm & Co	New York, N. Y	Shirts	July 19, 1864.
41,064	Frick, Jacob	Philadelphia, Pa	Fastenings, blind and shutter	Jan. 5, 1864.
44,860	Frick, Jacob	Philadelphia, Pa	Sash-holder	Nov. 1, 1864.
41,959	Frink, E. Otis, assignor to self and S. C. Frink	Indianapolis, Ind	Skates	Mar. 15, 1864.
43,983	Frink, W. R	Virginia, Nevada Ter	Amalgamating ores of silver, process for	Aug. 30, 1864.
43,678	Fritz, John, and James Moore	Bethlehem, Pa Philadelphia, Pa	Blowing engines	Aug. 2, 1864.
44,255	Frizelle, Horace J	Syracuse, N. Y	Stoves, cooking	Sept. 13, 1864.
	Froehlich, Konrad. (*See* Roder, Conrad, assignor.)			
43,165	Fromont, L. M. H., assignor to Moritz Pinner	Paris, France	Stamps, hand, self-inking	June 14, 1864.
	Frost, David. (*See* Lee, Henry T., assignor.)			
	Frost, E. W. (*See* Hovey, Francis, assignor.)			
41,838	Frost, Pinckney	Springfield, Vt	Clothes-fastener	Mar. 8, 1864.
41,988	Frost, Pinckney	Springfield, Vt	Scythe snaths, nibs for	Mar. 22, 1864.
42,081	Frost, Pinckney	Springfield, Vt	Scythe fastenings	Mar. 29, 1864.
	Fry, George. (*See* Ridenour & Biser, assignors.)			
41,498	Fryer, William J., jr	Albany, N. Y	Chimney flues. (Antedated February 3, 1864)	Feb. 9, 1864.
44,177	Fulghum, F. C	Arba, Ind	Evaporator, cane juice	Sept. 13, 1864.
42,572	Fullam, A. J	Springfield, Vt	Sheep, device for shearing	May 3, 1864.
43,547	Fullen, James, assignor to Margaret V. Fullen	Yonkers, N. Y	Wool, treating, for removal of burrs	July 12, 1864.
44,523	Fuller, Aaron, and Wm. H. Howe	Amsterdam, N. Y Port Jackson, N. Y	Churn power	Oct. 4, 1864.
43,108	Fuller, George H	Providence, R. I	Keys, watch, manufacture of	June 14, 1864.
41,812	Fuller, Jim B., assignor to self and James P. Upham	Claremont, N. H	Flax, hemp, &c., apparatus for separating the fibres of	Mar. 1, 1864.
41,813	Fuller, Jim B., assignor to self and James P. Upham	Claremont, N. H	Hemp, flax, &c., disintegrating and separating	Mar. 1, 1864.
43,073	Fuller, Jim B., assignor to self and James P. Upham	Claremont, N. H	Hemp, flax, &c., separating the fibres of	June 7, 1864.
43,015	Fuller, Jim B., and James P. Upham	Claremont, N. H	Hemp, flax, &c., preparing short staple fibre from	June 7, 1864.
44,415	Fuller, Jim B., and James P. Upham	Claremont, N. H	Hemp, flax, &c., mode of separating fibres of	Sept. 27, 1864.
	Fuller, Josiah B. (*See* Hamilton, Wm., assignor.)			
43,679	Fuller, Orange M	Catasauqua, Pa	Cooling parts of the body, apparatus for	Aug. 2, 1864.
44,793	Fuller, Orlando	San Francisco, Cal	Mattresses, bracing and fastening spiral springs for	Oct. 25, 1864.
	Fulton, Andrew	Pittsburg, Pa	Packing, metal, compound hard and soft. (Disclaimer filed)	Feb. 29, 1864.
	Fulton, Andrew	Pittsburg, Pa	Packing, metal, compound hard and soft....(Extension)	Mar. 23, 1864.
	Fulton, Wm. M., and Joseph T. Van Kirk. (*See* Van Kirk & Fulton.) Reissue.			
42,361	Funk, James	Beverly, Ill	Oil-stone fountains	Apr. 19, 1864.
	Furbush, M. A. (*See* Gage, D. T., assignor.)			
44,524	Furbush, M. A	Philadelphia, Pa	Paper, warp threads, &c., drying cylinders for drying	Oct. 4, 1864.
45,151	Furman, O. P	Addison, N. Y	Bedsteads, invalid	Nov. 22, 1864.
42,362	Furman, Samuel H. and Charles E	New York, N. Y	Shirts. (Antedated April 2, 1864)	Apr. 19, 1864.
41,614	Furnas, Wilkenson	Onowa, Iowa	Cultivators	Feb. 16, 1864.
	Furst, Conrad, *et al.* (*See* Lacy, John, assignor.)			
41,214	Fuzzard, William	Chelsea, Mass	Fibrous material, machine for surface-sizing	Jan. 12, 1864.
43,765	Fuzzard, William	Malden, Mass	Fibrous materials, machine for surface-sizing	Aug. 9, 1864.
43,845	Fuzzard, William	Malden, Mass	Batting machines, feed mechanism of	Aug. 16, 1864.
1,649	Fuzzard, Wm., assignor to self and James Hatch	Malden, Mass	Fibrous material, machine for surface-sizing..(Reissue)	Apr. 5, 1864.
45,033	Gage, C. W	Homer, N. Y	Churns	Nov. 15, 1864.
45,118	Gage, C. W., assignor to self and James Northrup	Homer, N. Y	Thill attachments or couplings	Nov. 15, 1864.
41,462	Gage, D. T., assignor to self and M. A. Furbush	Philadelphia, Pa	Carding engines	Feb. 2, 1864.
41,499	Gage, John S	Dowagiac, Mich	Hay forks, horse	Feb. 9, 1864.
	Gaillardon, Jacques. (*See* Rivort, Louis Edouard, assign'r.)			
	Gale, John B. (*See* Hagan, Wm. E., assignor.)			
44,717	Gale, Moses F	Boston, Mass	Reflectors, device for adjusting	Oct. 18, 1864.
1,800	Gale, Warren	Chicopee Falls, Mass	Straw cutters (Reissue)	Oct. 25, 1864.
	Gale, Wm. H. (*See* Samuels, James, assignor.)			
43,486	Gallagher, H. N	Geneva, N. Y	Skate fastenings	July 12, 1864.
43,488	Gallagher, H. N	Geneva, N. Y	Skates, heel fastenings for	July 22, 1864.
41,144	Gallagher, Joseph P	St. Louis, Mo	Hydrants	Jan. 5, 1864.
	Galloway, Wm. and John. (*See* Howden, James, assignor.)			
	Gannon, Thomas. (*See* White, Joseph P., assignor.)			
43,016	Ganse, C. O., and S. N. Jordan	Ossawatomie, Kansas	Boilers, steam, method of suspending	June 7, 1864.
42,185	Ganster, George P	New York, N. Y	Shells, percussion fuze for	Apr. 5, 1864.
42,363	Ganster, George P	New York, N. Y	Grenade, hand	Apr. 19, 1864.
43,017	Ganster, George P	New York, N. Y	Projectiles, spherical, for ordnance, attaching sabots to	June 7, 1864.
41,615	Ganster, George P., and Isaac S. Schuyler	New York, N. Y	Grenades, hand	Feb. 16, 1864.
42,082	Ganster, George P., and Isaac S. Schuyler	New York, N. Y	Fuzes, concussion, bulb for	Mar. 29, 1864.
	Ganster, George P. (*See* Newhall, Walter P., assignor.)			
44,368	Gardiner, Nathan A., jr., assignor to self and Joseph Briggs	Willett, N. Y	Fishhook	Sept. 20, 1864.
44,525	Gardiner, Perry G	New York, N. Y	Amalgamator for gold and silver	Oct. 4, 1864.
44,526	Gardiner, Perry G	New York, N. Y	Minerals, &c., machine for washing	Oct. 4, 1864.
45,599	Gardiner, Robert W	Quincy, Ill	Engine, steam, governor	Dec. 27, 1864.
45,239	Gardiner, Samuel, jr	New York, N. Y	Electricity, lighting gas by	Nov. 29, 1864.
45,240	Gardiner, Samuel, jr	New York, N. Y	Electricity, lighting gas by	Nov. 29, 1864.
45,241	Gardiner, Samuel, jr	New York, N. Y	Electricity, lighting gas by	Nov. 29, 1864.
42,937	Gardner, Edward M	Nantucket, Mass	Horses, preventing interfering in	May 31, 1864.
43,398	Gardner, George H	Philadelphia, Pa	Knife, pocket	July 5, 1864.
45,486	Gardner, G. H	Philadelphia, Pa	Milker, cow	Dec. 20, 1864.
1,685	Gardner, George W., assignor to Philo P. Stewart	Troy, N. Y	Grate, stove, bars (Reissue)	May 31, 1864.
	Gardner, O. L. (*See* Sperry & Sherwood, assignors.)			
	Gardner, Wm. W., and Lewis Fitzpatrick. (*See* Fitzpatrick & Gardner.)			
43,018	Garland, D. D	Kewannee, Wis	Walls and ceilings, lathing for	June 7, 1864.
41,290	Garretson, John G	Salem, Iowa	Looms, hands	Jan. 19, 1864.
41,291	Garretson, John G	Salem, Iowa	Pumps	Jan. 19, 1864.
	Gates, P. W., and H. H. Scoville. (*See* Scoville & Gates.)			
44,087	Gates, Silas L	Verona, N. Y	Hay forks, horse	Sept. 6, 1864.
	Gauntlett, John, *et al.* (*See* Mix & Horton, assignors.)			
42,725	Gaw, John, assignor to self and Henry P. Chandler	Ellicott's Mills, Md	Wheat-cleaning machine	May 10, 1864.
43,304	Gay, David, and John H. Purkiss	Long Bar, Cal	Quartz crusher	June 28, 1864.
41,145	Gay, John W	Brooklyn, N. Y	Fur bands, elastic	Jan. 5, 1864.
41,146	Gay, John W	Brooklyn, N. Y	Muffs	Jan. 5, 1864.
41,372	Gay, John W	Brooklyn, N. Y	Bottle, pepper	Jan. 26, 1864.
41,766	Gay, John W	Brooklyn, N. Y	Muffs	Mar. 1, 1864.
42,364	Gear, Henry W	New York, N. Y	Paints, oil, machine for grinding	Apr. 19, 1864.
42,544	Gear, Nathaniel	Indianapolis, Ind	Boot-leg stiffener	Apr. 26, 1864.
43,579	Gedney, G. W. B., and W. J. Brassington	New York, N. Y	Boiler-feeders, automatic	July 19, 1864.
1,612	Gee, William	New York, N. Y	Soda water, apparatus for drawing (Reissue)	Feb. 2, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
43,193	Geer, Sidney L	Norwich, Conn	Flask or retort	June 21, 1864.
43,984	Gehring, John G	Baltimore, Md	Smoking pipe, oil cup in	Aug. 30, 1864.
43,766	Geiser, Daniel	Waynesboro, Pa	Separator, grain	Aug. 9, 1864.
	Gengembre, H. P., and A. Hartupee. (*See* Hartupee & Gengembre.)			
41,292	Gengembre, Philip William	Boston, Mass	Buttons	Jan. 19, 1864.
44,416	Gengembre, P. W	Boston, Mass	Bodkins for passing enlarged shanks of buttons through cloth.	Sept. 27, 1864.
45,400	Gengembre, P. W	Boston, Mass	Buttons	Dec. 13, 1864.
45,401	Gengembre, P. W	Boston, Mass	Buttons	Dec. 13, 1864.
45,402	Gengembre, P. W	Boston, Mass	Buttons	Dec. 13, 1864.
	Genuet, E. J., *et al.* (*See* Carpenter, Nicholas, assignor.)			
41,794	George, A. M	Nashua, N. H	Hose couplings	Oct. 25, 1864.
43,074	George, R. W., assignor to self and Solomon S. Gray	Richmond, Maine	Barrel machines	June 7, 1864.
1,964	George, William E., assignor to Joseph Cowell	Wrentham, Mass	Hats, ladies'. (Antedated May 31, 1864.) (Design)	June 21, 1864.
44,622	Gerner, Henry	New York, N. Y	Grate, furnace, bar	Oct. 11, 1864.
44,178	Geroldsex, J. Lewis	Livingston, N. Y	Painting, composition for	Sept. 13, 1864.
45,403	Geserick, A. L	St. Louis, Mo	Chimney top	Dec. 13, 1864.
41,694	Getty, Henry	Brooklyn, N. Y	Skates	Feb. 23, 1864.
43,109	Getty, Henry	Brooklyn, N. Y	Drill, ratchet	June 14, 1864.
43,680	Gibbons, Rodmond	Oakland, Cal	Guns exhausted of air, muzzle cap for	Aug. 2, 1864.
43,681	Gibbons, Rodmond	Oakland, Cal	Ordnance, attaching trunnions to	Aug. 2, 1864.
44,795	Gibbs, Gilbert	Sugar Branch, Ind	Presses, hay	Oct. 25, 1864.
44,179	Gibson, Abram J	Worcester, Mass	Churn	Sept. 13, 1864.
41,118	Gibson, Abram J., assignor to Edward Livermore and Jonathan Luther.	Worcester, Mass	Stamps, postage and other	Jan. 5, 1864.
	Gibson, Charles D., *et al.* (*See* Smith, Wilson H., assignor.)			
	Gibson, Charles D., *et al.* (*See* Smith, W. H., assignor.)			
43,489	Gibson, Henry C	Camden, N. J	Fabric for the manufacture of enamelled collars, cuffs, &c.	July 12, 1864.
42,435	Gibson, Thomas, assignor to the Starr Arms Company	Yonkers, N. Y	Fire-arms, revolving, locking the cylinder of	Apr. 19, 1864.
41,500	Giffard, Paul	Paris, France	Guns, air	Feb. 9, 1864.
41,147	Gifford, C. H	Auburn, Mass	Apple-coring and slicing machine	Jan. 5, 1864.
42,083	Gilbert, Richard	Rochester, N. Y	Pumps, rotary	Mar. 29, 1864.
41,148	Gilbert, Thomas S	Derby, Conn	Skirts, hoop	Jan. 5, 1864.
41,149	Gilbert, Thomas S	Derby, Conn	Skirts, hoop	Jan. 5, 1864.
	Gilbert, William W. (*See* Tyler, S. E., assignor.)			
	Gilchrist, Robert W. (*See* Stanford, Otis W., assignor.)			
43,490	Giles, Fayette S	New York, N. Y	Watch cases	July 12, 1864.
44,180	Giles, Henry G	Troy, N. Y	Stoves, outside flues and dampers for heating	Sept. 13, 1864.
41,695	Giles, Joel E	Marshall, Mich	Horse-shoe nails, tool for clipping and clinching	Feb. 23, 1864.
	Giles, John S. (*See* Hurd & Halladay, assignors.)			
42,653	Gill, J. R	Charleston, Ill	Washing machine	May 10, 1864.
	Gill, Joseph R., and Eben Blakeman. (*See* Blakeman & Gill.)			
45,487	Gillespie, James E	Trenton, N. J	Bed bottom, spring	Dec. 20, 1864.
43,581	Gillett, Noah H	New York, N. Y	Light, artificial, the same as daylight, means for rendering	July 19, 1864.
41,696	Gillett, Prosper	Hannibal, Mo	Railroad track raiser	Feb. 23, 1864.
41,065	Gilliland, John L	Brooklyn, N. Y	Glass, manufacture of	Jan. 5, 1864.
42,938	Gilliland, T. F	Chicago, Ill	Portholes, submarine	May 31, 1864.
42,847	Gillman, John T	Walnut Fork, Iowa	Hemp brake	May 24, 1864.
43,153	Gilman, Albert H., assignor to self and Charles A. Shaw	Biddeford, Maine	Spinning frames, mode of lubricating the bearings of	June 14, 1864.
43,846	Gilman, Albert H., and James H. Berry	Biddeford, Maine	Spinning machines	Aug. 16, 1864.
44,946	Gilmore, Othniel	Raynham, Mass	Boots and shoes, polishing the soles of	Nov. 8, 1864.
44,527	Gilpatric, C. L	Lewiston, Maine	Meat cutter	Oct. 4, 1864.
42,995	Gipson, Reuben	Shelby, Ohio	Beehives	May 31, 1864.
43,580	Gipson, Reuben	Shelby, Ohio	Washing machine	July 19, 1864.
44,796	Gipson, Reuben	Shelby, Ohio	Clothes wringer	Oct. 25, 1864.
41,150	Gisborne, Frederic Newton	England	Vessels, steering	Jan. 5, 1864.
45,212	Gisborne, Frederic N	England	Ships' bottom, composition for coating. (Patented in England October 30, 1863.)	Nov. 22, 1864.
41,839	Gisborne, John S., and William Simpson	England	Compasses insensible to local attraction, rendering	Mar. 8, 1864.
41,429	Glssinger, Samuel	Manchester, Pa	Churns	Feb. 2, 1864.
42,282	Gitt, Daniel D	Arendtsville, Pa	Harvesters	Apr. 12, 1864.
42,908	Gitt, D. D., assignor to Metropolitan Washing Machine Company.	Arendtsville, Pa	Wringers, clothes	May 24, 1864.
41,840	Gladden, George W	Cincinnati, Ohio	Compound, lubricating	Mar. 8, 1864.
41,767	Glasgow, Henry C	Chicago, Ill	Car coupling	Mar. 1, 1864.
41,373	Glass, Francis	Knightstown, Ind	Cranks over dead points, carrying	Jan. 26, 1864.
43,194	Glasser, Francis	Mystic Bridge, Conn	Vices, pipe	June 21, 1864.
	Glassey, Samuel I. (*See* Rait, David, assignor.)			
42,468	Glaze, Willis	Rochester, Ind	Brake, self-acting	Apr. 26, 1864.
44,417	Gleason, Benona S	Kalamazoo, Mich	Stove boilers, forming and double-seaming	Sept. 27, 1864.
	Gleason, Elliott P. (*See* Baker, James M., assignor.)			
43,767	Gleason, Franklin A	New York, N. Y	Dovetailing machines, mitre	Aug. 9, 1864.
1,761	Gleason, F. A., assignor, through mesne assignments, to John M. Nichols.	Brooklyn, N. Y	Dovetailing, mitre, machines for (Reissue)	Aug. 30, 1864.
	Glenney, Samuel C., and William E. Weeks. (*See* Powell, James E., assignor.)			
	Glidden, William T. (*See* Hayes, Augustus A., assignor.)			
44,299	Glines, Thomas J	Hebron, N. Y	Medicine for the cure of diphtheria, &c. (Antedated September 11, 1864.)	Sept. 20, 1864.
42,654	Glover, A. B	Yonkers, N. Y	Nuts, machines for making	May 10, 1864.
43,639	Glover, William H. H	New York, N. Y	Fertilizer	July 26, 1864.
45,034	Goddard, C. L	New York, N. Y	Wool-burring machines, &c., feed-roll boxes for	Nov. 15, 1864.
44,528	Goddard, Emerson	New York, N. Y	Glue	Oct. 4, 1864.
	Goddard, Solomon, and Henry Warfield	Truxton, N. Y	Carriage tops, raising and lowering (Extension)	Feb. 10, 1864.
44,300	Goddu, Louis	Braintree, Mass	Edging, feather, machine	Sept. 20, 1864.
	Godfrey, Abraham W. (*See* Billings, William, assignor.)			
42,283	Godfrey, Freeman	Grand Rapids, Mich	Bag holders	Apr. 12, 1864.
	Godfrey, Freeman, and J. C. Simonds. (*See* Simonds & Godfrey.)			
41,338	Godfrey, Thomas, assignor to self, Chas. Joseph and Henry Tucker.	New York, N. Y	Cooking utensils. (Antedated January 1, 1864)	Jan. 19, 1864.
43,305	Godwin, Thomas W	Portsmouth, Va	Lubricators	June 28, 1864.
45,561	Goessling, F. W., assignor to self, H. F. Briggs and L. Bradley	Buffalo, N. Y	Sugar, manufacture of	Dec. 20, 1864.
44,768	Goeway, George, assignor to self and William Bailey	Philadelphia, Pa	Corn-shellers	Oct. 18, 1864.
41,430	Geeway, William H	Albany, N. Y	Stoves, coal	Feb. 2, 1864.
43,456	Goff, George P., assignor to W. O. Hickok	Washington, D. C	Book-binders, supplemental table for	July 5, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
42,330	Goff, Hiram H., assignor to self and George D. Oatley	Cumberland, R. I	Spinning, mules for	Apr. 12, 1864.
43,682	Golder, Joseph	Sterling, Ill	Planter, corn	Aug. 2, 1864.
43,366	Golightly, Henry S., and Chas. S. Twitchell, assignors to Jas. G. English and E. F. Mersick.	New Haven, Conn	Chair, arm, folding	June 28, 1864.
1,716	Golightly, Henry S., and Chas. S. Twitchell, assignors to Jas. G. English and E. F. Mersick.	New Haven, Conn	Chair, arm, folding (Reissue)	July 5, 1864.
	Goodell, D. H., and Geo. R. Carter. (*See* Pratt, E. L., ass'or.)			
	Goodell, D. H., and Geo. R. Carter. (*See* Pratt, E. L., ass'or.)			
	Goodell, D. H., and Geo. R. Carter. (*See* Pratt, E. L., ass'or.)			
	Goodell, E. A. (*See* Howard, C. G., assignor.)			
1,616	Goodes, E. A., and E. L. Miller, assignors to C. S. Patterson, E. Pincus, A. Hart, M. Moore, A. Mitchell and H. H. Reed.	Philadelphia, Pa	Sewing machine (Reissue.)	Feb. 9, 1864.
41,151	Goodhue, George W	Cincinnati, Ohio	Composition, lubricating	Jan. 5, 1864.
44,256	Goodman, Joseph, assignor to Charles P. Button	England	Velocipedes	Sept. 13, 1864.
44,708	Goodnow, William D	Albany, N. Y	Car brakes	Oct. 18, 1864.
44,418	Goodrich, Levi	San Jose, Cal	Walls, brick, for houses, &c., building	Sept. 27, 1864.
41,915	Goodrich, Reuben	Pittsfield, Mass	Melodeons	Mar. 15, 1864.
42,554	Goodwin, Caleb, assignor to self and J. C. W. Bailey	Chicago, Ill	Lamps	Apr. 26, 1864.
43,367	Goodwin, Simeon, assignor to Charles A. Shaw	Biddeford, Maine	Spinning, mechanism for filling or building bobbins in	June 28, 1864.
42,620	Goodwin, Simeon, and John A. Emery, assignors to Charles A. Shaw.	Biddeford, Maine	Spinning machines, compressors for flyers in	May 3, 1864.
	Goodwin, William. (*See* Holden, Humphrey, assignor.)			
43,110	Goodwin, William F	Powhatan, Ohio	Ordnance, breech-loading	June 14, 1864.
43,111	Goodwin, William F	Powhatan, Ohio	Ordnance, breech-loading	June 14, 1864.
43,195	Goodwin, William F	Powhatan, Ohio	Shields, metallic, for the army or navy	June 21, 1864.
43,306	Goodwin, William F	Powhatan, Ohio	Ordnance, breech-loading	June 28, 1864.
44,861	Goodwin, William F	Powhatan, Ohio	Fuze, time and concussion, combined	Nov. 1, 1864.
44,947	Goodwin, William F	New York, N. Y	Ordnance, pendulum sight for	Nov. 8, 1864.
45,035	Goodwin, William F	New York, N. Y	Shells, concussion fuze for	Nov. 15, 1864.
43,908	Goodyear, Andrew	Springport, Mich	Lathes, turning	Aug. 23, 1864.
42,726	Goodyear, Charles, jr., and Leonard A. Sprague, assignors to Charles Goodyear, jr.	New York, N. Y	Buckle fastenings	May 10, 1864.
	Goodyear, Henry B. (*See* Hamilton, Edward, assignor.)			
	Goodyear, H. B., *et al.* (*See* Devereux, John H., assignor.)			
44,042	Goolman, W. P., assignor to Goolman, Morris & Co	Indianapolis, Ind	Straw cutter	Aug. 30, 1864.
42,365	Gordon, Alexander	New York, N. Y	Drilling machines	Apr. 19, 1864.
	Gordon, Allen W., and James Bardsley. (*See* Bardsley & Gordon.)			
41,841	Gordon, George P	Brooklyn, N. Y	Printing presses	Mar. 8, 1864.
43,196	Gordon, George P	Brooklyn, N. Y	Printing presses	June 21, 1864.
45,242	Gordon, T. E	Cleveland, Ohio	Crutches	Nov. 29, 1864.
42,939	Gorgas, Charles R	Wooster, Ohio	Churns	May 31, 1864.
	Gorham & Co. (*See* Wilkinson, George, assignor.)			
43,768	Gorman, James Joseph	Cincinnati, Ohio	Power, obtaining and transmitting	Aug. 9, 1864.
	Gorsuch, William, *et al.* (*See* Merryman, John M., ass'or.)			
42,366	Gorton, R. E. and A	Franklinton, N. Y	Hook, snap	Apr. 19, 1864.
44,419	Goss, John	Lewiston, Maine	Stove, cooking, parlor	Sept. 27, 1864.
41,293	Gossin, Benjamin F	Cincinnati, Ohio	Railroad supports	Jan. 19, 1864.
	Gottfried, Matthews, and J. F. T. Holbeck. (*See* Holbeck & Gottfried.)			
44,797	Gouch, Lyman A	New York, N. Y	Filters	Oct. 25, 1864.
43,847	Gould, Julia E	Jamestown, N. Y	Liniment	Aug. 16, 1864.
43,491	Gould, Mitchel	Newark, N. J	Pipe, gas and stair-rod	July 12, 1864.
41,501	Gould, William C	New York, N. Y	Railways, street, lock-joint for	Feb. 9, 1864.
42,573	Goulding, John	Worcester, Mass	Fire-arms, breech-loading	May 3, 1864.
42,940	Goulding, John	Worcester, Mass	Wool, burring, and ginning cotton, machine for	May 31, 1864.
1,714	Goulding, John, assignor, through mesne assignments, to Eben D. Jordan.	Boston, Mass	Wool and other fibrous material, machine for the manufacture of. (Reissue.)	June 28, 1864.
41,502	Gow, James M	Rock Island, Ill	Car couplings	Feb. 9, 1864.
43,399	Gow, James M	Rock Island, Ill	Car couplings	July 5, 1864.
42,574	Graham, John	Ceresco, Mich	Hitching horses to vehicles and ploughs	May 3, 1864.
45,488	Graham, J. R	New York, N. Y	Veneer cutting machines	Dec. 20, 1864.
	Graham, John R., jr. (*See* Bevis, George, assignor.)			
41,960	Graham, Ralph, assignor to self and Samuel Booth	Brooklyn, N. Y	Shells, explosive	Mar. 15, 1864.
43,881	Graham, Ralph, assignor to self and Samuel Booth	Brooklyn, N. Y	Fire-arms	Aug. 16, 1864.
41,374	Granger, A. M	St. Louis, Mo	Boilers, steam, feed-water heaters for	Jan. 26, 1864.
41,258	Granger, T. P., assignor to self and Josiah Best	Pecatoniti, Ill	Table leaves, planes for jointing	Jan. 12, 1864.
	Granger, W. W. (*See* Rohrer, Samuel, assignor.)			
	Granniss, Thomas. (*See* Turner, Edward, assignor.)			
42,760	Grant, A. S	Waupun, Wis	Carriages	May 17, 1864.
44,146	Grason, Thomas	Great Britain	Boots and shoes	Sept. 6, 1864.
41,066	Gratrix, Robert Hodgson	England	Dyeing and printing with aniline colors	Jan. 5, 1864.
44,578	Graves, Frederick, assignor to self and Charles G. Roberts	Avoca, N. Y	Chest, camp	Oct. 4, 1864.
	Graves, Nathaniel S., and Lewis M. Berry. (*See* Berry & Graves.)			
1,658	Gray, Abel, assignor to Elias Brown	Wappinger's Falls, N. Y	Combs, back (Reissue of design)	Apr. 26, 1864.
44,948	Gray, Allen F	Boston, Mass	Collars, paper, making	Nov. 8, 1864.
44,719	Gray, James	Albany, N. Y	Stove, base-burning	Oct. 18, 1864.
1,795	Gray, John	Milwaukie, Wis	Separator, grain (Reissue)	Oct. 18, 1864.
42,909	Gray, J. N., assignor to Daniel Sager	Lynn, Mass	Trough for feeding animals	May 24, 1864.
41,697	Gray, James S	New York, N. Y	Stoves, gas	Feb. 23, 1864.
45,600	Gray, James S	New York, N. Y	Burner, vapor	Dec. 27, 1864.
41,375	Gray, Joshua	Boston, Mass	Fire-arms, repeating	Jan. 26, 1864.
44,995	Gray, Joshua, assignor to self, E. H. Eldridge, S. S. Bucklin and W. G. Langdon.	Medford, Mass	Fire-arms, breech-loading	Nov. 8, 1864.
45,560	Gray, Joshua, assignor to self, E. H. Eldridge, S. S. Bucklin and W. G. Langdon.	Medford, Mass	Fire-arm, magazine or self-loading	Dec. 20, 1864.
43,683	Gray, Samuel C	Lewisville, Ind	Tuyere	Aug. 2, 1864.
41,294	Gray, Solomon S	Boston, Mass	Collars, cloth and paper, moulded. (Antedated January 17, 1864.)	Jan. 19, 1864.
1,646	Gray, Solomon S	Boston, Mass	Collars, shirt (Reissue)	Mar. 29, 1864.
43,400	Gray, Solomon S	Boston, Mass	Collars, paper	July 5, 1864.
43,401	Gray, Solomon S	Boston, Mass	Collars, apparatus for forming	July 5, 1864.
1,835	Gray, Solomon S	Boston, Mass	Collars, apparatus for forming (Reissue)	Dec. 20, 1864.
1,836	Gray, Solomon S	Boston, Mass	Collars, apparatus for forming (Division of reissue)	Dec. 20, 1864.
	Gray, Solomon S. (*See* George, R. W., assignor.)			

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
43,492	Gray, Timothy	Lowell, Mass	Lathes, wood-turning	July 12, 1864.
41,579	Greacon, Walter, assignor to self and William Robotham	Newark, N. J	Gaw swivel	Oct. 4, 1864.
	Greacon, Walter. (*See* Robotham, William, assignor.)			
41,698	Greek, John	Evansville, Ind	Clothes frame	Feb. 23, 1864.
41,295	Greeley, B. J	New York, N. Y	Suspenders	Jan. 19, 1864.
43,019	Green, E. J	Valparaiso, Ind	Carriages, spring brace and clip for	June 7, 1864.
1,928	Green, George, assignor to Deborah, Albert E. and N. B. Powers.	Wappinger's Creek, N. Y	Floor-cloth pattern (Design)	Apr. 5, 1864.
	Green, Henry. (*See* Buell, Henry, assignor.)			
42,910	Green, Jonathan H., assignor to James B. Hodgskin	Christiansburg, Iowa	Roofing, fabric for	May 24, 1864.
45,036	Green, Loure	Great Bend, Pa	Plough	Nov. 15, 1864.
42,367	Green, William H	Meriden, Conn	Coffin plate	Apr. 19, 1864.
	Green, William W., jr., and George R. Ruland. (*See* Ruland & Green.)			
44,181	Greene, James	Providence, R. I	Motive power	Sept. 13, 1864.
	Greene, John M. D. (*See* Colborn, Wells L., assignor.)			
	Greene, Jonas. (*See* Smith, John W., assignor.)			
42,655	Greene, W. A	Troy, N. Y	Brush, blacking	May 10, 1864.
42,575	Greenhalgh, James	Pascoag, R. I	Looms, power, harness motion for	May 3, 1864.
43,769	Greenhalgh, Solomon	Newark, N. J	Steam generators	Aug. 9, 1864.
41,699	Greenleaf, W. R	Silver Creek, N. Y	Engines, steam, rotating valves for	Feb. 23, 1864.
43,985	Greenlee, Edmund	Summerhill, Pa	Barrels, machines for making heads to. (Antedated August 1, 1864.)	Aug. 30, 1864.
45,119	Greenwood, Jeremiah, assignor to self and Wm. E. Arnold	Fitchburg, Mass	Clothes pin	Nov. 15, 1864.
	Greenwood, M., & Co. (*See* Zenner, Charles, assignor.)			
43,198	Greenwood, Peter W., Thomas H. and Alfred	Philadelphia, Pa	Spinning machines	June 21, 1864.
45,489	Greer, Peter N	New York, N. Y	Tobacco, fine-cut, preparation of	Dec. 20, 1864.
	Gregory, Geo. W. (*See* Orcutt, Nelson, assignor.)			
	Gregory, Geo. W. (*See* Overhiser, G. C., assignor.)			
	Gregory, E. W., and E. W. Seymour. (*See* Seymour & Gregory.)			
	Gregory, James. (*See* Winter, Herman, assignor.)			
43,197	Gregory, Lyman	Battle Creek, Mich	Carriage axle, oil cup for	June 21, 1864.
	Greig, Allan, and James Smith. (*See* Smith & Greig.)			
	Grice, Joseph and Samuel B. (*See* Long, Robert H., ass'or.)			
43,493	Grier, William W., and Robert H. Boyd	Hutton, Pa	Coal, machine for mining	July 12, 1864.
42,186	Griffen, John F	New York, N. Y	Cans, preserve	Apr. 5, 1864.
45,561	Griffen, John F	New York, N. Y	Can, self-sealing	Dec. 27, 1864.
45,213	Griffin, C. H	Chelsea, Mass	Mills, crushing, centrifugal	Nov. 22, 1864.
44,769	Griffin, C. H., assignor to self and Henry A. Breed	Chelsea, Mass	Ore roaster	Oct. 18, 1864.
1,610	Griffin, C. H., assignor, through mesne assignments, to David Knox and Walter D. Richards.	Lynn, Mass	Boot and shoe soles, machine for cutting out (Reissue)	Jan. 26, 1864.
42,656	Griffin, John, and M. P. Weeks	Buffalo, N. Y	Railroad rails, old, piling	May 10, 1864.
42,469	Griffin, Jonathan	Meriden, Conn	Vaporizing hydro-carbon liquids for illuminating, apparatus for.	Apr. 26, 1864.
42,818	Griffing, C. S. S	Ashtabula, Ohio	Fence, construction of	May 24, 1864.
42,849	Griffing, C. S. S	Ashtabula, Ohio	Fence, field, portable	May 24, 1864.
44,182	Griffiths, Wm	Philadelphia, Pa	Chimney cap plates, fastening for	Sept. 13, 1864.
42,761	Griggs, Alfred H	Newark, N. J	Canal lock gates, wickets for	May 17, 1864.
45,152	Grillet, Alexander	Philadelphia, Pa	Fire-arms, breech-loading	Nov. 22, 1864.
	Grilley, C. T., and Fordyce Beals. (*See* Beals & Grilley.)			
45,243	Griswold, George G	Chester, Conn	Grindstone, artificial	Nov. 29, 1864.
41,768	Griswold George W	Abington, Pa	Wrenches	Mar. 1, 1864.
42,187	Griswold, George W	Abington, Pa	Boots, shoes, or sandals, metallic	Apr. 5, 1864.
43,747	Griswold, George W	New York, N. Y	Horseshoes, removable corks for	Aug. 2, 1864.
44,720	Gritzner, M. C	Washington, D. C	Sewing machine	Oct. 18, 1864.
41,616	Grout, Warner	Green Island, N. Y	Journal boxes, railroad	Feb. 16, 1864.
41,574	Groel, Philipp, assignor to L. E. Holden	Meadville, Pa	Car cranks, hand	Feb. 9, 1864.
	Groendyke, John, and Jos. P. Miers. (*See* Miers & Groendyke.)			
43,402	Groom, Smith	Troy, N. Y	Engines, steam valves for	July 5, 1864.
1,727	Grosjean, Florian	New York, N. Y	Spoons and forks (Reissue)	July 12, 1864.
44,302	Gross, George	Buffalo, N. Y	Water wheels	Sept. 20, 1864.
45,490	Gross, George	Buffalo, N. Y	Fence, picket, portable	Dec. 20, 1864.
42,911	Gross, Henry	Tiffin, Ohio	Fire-arms, breech-loading	May 31, 1864.
42,368	Grote, John G. F	Cincinnati, Ohio	Mattress, spring	Apr. 19, 1864.
43,369	Grote, John G. F	Cincinnati, Ohio	Mattress, spring	Apr. 19, 1864.
41,215	Grover, A. P	Eureka, Wis	Grain cradles	Jan. 12, 1864.
42,284	Grover, William O	West Roxbury, Mass	Sewing machine. (Patented in England August 22, 1862.)	Apr. 12, 1864.
42,285	Grover, William O	West Roxbury, Mass	Sewing machine	Apr. 12, 1864.
42,576	Grover, William O	West Roxbury, Mass	Sewing machines	May 3, 1864.
42,818	Groves, John, assignor to self, W. R. Beeston and Thomas Bottomley.	Brooklyn, N. Y	Shells, explosive	May 17, 1864.
43,403	Grows, Joseph R	Brunswick, Maine	Liniment	July 5, 1864.
41,376	Grubb, Clement B	Lancaster, Pa	Furnaces for roasting ores	Jan. 26, 1864.
	Grubb, Edmund, and Samuel H. Miller. (*See* Miller & Grubb.)			
43,770	Gruber, John P	New York, N. Y	Water by pneumatic pressure, apparatus for forcing	Aug. 9, 1864.
42,286	Grundy, Joseph	Stoneham, Mass	Faucets	Apr. 12, 1864.
1,697	Grundy, Thomas, assignor to Wm. E. Parmenter and Joseph and James Grundy.	West Cambridge, Mass	Water closets (Reissue)	June 14, 1864.
43,640	Guard, Chauncey H	Troy, N. Y	Carriages, coupling for	July 26, 1864.
44,303	Guilbert, Sive	New York, N. Y	Sword handle and revolving fire-arm, combined	Sept. 20, 1864.
41,916	Guinness, Wm. S	Mount Vernon, N. Y	Sewing machine. (Antedated March 9, 1864)	Mar. 15, 1864.
	Gulwits, A., *et al.* (*See* Tansley, Wm., assignor.)			
45,153	Gunning, T. B	New York, N. Y	Wells, oil, oil ejectors for	Nov. 22, 1864.
43,684	Guy, C. B	Lybrand, Iowa	Pumps, force	Aug. 2, 1864.
45,491	Guy, William B., assignor to E. H. Austin	Boston, Mass	Pipes, gas and water	Dec. 20, 1864.
41,339	Guyon, Henry G., assignor to James Edsall	Brooklyn, N. Y	Boat's tackle, self-relieving hooks for	Jan. 19, 1864.
44,722	Gwynn, Stuart	New York, N. Y	Drill, pneumatic	Oct. 18, 1864.
44,862	Gwynn, Stuart	New York, N. Y	Drill, pneumatic	Nov. 1, 1864.
	Haarburger, Max, and Richard Burr. (*See* Botticher, Morris, assignor.			
	Habicht, Claudius E. (*See* Lundgren, John Ephraim, ass'r.)			
42,762	Hackert, Julius	Bridgeport, Conn	Metal, composition	May 17, 1864.
42,942	Hackert, Julius	Bridgeport, Conn	Composition for artificial ivory	May 31, 1864.
41,340	Hackett, Barnard, assignor to Wm. G. Warden	Pittsburg, Pa	Barrels for carbon oils	Jan. 19, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
42, 579	Hadley, J. A	West Waterford, Vt	Sheep shears	May 3, 1864.
44, 028	Hadley, R. S	Anamosa, Iowa	Water-wheels	Sept. 6, 1864.
45, 001	Haeck, François	Belgium	Process for the manufacture of good flavored spirits and neutral alcohol. (Patented in Belgium July 7, 1862.)	Nov. 8, 1864.
45, 002	Haeck, François	Belgium	Alcoholic liquids, apparatus for concentrating and analyzing. (Patented in Belgium July 17, 1862.)	Nov. 8, 1864.
45, 003	Haeck, François	Belgium	Distillers, refrigerating condenser for. (Patented in Belgium August 16, 1859.)	Nov. 8, 1864.
45, 004	Haeck, François	Belgium	Liquids, apparatus for cooling and aerating. (Patented in Belgium August 16, 1859.)	Nov. 8, 1864.
1, 680	Haecker, Ludwig	Hungary	Brewing (Reissue)	May 31, 1864.
41, 296	Haege, Jacob	Shiloh, Ill	Screw-power	Jan. 19, 1864.
41, 769	Haege, Jacob	Shiloh, Ill	Cultivators	Mar. 1, 1864.
41, 152	Hafer, John	Bedford, Pa	Stoves	Jan. 5, 1864.
41, 897	Hagan, Wm. E., assignor to John B. Gale	Troy, N. Y	Stoves	Mar. 8, 1864.
43, 986	Hague, Sam	Utica, N. Y	Horse-holder	Aug. 30, 1864.
41, 153	Haigh, Henry, and Richard Heaton	England	Dyeing cotton, &c	Jan. 5, 1864.
41, 842	Haines, Samuel H	Lewistown, Pa	Harvesters	Mar. 8, 1864.
43, 909	Hair, Samuel	Kankakee City, Ill	Hog-snout cutter	Aug. 23, 1864.
43, 020	Hale, Chauncey H	Fayetteville, Pa	Washing machine	June 7, 1864.
41, 154	Hale, Elias	Terre Haute, Ind	Pumps	Jan. 5, 1864.
44, 183	Hale, H. F. F	Milwaukie, Wis	Stoves, reservoir	Sept. 13, 1864.
44, 863	Hale, Holman J	New York, N. Y	Pipe, smoking	Nov. 1, 1864.
41, 216	Hale, Robert	Pittsburg, Mass	Racks, sheep	Jan. 12, 1864.
41, 617	Hall, A. W	New York, N. Y	Timepieces	Feb. 16, 1864.
45, 154	Hall, A. W	New York, N. Y	Flax and hemp brake	Nov. 22, 1864.
44, 043	Hall, A. W., assignor to self, Samuel Jandon and R. H. Belden.	New York, N. Y	Gold from crushed quartz, syphon for separating	Aug. 30, 1864.
44, 140	Hall, A. W., assignor to self, R. K. Belden and S. Jandon	New York, N. Y	Amalgamators	Sept. 6, 1864.
44, 257	Hall, A. W., assignor to self, S. Jandon and R. H. Belden	New York, N. Y	Quartz crushers	Sept. 13, 1864.
44, 580	Hall, A. W., assignor to self, S. Joudon and R. H. Belden	New York, N. Y	Rock-breaking device	Oct. 4, 1864.
45, 670	Hall, A. W., ass'r to the Coal Mining Machinery Company	New York, N. Y	Gold from foreign matters, apparatus for extracting	Dec. 27, 1864.
43, 987	Hall, Charles	New York, N. Y	Chains, machines for stretching	Aug. 30, 1864.
	Hall, C. M., *et al.* (*See* Myers, Abraham, assignor.)			
	Hall, Charles P. (*See* Rubsam, C., assignor,)			
45, 404	Hall, Claudius B	Racine, Wis	Radiator, heat	Dec. 13, 1864.
	Hall, David E., assignor to self and James H. Beardsley	Brooklyn, N. Y	Pen-holder, spring	Apr. 19, 1864.
42, 470	Hall, Eliphalet	Moriah, N. Y	Furnace, smelting	Apr. 26, 1864.
41, 989	Hall, Eliza Jane	San Francisco, Cal	Furnace for smelting ores	Mar. 22, 1864.
	Hall, George L., and Theophilus L. Bishop. (*See* Bishop & Hall.)			
43, 307	Hall, James T., and Isaac Pierce	Holland Patent, N. Y	Hay, machines for loading	June 28, 1864.
45, 405	Hall, James T., and Isaac Pierce	Holland Patent, N.Y	Hay-loading machines	Dec. 13, 1864.
41, 961	Hall, John, and Henry, sr., assignors to selves and Henry Jones.	Philadelphia, Pa	Engines, steam, pistons for	Mar. 15, 1864.
43, 199	Hall, John D	Philadelphia, Pa	Torpedoes for harbor defence, method of applying	June 21, 1864.
43, 685	Hall, John D	Philadelphia, Pa	Paper, news, clamp. (Antedated June 21, 1864)	Aug. 2, 1864.
44, 770	Hall, John D., assignor to self and Osborn Conrad	Philadelphia, Pa	Car, railroad, window fixtures	Oct. 18, 1864.
45, 208	Hall, John D., assignor to self and Osborn Conrad	Philadelphia, Pa	Water alarm gauges	Nov. 22, 1864.
45, 562	Hall, John D., assignor to self and Osborn Conrad	Philadelphia, Pa	Harbor obstructions, method of removing	Dec. 20, 1864.
41, 503	Hall, John S	West Manchester, Pa	Hoes, rakes, &c., construction of	Feb. 9, 1864.
	Hall, Joseph, jr., and W. W. Wilcox. (*See* Carroll, Thos., assignor.)			
	Hall, Joseph J., *et al.* (*See* Norcross, Joseph W., assignor.)			
41, 888	Hall, Luther, assignor, through mesne assignments, to Alfred B. Ely.	Boston, Mass	Pegging machine	Mar. 8, 1864.
43, 404	Hall, Luther, assignor to Alfred B. Ely	Boston, Mass	Sewing machine	July 5, 1864.
41, 618	Hall, Lydia S	Washington, D. C	Cooking by steam, vessels for	Feb. 16, 1864.
43, 686	Hall, S. Z	Camden, N. J	Churns	Aug. 2, 1864.
45, 155	Hall, S. Z	Camden, N. J	Churns	Nov. 22, 1864.
44, 184	Hall, William Henry	New York, N. Y	Bottle stopper	Sept. 13, 1864.
	Halladay, Wm., and Robert B. Hurd. (*See* Hurd & Halladay.)			
	Halliwell, James, and Alexander Alison. (*See* Alison & Halliwell.)			
44, 529	Hallock, Valentine H	Milton, N. Y	Ice for storage, cutting	Oct. 4, 1864.
41, 155	Halsted, James D	Rye, N. Y	Hay forks, horse	Jan. 5, 1864.
43, 112	Halsted, Wm., and Halsted, Oliver, S. jr	Washington, D. C Newark, N. J	Fuel, artificial	June 14, 1864.
43, 021	Halvorson, Halvor	Cambridge, Mass	Compounds, explosive	June 7, 1864.
43, 022	Halvorson, Halvor	Cambridge, Mass	Compound of cyanogen and iron	June 7, 1864.
45, 204	Ham, Seth, assignor to self and Wm. H. McCafferty	Philadelphia, Pa	Locomotive smoke stacks	Nov. 22, 1864.
41, 217	Hamblet, James, jr., and B. F. Edmands	Boston, Mass	Pendulums, electro-magnetic	Jan. 12, 1864.
42, 084	Hambujer, Ephraim	Detroit, Mich	Carriage-seats, railway, head-rests for	Mar. 29, 1864.
42, 287	Hambujer, E	New York, N. Y	Sweeping machines, street	Apr. 12, 1864.
43, 687	Hambujer, Ephraim	New York, N. Y	Pavements, machine for roughening	Aug. 2, 1864.
43, 200	Hamilton, Charles S	Fond du Lac, Wis	Mills, &c., distributing grain in	June 21, 1864.
41, 067	Hamilton, Edward, assignor to self and Henry B. Goodyear	Chicago, Ill	Bottles, closing	Jan. 5, 1864.
42, 188	Hamilton, Edward, assig'r to Automatic Bottle Closing Co	Chicago, Ill	Bottles, closing or stopping	Apr. 5, 1864.
41, 700	Hamilton, Gideon, and John Post	New York, N. Y	Blacking brush, self-feeding	Feb. 23, 1864.
43, 201	Hamilton, H. M	Franklin, Pa	Gases from petroleum and other wells, device for collecting	June 21, 1864.
43, 688	Hamilton, James	New York, N. Y	Saw-mills	Aug. 2, 1864.
45, 297	Hamilton, William, assignor to self and Josiah B. Fuller	Chicopee, Mass	Lathes, tool elevator for	Nov. 29, 1864.
45, 406	Hammer, Adolph	New York, N. Y	Liquors, malt, &c., apparatus for fermenting	Dec. 13, 1864.
	Hammer, Thorvald F. (*See* Amici, Gaetano, assignor.)			
45, 671	Hammon, Thomas W., assignor to self and J. H. Lincoln	Montfort, Wis	Cultivator teeth, operating	Dec. 27, 1864.
41, 504	Hammond, A	Jacksonville, Ill	Boiler feeders	Feb. 9, 1864.
43, 202	Hammond, David, and W. R. Reeves	Canton, Ohio	Bridge girders	June 21, 1864.
44, 798	Hammond, Henry	Providence, R. I	Fire-arms, breech-loading	Oct. 25, 1864.
44, 304	Hanauer, Henry	Covington, Ky	Sawing machines, scroll	Sept. 20, 1864.
42, 943	Hance, Edward H	Philadelphia, Pa	Medicine cases	May 31, 1864.
42, 471	Hancock, George	Providence, R. I	Fire-arms, breech-loading	Apr. 26, 1864.
43, 848	Hancock, George	Holyoke, Mass	Looms	Aug. 16, 1864.
41, 770	Hancock, John T	Boston, Mass	Furnaces, steam-boiler	Mar. 1, 1864.
45, 037	Hanford, John, jr	Detroit, Mich	Saw-set	Nov. 15, 1864.
	Hankey, Anthony. (*See* Corser, George A., assignor.)			
45, 407	Hanley, James	New York, N. Y	Cars, city, passenger, support for	Dec. 13, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
44,799	Hannan, James	South Lyon, Mich	Ladders, fruit	Oct. 25, 1864.
	Hannen, H., and John Parker. (*See* Bolles, Jesse N., assignor.) Reissue.			
44,949	Hanumm, Henry A	Cazenovia, N. Y	Bee-hives	Nov. 8, 1864.
	Hanover, Elias M., *et al.* (*See* Cannon, J. S., assignor.)			
42,288	Hansen, James	Saugerties, N. Y	Carriage shafts	Apr. 12, 1864.
44,089	Hanson, John L	Boston, Mass	Stove, heating	Sept. 6, 1864.
1,717	Hanvey, Thomas	Elma, N. Y	Stave machines (Reissue)	July 5, 1864.
43,494	Hanvey, Thomas	Elma, N. Y	Casks, hoop locks for	July 12, 1864.
43,495	Hanvey, Thomas	Elma, N. Y	Hoop locks, clasp for	July 12, 1864.
45,321	Hanvey, Thomas	Elma, N. Y	Staves, machines for cutting	Dec. 6, 1864.
44,623	Hardaway, Moore	St. Louis, Mo	Bolts, machines for making	Oct. 11, 1864.
44,305	Harden, William	Chariton, Iowa	Bee-hives	Sept. 20, 1864.
41,990	Hardgrove, O. J	Massillon, Ohio	Rakes, horse	Mar. 22, 1864.
	Hardick, Chas. B., and Abraham Campbell. (*See* Campbell & Hardick.)			
42,763	Harding, G. E	Bath, Maine	Presses	May 17, 1864.
1,906	Harding, Webb	Cambridge, Mass	Spoon, macaroni (Design)	Mar. 1, 1864.
45,244	Hardy, Edwin J	Buffalo, N. Y	Warming and ventilating churches and public halls	Nov. 29, 1864.
44,185	Hardy, Emery E	New York, N. Y	Harness, cart	Sept. 13, 1864.
45,492	Hardy, Emery E	New York, N. Y	Saddle-trees	Dec. 20, 1864.
42,577	Hargrave, Thomas C	Boston, Mass	Lubricators, car-axle	May 3, 1864.
42,578	Hargrave, Thomas C	Boston, Mass	Lubricators, car-axle	May 3, 1864.
42,945	Harkness, Olney	Providence, R. I	Water wheels	May 31, 1864.
	Harlem, James L. (*See* Ashley, Charles C., assignor.)			
41,505	Harmon, Emanuel	Washington, D. C	Stamps, postage and revenue	Feb. 9, 1864.
41,991	Harmon, Emanuel	Washington, D. C	Stamps, revenue and other, mode of cancelling	Mar. 22, 1864.
41,177	Harold, Thos. George, assignor to self and John W. Kissam	New York, N. Y	Locks	Jan. 5, 1864.
41,178	Harold, Thos. George, assignor to self and John W. Kissam	New York, N. Y	Locks	Jan. 5, 1864.
41,771	Harold, Thos. George	Brooklyn, N. Y	Pan, dust	Mar. 1, 1864.
43,112	Harold, Thos. George	Brooklyn, N. Y	Clothes-dryer	June 14, 1864.
44,950	Harper, C. A	Canterbury, N. H	Mills, grinding	Nov. 8, 1864.
1,731	Harper, Derastus	Chicago, Ill	Ploughs (Reissue)	Aug. 2, 1864.
41,428	Harper, Louis	Brooklyn, N. Y	Guano, phosphatic, restoring	Feb. 2, 1864.
42,472	Harrah, John	Philadelphia, Pa	Skate fastening	Apr. 26, 1864.
44,306	Harrah, W. D	Davenport, Iowa	Gate, farm	Sept. 20, 1864.
44,091	Harrington, Ebenezer	Boston, Mass	Draft regulator	Sept. 6, 1864.
42,850	Harrington, E. C	Boston, Mass	Propulsion, canal, submerged track for	May 24, 1864.
41,917	Harrington, O. I	Manchester, Pa	Car brakes, railroad	Mar. 15, 1864.
42,189	Harrington, O. I	Manchester, Pa	Car brakes, railroad	Apr. 5, 1864.
42,370	Harrington, S. E	Greenfield, Mass	Planter and cultivator, combined	Apr. 19, 1864.
42,764	Harrington, S. E	Greenfield, Mass	Hinges	May 17, 1864.
42,911	Harrington, Wm. T., assignor to self and Benj. F. Anthony.)	Roxbury, Mass	Carriage axles	May 24, 1864.
45,038	Harris, Charles W	Pittsburg, Pa	Stamps, postage and revenue, mode of cancelling. (Antedated February 1, 1864.	Nov. 15, 1864.
41,575	Harris, Elbridge, assignor, through mesne assignments, to William W. Lyman.	Boston, Mass	Jars, fruit	Feb. 9, 1864.
44,186	Harris, George W., and Harris, William R	Lowell, Mass England	Loom harness, machine for weaving. (Patented in England December 24, 1858.)	Sept. 13, 1864.
43,496	Harris, Giles M	Coneser's Centre, N. Y	Washing machine	July 12, 1864.
42,900	Harris, Isaac B	Scotland	Hose, flexible, and other tubes, manufacture of	May 24, 1864.
43,271	Harris, John	Great Britain	Paddle, lever	June 21, 1864.
44,864	Harris, John	England	Barrels	Nov. 1, 1864.
42,765	Harris, John O	Reading, Pa	Lamp burners	May 17, 1854.
43,293	Harris, J. O	Ottawa, Ill	Bells, door, device for hanging	June 21, 1864.
45,493	Harris, John O	Reading, Pa	Lamp burners	Dec. 20, 1864.
43,405	Harris, Norman C	Poultney, Vt	Currycombs	July 5, 1864.
	Harris, Uriah P. (*See* Schemmels, Peter, assignor.)			
	Harrison Brothers & Co. (*See* Brand, Charles F., assignor.)			
45,602	Harrison, Caleb	Milwaukie, Wis	Vessels, sunken, mode of raising	Dec. 27, 1864.
43,204	Harrison, C. H	San Francisco, Cal	Pumps, rotary	June 21, 1864.
41,576	Harrison, Edward, assignor to B. W. W. Simpson	New York, N. Y	Gunpowder, &c., composition for	Feb. 9, 1864.
41,577	Harrison, Edward, assignor to B. W. W. Simpson	New York, N. Y	Projectiles, inflammable composition for	Feb. 9, 1864.
41,578	Harrison, Edward, assignor to B. W. W. Simpson	New York, N. Y	Composition, explosive	Feb. 9, 1864.
41,843	Harrison, James	New York, N. Y	Bells, mode of ringing	Mar. 8, 1864.
	Harrison, Joseph W., and Howard C. Kearny. (*See* Kearny & Harrison.)			
42,626	Harrison, Thomas	England	Coal and other minerals, mode of cutting	May 3, 1864.
43,067	Harrison, Thomas	England	Iron and steel, machinery for puddling. (Patented in England December 8, 1863.)	June 7, 1864.
	Hart, A., *et al.* (*See* Goodes & Miller, assignors.)			
41,619	Hart, Austin S	Buffalo, N. Y	Radiators, steam	Feb. 16, 1864.
44,721	Hart, George L. and Hubert C	Unionville, Conn	Traps, animal	Oct. 18, 1864.
	Hart, Henry F. (*See* Thomas, Henry B., assignor.)			
	Hart Manufacturing Company. (*See* Jones, Horace K., assignor.)			
43,023	Hart R	Savanna, Ohio	Rack, sheep	June 7, 1864.
	Hart, Samuel, and Isaac Levy. (*See* Saladee, C. W, ass'or.)			
41,844	Hart, Thompson D	Philadelphia. Pa	Shells, explosive	Mar. 8, 1864.
	Hartford Carpet Company. (*See* Thompson, Henry G., assignor.) Design.			
	Hartford Carpet Company. (*See* Thompson, Henry G., assignor.) Design.			
	Hartford Carpet Company. (*See* Thompson, Henry G., assignor.) Design.			
	Hartford Carpet Company. (*See* Thompson, Henry G., assignor.) Design.			
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	Hartford Carpet Company. (*See* Thompson, Henry G., assignor.) Design.			
	Hartford Carpet Company. (*See* Thompson, Henry G., assignor.) Design.			

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
	Hartford Carpet Company. (*See* Thompson, Henry G., assignor.) Design.			
	Hartford Carpet Company. (*See* Thompson, Henry G., assignor.) Design.			
44, 624	Hartshorn, Stewart	New York, N. Y	Curtain fixture	Oct. 11, 1864.
42, 473	Hartman, John, jr	Philadelphia, Pa	Crutches. (Antedated December 22, 1863)	Apr. 26, 1864.
43, 308	Hartman, Samuel B	Millersville, Pa	Bridles	June 28, 1864.
45, 603	Hartupee, A	Pittsburg, Pa	Engines, steam	Dec. 27, 1864.
45, 408	Hartupee, A., and H. P. Gengembre	Pittsburg, Pa	Condensers	Dec. 13, 1864.
41, 992	Hartwell, S. E	New Albany, Ind	Dovetailing machines	Mar. 22, 1864.
41, 993	Harvey, Charles T	Chicago, Ill	Chimney flues	Mar. 22, 1864.
	Harvey, Edward. (*See* Paterson, James, assignor.)			
	Harvey, Edward. (*See* Webster, J. Taylor, assignor.)			
42, 474	Harvey, H. A	New York, N. Y	Screw blanks, apparatus for arranging and distributing	Apr. 26, 1864.
42, 475	Harvey, H. A	New York, N. Y	Screw, wood	Apr. 26, 1864.
42, 476	Harvey, H. A	New York, N. Y	Screw blanks, apparatus for arranging and distributing	Apr. 26, 1864.
42, 477	Harvey, H. A	New York, N. Y	Screw blanks, apparatus for arranging and distributing	Apr. 26, 1864.
42, 766	Harvey, H. A	New York, N. Y	Screws, wood, machines for threading. (Antedated April 26, 1864.)	May 17, 1864.
42, 767	Harvey, H. A	New York, N. Y	Screw blanks, apparatus for shaving the heads of. (Antedated April 26, 1864.)	May 17, 1864.
42, 768	Harvey, H. A	New York, N. Y	Screw blanks, apparatus for nicking the heads of. (Antedated April 26, 1864.)	May 17, 1861.
44, 090	Harvey, Hayward A	New York, N. Y	Screw blanks, dies for heading	Sept. 6, 1864.
44, 723	Harvey, H. A	New York, N. Y	Screws, wood, shaving the heads of	Oct. 18, 1864.
44, 724	Harvey, H. A	New York, N. Y	Files	Oct. 18, 1864.
44, 187	Harvey, Hosea B	Northbridge, Mass	Lacings, machine for cutting	Sept. 13, 1864.
45, 604	Harvey, James W	Marshalltown, Iowa	Harvesters, gavelling attachment to	Dec. 27, 1864.
43, 497	Harvey, Thomas	Baltimore, Md	Cap, percussion, box	July 12, 1864.
	Harwood, George, and George H. Quincy. (*See* Clissold, Wm., assignor.) Reissue.			
41, 218	Harwood, George Shaw	Newton, Mass	Fabric, knitted	Jan. 12, 1864.
44, 951	Harwood, George Shaw, assignor to self and Geo. H. Quincy	Newton, Mass	Wool, machinery for oiling	Nov. 8, 1864.
44, 800	Harwood, Harvey J	Utica, N. Y	Lamps, coal oil	Oct. 25, 1864.
	Haselden, Richard, *et al.* (*See* Wood, Fourdinier & Haselden.)			
41, 772	Haserick, E. C	Lake Village, N. H	Brushes, paint, guard to	Mar. 1, 1864.
42, 944	Haskins, Charles H	St. Louis, Mo	Railroad switches	May 31, 1864.
42, 478	Hastings, J. L	Towanda, Pa	Engines, steam, governors for	Apr. 26, 1864.
	Hatch, James. (*See* Fuzzard, Wm., assignor.)			
44, 625	Hatfield, James, and John Wall	Ogden, Ind	Screen, grain	Oct. 11, 1864.
43, 205	Hatfield, Robert G	New York, N. Y	Door sheaves	June 21, 1864.
41, 889	Hathaway, Addison, assignor to Ames Manufacturing Co	Chicopee, Mass	Lathe, tool rest for turning	Mar. 8, 1864.
44, 188	Hathaway, David	Troy, N. Y	Grates, stove	Sept. 13, 1864.
43, 910	Haupt, Herman	Cambridge, Mass	Valves, steam, rotary	Aug. 23, 1864.

No.	Patentee.	Residence.	Invention or discovery.	Date.
43, 498	Haustetter, Anthony	Philadelphia, Pa	Tub, cooling, for water and beer	July 12, 1864.
43, 945	Havell, George, assignor to Frederick Stevens	Newark, N. J	Buckle	Aug. 23, 1864.
43, 206	Hawk, G. W	Chicago, Ill	Chair, carriage and cradle combined	June 21, 1864.
45, 605	Hawkins, H. R	Akron, Ohio	Rakes, horse	Dec. 27, 1864.
44, 307	Hawkins, John R	Syracuse, N. Y	Stoves	Sept. 20, 1864.
42, 729	Haws, John, assignor to Henry Hawks	Brooklyn, N. Y	Tag hook	May 10, 1864.
42, 479	Hawksworth, Samuel	England	Flour cloth	Apr. 26, 1864.
	Hawley, Horace H. (*See* Carey, Ebenezer, assignor.)			
44, 996	Hawley, Isaac, and Daniel S. Stafford, assignors to selves, S. E. Barber and S. F. Hawley.	Pekin, Ill Decatur, Ill	Harvesting machines	Nov. 8, 1861.
43, 946	Hawley, John B., assignor to Peter Mesick	Albany, N. Y	Hay elevating forks	Aug. 23, 1864.
44, 725	Haworth, G. D	Springfield, Ill	Planter, corn	Oct. 18, 1864.
44, 494	Hawthorn, Charles	Pittsburg, Pa	Boilers, tubular	Dec. 20, 1864.
44, 092	Hay, George M	Johnstown, Pa	Stovepipes, adjustable collars for	Sept. 6, 1864.
41, 219	Haycock, B. A	Richland, Iowa	Engines, steam, hooks for cam rods of	Jan. 12, 1864.
45, 495	Hayden, Hiram W	Waterbury, Conn	Fire-arms, breech-loading	Dec. 20, 1864.
	Hayden, Levi, and Benjamin Maillefert. (*See* Maillefert & Hayden.)			
41, 506	Hayden, Peter	Pittsburg, Pa	Bungs or corks, machines for cutting	Feb. 9, 1864.
	Hayes, Allan, and Daniel M. Cummings. (*See* Cummings & Hayes.)			
41, 663	Hayes, Augustus A , assignor to Wm. T. Glidden	Boston, Mass	Guano, de-ammoniated, restoring	Feb. 16, 1864.
44, 420	Hayes, Israel	Farmington, N. H	Shoe shave	Sept. 27, 1864.
44, 189	Hayes, Wm. H	Rock Island, Ill	Millstones, composition for dressing	Sept. 13, 1864.
	Haywood, Francis D., and John C. Bickford	Malden, Mass Stoneham, Mass	India-rubber cloth, process of rolling (Extension)	Feb. 26, 1864.
	Hayward, J. H., *et al.* (*See* Smith & Brown, assignors.) Design.			
42, 085	Hayward, John H	New York, N. Y	Gasometer, portable	Mar. 29, 1864.
43, 689	Haywood, Charles J., assignor to Merriam Manufacturing Company.	Durham, Conn	Boxes, tin, making	Aug. 2, 1864.
43, 988	Hazard, Thomas	Wilmington, Ohio	Hay and straw-cutter	Aug. 30, 1864.
41, 994	Hazeltine, Ezra T	Warren, Pa	Lamp chimneys, cleaner for	Mar. 22, 1864.
44, 308	Hazelton, G. H	Philadelphia, Pa	Stamped wares, manufacture of	Sept. 20, 1864.
44, 309	Hazelton, G. H	Philadelphia, Pa	Wash boilers and other vessels, manufacture of	Sept. 20, 1864.
44, 310	Hazen, William	Milwaukie, Wis	Steel, process for tempering	Sept. 20, 1864.
1, 833	Hazen, William	Milwaukie, Wis	Steel, to render it tougher, stronger, and more elastic, process of treating. (Reissue.)	Dec. 13, 1864.
	Hazman, Francis X., and Lewis L. Arnold. (*See* Arnold & Hazman.			
42, 946	Heald, I. A	Carlisle, Mass	Cigar machines	May 31, 1864.
1, 751	Heald, I. A	Washington, D. C	Cigar machines (Reissue)	Aug. 30, 1864.
45, 039	Heath, Eldridge	Rochester, N. Y	Boat, sectional	Nov. 15, 1864.
	Heath, John E	Berrian county, Mich	Raking and binding grain, machines for (Extension)	July 18, 1864.
	Heaton, David, 2d. (*See* Williams, Turner, assignor.)			
41, 701	Heaton, Edward	New Haven, Conn	Boots and shoes, metallic shanks for	Feb. 23, 1861.
	Heaton, Richard, and Henry Haigh. (*See* Haigh & Heaton.)			
43, 911	Hebard, Benjamin F	Dorchester, Mass	Lamps	Aug. 23, 1864.
	Heddon, R., *et al.* (*See* Wheeler, S. H., assignor.)			
	Hedges, Wheeler, and Jacob Behel. (*See* Behel & Hedges.)			
43, 406	Heermans, Theodore	Mitchelville, Tenn	Hay, grain, &c., curing and drying	July 5, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
	Heery, Chas., and Martin Robbins. (*See* Robbins & Heery.)			
42,190	Hein, Louis	New York, N. Y	Vessels, construction of	Apr. 5, 1864.
	Heindle, Joseph. (*See* Braun, Ferdinand, assignor.)			
43,548	Held, L., assignor to George P. Schifflin	New York, N. Y	Crucibles, &c., fire-proof composition for	July 12, 1864.
43,407	Heller, Daniel C	Reading, Pa	Bolts, shutter	July 5, 1864.
41,220	Helm, Henry	Salina, Kansas	Shells, explosive, for ordnance	Jan. 12, 1864.
41,918	Helmer, Darwin	Mohawk, N. Y	Matches, dipping-frames for the manufacture of	Mar. 15, 1864.
41,507	Helmkamp, C. H	Reading, Ohio	Cradle, self-rocking	Feb. 9, 1864.
43,024	Helms, C. H	Poughkeepsie, N. Y	Boots and shoes, heels of	June 7, 1864.
1,740	Helms, Charles H	Poughkeepsie, N. Y	Boots and shoes, trimming the heels of (Reissue)	Aug. 16, 1864.
42,289	Hemenway, S	Fond du Lac, Wis	Water elevators	Apr. 12, 1864.
45,156	Hemminger, Amandus	Sandusky, Ohio	Mill, grape	Nov. 22, 1864.
43,207	Hendee, J. H	Jackson, Mich	Harrows	June 21, 1864.
42,480	Hendershott, Wells	Batavia, N. Y	Railroad chairs	Apr. 26, 1864.
41,919	Henderson, David	Boston, Mass	Bedsteads, trap-caster for	Mar. 15, 1864.
	Henderson, Duncan, *et al.* (*See* Tittman, Alexander, ass'or.)			
	Henderson, James. (*See* Albini, Augusto, assignor.)			
42,437	Hendrick, H. H., assignor to self and J. J. Riddle	Cincinnati, Ohio	Pumps, air	Apr. 19, 1864.
41,156	Hendy, Job B	Olean, N. Y	Shingle blocks, bolting	Jan. 5, 1864.
43,154	Heneage, Robert, assignor to Reuben Dill	Buffalo, N. Y	Liquor flasks	June 14, 1864.
	Henis, Chas. F., and Geo. W. Smith. (*See* Smith & Henis.)			
42,253	Henning, Robert, assignor to J. D. Caton	Ottawa, Ill	Telegraph registers	Apr. 5, 1864.
42,657	Henry, Frank	Bridgeport, Conn	Sewing machine, borders for	May 10, 1864.
45,402	Henry, J. L	Kentucky	Projectiles, rifled, sub-caliber	Dec. 13, 1864.
42,086	Henry, William	Wyoming, Pa	Ploughs	Mar. 29, 1864.
	Hensel, H. W. (*See* Valetton, Louis D., assignor.)			
41,773	Hensler, William	Milwaukie, Wis	Bathing apparatus	Mar. 1, 1864.
44,952	Henze, Gustave	New York, N. Y	Mouldings, machines for preparing	Nov. 8, 1864.
42,371	Hepburn, W. H., and G. K. Peterson	San Francisco, Cal	Gold and silver, machine for grinding and amalgamating	Apr. 19, 1864.
1,827	Hepburn, W. H., and G. K. Peterson	San Francisco, Cal	Gold and silver, machine for grinding and amalgamating. (Reissue.)	Nov. 29, 1864.
45,496	Herbert, Henry	Cincinnati, Ohio	Tongs, pipe	Dec. 20, 1864.
1,618	Herreshoff, James B	Bristol, R. I	Treating fish-water for use in dyeing, &c (Reissue)	Feb. 16, 1864.
43,075	Herrick, G. F., assignor to self and Charles Sheffler	Sharon, Minn	Funnels	June 7, 1864.
44,865	Herrick, Hiram H	Boston, Mass	Nutmeg grater	Nov. 1, 1864.
	Herriman, S. H., and William M. Brasher. (*See* Neil, John, assignor.)			
	Herring, H. L., and Robert F. Macoy. (*See* Macoy & Herring.)			
43,641	Herron, James P	Washington, D. C	Sewing machines, &c., device for starting. (Antedated July 9, 1864.)	July 26, 1864.
43,989	Herron, James P	Washington, D. C	Envelopes from sheets of paper, mode of cutting	Aug. 30, 1864.
44,093	Hersey, Charles E	East Stoughton, Mass	Shoemaker's edge plane	Sept. 6, 1864.
43,990	Hersey, S. S	Farmington, Maine	Apple parer	Aug. 30, 1864.
44,866	Hester, Andrew B	Kent, Ind	Sash balances	Nov. 1, 1864.
41,995	Hewet, Henry Wheaton	New York, N. Y	Wrench, screw. (Antedated January 25, 1864)	Mar. 22, 1864.
42,481	Hewett, A. E	Homer, N. Y	Churns	Apr. 26, 1864.
44,094	Heyl, Lewis	Philadelphia, Pa	Portfolio	Sept. 6, 1864.
43,114	Heys, Robert	Philadelphia, Pa	Engines, steam, valve-gear for	June 14, 1864.
	Hicok, W. O. (*See* Goff, George P., assignor.)			
41,620	Hicks, Alonzo	Flushing, N. Y	Measures, liquid	Feb. 16, 1864.
43,309	Hicks, Alonzo	Factoryville, N. Y	Hammer, tack, and carpet-stretcher	June 28, 1864.
42,730	Hicks, Alonzo, assignor to self and Henry Lewis	Flushing, N. Y	Cradle and chair, combination of	May 10, 1864.
45,374	Hicks, Alonzo, assignor to Lionel Jacobs	Factoryville, N. Y	Curtain fixtures	Dec. 6, 1864.
42,372	Hicks, Charles D	Denver, Colorado Ter	Ore separator	Apr. 19, 1864.
	Hicks, Daniel	Duncansville, Pa	Hammer, forge, to its helve, attachment of the. (Extension)	Mar. 23, 1864.
41,814	Hicks, Wm. C., ass'or to Edw'd Robinson and E. Chamberlin	New York, N. Y	Fire-arms, breech-loading	Mar. 1, 1864.
	Hicks, William S. (*See* Ryne, Richard, assignor.)			
43,499	Hidden, Enoch	New York, N. Y	Water-closet, portable	July 12, 1864.
1,638	Hidden, Enoch, assignor to Enoch S. Hidden	New York, N. Y	Ships, side-lights for (Reissue)	Mar. 15, 1864.
42,087	Hidden, E. S	New York, N. Y	Ships, deck and side-light for	Mar. 29, 1864.
	Hiebeler, Joseph, *et al.* (*See* Davis, Hiebeler & Porter.)			
41,702	Higgins, James	Cambridge, Mass	Lamps	Feb. 23, 1864.
1,662	Higley, Aaron	Warren, Ohio	Separator, grain (Reissue)	May 3, 1864.
43,026	Higley, Aaron	Chicago, Ill	Separators, grain	June 7, 1864.
43,500	Higley, Eben N	Lake Village, N. H	Harrow teeth	July 12, 1864.
45,605	Higley, Peter R	Oshawa, Canada West	Bottle stopper	Nov. 8, 1864.
41,890	Higley, P. R., assignor to William P. Sproule	Oshawa, Canada West	Car brake, railroad, automatic	Mar. 8, 1864.
44,530	Hilbright, Lewis	Newark, N. J	Buckles, mode of fastening on	Oct. 4, 1864.
45,409	Hildreth, G. W	Lockport, N. Y	Bread slicer	Dec. 13, 1864.
43,582	Hill, Albert M	Pittsburg, Pa	Knobs to spindles, mode of attaching	July 19, 1864.
1,597	Hill, Albert M., assignor, through mesne assignments, to Charles A. Miller	Branford, Conn	Latches, knob (Reissue)	July 5, 1864.
41,297	Hill, David L	Lowell, Mass	Flyer guides, machine for manufacturing	Jan. 19, 1864.
44,311	Hill, J. Q	Worcester, Mass	Percolator, adjustable	Sept. 20, 1864.
41,996	Hill, John R	Goshen, Ohio	Bedsteads, invalid	Mar. 22, 1864.
1,785	Hill, Levi L., assignor to Simon Stevens	New York, N. Y	Petroleum and other hydrocarbons, mode of burning. (Reissue.)	Oct. 4, 1864.
42,373	Hill, O. C	Malone, N. Y	Window-tightener	Apr. 19, 1864.
45,324	Hill, Porter	Millport, N. Y	Hay forks, horse	Dec. 6, 1864.
	Hill, U., jr., *et al.* (*See* Finch, Reuben R., jr., assignor.)			
	Hill, William R. (*See* Montignani, John O., assignor.)			
44,312	Hillis, W. D	Joliet, Wis	Fire-arms, breech-loading. (Antedated Sept. 16, 1864)	Sept. 20, 1864.
45,497	Hills, George	Plainville, Conn	Clock dial, sashes	Dec. 20, 1864.
42,851	Hills, J. C	Willoughby, N. Y	Churn body	May 24, 1864.
43,208	Hilt, Isaac L., and A. W. V. Rausch	Frankford, Pa	Locomotive trucks, dummy	June 21, 1864.
41,068	Hilton, William	Belvidere, N. J	Composition, lubricating	Jan. 5, 1864.
43,659	Him, Pierre F. L. B	Belgium	Water-proof preparation	July 26, 1864.
43,771	Himrod, George	Chicago, Ill	Stoves, cooking, hearths of	Aug. 9, 1864.
43,815	Himrod, George, and C. G. Moulton, assignors to George Himrod	Chicago, Ill	Stoves, cooking, stove covers for	Aug. 9, 1864.
41,997	Hinds, W	Little Falls, N. Y	Ploughs	Mar. 22, 1864.
43,690	Hinds, William	Little Falls, N. Y	Engines, rotary. (Antedated July 25, 1864)	Aug. 2, 1864.
43,849	Hinds, William	Little Falls, N. Y	Pumps, rotary. (Antedated August 1, 1864)	Aug. 16, 1864.
43,850	Hinds, William	Little Falls, N. Y	Water-wheel. (Antedated August 8, 1864)	Aug. 16, 1864.
44,726	Hinds, William	Little Falls, N. Y	Legs, artificial. (Antedated October 6, 1864)	Oct. 18, 1864.
42,658	Hinds, William H. H	Groton, Mass	Lanterns	May 10, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
41,120	Hines, J. P., assignor to self, G. H. Robinson and John Dunster.	Independence, Iowa	Planters, corn	Jan. 5, 1864.
45,245	Hinman, N. D	Pleasant Vale, Conn	Elevators	Nov. 29, 1864.
43,912	Hittinger, Michael	Charlestown, Mass	Presses, hydraulic	Aug. 23, 1864.
	Hoadley, Beecher & Co. (*See* Beecher, Evelyn, assignor.)			
43,913	Hoadley, John	Zanesville, Ohio	Ploughs, rotating	Aug. 23, 1864.
41,664	Hoadley, Robert, assignor to self and Henry A. Shipman	Derby, Conn	Hinges, butt	Feb. 16, 1864.
41,774	{ Hobbis, E., and { Alex. McNair	Newark, N. J Bloomfield, N. J }	Lamp-burners	Mar. 1, 1864.
44,421	Hobbs, Israel H	Philadelphia, Pa	Gas from petroleum, apparatus for separating and collecting.	Sept. 27, 1864.
42,047	Hockstater, H., assignor to Isaac R. Diller	Germany	Gunpowder, mining powder, &c	Mar. 22, 1864.
	Hockert, S. L., and D. M. Dake. (*See* Dake & Hockert.)			
41,259	Hockstatter, Heinrich, assignor to William Lange and Ferdinand W. Seanewald.	Hesse Darmstadt	Caps, percussion, &c, composition for	Jan. 12, 1864.
42,852	Hodgdon, Alvin	Lowell, Mass	Trace hooks	May 24, 1864.
	Hodges, Chas. E., *et al.* (*See* Vanderburgh, Geo. E., ass'or.)			
44,688	Hodges, Horatio, assignor to self and David Waeey	Lynn, Mass	Boots and shoes, machine for paring the edging of	Oct. 11, 1864.
41,432	Hodgins, William	Albany, N. Y	Lighting apparatus, catoptric	Feb. 2, 1864.
	Hodgskin, James B. (*See* Green, Jonathan H., assignor.)			
	Hodson, Henry. (*See* Albee, Simeon W., assignor.)			
42,192	Hoffman, Augustus	Half Day, Ill	Drills, grain	Apr. 5, 1864.
45,157	Hoffman, Austin D	Wayne, Mich	Odometers	Nov, 22, 1864.
41,069	Hoffmeister, Louis	Philadelphia, Pa	Eyes for lacing bootees and other articles	Jan. 5, 1864.
43,066	Hofmann, Augustus W	England	Dyeing and printing, preparing coloring matters for. (Patented in England May 22, 1863)	June 7, 1864.
44,626	Hofmann, E. G	St. Louis, Mo	Bucket for preserving butter, fruit, &c	Oct. 11, 1864.
41,845	Hogg, Charles B	Boston, Mass	Bridle and bit connection	Mar. 8, 1864.
43,691	Hogg, Peter	Brooklyn, E. D., N. Y	Heating liquids, injector for	Aug. 2, 1864.
	Hoglen, George W. (*See* Booher, Jesse, assignor.)			
	Hogness, M. G., and Casper Krogh. (*See* Krogh & Hogness.)			
42,580	Holbeck, Mathews, and J. F. T. Gottfried	Chicago, Ill	Barrels, mode of pitching	May 3, 1864.
43,209	Holbrook, Amos, jr	Lynn, Mass	Sewing machines, device for heating waxed threads in	June 21, 1864.
1,811	Holbrook, Amos, jr	Lynn, Mass	Sewing machines, device for heating waxed threads in. (Reissue.)	Dec. 6, 1864.
42,482	Holbrook, Edward, jr	Louisville, Ky	Press, sheet-tobacco	Apr. 26, 1864.
42,483	Holbrook, Edward, jr	Louisville, Ky	Tobacco, sheet, cutter	Apr. 26, 1864.
42,484	Holbrook, Edward, jr	Louisville, Ky	Tobacco, lump, cutter	Apr. 26, 1864.
42,485	Holbrook, Edward, jr	Louisville, Ky	Tobacco, lump, machine	Apr. 26, 1864.
45,498	Holbrook, Philip K	Malden, Mass	Inkstands	Dec. 20, 1864.
	Holcroft, Henry, and William K. Platt. (*See* Platt & Holcroft.)			
43,583	Holcroft, Henry, and Canby S. Smith	Media, Pa	Looms, power	July 19, 1864.
43,991	Holcroft, H., and C. S. Smith	Media, Pa	Carts	Aug. 30, 1864.
42,139	Holden, Cyrus B., assignor to self and S. H. Bowker	Worcester, Mass	Fire-arms, breech-loading	Mar. 29, 1864.

No.	Patentee.	Residence.	Invention or discovery.	Date.
44,369	Holden, Humphrey, assignor to self and William Goodwin	New Haven, Conn	Cement pipe, machine for making	Sept. 20, 1864.
	Holden, L. E. (*See* Groel, Philip, assignor.)			
1,841	Holden, L. H. and S. B., assignors, through mesne assignments, to the McKay Turned Shoe Company.	Massachusetts	Boots and shoes (Reissue)	Dec. 27, 1864.
1,842	Holden, L. H. and S. B., assignors, through mesne assignments, to the McKay Turned Shoe Company.	Massachusetts	Boots and shoes (Division of reissue)	Dec. 27, 1864.
43,408	Holden, Nicholas	New York, N. Y	Stitching, clamp	July 5, 1864.
	Holland, G., and J. E. Atwood. (*See* Atwood & Holland.)			
41,157	Holland, James	Conshohocken, Pa	Telegraph wires, insulators for	Jan. 5, 1864.
	Holland, L. B. (*See* Wright, Robert D., assignor.)			
	Hollen, Joseph	Blair county, Pa	Knitting machines (Extension)	June 27, 1864.
41,433	Hollingsworth, James	Chicago, Ill	Rakes, horse	Feb. 2, 1864.
41,508	Holly, Birdsill	Lockport, N. Y	Water wheels	Feb. 9, 1864.
45,040	Holly, Birdsill	Lockport, N. Y	Pumps. (Antedated January 17, 1864)	Nov. 15, 1864.
41,377	Holly, Solomon T	Rockford, Ill	Grain, machines for binding	Jan. 26, 1864.
41,378	Holly, Solomon T	Rockford, Ill	Grain, machines for binding	Jan. 26, 1864.
42,769	Holmes, D. E	Halifax, Mass	Pen-holder and ink eraser	May 17, 1864.
41,921	Holmes, Elijah	Lynn, Mass	Tobacco pipes	Mar. 15, 1864.
43,992	Holmes, Isaac L	Haydenville, Mass	Stoves, drum	Aug. 30, 1864.
42,191	Holmes, Isaac V	New York, N. Y	Engines, steam, slide valves for	Apr. 5, 1864.
1,822	Holmes, R. G., deceased, by Sarah A. Holmes, executrix, and Wm. H. Butler, assignors to selves and A. A. Valentine.	New York, N. Y	Safes, fire-proof filling for (Reissue)	Nov. 15, 1864.
42,659	Holmes, Thomas	Washington, D. C	Coffins	May 10, 1864.
45,041	Homer, Edwin J	Wilmington, Del	Spring points, machine for drawing	Nov. 15, 1864.
44,953	Hood, Freeman W	Worcester, Mass	Fire-arms, revolving	Nov. 8, 1864.
44,190	Hook, Albert H	New York, N. Y	Paper, implement for perforating and severing	Sept. 13, 1664.
43,025	Hook, Albert H., and J. Henry Darlington	New York, N. Y	Barrels to render them oil tight, coating	June 7, 1864.
43,272	Hook, Wm. Henry	England	Envelopes, device for folding	June 21, 1864.
42,374	Hooker, Henry E	Rochester, N. Y	Tanks for hot-houses	Apr. 19, 1864.
44,422	Hopkins, H. L	San Francisco, Cal	Amalgamators	Sept. 27, 1864.
	Hopkins, Samuel S., and H. A. Briggs. (*See* Briggs & Hopkins.)			
41,621	Hopson, George	Bridgeport, Conn	Safes	Feb. 16, 1864.
43,501	Hopson, George	Bridgeport, Conn	Locks	July 12, 1864.
1,681	Hopson, O. L., and H. P. Brooks	Waterbury, Conn	Buckles (Reissue.)	May 31, 1864.
43,772	Hopson, Orrin L., and Heman P. Brooks	Waterbury, Conn	Pins, pointing wires for	Aug. 9, 1864.
44,423	Horn, Lorenzo	Wolfboro', N. H	Stools, music, screw for	Sept. 27, 1864.
42,770	Horne, Wm. M	Boston, Mass	Sewing machine	May 17, 1864.
45,410	Horner, William	Washington, D. C	Medical compound	Dec. 13, 1864.
42,947	Hornig, Julius	Troy, N. Y	Furnace for treating slag	May 31, 1864.
41,815	Horsford, E. N., assignor to John H. Cheever	Cambridge, Mass	Lime, phosphate of, for culinary and other purposes, preparation of a.	Mar. 1, 1864.
42,140	Horsford, E. N., assignor to John H. Cheever	Cambridge, Mass	Lime and soda, double phosphate of, for culinary and other purposes.	Mar. 29, 1864.
	Horton, Charles S. (*See* Paine, Calvin H., assignor.)			
	Horton, Gilbert, and Theodore D. Day. (*See* Ames, Horace B., assignor.)			
	Horton, G. H. (*See* Brooks, Roswell R., assignor.)			
	Horton, Henry B., and Eugene M. Mix. (*See* Mix & Horton.)			
44,801	Horton, Henry K	Campton, Ill	Seeding machines	Oct. 25, 1864.
41,298	Hosick, Hiram	Paris, Pa	Pumps	Jan. 19, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
	Hoskins, W. F., *et al.* (*See* White, James, assignor.)			
45,606	Hosly, Abijah S	New York, N. Y	Turning machines	Dec. 27, 1864.
41,379	Hosmer, Benjamin G	Nashua, N. H	Latch bolt, reversible	Jan. 26, 1864.
44,422	Hosmer, William	Providence, R. I	Stove, cook	Sept. 27, 1864.
41,692	Hostetter, John F	Penn Township, Pa	Stump machine	Feb. 16, 1864.
	Hotaling, C. K., and Zenas Wheeler. (*See* Wheeler & Hotaling.)			
41,922	Hotchkiss, A. A	Sharon, Conn	Harvesters, guard fingers for	Mar. 15, 1864.
41,775	Hotchkiss, Bennet	New Haven, Conn	Hammers, drop	Mar. 1, 1864.
42,581	Hotchkiss, Bennet	New Haven, Conn	Hammers, trip	May 3, 1864.
42,660	Hotchkiss, B. B	Sharon, Conn	Shells, time fuse for	May 10, 1864.
43,027	Hotchkiss, B. B	Sharon, Conn	Projectiles for rifled ordnance	June 7, 1864.
43,993	Hotchkiss, B. B	Sharon, Conn	Shells, explosive, percussion igniter of time fuses for	Aug. 30, 1864.
	Hotchkiss, C., and John E. Richey. (*See* Richey & Hotchkiss.)			
45,561	Hotchkiss, James, assignor to self and Ezra Buss	Springfield, Ohio	Brick pressing machine	Dec. 20, 1864.
	Hotchkiss Manufacturing Company. (*See* Parker, Edward, assignor.)			
45,042	Hotchkiss, Truman	Stratford, Conn	Logs, nautical	Nov. 15, 1864.
42,661	Hotchkiss, T. Dwight	Guilford, Conn	Spinning-wheel heads	May 10, 1864.
43,409	Hough, Joseph	West Chester, Pa	Motive power cut-off in grist mills	July 5, 1864.
	Houghton, Charles. (*See* Rowe, Philip C., ass'r.) Reissue.			
	House, Mark W., and John M. Perkins. (*See* Perkins & House.)			
43,410	Houston, J. N	Decatur, Ind	Latch, lever, spring	July 5, 1864.
42,853	Hover, Lewis	Chicago, Ill	Lamps, railroad	May 24, 1864.
42,141	Hovey, Francis, assignor to E. W. Frost	New York, N. Y	Press, copying	Mar. 29, 1864.
	Howard, C. E. (*See* Reed & Packard, assignors.) Reissue.			
44,191	Howard, Charles E	West Bridgewater, Mass	Punch, gang, adjustable	Sept. 13, 1864.
44,138	Howard, C. G., assignor to self and E. A. Goodell	Topeka, Kansas	Flax and hemp, machine for dressing	Sept. 6, 1864.
41,260	Howard, Frank, assignor to Vyse & Sons	Boston, Mass	Hats	Jan. 12, 1864.
43,026	Howard, Frank	Somerville, Mass	Bonnets	June 7, 1864.
45,607	Howard, Joseph P	Brooklyn, N. Y	Safes	Dec. 27, 1864.
1,605	Howarth, John	Salem, Mass	Distilling coal, &c., method of (Reissue)	Jan. 19, 1864.
42,771	Howarth, John	Salem, Mass	Gas, illuminating, process for making	May 17, 1864.
42,772	Howarth, John	Salem, Mass	Gases and vapors, apparatus for distilling off	May 17, 1864.
42,731	Howden, James, assignor to Wm. and John Galloway	Great Britain	Bolts and rivets, machines for making	May 10, 1864.
41,510	Howland, R. J., and W. H. Elliot	Ilion, N. Y	Fire-arms, many barrelled, adjustable hammer for	Feb. 9, 1864.
44,044	Howland, Wm. M., assignor to self and John H. Lockey	Leominster, Mass	Fruit-paring machine	Aug. 30, 1864.
42,773	Howe, Benj. J. C	Syracuse, N. Y	Pumps, double-acting	May 17, 1864.
43,502	Howe, Benj. J. C	Syracuse, N. Y	Pumps	July 12, 1864.
44,627	Howe, Benj. J. C	Syracuse, N. Y	Pumps	Oct. 11, 1864.
41,816	Howe, Jerome B., assignor to self and Josiah C. Richards	Middleville, Mich	Water wheels, current	Mar. 1, 1864.
43,584	Howe, Joel A	Bangor, Maine	Ships, devices for securing the port stoppers of	July 19, 1864.
43,851	Howe, John C	Worcester, Mass	Cartridge, metallic	Aug. 16, 1864.
42,992	Howe, Lyman, assignor to self and R. R. Shepard	Worcester, Mass	Roofs of buildings, ice and snow fenders for	May 31, 1864.
1,790	Howe, O. A	New York, N. Y	Horseshoes (Reissue)	Oct. 11, 1864.
42,854	Howe, Robert L	Westbrook, Maine	Paper machines, jacket stretcher for couch rollers of	May 24, 1864.
	Howe, Wm. H., and Aaron Fuller. (*See* Fuller & Howe.)			
45,499	Howell, Byron C A. B. Thompson, and E. D. Snyder	Ithaca, N. Y Owego, N. Y Owego, N. Y	Blinds, shifting	Dec. 20, 1864.
42,582	Howell, Daniel, jr., and Moses K. Kellam	New York, N. Y	Box, miter	May 3, 1864.
42,486	Howell, E. S	Hope, N. J	Wringing machine	Apr. 26, 1864.
41,380	Howell, James, and David Birdsall	Jersey City, N. J	Boilers, steam, &c., method of securing tubes in	Jan. 26, 1864.
41,509	Howell, James, and David Birdsall	Jersey City, N. J	Screw taps	Feb. 9, 1864.
42,375	Howell, James, and David Birdsall	Jersey City, N. J	Riveting machines	Apr. 19, 1864.
43,914	Howells, Joseph Charles	Washington, D. C	Hair pins	Aug. 23, 1864.
45,411	Howells, Joseph Charles	New York, N. Y	Hooks and eyes	Dec. 13, 1864.
41,703	Howes, Simeon, and A. Babcock	Silver Creek, N. Y	Mills, smut	Feb. 23, 1864.
45,602	Howson, Henry	Philadelphia, Pa	Wells, artesian, borers for	Dec. 27, 1864.
44,425	Hoxsie, David K., and Thomas L. Reed	Providence, R. I	Tube or hose, flexible	Sept. 27, 1864.
1,655	Hoxsey, T. D., and L. S. Scofield	Boston, Mass	Skirts, spring, tape for (Reissue)	Apr. 19, 1864.
42,487	Hoyes, Felix	Paris, France	Stoves. (Patented in England March 16, 1863)	Apr. 26, 1864.
43,411	Hoyt, Francis A	Buffalo, N. Y	Water gauges	July 5, 1864.
	Hoyt, Ralph and C. W. (*See* Lewis, George, assignor.)			
	Hoyt, Ralph and C. W. (*See* Lewis, George, assignor.)			
	Hubbard, Amy C., *et al.* (*See* Brown, Myron E., assig'r.)			
41,192	Hubbard, Moses G	Syracuse, N. Y	Harvesters	Sept. 13, 1864.
44,193	Hubbard, Moses G	Syracuse, N. Y	Mowing machines, cutting apparatus of	Sept. 13, 1864.
44,628	Hubbard, M. G	Syracuse, N. Y	Mowing machines	Oct. 11, 1864.
44,629	Hubbard, M. G	Syracuse, N. Y	Mowing machines	Oct. 11, 1864.
45,158	Hubbard, M. G	Syracuse, N. Y	Mowing machines	Nov. 22, 1864.
45,246	Hubbard, M. G	Syracuse, N. Y	Mowing machines	Nov. 29, 1864.
	Hubbard, W., *et al.* (*See* Barton, Jason, assignor.)			
	Hubbard, Walter, and N. L. Bradley. (*See* Bangs, Wm. H., assignor.)			
44,954	Hubbard, Wm. W	Philadelphia, Pa	Nuts, machine for cutting threads in	Nov. 8, 1864.
	Hubbell, Laporte, *et al.* (*See* Mozart, Beech & Hubbell.)			
	Hubbell, Peter. (*See* Blake, George F., assignor.)			
43,412	Hubbell, William Wheeler	Philadelphia, Pa	Ordnance, breech-loading	July 5, 1864.
44,194	Hubbell, William Wheeler	Philadelphia, Pa	Ordnance, construction of	Sept. 13, 1864.
44,370	Huber, Joseph, assignor to Huber, Heppe & Co	New York, N. Y	Chrome vermillion, process of preparing. (Antedated September 16, 1864.)	Sept. 20, 1864.
43,503	Hubert, F. J. B	New York, N. Y	Shade, window, fixture	July 12, 1864.
41,341	Hubert, F. J. B., and F. C. A. Derocquigny	New York, N. Y	Signals, railroad	Jan. 19, 1864.
41,623	Hudson, Charles H	Ogdensburg, N. Y	Washing machine	Feb. 16, 1864.
41,776	Hudson, Charles Henry	Great Britain	Embroidery patterns, transferable	Mar. 1, 1864.
44,426	Hudson, Charles H	Roxbury, Mass	Armor, defensive. (Patented in England May 27, 1862)	Sept. 27, 1864.
1,820	Hudson, Thomas S	East Cambridge, Mass	Inkstands, barometer (Reissue)	Nov. 15, 1864.
42,193	Hudson, William S	Paterson, N. J	Locomotives, mode of connecting trucks to	Apr. 5, 1864.
42,662	Hudson, William S	Paterson, N. J	Locomotives, trucks for	May 10, 1864.
	Hughes, Charles, *et al*, (*See* Richers, Charles F., assign'r.)			
44,630	Hughes, E	McCartysville, Cal	Blasts, mining, percussion lock for discharging. (Antedated October 4, 1864.)	Oct. 11, 1864.
42,774	Hughes, George R	Glasgow, Mo	Tobacco plants, instrument for removing suckers from	May 17, 1864.
44,427	Hughes, George W	Bloomington, Ill	Fumigator for smoking bees, &c	Sep. 27, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
45,043	Hughes, G. W	Bloomington, Ill	Fire-arm, magazine or self-loading	Nov. 15, 1864.
44,195	Hughes, William G	Merriam, Ind	Horse-cage	Sept. 6, 1864.
41,299	Hugon, Pierre	Paris, France	Gas engines	Jan. 19, 1864.
42,376	Hugunin, Robert B	Cleveland, Ohio	Washing machine	Apr. 19, 1864.
42,377	Hugunin, Robert B	Cleveland, Ohio	Metal plates, circular, corrugating	Apr. 19, 1864.
43,692	Hugunin, Robert B	Cleveland, Ohio	Wringers, rollers for	Aug. 2, 1864.
44,313	Hugunin, Robert B	Cleveland, Ohio	Clothes wringing machine	Sept. 20, 1864.
42,855	Hulbert, L. T	Painesville, Ohio	Metal, sheet, shears for	May 24, 1884.
44,314	Hull, Duane	Newburg, N. Y	Rosin and other substances from pine wood, extracting	Sept. 20, 1864.
44,631	Hull, E. H	Millersburg, Ohio	Shot conductor, submarine	Oct. 11, 1864.
41,434	Hull, John S	Cincinnati, Ohio	Lamps, vapor, burner for	Feb. 2, 1864.
42,663	Hull, Liveras	Charlestown, Mass	Braiding machines, &c., thread tension and delivery mechanism for.	May 10, 1864.
43,115	Hull, Liveras	Charlestown, Mass	Braiding machines, thread tension and thread delivery in	June 14, 1864.
43,116	Hull, Stephen	Poughkeepsie, N. Y	Harvesters	June 14, 1864.
41,435	Hullinger, Martin H	Granville, Ill	Cultivators	Feb. 2, 1864.
44,531	Humphrey, A. D., and Tobias Forbes	Clyde, N. Y	Water elevators	Oct. 4, 1864.
41,704	Humphreys, John	Millburg, Mass	Bayonet sockets, turning	Feb. 23, 1864.
43,504	Hungerford, Henry	Brooklyn, N. Y	Locks, safety escutcheon for	July 12, 1864.
41,511	Hunnewell, James	Charlestown, Mass	Window guards	Feb. 9, 1864.
1,672	Hunt, Charles H	Madison, N. H	Spinning machines, throstle (Reissue)	May 17, 1864.
42,378	Hunt, D. F., and F. S. Lyon	South Norwalk, Conn	Washing machine	Apr. 19, 1864.
41,070	Hunt, Franklin Benjamin	Richmond, Ind	Straw-cutters	Jan. 5, 1864.
41,221	Hunt, G. G	Bridgeport, Conn	Journal boxes	Jan. 12, 1864.
45,609	Hunt, George G	Bridgeport, Conn	Car trucks	Dec. 27, 1864.
44,428	Hunt, H. C	Amboy, Ill	Weather strips for doors	Sept. 27, 1864.
44,727	Hunt, H. C	Amboy, Ill	Sleds	Oct. 18, 1864.
41,300	Hunt, James G	Cincinnati, Ohio	Lamps, coal oil	Jan. 19, 1864.
44,917	Hunt, John, assignor to self and G. D. Sharp	New York, N. Y	Printing presses, feeding paper to	Nov. 1, 1864.
1,828	Hunt, Walter, assignor, through mesne assignments, to Wm. E. Lockwood.	Philadelphia, Pa	Collars, shirt (Reissue)	Nov. 29, 1864.
41,579	Hunt, Zebulon, assignor to self and Wm. J. Miller	Hudson, N. Y	Stoves, cooking	Feb. 9, 1864.
43,155	Hunt, Zebulon, assignor to self and Wm. J. Miller	Hudson, N. Y	Stoves, reservoir	June 14, 1864.
43,994	Hunter, C. F	Adrian, Mich	Files, handles for. (Antedated August 16, 1864)	Aug. 30, 1864.
41,705	Hunter, James	North Adams, Mass	Wool, &c., machine for washing	Feb. 23, 1864.
44,867	Hunter, James M	Greene, N. Y	Water elevators	Nov. 1, 1864.
	Hunter, John W., deceased, by Margaret V. Hunter, administratrix, and James Radley. (*See* Radley & Hunter.) Extension.			
41,071	Hunter, Theodore S	Cross Plains, Ind	Harvesters	Jan. 5, 1864.
42,488	Hunter, Wm. H. H	Versailles, Ind	Harvesters, rakes for	Apr. 26, 1864.
44,802	Hunter, Wm. R. S	Blackberry Station, Ill	Weather strips	Oct. 25, 1864.
42,290	Huntington, Gideon	Norwichville, Canada West	Drills, grain. (Antedated March 28, 1864)	Apr. 12, 1864.
43,852	Huntington, Henry	Chicago, Ill	Soap	Aug. 16, 1864.
41,580	Huntington, Wm. S., assignor to self and Jas. Robertson	Andrusville, N. Y	Valve, safety, arrangement	Feb. 9, 1864.
41,998	Huntley, G. R	Taunton, Mass	Wringing machine	Mar. 22, 1864.
42,912	Hurd, Horace, assignor to self and J. E. Baldwin	Springfield, Ill	Mills, cider	May 24, 1864.
43,773	Hurd, J. M	Auburn, N. Y	Sacks, flour, machine for making	Aug. 9, 1864.
41,261	{ Hurd, Robert, and { Wm. Hallady, assignors to selves and John F. Giles	Paterson, N. J Brooklyn, N. Y	Hats	Jan. 12, 1864.
44,096	Hurlburt, Samuel G	Cleveland, Ohio	Mills, cider	Sept. 6, 1864.
42,732	Hurlbut, Edwin F., and Ransom S. Potter, assignors to selves and N. S. Bouton.	Chicago, Ill	Cars, railroad, oil boxes for	May 10, 1864.
41,624	Hurlbut, Wm. H., and J. W. Sharp	Elgin, Ill	Weather strips, door	Feb. 16, 1864.
45,610	Hurst, Elam D	Lancaster, Pa	Oil cans	Dec. 27, 1864.
	Husband, J. L., and Wm. Budd. (*See* Budd & Husband.)			
	Husband, J. L., and Wm. Budd. (*See* Budd & Husband.)			
43,853	Huse, Wm. W	Brooklyn, N. Y	Tobacco leaves, reducing stem of	Aug. 16, 1861.
44,429	Huse, W. W	Brooklyn, N. Y	Tobacco, cutting and pressing	Sept. 27, 1864.
45,325	Huse, Wm. W	Brooklyn, N. Y	Cigar tip machine	Dec. 6, 1864.
45,326	Huse, Wm. W	Brooklyn, N. Y	Cigars, machine for making	Dec. 6, 1864.
44,728	Hussey, David G	Nantucket, Mass	Rakes, horse	Oct. 18, 1864.
44,195	Huston, J. E	Hillsdale, Mich	Water wheel scrolls	Sept. 13, 1864.
41,777	Huston, William	Wilmington, Del	Signals, leak, marine	Mar. 1, 1864.
44,632	Huston, William	Wilmington, Del	Engines, steam, slide valves for	Oct. 11, 1864.
45,120	Hutchings, Charles B., assignor to Maria Hutchings	Rochester, N. Y	Separator, grain	Nov. 15, 1864.
41,778	Hutchinson, Clark S	Burlington, N. J	Tobacco pipes	Mar. 1, 1864.
	Hutchinson, Elias S. (*See* McAvoy, Hugh L., assignor.)			
	Hutchinson, Elias S. (*See* McAvoy, Hugh L., assignor.)			
	Hutchinson, Elias S. (*See* McAvoy, Hugh L., assignor.)			
	Hutchinson, Elias S. (*See* McAvoy, Hugh L., assignor.)			
41,846	Hutchinson, Henry C	Cayuga, N. Y	Lamp burner	Mar. 8, 1864.
45,611	Hutton, James	Janesville, Wis	Locks	Dec. 27, 1864.
41,436	Hyde, Edward J	Philadelphia, Pa	Coffee roasters	Feb. 2, 1864.
43,585	Hyde, J. B	Newark, N. J	Gas, illuminating, from peat, manufacture of. (Antedated July 8, 1864.)	July 19, 1864.
44,430	Hyde, Sumner	Williamsburg, Mass	Stove, parlor	Sept. 27, 1864.
43,693	Hyers, Benjamin S	Pekin, Ill	Separator, grain and seed	Aug. 2, 1864.
44,196	Hyslop, John	New York, N. Y	Ventilator	Sept. 13, 1864.
44,197	Hyzer, Jacob B	Janesville, Wis	Radiator, heat, attachment	Sept. 13, 1864.
45,412	Hyzer, Jacob B	Janesville, Wis	Water buckets, metallic guard for	Dec. 13, 1864.
44,315	Illias, George	Dallastown, Pa	Water elevators	Sept. 20, 1864.
44,532	Illofsky, Ignatz, assignor to self, S. Donab, P. Stern, S. Nordlinger and J. Stern.	Hungary	Pump, steam	Oct. 4, 1861.
45,500	Imhorst, Ferdinand	New York, N. Y	Lamp chimney cleaner	Dec. 20, 1864.
42,948	Ingersoll, W. B	New York, N. Y	Preserving eggs and other articles	May 31, 1864.
	Ingraham, Elias	Bristol, Conn	Clock fronts. (Design) Disclaimer filed	Jan. 26, 1864.
1,940	Ingraham, Elias	Bristol, Conn	Clock case (Design)	May 10, 1864.
45,612	Ingraham, Hanford	Naples, N. Y	Cultivator	Dec. 27, 1864.
43,556	Ingram, Thomas	England	Looms, devices for supplying weft to the shuttles of	July 12, 1864.
43,995	Ironside, William	Jennersville, Pa	Seeder and cultivator, combined	Aug. 30, 1861.
	Irvine, Robert, *et al.* (*See* Richardson, Lundy Irvine.)			
42,856	Irwin, John H	Chicago, Ill	Lanterns	May 24, 1864.
45,327	Irwin, Richard B	New York, N. Y	File, letter and music	Dec. 6, 1864.
	Iverson, Paul, and Charles T. Webber. (*See* Webber & Iverson.)			
42,775	Ives, James	Mt. Carmel, Conn	Rein snap	May 17, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
44,803	Ives, James	Mt. Carmel, Conn	Lamps, bracket and chandelier	Oct. 25, 1864.
1,926	Ives, Lawson C	Hartford, Conn	Spool, thread (Design)	Mar. 29, 1864.
	Ives, Rollin J., and Horace B. Langdon. (*See* Cushman, A. F., assignor.)			
43,774	Jackman, Robert	New York, N. Y	Glue, apparatus for heating	Aug. 9, 1864.
41,923	Jackson, Charles Rogers	Brooklyn, N. Y	Sewing machine button hole stitch	Mar. 1, 1864.
	Jackson, F. D., *et al.* (*See* Darlington, J. H., assignor.)			
	Jackson, F. D., and H. B. Tainter. (*See* Ranous, Edgar E., assignor.)			
1,918	Jackson, George R., assignor to self and Burnet & Co	New York, N. Y	Stall guard (Design)	May 24, 1864.
1,929	Jackson, James L	New York, N. Y	Screen (Design)	Apr. 5, 1864.
42,535	Jackson, John H., assignor to self and Mahlon M. Wombaugh.	United States army	Bakers, portable	Apr. 26, 1864.
41,222	Jackson, Peter H	New York, N. Y	Windlass	Jan. 12, 1864.
44,097	Jackson, R. C	Detroit, Mich	Furnaces, vapor and coal oil	Sept. 6, 1864.
43,986	Jackson, S. S	Cincinnati, Ohio	Knife for nurserymen	Aug. 30, 1864.
42,194	Jacob, Henry	Loretto, Pa	Cars, lumber, standards for	Apr. 5, 1864.
43,505	Jacobie, Freeman	Albany, N. Y	Brick machine	July 12, 1864.
43,915	Jacobs, Enoch	Cincinnati, Ohio	Lock for jail doors. (Antedated October 19, 1861)	Aug. 23, 1864.
	Jacobs, Lionel. (*See* Hicks, Alonzo, assignor.)			
43,775	Jacobs, J. Nelson	Worcester, Mass	Files, round and half round, construction of	Aug. 9, 1864.
44,493	Jacot, Charles E., assignor to Seltzman, Jacot & Co	Switzerland	Watches, winding and setting	Sept. 27, 1864.
42,913	Jaeckel, Friedrich A., assignor to Bernard, Schaffer & Co	Prussia	Powder, blasting	May 24, 1864.
41,817	Jagy, Caspar, and Frederick Denzler, assignors to Walter K. Marvin.	New York, N. Y	Locks	Mar. 1, 1864.
41,581	James, Henry, assignor to self, and N. S. and W. H. Seely.	Norwalk, Conn	Cloth, machinery for finishing	Feb. 9, 1864.
41,625	James, Ira	Mattoon, Ill	Presses, hay and cotton	Feb. 16, 1864.
	James, R. R., and Wm. H. Clark. (*See* Clark & James.)			
41,072	James, T. H. and H	Stockport, N. Y	Hay forks, horse	Jan. 5, 1864.
43,642	Jaques, D. L	Hudson, Mich	Engines, rotary	July 26, 1864.
41,301	Jaques, George, Daniel F. White and John Stowell	Somerville, Mass	Feed, concentrated, for horses, &c	Jan. 19, 1864.
45,044	Jaquith, Jerome N. B	Boston, Mass	Breastpin, ear-ring, &c., catch-fastening for	Nov. 15, 1864.
41,999	Jasper, Gustavus A	Charlestown, Mass	Sugar during evaporating, apparatus for preventing the loss of.	Mar. 22, 1864.
42,291	Jasper, Gustavus A	Charlestown, Mass	Filter, bag, for sirups, &c	Apr. 12, 1864.
43,413	Jasper, Gustavus A	Charlestown, Mass	Condenser	July 5, 1864.
44,533	Jasper, Gustavus A	Charlestown, Mass	Steam blast apparatus	Oct. 4, 1864.
	Jaudon, Samuel, *et al.* (*See* Hall, A. W., assignor.)			
	Jaudon, Samuel, *et al.* (*See* Hall, A. W., assignor.)			
	Jaudon, Samuel, *et al.* (*See* Hall, A. W., assignor.)			
	Jaudon, Samuel, *et al.* (*See* Hall, A. W., assignor.)			
43,586	Jeffery, Alfred	Baltimore, Md	Railways	July 19, 1864.
43,916	Jeffery, Edwin A	New Haven, Conn	Coal hods	Aug. 23, 1864.
42,438	Jeffreys, Julius, assignor to R. L. Jeffreys and Lindsay Wilson.	England	Blinds, sun. (Patented in England January 28, 1860)	Apr. 19, 1864.
	Jenckes, Thomas A. (*See* Falke & Schrag, assignors.)			
43,587	Jenkins, James, and James McMahon	Elizabeth, N. J Lower Saucon, Pa	Zinc, oxyd of, manufacture of	July 19, 1864.
42,819	Jenks, Lemuel P., assignor to Isaac H. Clark	Boston, Mass	Stamp, hand. (Antedated May 2, 1864.)	May 17, 1864.
44,729	Jenne, C. M	Young America, Ill	Cultivator	Oct. 18, 1864.
42,664	Jennings, Charles	Easton, Conn	Rakes, horse	May 10, 1864.
43,506	Jennings, H	Boston, Mass	Soap, arsenical	July 12, 1864.
45,045	Jennings, J. G	Cleveland, Ohio	Damper	Nov. 15, 1864.
45,501	Jensen, G	Brooklyn, N. Y	Knitting machines	Dec. 20, 1864.
45,247	Jepson, John Vivian	New York, N. Y	Steam pressure gauges. (Patented in Canada Nov. 5, '63)	Nov. 29, 1864.
	Jernegan, Joseph L. (*See* Morahan, Bernard, assignor.)			
	Jerome, Edgar, and Seth Wheeler. (*See* Wheeler & Jerome.)			
43,643	Jerome, George F	Hempstead, N. Y	Halter holders	July 26, 1864.
44,633	Jervis, James	Baltimore, Md	Files, machines for cutting	Oct. 11, 1864.
43,310	Jewett, E. T	St. Alban's Bay, Vt	Cement pipe machine	June 28, 1864.
44,534	Jewett, George B	Salem, Mass	Legs, artificial	Oct. 4, 1864.
1,653	Jewett, Stanley A	Cleveland, Ohio	Melodeons (Reissue)	Apr. 19, 1864.
42,776	Jillson, Arnold	Cumberland, R. I	Engines, steam, sliding scales for	May 17, 1864.
43,311	Jillson, C	Worcester, Mass	Lathe attachment for turning tapers on bars	June 28, 1864.
43,776	Jillson, C	Worcester, Mass	Rods, metallic, &c., devices for cutting tenons on	Aug. 9, 1864.
43,854	Jillson, C	Worcester, Mass	Calipers	Aug. 16, 1864.
45,248	Jochum, John	Brooklyn, N. Y	Pulley brake, self-acting	Nov. 29, 1864.
42,292	Johnson, A. F	Boston, Mass	Sewing machine	Apr. 12, 1864.
42,666	Johnson, Algernon K., and Lorenzo Dow	New York, N. Y	Cartridges, applying percussion priming to	May 10, 1864.
42,667	Johnson, Algernon K., and Lorenzo Dow	New York, N. Y	Cartridge cases, applying percussion priming to	May 10, 1864.
42,668	Johnson, Algernon K., and Lorenzo Dow	New York, N. Y	Cartridges, fabrics for envelopes of	May 10, 1864.
	Johnson, Benjamin F., and Nicholas S. Vedder. (*See* Vedder & Johnson.)			
45,613	Johnson, Danforth	Chicago, Ill	Fluid, washing	Dec. 27, 1864.
42,949	Johnson, Eder, jr., and George W. Ansley	Cleveland, Ohio	Barrels and kegs	May 31, 1864.
45,046	Johnson, Elijah D., jr	Augusta, Maine	Boots and shoes, machines for cutting soles for	Nov. 15, 1864.
	Johnson, G. Brayton. (*See* Sargeant, Henry W., assignor.)			
42,665	Johnson, H. C	Philadelphia, Pa	Ships' sails and rigging	May 10, 1864.
43,507	Johnson, James B	New Orleans, La	Amalgamating barrels	July 12, 1864.
43,029	Johnson, Job	Brooklyn, N. Y	Projectiles, explosive, for ordnance. (Antedated May 28, 1864.)	June 7, 1864.
43,414	Johnson, John	Saco, Maine	Varnish, treating gum for the manufacture of. (Antedated June 18, 1864.)	July 5, 1864.
43,588	Johnson, John	Saco, Maine	Dentistry	July 19, 1864.
45,249	Johnson, John	Mt. Washington, Ohio	Pulverizer, earth	Nov. 29, 1864.
	Johnson, J. A., *et al.* (*See* Burrill, Jos., assignor.)			
42,489	Johnson, John Charles, assignor to self and Chas. Robson	Oil City, Pa	Wrenches, pipe	Apr. 26, 1864.
42,857	Johnson, John M	Washington, D. C	Horseshoe	May 24, 1864.
41,924	Johnson, John T., and Newton T. Smith	Grand Rapids, Mich	Car-coupling	Mar. 15, 1864.
42,490	Johnson, Josee	New York, N. Y	Washing machine	Apr. 26, 1864.
43,368	Johnson, Josee, assignor to John Ward, jr	New York, N. Y	Clothes wringer	June 28, 1864.
44,801	Johnson, Josee	New York, N. Y	Washing machine	Oct. 25, 1864.
41,073	Johnson, Moses A	Lowell, Mass	Fabric, felted	Jan. 5, 1864.
	Johnson, Moses A., and John H. Bloodgood. (*See* Bloodgood & Johnson.)			
41,223	Johnson, Nelson	Guilford, N. Y	Butter workers	Jan. 12, 1864.
1,624	Johnson, Ross	Urbana, Md	Fastenings, sash and door (Reissue)	Feb. 23, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
42,777	Johnson, Ross	Urbana, Md	Letter opener	May 17, 1864.
44,806	Johnson, Ross	Urbana, Md	Soap, machine for cutting	Oct. 25, 1864.
41,847	Johnson, Samuel S	Virden, Ill	Washing machine	Mar. 8, 1864.
44,316	Johnson, William	Allegheny, Pa	Paint oil	Sept. 20, 1864.
	Johnson, Wm., and E. Warren. (*See* Warren & Johnson.)			
44,868	Johnston, William	Cincinnati, Ohio	Fire-arm, breech-loading	Nov. 1, 1864.
44,198	Jones, Alfred F	Lexington, Ky	Diseases, vacuum apparatus for treating	Sept. 13, 1864.
43,312	Jones, Charles	Brooklyn, N. Y	Lantern	June 28, 1864.
	Jones, Charles F. (*See* Miles, Charles M., assignor.)			
	Jones, Charles F. (*See* Miles, Charles M., assignor.)			
42,195	Jones, Daniel	Boston, Mass	Steering apparatus	Apr. 5, 1864.
45,047	Jones, Daniel and George T	Philadelphia, Pa	Wool burring machines	Nov. 15, 1864.
1,743	Jones, Edwin	Chester × Roads, Ohio	Harvesters (Reissue)	Aug. 23, 1864.
1,744	Jones, Edwin	Chester × Roads, Ohio	Harvesters (Div. 2, of reissue)	Aug. 23, 1864.
1,745	Jones, Edwin	Chester × Roads, Ohio	Harvesters (Div. 3, of reissue)	Aug. 23, 1864.
	Jones, E. F., and W. H. Worrester. (*See* Worcester & Jones.)			
	Jones, Henry. (*See* Hall, John and Henry, sr., assignors.)			
41,742	Jones, Horace K., assignor to Hart Manufacturing Co	Kensington, Conn	Squares, carpenters', machines for stamping	Feb. 23, 1864.
43,508	Jones, H. P	Davenport, Iowa	Washing machine	July 12, 1864.
42,088	Jones, R. D., and Thomas Purcell	Rochester, N. Y	Digger, potatoe. (Antedated March 21, 1864)	Mar. 29, 1864.
1,691	Jones, Richard W	Syracuse, N. Y	Harness snaps (Reissue)	June 7, 1864.
45,614	Jones, Robert V	Canton, Ohio	Harvesters, raking attachments to	Dec. 27, 1864.
42,196	Jones, Samuel F	St. Paul, Ind	Planters, corn. (Antedated April 2, 1864)	Apr. 5, 1864.
42,439	Jones, Samuel F., assignor to self and Erastus L. Floyd	St. Paul, Ind	Water elevators	Apr. 19, 1864.
44,371	Jones, Samuel F., assignor to self and Erastus L. Floyd	St. Paul, Ind	Water elevators	Sept. 20, 1864.
41,706	Jones, Tisdel B	Paterson, N. J	Sash, machines for coping	Feb. 23, 1864.
44,869	Jones, William	Brooklyn, N. Y	Locks	Nov. 1, 1864.
44,431	Jones, Wm., and Abraham Miller	Hagerstown, Md	Hulling clover and other seeds. (Antedated Mar. 21, '64)	Sept. 27, 1864.
	Jones, Wm. Ashley, and Thomas Chappell. (*See* Chappell & Jones.)			
	Jones, W. L. F. (*See* Davis, D. M., assignor.)			
	Jordan, Eben D. (*See* Golding, John, assignor.) Reissue.			
45,250	Jordan, S. and H. H	Roxbury, Mass	Trusses for inguinal hernia	Nov. 29, 1864.
	Jordan, S. N., and C. O. Ganse. (*See* Ganse & Jordan.)			
42,197	Jordan, W. H	Roseville, Ind	Harvesting machines	Apr. 5, 1864.
42,254	Jordan, Waldo H., assignor to self and T. Jordan	New York, N. Y	Carpet cleaning machine	Apr. 5, 1864.
43,509	Jordan, Wm. A	New Orleans, La	Cane juice, apparatus for clarifying	July 12, 1864.
	Jordan, W. L. (*See* Parker, Edward, assignor.)			
44,730	Joseff, Philip P	Chicago, Ill	Fastening, sash	Oct. 18, 1864.
	Joseph, Charles, and E. Rubenow. (*See* Class, Wm. T., assignor.)			
43,855	Josselyn, Albert	Pembroke, Mass	Window screen	Aug. 16, 1864.
42,293	Joslin, William	Cleveland, Ohio	Engines, steam, balance valve for	Apr. 12, 1864.
42,294	Joslin, William	Cleveland, Ohio	Engines, steam, slide valves for	Apr. 12, 1864.

No.	Patentee.	Residence.	Invention or discovery.	Date.
42,000	Joslyn, Benjamin F	Stonington, Conn	Fire-arms, breech-loading. (Antedated March 11, 1864)	Mar. 22, 1864.
42,379	Joslyn, B. F	Stonington, Conn	Fire-arm, revolving	Apr. 19, 1864.
43,888	Jouannin, B. F., and F. M. and A. Baudonin	France	Loom for making fishing and other nets. (Patented in England September 19, 1861.)	Aug. 16, 1864.
41,512	Joyce, Joseph L	New Haven, Conn	Boots and shoes, machine for finishing the heels of	Feb. 9, 1864.
45,413	Judd, Hubert L	New Britain, Conn	Curtain fixture	Dec. 13, 1864.
43,117	Judd, Oliver S	New Britain, Conn	Hinges, butt, &c., material for the manufacture of	June 14, 1864.
45,414	Judd, Oliver S	New Britain, Conn	Hooks, snap	Dec. 13, 1864.
41,302	Judge, Arthur J	Baltimore, Md	Lubricators. (Antedated January 17, 1864)	Jan. 19, 1864.
	Judson, Junius, for himself; and Alfred Judson, deceased, by Wm. M. and James L. Judson, administrators.	Rochester, N. Y	Governors, valves for (Extension)	Nov. 4, 1864.
44,634	Jury, George	Baltimore, Md	Oyster-tongs, working	Oct. 11, 1864.
42,491	Justis, Henry D	Philadelphia, Pa	Teeth, artificial, moulding	Apr. 26, 1864.
	Justice, Philip S. (*See* Shaw, Thomas, assignor.)			
	Justice, Philip S. (*See* Shaw, Thomas, assignor.)			
	Justice, Philip S. (*See* Shaw, Thomas, assignor.)			
	Kaestner, Charles and Augustus. (*See* Wagner, A. H., ass'r.)			
42,778	Kahlke, Henry W	Brooklyn, N. Y	Locks	May 17, 1864.
	Kaller, Hermann, and Leander Miller. (*See* Miller & Kaller.)			
44,317	Karr, Jacob	Washington, D. C	Chronometers, escapements for. (Antedated Sept. 1, '64)	Sept. 20, 1864.
	Kasefang, Wm., and Fred. Rudolph. (*See* Rudolph & Kasefang.)			
	Kaselowsky, E., and L. Schwartzkoff. (*See* Schwartzkoff & Kaselowsky.)			
43,210	Kasson, A. C	Milwaukie, Wis	Sewing machines, bobbin winders of	June 21, 1864.
	Kavanaugh, Dudley, *et al.* (*See* Boyle, James E., assignor.)			
41,381	Kavanaugh, Luke	Waterford, N. Y	Knitting machinery	Jan. 26, 1864.
	Kayser, Joseph, *et al.* (*See* Pepper, Pfäner & Kayser.)			
41,925	Keague, Wm. M	Brooklyn, N. Y	Tool for opening boxes	Mar. 15, 1864.
42,925	Kearny, Howard C., and Joseph W. Harrison	Philadelphia, Pa	Composition for removing paint, varnish, &c	Apr. 12, 1864.
1,664	Kedzie, John	Rochester, N. Y	Filters (Reissue.)	May 10, 1864.
43,511	Keeler, Joel F	Pittsburg, Pa	Scale beams	July 12, 1864.
	Keeler, Wm. H. (*See* Richardson, M. A., assignor.)			
	Keen, Jesse M., *et al.* (*See* Robbins, Richard C., assignor.)			
41,926	Keene, George A	Newburyport, Mass	Stanchion, cattle	Mar. 15, 1864.
44,141	Keene, George A., assignor to self and Henry W. Moulton	Newburyport, Mass	Carriage wheels, removable runners for	Sept. 6, 1864.
42,820	Kefer, John, assignor to Owens, Lake, Dyer & Co	Hamilton, Ohio	Separators, grain	May 17, 1864.
44,318	Keith, Aberdeen	North Bridgewater, Mass	Leather into counters, machine for cutting	Sept. 20, 1864.
44,635	Keith, Horace M	Pontiac, Mich	Fertilizers, distributing	Oct. 11, 1864.
41,303	Keith, Jeremiah	New Bedford, Mass	Eyeleting machine	Jan. 19, 1864.
	Keith, L. C., and M. C. Davis. (*See* Davis & Keith.)			
	Kellam, Moses K., and Daniel Howell, jr. (*See* Howell & Kellam.)			
	Keller, H., *et al.* (*See* Carpenter, Nicholas, *et al.*)			
1,718	Keller, John F	Green Castle, Pa	Fertilizers, machine for sowing (Reissue)	July 5, 1864.
44,098	Keller, John F	Green Castle, Pa	Drills, seed	Sept. 6, 1864.
41,304	Kelley, Michael	Philadelphia, Pa	Jack, railroad	Jan. 19, 1864.
42,733	Kellogg, Daniel W., and James W. McKee, assignors to A. B. Nimbs and John C. Clifford.	Buffalo, N. Y	Elevator, wet grain, portable	May 10, 1864.
43,313	Kellogg, Smith M	Battle Creek, Mich	Heat regulators	June 28, 1864.
44,731	Kelly, Moses J	Chicago, Ill	Atmosphere cooler. (Antedated October 6, 1864)	Oct. 18, 1864.
	Kelly, Oliver S., *et al.* (*See* Fisher, Henry, assignor.)			

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
43,917	Kelly, William S	Schenectady, N. Y	Pumps, double-acting	Aug. 23, 1864.
44,272	Kelly, William S	Schenectady, N. Y	Pumps	Sept. 13, 1864.
43,997	Kelsey, George R	West Haven, Conn	Buckles	Aug. 30, 1864.
	Kelsey, Norton. (*See* Annis, John, assignor.)			
44,199	Kendall, Joseph E	Plymouth, Ind	Sorghum evaporator	Sept. 13, 1864.
43,777	Kendrick, John and Joseph H	Providence, R. I	Weavers' harness, machine for dressing	Aug. 9, 1864.
44,955	Kenedy, William W	Greenfield, Ind	Planter, corn	Nov. 8, 1864.
43,415	Kennel, Jacob	Morton, Ill	Fence, portable	July 5, 1864.
45,415	Kennedy, Adam S	St. Louis, Mo	Houses, smoke	Dec. 13, 1864.
42,779	Kennedy, Joseph C. G	Washington, D. C	Books, blank, protecting	May 17, 1864.
41,513	Kennedy, Leonard	Hartford, Conn	Beehives	Feb. 9, 1864.
43,211	Kennedy, Washington	Roxbury, N. Y	Beehives	June 21, 1864.
44,200	Kent, A. A	Owatonna, Minn	Washing machine	Sept. 13, 1864.
45,048	Kent, Edward N	New York, N. Y	Ores, mode of preparing	Nov. 15, 1864.
42,001	Kent, Sylvester	Providence, R. I	Fluid, washing	Mar. 22, 1864.
43,589	Kenyon, Joseph	Black Hawk, Col. Ter	Amalgamators	July 19, 1864.
42,492	Kenyon, Martin R	Providence, R. I	Lamps	Apr. 26, 1864.
42,002	Kepler, William M	Cincinnati, Ohio	Ranges, cooking	Mar. 22, 1864.
42,950	Kershaw, James	Paterson, N. J	Engines, steam, slide valves for	May 31, 1864.
	Kershaw, John G., and Anthony L. Fleury. (*See* Ruschhaupt, F. M., assignor.)			
	Kershaw, John G., and Anthony L. Fleury. (*See* Ruschhaupt, F. M., assignor.)			
43,998	Ketchum, S. C	Winchendon, Mass	Pipes to sinks, mode of attaching	Aug. 30, 1864.
42,951	Kewley, Henry	Port Huron, Mich	Clothes pincers	May 31, 1864.
45,049	Kidd, Thomas W. S	Springfield, Ill	Washing machine	Nov. 15, 1864.
	Kidder, Jason, and Hiram C. Baker. (*See* Annis, H. K., assignor.)			
41,927	Kidder, Jerome	New York, N. Y	Magneto-electric machine	Mar. 15, 1864.
42,380	Kidder, K. P	Burlington, Vt	Fumigating, apparatus for	Apr. 19, 1864.
44,956	Kilgore, M. C	Washington, Iowa	Harvesters	Nov. 8, 1864.
45,159	Kilgore, M. C., and Wm. Eberhard	Washington, Iowa	Engines, oscillating	Nov. 22, 1864.
43,513	Killin, Patrick	Mount Healthy, Ohio	Churns	July 12, 1864.
43,999	Killin, Patrick	Mount Healthy, Ohio	Churn	Aug. 30, 1864.
45,454	Kilmer, Josiah, assignor to self and Augustus Kilmer	Cobleskill, N. Y	Ploughing in stubble, device for	Dec. 13, 1864.
45,050	Kimball, Charles P	Portland, Me	Carriages	Nov. 15, 1864.
44,957	Kimball, E. M	Toledo, Ohio	Watch repairers, tool for	Nov. 8, 1864.
45,502	Kimball, George	Springfield, Vt	Rakes, horse	Dec. 20, 1864.
42,858	Kimball, J. W., and John Mahady	Boston, Mass Cambridge, Mass	Chair seats and sofa bottoms	May 24, 1864.
44,201	Kimball, John J	Naperville, Ill	Water wheel. (Antedated, April 15, 1864)	Sept. 13, 1864
43,314	Kimball, W. B	Peterboro', N. H	Stoves	June 28, 1864.
41,636	Kimball, Wm. H	Lynn, Mass	Boots and shoes, rubbing seams of	Oct. 11, 1864.
41,514	Kindleberger, Tobias J	Springfield, Ohio	Mills, cider	Feb. 9, 1864.
44,432	King, Henry J	Worcester, Mass	Water meters	Sept. 27, 1864.

No.	Patentee.	Residence.	Invention or discovery.	Date.
43,778	King, L	East Cleveland, Ohio	Chains, machine for making	Aug. 9, 1864.
41,515	King, Peter and George	Greenfield, Mass	Fabrics, woolen, process of finishing	Feb. 9, 1864.
44,870	King, Samuel U	Windsor, Vt	Planing machines	Nov. 1, 1864.
42,914	King, Samuel U., assignor to the Lamson and Goodnow Manufacturing Company.	Windsor, Vt	Boring machine	May 24, 1864.
	King, Sidney D. (*See* Lamason, Benj. P., assignor.)			
45,051	King, Z	Cleveland, Ohio	Bridges, construction of	Nov. 15, 1864.
43,030	Kinkead, Alexander	Greenwich, Ohio	Trap, animal	June 7, 1864.
44,637	Kingham, Jacob B	East Bridgewater, Mass	Nail machines	Oct. 11, 1864.
41,891	Kinloch, John, assignor to self and Archibald and Adam Catanach.	Philadelphia, Pa	Razors	Mar. 8, 1864.
1,659	Kinman, Nathan	Cambria, N. Y	Flour packers (Reissue)	Apr. 26, 1864.
42,198	Kinsman, John H	United States army	Window-blind and curtain fixtures	Apr. 5, 1864.
45,403	Kinyon, A	Amboy, Ill	Cultivators, corn	Dec. 20, 1864.
43,856	Kipp, Abraham, jr	Sing Sing, N. Y	Blast regulator	Aug. 16, 1864.
	Kirby, W. A., and D. M. Osborne. (*See* Mulley, J. W., assignor.) Disclaimer.			
42,255	Kirby, William A., assignor to self and David M. Osborne	Auburn, N. Y	Harvesters	Apr. 5, 1864.
42,440	Kirby, William A., assignor to self and David M. Osborne	Auburn, N. Y	Harvesters	Apr. 19, 1864.
1,838	Kirby, William A., assignor to self and David M. Osborne	Auburn, N. Y	Harvesting machines (Reissue)	Dec. 20, 1864.
45,251	Kirchhof, Charles	Newark, N. J	Telegraphs, fire-alarm	Nov. 29, 1864.
44,958	Kirk, Thomas	Waterbury, Conn	Buttons, metal, detachable	Nov. 8, 1864.
45,615	Kirkham, John	Peoria, Ill	Cultivators	Dec. 27, 1864.
43,031	Kirschmann, Gustavus C	New York, N. Y	Legs, artificial	June 7, 1864.
13,572	Kirst, Folbert	Westfield, Mass	Lathe, turning. (Antedated July 6, 1864)	July 12, 1864.
	Kissam, John W. (*See* Harold, Thomas George, assignor.)			
	Kissam, John W. (*See* Harold, Thomas George, assignor.)			
	Kitson, R. (*See* Saunders, Benjamin, assignor.)			
1,796	Kitson, William	Lowell, Mass	Fire-extinguishers (Reissue)	Oct. 18, 1864.
44,960	Kittle, Samuel P	Brooklyn, N. Y	Mattress, spring	Nov. 8, 1864.
41,848	Kittridge, Ben	Cincinnati, Ohio	Fire-arm, revolving	Mar. 8, 1864.
45,160	Klein, John Lawrence	New York, N. Y	Candles, composition for	Nov. 22, 1864.
45,161	Klein, John Lawrence	New York, N. Y	Candles, paraffine, manufacture	Nov. 22, 1864.
	Klett, Frederick, and Robert B. Potts. (*See* Potts & Klett.)			
44,319	Kline, A. E	Goodville, Pa	Motion, converting rotary into reciprocating	Sept. 20, 1864.
45,252	Kline, A. E	Goodville, Pa	Motion, converting. (Antedated Dec. 20, 1863)	Nov. 29, 1864.
44,000	Klinkerman, Frederick	Farmer's Retreat, Ind	Mills, grinding	Aug. 30, 1864.
44,433	Knapp, Elijah	Jamestown, N. Y	Corn-sheller and separator	Sept. 27, 1864.
43,032	Knapp, Isaac	Medina, N. Y	Fence, wire	June 7, 1864.
1,937	Knapp, John H	New York, N. Y	Toothpick (Design)	Apr. 19, 1864.
43,315	Knapp, Philetus	Woodford, Vt	Scaffolding and elevating the same	June 28, 1864.
45,328	Knapp, Robert M	Jerseyville, Ill	Shoal water indicator. (Antedated Dec. 1, 1864.)	Dec. 6, 1864.
42,920	Knibbs, James, assignor to self and Marcus P. Norton	Troy, N. Y	Pumps	May 24, 1864.
42,296	Kniffen, L. G	Worcester, Mass	Harvesters	Apr. 12, 1864.
42,331	Kniffen, L. G., assignor to self, A. Brown and T. H. Dodge	Worcester, Mass	Harvesters	Apr. 12, 1864.
44,805	Kniffen, L. G	Worcester, Mass	Hay forks, horse	Oct. 25, 1864.
45,416	Kniffen, L. G	Worcester, Mass	Mowing machines	Dec. 13, 1864.
	Kniffen, L. G., *et al.* (*See* Brown, Kniffen & Dodge.)			
42,952	Knight, Henry	Brooklyn, N. Y	Pipes, water and other, making	May 31, 1864.
	Knight, John, and James Dunkerley. (*See* Dunkerley & Knight.)			
42,780	Knight, John A	St. Louis, Mo	Wood-splitting machines	May 17, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
42,381	Kniseley, Christian	Chicago, Ill.	Caster	Apr. 19, 1864.
42,382	Kniseley, Christian	Chicago, Ill.	Caster	Apr. 19, 1864.
43,118	Knoebel, John B.	Shoal Creek, Ill.	Medical preparation	June 14, 1864.
42,297	Knowles, Willard	Boston, Mass.	Valves, link-motion for	Apr. 12, 1864.
41,707	Knowlton, John L.	Bordentown, N. J.	Saw-mills	Feb. 23, 1864.
	Knox, David, and Walter D. Richards. (*See* Griffin, C. H., assignor.)			
43,590	Koeller, John H.	New York, N. Y.	Arms, artificial	July 19, 1864.
44,638	Koeller, J. H.	New York, N. Y.	Arms, artificial	Oct. 11, 1864.
45,052	Kolbe, Dieterick W.	Philadelphia, Pa.	Arms, artificial	Nov. 15, 1864.
1,786	Krake, John A.	Alden, N. Y.	Separators, grain (Reissue)	Oct. 4, 1864.
44,639	Krausch, C. W. Theo.	St. Louis, Mo.	Mashing machine	Oct. 11, 1864.
1,793	Krauser, John, assignor to H. K. Parsons	Harrisburg, Pa.	Mills, cider (Reissue)	Oct. 11, 1864.
44,807	Kritch, Jacob	Rochester, N. Y.	Wagon hubs, machine for boring	Oct. 25, 1864.
43,918	Krogh, Casper, and M. G. Hogness	Kroghville, Wis. Iowa county, Wis.	Vessels sunken, mode of raising	Aug. 23, 1864.
43,376	Kronig, Carl	Austria	Sugar-moulds	June 28, 1864.
43,820	Krupp, Alfred	Prussia	Fire-arms, breech-loading	Aug. 9, 1864.
43,416	Kühn, Albert, and Leonard Nax	Philadelphia, Pa.	Tobacco pipe	July 5, 1864.
1,983	Kuntze, Edward J.	New York, N. Y.	Statuette of Schiller (Design)	Aug. 16, 1864.
41,708	Kyle, William	New York, N. Y.	Washing machine	Feb. 23, 1864.
41,626	La Baw, George W.	Jersey City, N. J.	Biers	Feb. 16, 1864.
41,709	Lacey, John	Chicago, Ill.	Cultivators	Feb. 23, 1864.
41,743	Lacey, John, assignor to self, Conrad Furst and David Bradley.	Chicago, Ill.	Cultivators	Feb. 23, 1864.
42,383	Lackland, A. T.	St. Charles, Mo.	Boilers, steam	Apr. 19, 1864.
44,535	Lacy, John, and George Watkins	Bristol, Wis.	Ploughs, stubble cleaner for	Oct. 4, 1864.
44,320	Laflin, Matthew	Chicago, Ill.	Gold and silver from ores, mode of separating	Sept. 20, 1864.
41,305	Lafreniere, Oliver	New York, N. Y.	Boots and shoes	Jan. 26, 1864.
44,202	Lagowitz, Samuel	Newark, N. J.	Bags, carpet, frames for	Sept. 13, 1864.
43,212	Lake, David	Smith's Landing, N. J.	Traps, fly	June 21, 1864.
42,048	Lakin, Robert, and John Wain, assignors to Matthew Curtis.	England	Mules, self-acting	Mar. 22, 1864.
44,321	Laly, Thomas	Philadelphia, Pa.	Linchpins	Sept. 20, 1864.
45,453	Lamason, Benjamin P., assignor to self and Sidney D. King	Alexandria, Va.	Tower, signal	Dec. 13, 1864.
43,213	Lamb, Philip	San Francisco, Cal.	Damper, fire, regulators	June 21, 1864.
42,089	Lamb, Salem T.	New Washington, Ind.	Washing machine	Mar. 29, 1864.
	Lambert, Calholina. (*See* Thomas, Joseph, assignor.)			
41,437	Lamborn, R. H.	Altoona, Pa.	Railroad rails, joints for	Feb. 2, 1864.
42,669	Lamborn, R. H.	Altoona, Pa.	Coal mining apparatus	May 10, 1864.
44,001	Lambrun, F.	New Orleans, La.	Boilers, steam, composition for preventing incrustation in	Aug. 30, 1864.
43,033	La Mothe, B. J.	New York, N. Y.	Lubricating car axles, mode of	June 7, 1864.
44,434	La Mothe, B. J.	New York, N. Y.	Car axles	Sept. 27, 1864.
44,959	Lamon, S. H.	Willoughby, Ohio	Ventilator	Nov. 8, 1864.
42,003	Lamplugh, Isaac	Springfield, Ohio	Metals, apparatus for shearing	Mar. 22, 1864.
42,004	Lamplugh, Isaac	Springfield, Ohio	Metals, apparatus for shearing, punching, and bending	Mar. 22, 1864.
	Lamson and Goodnow Manufacturing Company. (*See* King, Samuel P., assignor.)			
45,616	Lancaster, Silas H.	Leclaire, Iowa	Movements, mechanical	Dec. 27, 1864.
43,591	Landenberger, Martin	Philadelphia, Pa.	Hoods, ladies'	July 19, 1864.
	Landenberger, Martin. (*See* Thornton, John, James & William, assignors.)			
44,099	Landfear, William R.	Hartford, Conn.	Fire-arms, breech-loading. (Antedated Aug. 19, 1862.)	Sept. 6, 1864.
44,203	Landfear, William R.	Hartford, Conn.	Pegging boots and shoes, machine for	Sept. 13, 1864.
44,961	Landfear, William R.	Hartford, Conn.	Slipping on ice, device to prevent	Nov. 8, 1864.
41,928	Landon, George W.	Graham, Ind.	Millstone bush	Mar. 15, 1864.
41,438	Lane, Benjamin J.	South Framingham, Mass.	Washing machine	Feb. 2, 1864.
41,224	Lane, Dennis	Plainfield, Vt.	Saw-mill carriages	June 12, 1864.
44,100	Lane, Dennis	Montpelier, Vt.	Saw-mills	Sept. 6, 1864.
	Lane, P. P. (*See* Bodley, Reynolds & Van Emon, assignors.)			
45,053	Lane, S. C.	Philadelphia, Pa.	Stair-rod	Nov. 15, 1864.
42,090	Lanergan, Henry	Boston, Mass.	Window-sash weights	Mar. 29, 1864.
	Langdon, Horace B., and Rollin J. Ives. (*See* Cushman, A. F., assignor.)			
45,054	Langdon, L. W.	Northampton, Mass.	Screw-cutting machines	Nov. 15, 1864.
45,055	Langdon, L. W.	Northampton, Mass.	Boxes, mitre	Nov. 15, 1864.
	Langdon, W. G., *et al.* (*See* Gray, Joshua, assignor.)			
	Langdon, W. G., *et al.* (*See* Gray, Joshua, assignor.)			
44,002	Langholz, A. H.	Chicago, Ill.	Bridle-bit. (Antedated Aug. 15, 1864)	Aug. 30, 1864.
	Lange, William, and Ferdinand W. Scanewald. (*See* Hockstatter, Heinrich, assignor.)			
	Laning, William, and J. H. Flanagan. (*See* Flanagan & Laning.)			
41,158	Lansdell, Henry S.	St. Louis, Mo.	Water, steam siphons for raising	Jan. 5, 1864.
42,781	Lanum, R. B.	Washington, D. C.	Planters, corn	May 17, 1864.
41,074	Lanzirotti, J. A.	Paris, France	Railroad switch, automatic	Jan. 5, 1864.
44,732	Lapham, William W.	Decatur, Ill.	Churn	Oct. 18, 1864.
41,159	Large, George	Rosemond, Ill.	Cultivators	Jan. 5, 1864.
42,993	Lario, Rock, assignor to Seyfert, McManus & Co.	Reading, Pa.	Nail machines	May 31, 1864.
42,199	Larkin, George G.	West Amesbury, Mass.	Carriage-circle coupling	April 5, 1864.
45,504	Larter, Thomas	Cleveland, Ohio	Soda-fountains, combined caster and cooler for	Dec. 20, 1864.
43,779	Lash, Joseph	Mount Vernon, Neb. Ter.	Beehives	Aug. 9, 1864.
45,162	Last, Henry	West Lebanon, Ind.	Fastening, gate	Nov. 22, 1864.
44,536	Lashur, Conrad B.	New York, N. Y.	Car seats, railroad	Oct. 4, 1864.
45,617	Latcher, John W., and William J. Powell	Amsterdam, N. Y.	Car brakes	Dec. 27, 1864.
43,947	Latham, Joseph, and George W. Tileston	New Haven, Conn.	Cradle, folding	Aug. 23, 1864.
44,962	Lathrop, Henry	Utica, N. Y.	Bed-bottom, spring	Nov. 8, 1864.
44,003	Lathrop, Lebbens W.	Philadelphia, Pa.	Sewing machine	Aug. 30, 1864.
42,005	Lathrop, William P.	Winchester, Conn.	Knife-blades, machines for rolling	Mar. 22, 1864.
41,516	Laubach, Isaac S.	New York, N. Y.	Iron, machine for drilling	Feb. 9, 1864.
43,369	Lauchlie, Samuel, assignor to self and William G. Rich.	St. Louis, Mo.	Jack, elevating	June 28, 1864.
	Lauster, William, and George P. Leonard. (*See* Leonard & Lauster.)			
41,306	Lauth, Bernard	Buchanan, Pa.	Metal bars, rails, tubes, &c., machines for straightening	Jan. 19, 1864.
41,307	Lauth, Bernard	Buchanan, Pa.	Metals, rolls for rolling	Jan. 19, 1864.
45,618	Lavery, Richard, and S. Stuart	South Boston, Mass.	Boiler tubes, devices for stopping leaks in	Dec. 27, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
45, 619	Lavery, Richard, and S. Stuart	South Boston, Mass	Boiler tubes, rings for stopping leaks in	Dec. 27, 1864.
43, 780	Lavés, Charles H	Philadelphia, Pa	Cartridge cases, metallic, machine for loading	Aug. 9, 1864.
42, 200	Law, Hervey	Chatham, N. J	Paper, machine for cutting	Apr. 5, 1864.
44, 963	Lawrence, Edwin	Antrim, N. H	Pumps	Nov. 8, 1864.
44, 771	Lawrence, James, assignor to Milo Peck	New Haven, Conn	Button keys	Oct. 18, 1864.
1, 670	Lawrence, Richard, assignor to E. H. Ashcroft	Boston, Mass	Fire-arms, breech-loading (Reissue)	May 17, 1864.
	Lawrence, Wm. G. and J. (*See* Cain, Thos. Jas., assignor.)			
41, 710	Lawson, Edward	Island Pond, Vt	Ores, &c., separating and assorting	Feb. 23, 1864.
44, 322	Lawton, James F	Venedy, Ill	Steaming grain in process of grinding	Sept. 20, 1864.
42, 201	Lawther, A. B	Stonington, Conn	Milling machines, clamp	Apr. 5, 1864.
42, 298	Leach, William K	Boston, Mass	Truss pads	Apr. 12, 1864.
45, 672	Lear, Peter, assignor to self and Samuel A. Bradley	Medford, Mass	Ventilator	Dec. 27, 1864.
42, 091	Learock, John B	Melrose, Mass	Ordnance, adjustable front sight for	Mar. 29, 1864.
41, 382	Leavitt, Rufus	Boston, Mass	Skirt-lifters, ladies'	Jan. 26, 1864.
43, 781	Le Baron, Enoch H	Mattapoisett, Mass	Halter, horse	Aug. 9, 1864.
41, 439	Lechler, John A	Philadelphia, Pa	Mills, grinding	Feb. 2, 1864.
42, 202	Lecky, Robert H	McClure, Pa	Trucks for street railways	Apr. 5, 1864.
42, 203	Lecky, Robert H	McClure, Pa	Wagons, steam	Apr. 5, 1864.
45, 505	Lee, Anson	New York, N. Y	Washstand, bureau, desk, and wardrobe	Dec. 20, 1864.
42, 670	Lee, Henry T	Jersey City, N. J	Trunks	May 10, 1864.
44, 689	Lee, Henry T., assignor to self and David Frost	Jersey City, N. J	Trunks, caster for	Oct. 11, 1864.
45, 506	Lee, James	Stevens's Point, Wis	Supporters, uterine	Dec. 20, 1864.
41, 849	Lee, Joel	Galesburg, Ill	Washing machine	Mar. 8, 1864.
43, 119	Lee, Joel	Galesburg, Ill	Washing machine	June 14, 1864.
42, 384	Lee, L. L	Milwaukie, Wis	Steam gauges, alarm	Apr. 19, 1864.
40, 160	Lee, Rufus K	Brooklyn, N. Y	Tack, carpet, protector	Jan. 5, 1864.
1, 791	Leffel, James	Springfield, Ohio	Water-wheels (Reissue)	Oct. 11, 1864.
1, 792	Leffel, James	Springfield, Ohio	Water-wheels, cases for (Division of reissue)	Oct. 11, 1864.
45, 056	Leffel, James	Springfield, Ohio	Jack, lever	Nov. 15, 1864.
	Leffel, James	Springfield, Ohio	Jacks, lever (Extension)	Nov. 28, 1864.
42, 204	Leffingwell, John G	Newark, N. J	Lamps, oil, burners for	Apr. 5, 1864.
45, 375	Leffingwell, John G., assignor to Wilmot and Kissam Manufacturing Company.	Newark, N. J	Burners, coal-oil	Dec. 6, 1864.
44, 435	Leffler, George R. H	Baltimore, Md	Distilling turpentine from wood	Sept. 27, 1864.
41, 075	Lefler, J. George	Philadelphia, Pa	Filters	Jan. 5, 1864.
42, 205	Lefler, Silas T	Racine, Wis	Separators, grain	Apr. 5, 1864.
	Lehman, Michael. (*See* Strawbridge, Abraham, assignor.)			
44, 323	Leich, Jacob	Brooklyn, E. D., N. Y	Medical compound	Sept. 20, 1864.
	Leigh, Alfred, and Charles R. Thorn. (*See* Thorn & Lee.)			
44, 004	Leigh, Lewis	Seymour, Conn	Silk, &c., in the skein, machine for stretching and glossing (Patented in England March 13, 1863.)	Aug. 30, 1864.
44, 005	Leigh, Lewis	Seymour, Conn	Lubricators	Aug. 30, 1864.
	Leland, E., *et al.* (*See* Bean, Edward E., assignor.)			
44, 372	Leland, Edwin A., assignor to Henry Perrie	New York, N. Y	Stoves, gas	Sept. 20, 1864.
45, 620	Lemon, Charles	Washington, D. C	Bookbinder's cloth-cutting table	Dec. 27, 1864.

No.	Patentee.	Residence.	Invention or discovery.	Date.
43, 694	Lenhart, A. J	Trenton, N. J	Fishing tackle	Aug. 2, 1864.
43, 166	Lenk, Baron W., assignor to Norman Rawson and Charles Richmond.	Austria	Gun-cotton	June 14, 1864.
42, 092	Leonard, George P., and William Lauster	Fall River, Mass	Boiler flues, brush for cleaning	Mar. 29, 1864.
	Leonard, Lemuel M. (*See* Mingay, Edward, assignor.)			
	Leopold, Francis, and Florence Veerkamp. (*See* Veerkamp & Leopold.)			
44, 142	Leslie, G. M., assignor to self and Jesse Oakley	Newburg, N. Y	Soap, apparatus for crutching	Sept. 6, 1864.
43, 417	Leslie, Hugh	Jersey City, N. J	Boilers, steam	July 5, 1864.
	Letmate, F. M., and Lewis Francis. (*See* Francis & Letmate.)			
42, 583	Leurs, L. T. August	Belgium	Saddle	May 3, 1864.
42, 493	Levan, John P	Altoona, Pa	Car brakes, brake-blocks for	Apr. 26, 1864.
	Le Van, W. Barnet, and S. Lloyd Wiegand. (*See* Wiegand & Le Van.)			
	Le Van, W. Barnet, and S. Lloyd Wiegand. (*See* Wiegand & Le Van.)			
1, 891	Le Van, W. Barnet	Philadelphia, Pa	Valve (Design)	Jan. 26, 1864.
1, 892	Le Van, W. Barnet	Philadelphia, Pa	Valve (Design)	Jan. 26, 1864.
	Levy, Isaac, and Samuel Hart. (*See* Salndee, C. W., assignor.)			
43, 214	Lewis, B. B	Hartford, Conn	Clocks, calendar. (Antedated June 15, 1864)	June 21, 1864.
1, 602	Lewis, D. D	Philadelphia, Pa	Railroad frogs (Reissue)	Jan. 5, 1864.
43, 076	Lewis, George, assignor to self and Ralph and C. W. Hoyt.	Panama, N. Y	Churn, power	June 7, 1864.
43, 738	Lewis, George, assignor to self and Ralph and C. W. Hoyt.	Panama, N. Y	Horse-power	Aug. 2, 1864.
43, 316	Lewis, George H	Providence, R. I	Car springs	June 28, 1864.
	Lewis, Henry. (*See* Hicks, Alonzo, assignor.)			
43, 592	Lewis, James	Mohawk, N. Y	Lamp chimneys	July 19, 1864.
42, 494	Lewis, John	Elizabeth, N. J	Rudders	Apr. 26, 1864.
	Lewis, John H. (*See* Olmstead, Joseph, assignor.)			
	Lewis, John H. (*See* Olmstead, Joseph, assignor.)			
42, 495	Lewis, John L	Pittsburg, Pa	Iron, angle, rolling	Apr. 26, 1864.
43, 215	Lewis, Russel R	New York, N. Y	Stoves, vapor	June 21, 1864.
45, 417	Lewis, Spencer	Tiffin, Ohio	Bedstead fastening	Dec. 13, 1864.
1, 647	Lewis, Sylvester	Rochester, N. Y	Oils and fats, for rendering them more useful for burning in lamps, lubricating machinery, and other purposes, mode of treating. (Reissue.)	Mar. 29, 1864.
42, 671	Lewis, Sylvester	Rochester, N. Y	Petroleum, &c., deodorizing	May 10, 1864.
45, 507	Lewis, Sylvester	Rochester, N. Y	Barrels, metallic heads for	Dec. 20, 1864.
43, 156	Lewis, Sylvester, assignor to William J. Williams	Rochester, N. Y	Oils and fats to form compositions for illuminating and other purposes, treating.	June 14, 1864.
44, 258	Lewis, Sylvester, assignor to Union Oil Company	Rochester, N. Y	Petroleum, naphtha, &c., process for deodorizing	Sept. 13, 1864.
	Lewis, S. N. (*See* Smyth, David M., assignor.)			
	Lewis, S. N. (*See* Smyth, David M., assignor.)			
43, 593	Lewis, William, John Price and Francis Naylor	Danville, Pa	Railroad rails, fagoting	July 19, 1864.
43, 919	Lewis, William H	Greenwood, Mass	Carriages, wheel	Aug. 23, 1864.
41, 929	Lewis, William J	Pittsburg, Pa	Bolts, machine for heading	Mar. 15, 1864.
42, 299	Lewis, William J	Pittsburg, Pa	Nuts, bolts, &c., clamps for holding	Apr. 12, 1864.
1, 728	Leypoldt, Frederick C	Philadelphia, Pa	Button-holes, apparatus for cutting (Reissue)	July 12, 1864.
45, 376	Lezat, Nelson, assignor to self and Egbert M. Palmer	New Baltimore, N. Y	Straw-cutter	Dec. 6, 1864.
44, 537	Lezott, Reuben	Plattsburg, N. Y	Railroad switches	Oct. 4, 1864.
41, 818	Libby, Asa S., assignor to Gordon McKay	Manchester, N. H	Tool, cutting, for urning	Mar. 1, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
41,627	Lichtenstadt, Philip	New York, N. Y	Fibre from the bamboo, preparing	Feb. 16, 1864.
42,953	Liddell, Robert	Thompsonville, Conn	Fabric, water-proof	May 31, 1864.
43,258	Lieberman, Henry, assignor to self and George Rock	Paducah, Ky	Tanning hides, apparatus for	June 21, 1864.
42,006	Liebig, Gustav Adolph	Baltimore, Md	Guano, "Navassa," treating and preparing	Mar. 22, 1864.
44,101	Liebrich, Conrad	Philadelphia, Pa	Locks, trunk, hasps for	Sept. 6, 1864.
43,120	Lightfoot, Benjamin H	Philadelphia, Pa	Leather, tanned, mode of treating	June 14, 1864.
42,621	Lilly, Benjamin, assignor to Henry Charlton	England	Fire-arms, nipple-guard for	May 3, 1864.
45,508	Liming, John	Philadelphia, Pa	Damper for flues	Dec. 20, 1864.
	Lincoln, George T. (*See* True, Daniel E., assignor.)			
	Lincoln, J. H. (*See* Hammon, Thomas W., assignor.)			
44,006	Lincoln, Levi E., deceased, by Elizabeth K. Lincoln, administratrix.)	Lowell, Mass	Steam whistles	Aug. 30, 1864.
42,954	Lincoln, Marshall T	Washington, D. C	Locks	May 31, 1864.
	Lindberg, P. G., and C. G. Vanstrum. (*See* Vanstrum & Lincoln.)			
1,773	Lindeman, Herman	New York, N. Y	Piano-forte (Reissue)	Sept. 27, 1864.
45,329	Lindner, Edward	New York, N. Y	Springs	Dec. 6, 1864.
42,300	Lindsey, Alfred O	Charlestown, Mass	Shoe-binding, machine for manufacture of	Apr. 12, 1864.
44,808	Lindsley, Isaac	Pawtucket, R. I	Looms, power, for weaving hair-cloth. (Antedated April 25, 1864.)	Oct. 25, 1864.
45,107	Lindsley, Isaac	North Providence, R. I	Looms for weaving hair-cloth. (Patented in England Sept. 21, 1863.)	Nov. 15, 1864.
44,964	Ling, Lorenzo	Pulaski, N. Y	Clothes-dryer	Nov. 8, 1864.
44,204	Linn, George W	Lee Centre, Ill	Washing machine	Sept. 13, 1864.
	Linn, Samuel, and David Lippy. (*See* Lippy & Linn.)			
44,143	Lipps, Jean S., assignor to Richard Reichel	Brooklyn, N. Y	Powder, fulminating, manufacture of. (Antedated Sept. 2, 1864.)	Sept. 6, 1864.
44,205	Lippy, David	Mansfield, Ohio	Rack, sheep	Sept. 13, 1864.
44,102	Lippy, David, and John H. Palm	Mansfield, Ohio	Hay-forks, horse	Sept. 6, 1864.
44,324	Lippy, David, and Samuel Linn	Mansfield, Ohio	Oven, fruit drying	Sept. 20, 1864.
41,225	Lister, D	Great Britain	Grates	Jan. 12, 1864.
	Litchfield, H. T., *et al.* (*See* Bidwell, Jason A., assignor.)			
42,142	Little, Arthur, assignor to Busby, Little & Co	Wheeling, W. Va	Wagons, army and train	Mar. 29, 1864.
43,216	Little, R	Canton, Ohio	Stoves, cooking	June 21, 1864.
43,317	Little, S	Loretto, Pa	Car standards, folding	June 28, 1864.
	Littledale, J. (*See* Cummings, Thomas W., assignor.)			
1,813	Littlefield, Dennis G	Albany, N. Y	Stoves (Reissue)	Nov. 8, 1864.
1,814	Littlefield, Dennis G	Albany, N. Y	Stoves (Reissue)	Nov. 8, 1864.
1,815	Littlefield, Dennis G	Albany, N. Y	Stoves (Reissue)	Nov. 8, 1864.
1,823	Littlefield, Dennis G	Albany, N. Y	Stoves (Reissue)	Nov. 22, 1864.
	Livermore, Edward, and Jonathan Luther. (*See* Gibson, Abram J., assignor.)			
44,871	Livermore, George W	Cambridge, Mass	Collars, paper, machines for making	Nov. 1, 1864.
	Livingston, Charles E. (*See* Baumgras, Peter, assignor.)			
	Livingston, Charles E. (*See* Baumgras, Peter, assignor.)			
42,206	Livingston, William H	New York, N. Y	Gins, cotton	Apr. 5, 1864.
41,920	Lloyd, Charles C., and Robert M. Potter	Philadelphia, Pa New York, N. Y	Gas regulators	Mar. 15, 1864.
42,160	Locke, E. A	Boston, Mass	Tags for cotton bales	May 24, 1864.
	Locke, J. A., *et al.* (*See* Bean, Edward E., assignor.)			
	Locke, Jesse A. (*See* Stillman, Jonathan P., assignor.)			
	Locke, W. S. (*See* Shaw, Henry F., assignor.)			
	Lockey, John H. (*See* Howland, William M., assignor.)			
44,640	Lockwood, William E	Philadelphia, Pa	Collars, paper, apparatus for bending and folding	Oct. 11, 1864.
	Lockwood, William E. (*See* Hunt, Walter, assignor.) Reissue.			
	Locomotive Engine Safety Truck Company. (*See* Bissell, Levi, assignor.) Reissue.			
42,207	Loewenberg, Henry	New York, N. Y	Stamps, postage and revenue	Apr. 5, 1864.
42,208	Loewenberg, Henry	New York, N. Y	Labels intended for second use	Apr. 5, 1864.
45,057	Loewenberg, Henry	New York, N. Y	Stamps, postage and revenue, adhesive	Nov. 15, 1864.
44,436	Loewenberg, Joseph	Hoboken, N. J	Salve for the eyes	Sept. 27, 1864.
43,157	Loftus, Robert G., assignor to self and Alonzo Farrar	Chelsea, Mass	Acid used in refining petroleum, process of recovering the.	June 14, 1864.
41,628	Lohr, Josiah	New York, N. Y	Fire escapes	Feb. 16, 1864.
43,739	Long, Robt. H., ass'r to self and Joseph and Sam'l B. Grice	Philadelphia, Pa	Locomotive car trucks	Aug. 2, 1864.
41,931	Longacre, Manoah C	Cleveland, Ohio	Refrigerator	Mar. 15, 1864.
42,584	Longhurst, Francis, and Albert L. Murdock	Boston, Mass	Leather, cloth, &c., enamelled, manufacture of	May 3, 1864.
41,779	Longley, Samuel M	Hudson City, N. Y	Hoisting machine	Mar. 1, 1864.
1,896	Longley, Servetus	Cincinnati, Ohio	Cards, pack of (Design)	Feb. 16, 1864.
43,920	Loomis, K. H	Baltimore, Md	Valves, cut-off, governor	Aug. 23, 1864.
43,782	Loos, Frederick	Denver City, Col. Ter	Planter, corn	Aug. 9, 1864.
41,582	Lord, Edmund, assignor to self and Sidney Buckley	Taunton, Mass	Spinning machines, yard guide for	Feb. 9, 1864.
	Lord, W. G., *et al.* (*See* Day, Benjamin, assignor.)			
44,007	Lorenz, William	Lebanon, Pa	Locks	Aug. 30, 1864.
41,076	Loucks, James	Indianapolis, Ind	Hair restorative	Jan. 5, 1864.
42,585	Loughborough, William S	Rochester, N. Y	Grooving or panel ploughs	May 10, 1864.
42,301	Loughridge, William	Weverton, Md	Car brakes, mode of operating	Apr. 12, 1864.
42,385	Loughridge, William	Weverton, Md	Steam power to car brakes, method of applying	Apr. 19, 1864.
45,058	Loughridge, William	Weverton, Md	Car trucks, axle boxes for	Nov. 15, 1864.
44,325	Louis, Peter	New York, N. Y	Governors	Sept. 20, 1864.
	Loutrel, Cyrus H. (*See* Francis, Lewis, assignor.)			
	Loutrell, Cyrus H. (*See* Francis, Lewis, assignor.) Reissue.			
	Loutre, Cyrus H. (*See* Francis, Lewis, assignor.) Reissue.			
43,418	Lovelace, Harmon	Chatfield, Minn	Sleigh runners, manufacture of	July 5, 1864.
42,007	Loveless, Charles B	Syracuse, N. Y	Stoves, petroleum	Mar. 22, 1864.
42,256	Loveless, Charles B., assignor to Oscar F. Morrill	Syracuse, N. Y	Stoves, vapor	Apr. 5, 1864.
42,093	Lovett, Rodman	Canton, Ohio	Beehives	Mar. 29, 1864.
41,517	Low, G. W	Chillicothe, Ohio	Augers for boring wood	Feb. 9, 1864.
43,318	Low, Leonard	San Francisco, Cal	Separator, grain	June 28, 1864.
	Lowell Manufacturing Co. (*See* Ney, Elemir J., assignor.) Design.			
	Lowell Manufacturing Co. (*See* Ney, Elemir J., assignor.) Design.			
	Lowell Manufacturing Co. (*See* Ney, Elemir J., assignor.) Design.			
	Lowell Manufacturing Co. (*See* Ney, Elemir J., assignor.) Design.			

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
	Lowell Manufacturing Co. (*See* Ney, Elemir J., assignor.) Design.			
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	Lowell Manufacturing Co. (*See* Ney, Elemir J., assignor.) Design.			
	Lowell Manufacturing Co. (*See* Ney, Elemir J., assignor.) Design.			
	Lowell Manufacturing Co. (*See* Ney, Elemir J., assignor.) Design.			
41, 308	Lowrey, John Tilley	Lafayette, Ind	Car-coupling	Jan. 19, 1864.
41, 077	Lowry, Joseph L	Pittsburg, Pa	Cocks	Jan. 5, 1864.
44, 326	Lowry, Joseph L	Pittsburg, Pa	Cocks, stop, manufacture of	Sept. 20, 1864.
44, 327	Lowry, Joseph L	Pittsburg, Pa	Engines, steam	Sept. 20, 1864.
41, 932	Lozier, A. E	New York, N. Y	Logs, marine, and lee way indicators	Mar. 15, 1864.
45, 253	Lucas, Charles S	Poughkeepsie, N. Y	Photographs on cards, apparatus for pasting	Nov. 29, 1864.
43, 695	Lucas, H. S	Chester, Mass	Fuel, artificial	Aug. 2, 1864.
44, 872	Lucas, Heman S	Chester, Mass	Ores, iron and other, reduction of	Nov. 1, 1864.
44, 259	Luckey, D. B., assignor to self and S. S. Boardman	Bloomingburg, N. Y	Harvesters	Sept. 13, 1864.
	Luckett, E. M., and William Sallade. (*See* Sallade & Luckett.)			
1, 656	Ludlo, William D., and N. P. Stanton	New York, N. Y	Can, preserve (Reissue)	Apr. 19, 1864.
44, 008	Lund, Orlando	Nashua, N. H	Locks, safety guards for	Aug. 30, 1864.
42, 257	Lundgren, John Eph'm, ass'r to self and Claudius E. Habicht.	Stockholm, Sweden	Pulverizing and preparing for use coal, &c., mode of	Apr. 5, 1864.
	Lundy, John James, *et al.* (*See* Richardson, Lundy & Irvine.)			
	Luther, Jonathan, and Edward Livermore. (*See* Gibson, Abram J., assignor.)			
44, 690	Luther, Thos. C., ass'r to the American Cap and Flask Co	Lee, Mass	Boxes, machine for making	Oct. 11, 1864.
44, 328	Lyle, Joseph	Clarksville, Iowa	Seeding machine	Sept. 20, 1864.
41, 226	Lyman, Alfred E	Williamsburg, Mass	Candlestick, adjustable, for tents, shops, &c	Jan. 12, 1864.
41, 309	Lyman, Azel S	New York, N. Y	Air, apparatus for purifying and cooling	Jan. 19, 1864.
44, 538	Lyman, William J	East Hampton, Mass	Stove	Oct. 4, 1864.
	Lyman, William W. (*See* Harris, Elbridge, assignor.)			
45, 330	Lynahan, Daniel	Buffalo, N. Y	Motion, mechanical	Dec. 6, 1864.
42, 386	Lynde, Ira	Marathon, N. Y	Drying fruit	Apr. 19, 1864.
44, 873	Lynde, John D	Philadelphia, Pa	Soda-water apparatus. (Antedated October 22, 1864)	Nov. 1, 1864.
	Lyon, F. S., and D. F. Hunt. (*See* Hunt & Lyon.)			
42, 955	Lyon, Joseph	Newark, N. J	Skates, stop for	May, 31, 1864.
41, 342	Lyon, S. H., assignor to self and R. T. Wilde	New York, N. Y	Hats and bonnets, apparatus for forming	Jan. 19, 1864.
42, 094	Lyons, James B	Milton, Conn	Grubber, stone and root	Mar. 29, 1864.
42, 095	Lyons, James B	Milton, Conn	Stump pullers	Mar. 29, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
42,209	Lyons, James B	Milton, Conn	Curd cutters	Apr. 5, 1864.
45,254	Mabie, John	New York, N. Y	Car replacer	Nov. 29, 1864.
41,780	Macauley, T. A	New York, N. Y	Motion, converting	Mar. 1, 1864.
42,302	Macferran, Samuel	Philadelphia, Pa	Shoe-blacking apparatus	Apr. 12, 1864.
42,672	Mack, B. L	Essex, Conn	Knitting machines, stop motion for	May 10, 1864.
44,514	Mack, W. A	Cleveland, Ohio	Sewing machines, feeding device for	July 12, 1864.
45,059	Mack, W. A	Cleveland, Ohio	Sewing machine	Nov. 15, 1864.
41,310	Mackenzie, Philip W	Jersey City, N. J	Horses and vehicles, auto-propelling	Jan. 19, 1864.
44,809	Mackenzie, P. W	Jersey City, N. J	Blowing apparatus	Oct. 25, 1864.
45,418	Mackenzie, P. W	Jersey City, N. J	Range for cooking and heating	Dec. 13, 1864.
1,843	Mackenzie, P. W., assignor, through mesne assignments, to A. Smyth and J. M. Sayre.	New York, N. Y	Furnaces, cupola, and other (Reissue)	Dec. 27, 1864.
42,956	Mackerley, Benjamin	Paint Post Office, Ohio	Atmospheric governors	May 31, 1864.
45,255	Mackey, Alexander	New York, N. Y	Sugar-mould carriages	Nov. 29, 1864.
43,457	Macneale, Neil, assignor to self and Wm. B. Dodds	Cincinnati, Ohio	Locks	July 5, 1864.
	Macomber, A. S	Hamilton, N. Y	Straw-cutters (Extension)	Oct. 24, 1864.
44,871	Macoy, Robert F., assignor to H. L. Herring	New York, N. Y	Rulers, metal	Nov. 1, 1864.
43,031	Macphail, Alexander	Jersey City, N. J	Anotta, solution of	June 7, 1864.
	Madden, John, and James White. (*See* White & Madden.)			
	Madden, J., and J. E. Craig. (*See* Craig & Madden.)			
1,897	Maddux, Wm. B	Cincinnati, Ohio	Barrels, labelling (Design)	Feb. 16, 1864.
44,539	Maffit, W. R	Wilkesbarre, Pa	Dumping car	Oct. 4, 1864.
1,678	Magee, John, assignor to the Norton Furnace Company	Chelsea, Mass	Stoves, cooking (Reissue)	May 24, 1864.
42,673	Magee, Richard	Philadelphia, Pa	Paper, letter. (Antedated May 2, 1864)	May 10, 1864.
44,772	Magliocco, Melchoire F., assignor to self and Abraham Anderson.	Philadelphia, Pa	Furnace	Oct. 19, 1864.
40,179	Magoun, Joseph, assignor to the New England Glass Co	East Cambridge, Mass	Lamp-burners	Jan. 5, 1864.
41,892	Maguire, Francis, assignor to self and Thomas H. Coneys.	Boston, Mass	Stoves	Mar. 8, 1864.
	Mahudy, John, and J. W. Kimball. (*See* Kimball & Mahudy.)			
41,078	Maillefert, Benjamin, and Levi Hayden	New York, N. Y	Diving room fixed at the end of a vessel	Jan. 5, 1864.
45,369	Maitland, Charles	Scotland	Mashing apparatus	Dec. 6, 1864.
	Malleable Iron Fittings Company. (*See* Walworth, Caleb C., assignor.) Reissue.			
44,009	Mallett, James F	New York, N. Y	Horseshoe	Aug. 30, 1864.
43,035	Mallory, Burton	New Haven, Conn	Locks and latches	June 7, 1864.
	Mallory, Burton. (*See* Andrews, Wm. H., assignor.)			
42,586	Mallory, Wm. S	Batavia, N. Y	Railroad rail supports	May 3, 1864.
43,319	Maltby, Philo	Cleveland, Ohio	Cannon sights	June 28, 1864.
43,594	Maltby, Sidney	Washington, D. C	Letter box	July 19, 1864.
	Manhattan Fire-arms Co. (*See* Arnold, A. B., assignor.)			
41,079	Mann, George, jr	Ottawa, Ill	Cars, railroad, windows for	Jan. 5, 1864.
43,320	Mann, George, jr	Ottawa, Ill	Boilers, steam	June 28, 1864.
42,496	Mann, Thomas A	West Greenville, Pa	Chimney caps	Apr. 26, 1864.
1,692	Mann, Wm. D	Detroit, Mich	Slinging accoutrements (Reissue)	June 7, 1864.
42,096	Manning, Robt. Lang Paige	Cleveland, Ohio	Vessels, scuppers for	Mar. 29, 1864.
	Manny, Mary. (*See* Emerson, Daniel L., assignor.)			
43,217	Mansfield, M. H	Ashland, Ohio	Hullers, clover	June 21, 1864.
	Manton, Joseph P., *et al.* (*See* Emerson, James, assignor.)			
41,519	Mantz, Emanuel	Frederick, Md	Grain cleaner	Feb. 9, 1864.
43,595	Manvel, Albert	Elizabethport, N. J	Iron, malleable, manufacture of	July 19, 1864.
	Manz, John, and Wm. T. Shaw. (*See* Shaw & Manz.)			
41,227	Marble, Edwin F	Worcester, Mass	Cloth, machines for raising a nap on	Jan. 12, 1864.
43,960	Marcelin, Paul	France	Pumps, mercury packed	Aug. 23, 1864.
42,861	Marcellus, Henry, and Samuel Ward	Amsterdam, N. Y	Bobbins, conical, machines for winding	May 24, 1864.
44,103	Marcus, Tobias	Washington, D. C	Planting potatoes, machine for	Sept. 6, 1864.
45,419	Mariner, George A., and James Fish	Chicago, Ill	Powders, baking	Dec. 13, 1864.
	Maris, J. M., and J. B. Parkinson. (*See* Parkinson & Maris.)			
45,256	Markham, A. S	Bushnell, Ill	Stove, cooking	Nov. 29, 1864.
41,711	Markham, Horace	Henderson, Ill	Beehives	Feb. 23, 1864.
44,206	Markillie, Thomas R	Winchester, Ill	Ploughs, gang	Sept. 13, 1864.
44,875	Markland, Thomas T., jr	Philadelphia, Pa	Coal scuttle	Nov. 1, 1864.
41,850	Markley, Philemon	Canton, Ill	Cisterns, filtering	Mar. 8, 1864.
41,228	Marland, Obadiah	Boston, Mass	Dish cover, refrigerating	Jan. 12, 1864.
	Marlett, J., *et al.* (*See* Bell, John S., assignor.)			
	Marr, Wm. C., and Charles Weed. (*See* Weed & Marr.)			
45,509	Marsden, B. F	Galena, Ill	Car coupling. (Antedated December 9, 1864)	Dec. 20, 1864.
	Marsh, Clark, and Albert Eames. (*See* Eames & Marsh.)			
41,080	Marsh, C. W. and W. W	Shabbona, Ill	Harvesters, raking devices for	Jan. 5, 1864.
1,719	Marsh, C. W. and W. W	Clinton, Ill	Reaping machines (Reissue)	July 5, 1864.
	Marsh, Robert G. and Wm. R., *et al.* (*See* Corser, Samuel A., assignor.)			
	Marsh, Samuel A. W., and Jonathan S. Buell. (*See* Buell & Marsh.)			
	Marsh, Samuel A. W., and Jonathan S. Buell. (*See* Buell & Marsh.)			
41,781	Marsh, Sylvester	Chicago, Ill	Lard, &c., apparatus for rendering	Mar. 1, 1864.
42,957	Marsh, Sylvester	Chicago, Ill	Dryers, grain	May 31, 1864.
44,965	Marsh, Sylvester	Chicago, Ill	Gradients, apparatus for descending	Nov. 8, 1864.
	Marsh, Theodore. (*See* Center, Hartzel H., assignor.)			
41,463	Marshbank, John D., assignor to self and Wm. McConky	Lancaster, Pa	Canal wickets	Feb. 2, 1864.
43,515	Marshall, David, and Marshall, Benjamin	Pittsburg, Pa. Marietta, Ohio	Photographs, &c., roller press for finishing	July 12, 1864.
43,321	Marshall, Eleanor M	Hillsdale, N. Y	Breast protectors, mammiform	June 28, 1864.
45,060	Marshall, George F	Cleveland, Ohio	Collars, horse	Nov. 15, 1864.
	Marshall, George P. (*See* Conklin, James H., assignor.)			
45,108	Marshall, James	Great Britain	Spinning machines, apparatus for applying adhesive and lubricating material to the spindles of. (Patented in England October 28, 1863.)	Nov. 15, 1864.
42,441	Marshall, Loomis G., assignor to self and Andrew Cochran	New York, N. Y	Metals and ores, desulphurizing	Apr. 19, 1864.
43,882	Marshall, Loomis G., assignor to self and Andrew Cochran	New York, N. Y	Stone-crushing machines	Aug. 16, 1864.
1,801	Marshall, Moses, assignor to self, W. Aldrich and L. B. Tyng.	Lowell, Mass	Knitting machine (Reissue)	Oct. 25, 1864.
40,161	Marshall, Samuel R	Wilkesbarre, Pa	Cranes, portable	Jan. 5, 1864.
43,121	Marshall, William	New York, N. Y	Car springs	June 14, 1864.
41,712	Marshall, W. C	New York, N. Y	Preserving chopped meats, &c., mode of	Feb. 23, 1864.
43,516	Marshall, W. C	New York, N. Y	Preserving meats, process for	July 12, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
42, 497	Marshall, William M	Philadelphia, Pa	Mica for making reflectors, mirrors, &c., preparing	Apr. 26, 1864.
	Martin, Alfred. (*See* Crosfeldt & Pears, assignors.)			
42, 442	Martin, Benjamin G., assignor to W. Sanford, J. L. Seabury and J. Truslow.	New York, N. Y	Cooking apparatus, steam	Apr. 19, 1864.
41, 520	Martin, Charles S	Mackford, Wis	Wagon springs	Feb. 9, 1864.
40, 162	Martin, Frank N	Covington, Ky	Gun sights	Jan. 5, 1864.
	Martin, Gaylord, and Wm. Barker. (*See* Barker & Martin.)			
43, 036	Martin, Horace B	Santa Rosa, Cal	Compasses, surveyors'	June 7, 1864.
43, 857	Martin, John H	Hartford, N. Y	Bedstead, ventilating attachment for	Aug. 16, 1864.
42, 049	Martin, John W., assignor to self and Jonathan A. Martin	Milton, Mass	Dampers	Mar. 22, 1864.
	Martin, Jos. T., and Reuben C. Vernol. (*See* Vernol & Martin.)			
45, 673	Martin, Levi L., assignor to self and Horace Thayer	Warsaw, N. Y	Varnishing machine	Dec. 27, 1864.
43, 749	Martin, Louis Emile Constant	England	Boilers, steam	Aug. 2, 1864.
43, 750	Martin, Louis Emile Constant	England	Boilers, steam, feedwater heaters for. (Patented in England January 12, 1864.)	Aug. 2, 1861.
44, 329	Martin, Peter	Cincinnati, Ohio	Furnace, house-warming	Sept. 20, 1864.
42, 210	Martin, Samuel	Marshallville, Mich	Tires, apparatus for upsetting	Apr. 5, 1861.
43, 783	Martin, Wm	Philadelphia, Pa	Stockings, knitted, apparatus for cutting out	Aug. 9, 1864.
45, 061	Marvin, David J	Stockton, Cal	Harvesting machines	Nov. 15, 1864.
41, 521	Marvin, Walter K	New York, N. Y	Safes, &c., fire-proof	Feb. 9, 1864.
41, 629	Marvin, Walter K	New York, N. Y	Safes, burglar-proof, &c., plates for constructing	Feb. 16, 1864.
44, 207	Marvin, Walter K	New York, N. Y	Locks	Sept. 13, 1864.
	Marvin, Walter K. (*See* Jagy & Denzler, assignors.)			
41, 713	Maschka, Anton	Chicago, Ill	Drills, grain	Feb. 23, 1864.
41, 081	Mason, H. H., and S. W. Shelden	Springfield, Vt	Mop-head	Jan. 5, 1864.
	Mason, John W., *et al.* (*See* Robbins, Richard C., assignor.)			
44, 104	Mason, L. S	Middlefield Centre, N. Y	Hop frame	Sept. 6, 1864.
44, 641	Mason, Thomas	Boston, Mass	Propeller, marine	Oct. 11, 1864.
42, 008	Mason, William M	Polo, Ill	Loading and unloading corn shocks, device for	Mar. 22, 1864.
44, 097	Mason, William M	Polo, Ill	Harvesters, corn	Mar. 29, 1861.
44, 330	Massie, T G	Port Henry, N. Y	Engines, steam, rotary	Sept. 20, 1864.
43, 465	Mather, Sarah P	New York, N. Y	Telescopes, submarine	July 5, 1864.
40, 163	Mathews, R. H	Alliance, Ohio	Stool, foot and kneeling	Jan. 5, 1864.
43, 921	Mathews, Thomas H	Rushville, Ill	Bee-hives	Aug. 23, 1864.
41, 311	Mathias, Jules François	Paris, France	Hats, pressing	Jan. 19, 1864.
45, 258	Matile, Gustavus E	Washington, D. C	Pipe, pocket, cleaner	Nov. 29, 1864.
41, 082	Matthews, John, jr	New York, N. Y	Bottling liquids under pressure	Jan. 5, 1864.
41, 440	Matthews, John, jr	New York, N. Y	Bottling machine	Feb. 2, 1864.
42, 587	Matthews, John, jr	New York, N. Y	Soda fountains	May 3, 1864.
1, 797	Mattson, Morris	New York, N. Y	Syringes, enema (Reissue)	Oct. 18, 1864.
	Mauran & Tuck. (*See* Roberts, Joseph L., assignor.)			
	Maurer, E. (*See* Bryer, D. E., assignor.)			
42, 387	Maxfield, F. A	East Spring Hill, Pa	Fruit gatherers	Apr. 19, 1864.
	Maxwell, Arthur, and Ira Merrill. (*See* Merrill & Maxwell.)			
45, 257	Maxwell, James M	Cape Elizabeth, Me	Planter, seed. (Antedated December 13, 1863.)	Nov. 29, 1864.

No.	Patentee.	Residence.	Invention or discovery.	Date.
44, 437	Maxwell, John	Amsterdam, N. Y	Knitting machine burrs, means for oiling	Sept. 27, 1864.
41, 229	May, George T	Tompkinsville, N. Y	Engines, steam. (Antedated December 30, 1863)	Jan. 12, 1864.
1, 627	Mayall, Thomas J	Roxbury, Mass	Belting machine (Reissue)	Mar. 8, 1864.
44, 540	Maycock, Henry	Verona, N. Y	Hay, machine for loading	Oct. 4, 1864.
44, 733	Maydole, James H	Eaton, N. Y	Curd cutter	Oct. 18, 1864.
	Mayell, Henry, and George F. Udell. (*See* Udell & Mayell.)			
43, 784	Mayer, Charles	New York, N. Y	Boots and shoes	Aug. 9, 1864.
	Mayer, Joseph. (*See* Waterman, Julius, assignor.)			
	Mayher, George. (*See* Antonides, Peter, assignor.)			
42, 388	Maynard, Edward	Washington, D. C	Cartridges, metallic wad for	Apr. 19, 1864.
43, 696	Maynard, Edward	Washington, D. C	Photographic album	Aug. 2, 1864.
45, 420	Maynard, Edward	Washington, D. C	Cartridges, metallic, priming	Dec. 13, 1864.
	Maynard, W. H., *et al.* (*See* Shepardson, H. S., assignor.)			
43, 948	McAvoy, Hugh L., assignor to self and Elias S. Hutchinson.	Baltimore, Md	Air, apparatus for carburetting	Aug. 23, 1864.
45, 205	McAvoy, Hugh L., assignor to self and Elias S. Hutchinson.	Baltimore, Md	Gas apparatus, air holders for	Nov. 22, 1864.
45, 206	McAvoy, Hugh L., assignor to self and Elias S. Hutchinson.	Baltimore, Md	Air, apparatus for carburetting	Nov. 22, 1864.
45, 456	McAvoy, Hugh L., assignor to self and Elias S. Hutchinson.	Baltimore, Md	Air, apparatus for carburetting	Dec. 13, 1864.
44, 438	McBride, Thomas H., and David Baldwin	East Birmingham, Pa	Camera stand	Sept. 27, 1864.
45, 259	McBride, William C	Raritan, N. J	Flax, tangled, machine for scutching	Nov. 29, 1864.
41, 630	McBurney, Charles	Roxbury, Mass	Hose to couplings, mode of fastening	Feb. 16, 1864.
	McBurney, Charles. (*See* Forsyth, James B., assignor.)			
	McCafferty, Wm. H. (*See* Ham, Seth, assignor.)			
45, 569	McCall, John, and B. G. Sloper, assignors to C. J., W. J. and C. H. Underwood.	England	Food, method of preparing and preserving. (Patented in England April 9, 1864.)	Dec. 20, 1864.
45, 260	McCleane, George F	Pittsburg, Pa	Motion of rolls, apparatus for reversing the	Nov. 29, 1864.
42, 332	McCleery, Wm., assignor to Seyfert, McManus & Co	Pittsburg, Pa	Cannon, machines for boring chambers of	Apr. 12, 1864.
44, 439	McClelland, John	Washington, D. C	Fire-plugs	Sept. 27, 1864.
42, 009	McClelland, R. W	Springfield, Ill	Harvesters	Mar. 22, 1864.
43, 697	McClelland, R. W	Springfield, Ill	Harvesting machines	Aug. 2, 1864.
44, 331	McClure, A. S	New Buffalo, Pa	Glass, device for cutting	Sept. 20, 1864.
44, 642	McClure, B. W	Wyoming, Iowa	Collar, horse, block	Oct. 11, 1864.
41, 518	McCollum, F	Rockville, Conn	Locks	Feb. 9, 1864.
45, 163	McComb, John	Edenburg, Ohio	Sap spouts. (Antedated December 26, 1863)	Nov. 22, 1864.
41, 121	McComber, Joel, assignor to James McComber	Herkimer, N. Y	Last finishing machine	Jan. 5, 1864.
	McConky, Wm. (*See* Marshband, John D., assignor.)			
44, 810	McCorkell, Robert	Warsaw, Minn	Planter, corn. (Antedated October 22, 1864)	Oct. 25, 1864.
44, 811	McCorkell, Robert	Warsaw, Minn	Mangling beefsteaks and other meats, machine for. (Antedated October 18, 1864.)	Oct. 25, 1864.
41, 383	McCormick, J. B	St. Louis, Mo	Reaping machines	Jan. 26, 1864.
43, 698	McCune, J. S	Salem City, N. Y	Filing, saw, machines	Aug. 2, 1864.
43, 699	McCune, O. C	Pleasant Valley, Ohio	Planter, corn	Aug. 2, 1864.
41, 164	McCurdy, James S	Bridgeport, Conn	Sewing machines	Jan. 5, 1864.
44, 541	McDermut, John L	New York, N. Y	Dentists, vulcanizing apparatus for	Oct. 4, 1864.
43, 922	McDevitt, Martin	Beloit, Wis	Shells, explosive, time fuzes for	Aug. 23, 1864.
41, 083	McDonald, Green B	Louisville, Ky	Valves, cut-off, method of operating. (Antedated January 2, 1864.)	Jan. 5, 1864.
42, 098	McDonald, Green B	Louisville, Ky	Railroad cars	Mar. 29, 1864.
42, 099	McDonald, James	Cincinnati, Ohio	Grate bars	Mar. 29, 1863.
43, 889	McDonough, Thomas	Middletown, Conn	Engines, steam	Aug. 16, 1864.
44, 966	McDonough, Thomas	Middletown, Conn	Air engines, hot	Nov. 8, 1864.
41, 384	McDougall, John C	Black Rock, N. Y	Harvesters. (Antedated January 11, 1864)	Jan. 26, 1864.
42, 100	McDougall, James T	San Francisco, Cal	Copper and silver, ores of, reducing	Mar. 29, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.]

No.	Patentee.	Residence.	Invention or discovery.	Date.
43, 322	McDougall, R. G	New York, N. Y	Ships-of-war, construction and equipment of	June 28, 1864.
43, 419	McDougall, Samuel T	New York, N. Y	Stoves, gas	July 5, 1864.
43, 420	McDougall, Samuel T	New York, N. Y	Baby-jumper and swing	July 5, 1864.
42, 862	McFarland, Thomas A	Meadville, Pa	Dumping-car, railroad	May 24, 1864.
42, 915	McFarlane, John, assignor to John Falconer	Matteawan, N. Y	Dyeing felt caps, &c., device for	May 24, 1864.
41, 312	McGann, Henry	Cleveland, Ohio	Telegraphs, paper reels for	Jan. 19, 1864.
41, 522	McGaughey, Albert E	Red Wing, Me	Harvesters, raking attachments for	Feb. 9, 1864.
	McGeary, James. (*See* Rhodes, Benjamin, assignor.)			
45, 421	McGeary, James	Salem, Mass	Bark, mode of extracting tanning properties from	Dec. 13, 1864.
42, 218	McGhan, Francis	Washington, D. C	Valves, stop	June 21, 1864.
41, 523	McGlew, Patrick	Des Moines, Iowa	Cultivators	Feb. 9, 1864.
43, 785	McGuire, Alex	Winsted, Conn	Cutlery, table, manufacture of	Aug. 9, 1864.
	McIntire, J. N., and Frederick Miller. (*See* Miller & McIntire)			
	McIntire, J. N., and John Rankin. (*See* Rankin & McIntire)			
	McIntire, J. N. (*See* Albertson, Albert, assignor.)			
	McIntire, J. N. (*See* Albertson, Albert, assignor.)			
	McIntire, J. N. (*See* Albertson, Albert, assignor.)			
	McIntire, J. N. (*See* Albertson, Albert, assignor.)			
	McIntire, Wm. O. (*See* Bullen, Wm. S., assignor.)			
45, 062	McIntyre, Douglas, and George C. Reeves	Central City, Colorado Territory	Hoisting machine	Nov. 15, 1864.
44, 581	McIntyre, James, assignor to self and James D. Bacon	New York, N. Y	Shells, explosive, fuze for	Oct. 4, 1864.
44, 542	McIntyre, John M., and Robert Meginnitz	Detroit, Mich	Heater, water	Oct. 4, 1864.
	McKay, Gordon. (*See* Libby, Asa S., assignor.)			
42, 211	McKay, Gordon	Boston, Mass	Channelling machine	Apr. 5, 1864.
42, 622	McKay, Gordon, and	Boston, Mass	Turns, sewing	May 3, 1864.
	Lyman R. Blake, assignors to Gordon McKay	Quincy, Mass		
42, 916	McKay, Gordon, and	Boston, Mass	Sewing machine for sewing on the soles of boots and shoes.	May 24, 1864.
	Lyman R. Blake, assignors to Gordon McKay	Quincy, Mass		
43, 077	McKay, Gordon, and	Boston, Mass	Sewing machine, thread-waxer for	June 7, 1864.
	Lyman R. Blake, assignors to Gordon McKay	Quincy, Mass		
43, 923	McKay, Gordon, and	Boston, Mass	Channelling machine	Aug. 23, 1864.
	Lyman R. Blake	Quincy, Mass		
45, 422	McKay, Gordon, and	Boston, Mass	Sewing machines	Dec. 13, 1864.
	Lyman R. Blake	Quincy, Mass		
	McKay Turned Shoe Company. (*See* Holden, L. H. and L. B., assignors.) Reissue.			
	MaKay Turned Shoe Company. (*See* Holden, L. H. and L. B., assignors.) Reissue.			
44, 643	McKean, Edwin R	Washington, D. C	Ambulances	Oct. 11, 1864.
42, 143	McKee, Frederick, and Charles Ballinger, assignors to McKee & Brothers.	Pittsburg, Pa	Glass-pressing machine	Mar. 29, 1864.
43, 219	McKee, Henry	Chandlerville, Ill	Car couplings	June 21, 1864.
	McKee, James W., and Daniel W. Kellogg. (*See* Kellogg & McKee.)			
41, 441	McKenney, J. F	Baltimore, Md	Plaiting machines	Feb. 2, 1864.
44, 543	McKillop, J	Brooklyn, N. Y	Varnish, picture	Oct. 4, 1864.
45, 331	McKinley, E., and W. Wilkie	Mayville, Wis	Washing machine	Dec. 6, 1864.
45, 063	McKnight, George	Hebron, N. Y	Gates, automatic	Nov. 15, 1864.
44, 876	McKnight, Joseph	Pomeroy, Ohio	Water, device for raising	Nov. 1, 1864.
	McLain, Jas. (*See* Brown, Thomas, jr., assignor.)			
41, 962	McLain, John, assignor to Joseph Chenoweth	St. Mary's, Ohio	Hame fastening	Mar. 15, 1864.
43, 122	McLaughlin, John	Monongahela city, Pa	Washing machine	June 14, 1864.
43, 323	McLean, J. D	New York, N. Y	Stereotype moulds, apparatus for forming	June 28, 1864.
43, 518	McLelland, S. D	McGregor, Iowa	Tools, edge, grinding	July 12, 1864.
	McMahon, James, and James Jenkins. (*See* Jepkins & McMahon.)			
43, 324	McManus, Michael	Brooklyn, N. Y	Nail machine	June 28, 1864.
42, 389	McMillan, W. H	New York, N. Y	Oars, steel-bladed	Apr. 19, 1864.
1, 766	McMillan, W. H	New York, N. Y	Oar (Reissue)	Sept. 13, 1864.
	McNair, Alex., and E. Hobbis. (*See* Hobbis & McNair.)			
1, 824	McNamara, David S	Troy, N. Y	Harvesters (Reissue)	Nov. 22, 1864.
44, 544	McNamara, James	Buffalo, N. Y	Elevators, brick and mortar	Oct. 4, 1864.
45, 423	McSherry, Daniel E	Indianapolis, Ind	Seeding machines	Dec. 13, 1864.
45, 424	McSherry, Daniel E	Dayton, Ohio	Seeding machines	Dec. 13, 1864.
45, 621	McSpedon, Thomas	New York, N. Y	Collars, paper, machines for making	Dec. 27, 1854.
42, 674	McWhirt, Albert G	Galesburg, Ill	Strap fastener	May 10, 1864.
	Meacham, George F., and Shepherd S. Woodcock. (*See* Woodcock & Meacham.)			
45, 064	Mead, John H	New York, N. Y	Calendars, perpetual. (Antedated November 3, 1864)	Nov. 15, 1864.
42, 588	Mead, Matthias	Lowell, Mass	Stove, cooking, parlor	May 3, 1864.
41, 165	Medbery, George B	Sprague, Conn	Looms, pickers for	Jan. 5, 1864.
1, 829	Mee, Barney	Troy, N. Y	Horseshoes, machines for making (Reissue)	Nov. 29, 1864.
44, 209	Meech, Harrison B	Fort Edward, N. Y	Paper pulp, &c., mode of treating vegetable substances for the manufacture of.	Sept. 13, 1864.
45, 510	Meech, Harrison B	Fort Edward, N. Y	Paper pulp, process for preparing sawdust for	Dec. 20, 1864.
	Meekins, Charles A., and Samuel W. Packard. (*See* Packard & Meekins.)			
42, 901	Mégé, Hippolyte	Paris, France	Candles, treatment of fatty bodies for the manufacture of.	May 24, 1864.
	Meginnitz, Robert, and John M. McIntyre. (*See* McIntyre & Meginnitz.)			
43, 220	Megowen, Lewis	Upper Alton, Ill	Sugar and sirup, evaporating pans for	June 21, 1864.
44, 812	Meigs, Josiah V	Washington, D. C	Stove, coal or heating	Oct. 25, 1864.
43, 517	Meigs, William	Waynesville, Ohio	Water elevator	July 12, 1864.
41, 524	Meily, Samuel S	Lebanon, Pa	Thill fastening	Feb. 9, 1864.
	Meldrum, John B. (*See* Arrott, Alex. R., assignor.)			
44, 545	Mellen, Dustin F	Manchester, N. H	Fire-arms, breech-loading	Oct. 4, 1864.
42, 675	Mellish, Henry	Walpole, N. H	Wooden ware, hollow	May 10, 1864.
44, 332	Melone, T. L	Granville, Ohio	Sewing machine	Sept. 20, 1864.
41, 313	Mendenhall, Stephen C	Richmond, Ind	Looms, hand	Jan. 19, 1864.
45, 511	Mennel, Anton	New York, N. Y	Limbs, artificial	Dec. 20, 1864.
42, 010	Meriam, H. A	Titusville, Pa	Cans, tin, double-seaming	Mar. 22, 1864.
44, 333	Meriam, Rufus N	Worcester, Mass	Planing machines, cutter arms for	Sept. 20, 1864.
42, 498	Merrell, William G	Auburn, N. Y	Harvesters, raking attachments to	Apr. 26, 1864.
	Merriam Manufacturing Company. (*See* Stiles, David A., assignor.)			
	Merriam Manufacturing Company. (*See* Haywood, Chas. J., assignor.)			

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
42,303	Merriam, Truman	Waterloo, Wis	Axes, chopping	Apr. 12, 1864.
41,525	Merridith, S. H	Oxford, Ohio	Churns	Feb. 9, 1864.
41,526	Merrill, Daniel	Worcester, Mass	Bedsteads, invalid	Feb. 9, 1864.
43,623	Merrill, Ira, and Arthur Maxwell, assignors to Arthur Maxwell.	Shelburne, Mass	Ox-shoes	July 19, 1864.
43,325	Merrill, Joshua	Boston, Mass	Oils, hydro-carbon, mode of purifying	June 28, 1864.
	Merrill, S. S. (*See* Thomas, Henry B., assignor.)			
45,425	Merrill, William P	Milwaukie, Wis	Radiating, heat, attachment for flues	Dec. 13, 1864.
44,546	Merriman, Anson	New York, N. Y	Fuze, combined time-percussion and concussion. (Antedated April 4, 1864.)	Oct. 4, 1864.
44,773	Merriman, J. A., assignor to self and E. E. Bowers	Chicago, Ill	Bolts, machines for cutting	Oct. 18, 1864.
41,851	Merritt, Benjamin, jr	Newton, Mass	Rolls	Mar. 8, 1864.
42,863	Merritt, Benjamin, jr	Newton, Mass	Boring angular holes, machines for	May 24, 1864.
45,065	Merritt, Benjamin, jr	Newton Corner, Mass	Tree protector	Nov. 15, 1864.
45,332	Merritt, Nehemiah	De Ruyter, N. Y	Stock for holding sheep, &c	Dec. 6, 1864.
45,564	Merrymon, John M., assignor to self, William Gorsuch and K. Ferguson.	Indianapolis, Ind	Window sashes, raising and lowering	Dec. 20, 1864.
45,426	Merrymon, John M	Indianapolis, Ind	Pigment and vehicle for mixing paints	Dec. 13, 1864.
44,877	Merrywether, Moses and Richard M., and Edward Field	England	Steam generator	Nov. 1, 1864.
	Mersick, E. F., and James G. English. (*See* Golightly & Twitchell, assignors.)			
	Mersick, E. F., and James G. English. (*See* Golightly & Twitchell, assignors.) Reissue.			
	Mersick, E. F., and James G. English. (*See* Swan, James H., assignor.) Reissue.			
41,166	Merwin, Joseph, and Edward P. Bray	New York, N. Y	Fire-arms. (Antedated December 19, 1863)	Jan. 5, 1864.
41,852	Meschutt, James M	New York, N. Y	Cinder washers. (Antedated February 20, 1864)	Mar. 8, 1864.
	Mesick, Peter. (*See* Hawley, John B., assignor.)			
44,010	Mesier, Cornelius	Almond, N. Y	Hydraulic motor	Aug. 30, 1864.
41,084	Messer, Henry	Roxbury, Mass	Air engines, hot	Jan. 5, 1864.
	Metropolitan fair, &c. (*See* Christian, James, assignor.)			
	Metropolitan Washing Machine Company. (*See* Dickerman, Elliott, assignor.)			
	Metropolitan Washing Machine Company. (*See* Gitt, D. D., assignor.)			
41,230	Mets, Elisha	Rochester, N. Y	Tables, rims for	Jan. 12, 1864.
	Mets, Elisha, and M. E. Carter. (*See* Carter & Mets.)			
43,123	Mettler, William	Frankfort, Ill	Cultivators	June 14, 1864.
44,734	Metzger, Joseph	East Cambridge, Mass	Watch crystal, pressing	Oct. 18, 1864.
44,735	Meucci, Antonio	New York, N. Y	Process for removing the mineral, gummy, and resinous substances from vegetable materials.	Oct. 18, 1864.
44,011	Mey, F. H. C	Buffalo, N. Y	Separator, grain	Aug. 30, 1864.
42,331	Mey, F. H. C., assignor to self, A. B. Nimbs and J. C. Clifford.	Buffalo, N. Y	Dryers, grain	Apr. 12, 1864.
42,782	Meyer, Jeremiah	Bay Ridge, N. Y	Bleaching, apparatus for. (Antedated May 6, 1864)	May 17, 1864.
43,421	Meyer, Jeremiah	Bay Ridge, N. Y	Printing from engraved plates, process for	July 5, 1864.
1,765	Meyer, John	Brooklyn, N. Y	Boring metal, machines for (Reissue)	Sept. 13, 1864.
42,589	Meyers, Henry	Hyde Park, Pa	Pavement, concrete	May 3, 1864.
43,125	Meyrose, Ferdinand	St. Louis, Mo	Faucets	June 14, 1864.
41,385	Miers, Joseph P., and John Groendyke	Lebanon, N. J	Cork extractor	Jan. 26, 1864.
	Migeon, Achille F., *et al.* (*See* Stevens, John, assignor.)			
43,519	Miles, B. E	Washington, Ill	Grain shovels	July 12, 1864.
42,443	Miles, Charles M., assignor to self and Charles F. Jone[illegible]	Vineland, N. J	Boilers, steam	Apr. 19, 1864.
43,624	Miles, Charles M., assignor to self and Charles F. Jones	Vineland, N. J	Boilers, steam	July 19, 1864.
45,333	Miles, Charles M	Vineland, N. J	Fire-arms, adjustable sight for	Dec. 6, 1864.
43,520	Miles, Purches	New York, N. Y	Meat-mincing machine	July 12, 1864.
41,527	Millar, Warren	Chicago, Ill	Sewing machines. (Antedated February 3, 1864)	Feb. 9, 1864.
42,212	Millenger, Henry	Pittsburg, Pa	Siding, manufacture of	Apr. 5, 1864.
44,012	Miller, A	Angola, Ind	Sulkies	Aug. 30, 1864.
	Miller, A., and F. Raymond. (*See* Raymond & Miller.)			
	Miller, Abraham, and William Jones. (*See* Jones & Miller.)			
43,644	Miller, B. F	New York, N. Y	Fence pickets, corrugated	July 26, 1864.
	Miller, Charles A. (*See* Hill, Albert M., assignor.)			
41,314	Miller, Charles E	Amelia, Ohio	Cultivator and seeder	Jan. 19, 1864.
44,736	Miller, Charles E	Amelia, Ohio	Broom head	Oct. 18, 1864.
	Miller, E. L., and E. A. Goodes. (*See* Goodes & Miller.) Reissue.			
41,963	Miller, Frederick, and J. N. McIntire, assignors to Frederick Miller.	New York, N. Y	Fat, machine for cutting	Mar. 15, 1864.
45,066	Miller, George D	Lovington, Ill	Cultivators	Nov. 15, 1864.
41,744	Miller, George S E. B. Peck, and Wm. Olmsted, assignors to G. S. Miller and E. B. Peck	Thompsonville, Conn Bridgeport, Conn Thompsonville, Conn	Car brakes	Feb. 23, 1864.
43,326	Miller, Herman	Hoboken, N. J	Can for paint, fruit, &c	June 28, 1864.
44,260	Miller, J. A., assignor to Charles Alden	New York, N. Y	Desiccating, fruit and vegetable, apparatus	Sept. 13, 1864.
43,078	Miller, James W., assignor to self and Joseph Snively, jr	Waynesboro', Pa	Locks	June 7, 1864.
42,676	Miller, John	Buffalo, N. Y	Faucet and vent, beer, combined	May 10, 1864.
43,949	Miller, John J., assignor to self and Ernst Prussing	Chicago, Ill	Engines, steam, valves for. (Antedated Feb. 15, 1863)	Aug. 23, 1864.
43,950	Miller, John J., assignor to self and Ernst Prussing	Chicago, Ill	Piston packing. (Antedated February 15, 1863)	Aug. 23, 1864.
43,951	Miller, John J., assignor to self and Ernst Prussing	Chicago, Ill	Liquid separator. (Antedated February 15, 1863)	Aug. 23, 1864.
43,952	Miller, John J., assignor to self and Ernst Prussing	Chicago, Ill	Pumps, steam. (Antedated February 15, 1863)	Aug. 23, 1864.
41,386	Miller, Jose Augustus	New York, N. Y	Cars street	Jan. 26, 1864.
42,623	Miller, Joseph R., assignor to self and Joseph W. Wayne	Cincinnati, Ohio	Coal hods	May 3, 1864.
	Miller, Joseph R., and Joseph W. Wayne. (*See* Wayne & Miller.)			
41,933	Miller, Josis	Antwerp, N. Y	Boot and shoe heels	Mar. 15, 1864.
45,427	Miller, Leander, and Hermann Kaller	Camp Point, Ill	Ploughs. (Antedated January 10, 1863)	Dec. 13, 1864.
	Miller, Louis, and Paul Weber. (*See* Weber & Miller.)			
41,315	Miller, Samuel H., and Edmund Grubb	Liberty, Ill	Wagon brake	Jan. 19, 1864.
42,590	Miller, William, and Hamilton E. Towle	Boston, Mass New York, N. Y	Cars, railroad	May 3, 1864.
	Miller, William, and Sebastian Fares. (*See* Fares & Miller.)			
44,045	Miller, William, assignor to self and John C. Murphy	Boston, Mass	Thimbles with guarded cutters	Aug. 30, 1864.
45,261	Miller, William Hartley	Philadelphia, Pa	Engines, steam, fibrous packing for. (Antedated April 3, 1863.)	Nov. 29, 1864.
	Miller, William J. (*See* Hunt, Zebulon, assignor.)			
	Miller, William J. (*See* Hunt, Zebulon, assignor.)			

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
42, 624	Millet, John W., assignor to self, Isaac Noyes and Thomas C. Fanning.	Batchellerville, N. Y	Cans, caddies, &c., tin, mode of manufacturing	May 3, 1864.
44, 737	Millet, John W	Batchellerville, N. Y	Cans and boxes, manufacturing	Oct. 18, 1864.
41, 316	Millholland, James	Reading, Pa	Boilers for locomotives	Jan. 19, 1864.
41, 585	Millochau, Adolph	New York, N. Y	Petroleum, obtaining useful products from the tarry residuum of.	Jan. 5, 1864.
42, 101	Mills, George E	New York, N. Y	Distilling wood, &c., portable apparatus for	Mar. 29, 1864.
41, 086	Mills, James R	Bloomfield, Iowa	Cultivators	Jan. 5, 1864.
41, 631	Mills, Richard Lansing	Columbus, Ohio	Ordnance, breech-loading	Feb. 16, 1864.
42, 390	Mills, T. S	Iberia, Ohio	Drills, grain	Apr. 19, 1864.
	Mills, William, and Thos. H. Bate. (*See* Van Gieson, Wm. H., assignor.)			
42, 391	Milo, Francis	Kingston, C. W	Transplanting, implement for	Apr. 19, 1864.
43, 751	Milsom, George, Henry Spendelow and Geo. V. Watson	Buffalo, N. Y	Unloading vessels, mode of	Aug. 2, 1864.
	Milsom, George, *et al.* (*See* Watson, Milsom & Spendelow.)			
42, 144	Mingay, Edward, assignor to Lemuel M. Leonard	Boston, Mass	Stoves	Mar. 29, 1864.
43, 521	Minter, James	Worcester, Mass	Bolt heading machine	July 12, 1864.
	Mitchell, A., *et al.* (*See* Goodes & Miller, assignors.) Reissue.			
	Mitchell, C. S. (*See* Slayton, Phineas L., assignor.)			
41, 632	Mitchell, George	London, England	Bags, floating	Feb. 16, 1864.
44, 210	Mitchell, George P	Philadelphia, Pa	Carpet beater and cleaner	Sept. 13, 1864.
	Mitchell, J., *et al.* (*See* Bell, John S., assignor.)			
44, 105	Mitchell, John S	South Boston, Mass	Shaft hanger	Sept. 6, 1864.
	Mitchell, Vance & Co. (*See* Smith, Edgar M., assignor.)			
	Mitchell, Vance & Co. (*See* Powers & Smith, assignors.)			
44, 211	Mitchell, William	New York, N. Y	Sugar-mould carriages	Sept. 13, 1864.
41, 343	Mix, Eugene M., and Henry H. Horton, assignors to selves, John Gauntlett and John H. Selkreg.	Ithaca, N. Y	Fire-arms, breech-loading	Jan. 19, 1864.
	Moffit, John R., *et al.* (*See* Rayner, Joseph, assignor.)			
42, 213	Molyneux, James	Bordentown, N. J	Wells, apparatus for forcing oil from	Apr. 5, 1864.
1, 789	Molyneux, J., assignor to the Bordentown Machine Co	Bordentown, N. J	Wells, oil, apparatus for forcing oil from (Reissue)	Oct. 4, 1864.
42, 783	Monot, David	Brooklyn, E. D., N. Y	Sails to mast-hoops, device for attaching	May 17, 1864.
43, 221	Monroe, George H	Cincinnati, Ohio	Blacking box and holder	June 21, 1864.
45, 121	Monroe, George O., assignor to the Army and Navy Button Company.	New York, N. Y	Medals, breastpins, &c., pin-fastening for	Nov. 15, 1864.
43, 700	Monroe, H. H	Thomaston, Maine	Harrows, rotary	Aug. 2, 1864.
41, 934	Monroe, Joshua	New York, N. Y	Legs, artificial	Mar. 15, 1864.
44, 644	Monroe, Joshua	New York, N. Y	Legs, artificial	Oct. 11, 1864.
41, 167	Montgomery, Mary Jane	New York, N. Y	Vessel, war—the parts, applying to other structures for defence.	Jan. 5, 1864.
42, 958	Montgomery, Mary Jane	New York, N. Y	Locomotive wheels	May 31, 1864.
	Montgomery, Richard	New York, N. Y	Boilers, corrugated (Extension)	Oct. 22, 1864.
41, 633	Montignani, John O	Albany, N. Y	Railway bars, securing	Feb. 16, 1864.
41, 231	Montignani, John O., assignor to William R. Hill	Albany, N. Y	Curtains, cord tightener for	Jan. 12, 1864.
41, 528	Montleart, Agatha, and William Tent	Great Britain	Hooks to furniture, means for attaching. (Patented in England July 16, 1861.)	Feb. 9, 1864.
42, 677	Moody, S. A	New York, N. Y	Skirts, hoop	May 10, 1864.
42, 591	Moody, S. A	New York, N. Y	Supporters, abdominal, and corsets, combined	May 3, 1864.
	Moore, A. S., *et al.* (*See* Burrill, Joseph, assignor.)			
1, 930	Moore, Daniel	Brooklyn, N. Y	Pistol handle, revolving (Design)	Apr. 5, 1864.
1, 693	Moore, Daniel, assignor to the Moore's Patent Fire-Arms Co	Brooklyn, N. Y	Fire-arms, revolving (Reissue)	June 7, 1864.
1, 694	Moore, Daniel, assignor to the Moore's Patent Fire-Arms Co	Brooklyn, N. Y	Fire-arms, revolving (Division B of reissue)	June 7, 1864.
45, 334	Moore, D. M	Windsor, Vt	Wrench	Dec. 6, 1864.
	Moore, David W. (*See* Wilson, Joseph B., assignor.)			
41, 087	Moore, F. H	Boston, Mass	Boot straps	Jan. 5, 1864.
1, 619	Moore, F. H	Boston, Mass	Boot strap (Reissue)	Feb. 16, 1864.
42, 102	Moore, George R	Lyons, Iowa	Fire chambers, apparatus for	Mar. 29, 1864.
43, 786	Moore, George R	Lyons, Iowa	Heaters, flat-iron	Aug. 9, 1864.
44, 440	Moore, George Rodney	Lyons, Iowa	Stove-pipe connection	Sept. 27, 1864.
41, 634	Moore, Hiram C. and Chauncey L	Springfield, Mass	Camera, photographic	Feb. 16, 1864.
	Moore, James, and John Fritz. (*See* Fritz & Moore.)			
	Moore, John M. (*See* Wilson, Joseph B., assignor.)			
	Moore, Lewis	Ypsilanti, Mich	Planter, seed (Extension)	June 28, 1864.
2, 004	Moore, Michael	Brooklyn, N. Y	Caster, table (Design)	Dec. 6, 1864.
	Moore, M. *et al.* (*See* Goodes & Miller, assignors.) Reissue.			
45, 067	Moore, S. M	Beloit, Wis	Harvesters	Nov. 15, 1864.
43, 327	Moorehead, Charles A	Quincy, Ill	Spinning machine, hand	June 28, 1864.
	Moore's Patent Fire-arms Company. (*See* Williamson, David, assignor.)			
	Moore's Patent Fire-arms Company. (*See* Williamson, David, assignor.)			
	Moore's Patent Fire-arms Company. (*See* Williamson, David, assignor.)			
	Moore's Patent Fire-arms Company. (*See* Bergen, Cornelius J., assignor.)			
	Moore's Patent Fire-arms Company. (*See* Bergen & Williamson, assignors.)			
42, 678	Moores, William C	Bloomfield, Wis	Human power, economizing	May 10, 1864.
43, 370	Morahan, Bernard, assignor to Joseph L. Jernegan	Brooklyn, N. Y	Car brakes	June 28, 1864.
44, 212	Morahan, Bernard	Brooklyn, N. Y	Boot and shoe nails	Sept. 13, 1864.
44, 547	Morahan, Bernard	Brooklyn, N. Y	Vegetable slicer	Oct. 4, 1864.
43, 422	More, Edward H	Moresville, N. Y	Grading and road scraping machine	July 5, 1864.
	More, R. B. (*See* Cornelius, Maxwell, assignor.)			
45, 164	Moreau, F., and F. Robert	New York, N. Y	Soap, apparatus for marbling	Nov. 22, 1864.
45, 166	Moreau, F., and F. Robert	New York, N. Y	Soap, manufacture of	Nov. 22, 1864.
43, 858	Morehouse, Charles B	New Castle, Ind	Whip sockets	Aug. 16, 1864.
	Morgan, D. S., and William H. Seymour. (*See* Palmer & Williams, assignors.) Reissue.			
	Morgan, D. S. (*See* Seymour, William H., assignor.) Reissue.			
43, 273	Morgan, Edward R. C., assignor to Abraham Morrel	England	Anchor	June 21, 1864.
42, 864	Morgan, F. M	Huntington, Ind	Stump pullers	May 24, 1864.
44, 495	Morgan, John	Great Britain	Preserving human bodies, &c	Sept. 27, 1864.
44, 997	Morgan, Richard P., assignor to self and Richard P. Morgan, jr.	Chicago, Ill	Locomotives for railroads, constructing and operating	Nov. 8, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
45,262	Morgenstern, William	Philadelphia, Pa	Fire-arm, breech-loading	Nov. 29, 1864.
43,328	Morison, Benjamin	Philadelphia, Pa	Stoves	June 28, 1864.
42,392	Morley, F. A	Sodus Point, N. Y	Ore separator	Apr. 19, 1864.
	Morrel, Abraham. (*See* Morgan, Edward R. C., assignor.)			
42,784	Morrill, Jesse L	New York, N. Y	Cork extractor	May 17, 1864.
	Morrill, John B., *et al.* (*See* Smith, Isaac, assignor.)			
41,635	Morrill, Oscar F	Chelsea, Mass	Heaters, vapor	Feb. 16, 1864.
42,103	Morrill, Oscar F	Chelsea, Mass	Stoves, vapor	Mar. 29, 1864.
42,214	Morrill, Oscar F	Chelsea, Mass	Stoves, vapor	Apr. 5, 1864.
44,548	Morrill, Oscar F	Chelsea, Mass	Heating apparatus	Oct. 4, 1864.
44,549	Morrill, Oscar F	Chelsea, Mass	Heating apparatus	Oct. 4, 1864.
	Morrill, Oscar F. (*See* Loveless, Charles B., assignor.)			
1,903	Morris, Henry G	Philadelphia, Pa	Cock, stop (Design)	Feb. 23, 1864.
42,679	Morris, John C	Cincinnati, Ohio	Water, apparatus for raising	May 10, 1864.
41,013	Morris, Thomas A., assignor to self and F. R. Schettler.	Green Bay, Wis	Quartz crushers. (Antedated March 6, 1862)	Aug. 30, 1864.
45,068	Morrison, Enoch R	New York, N. Y	Drill and sand pump	Nov. 15, 1864.
44,645	Morse, Andrew J	Melrose, Mass	Soda water apparatus	Oct. 11, 1864.
44,813	Morse, Andrew J	Melrose, Mass	Faucets	Oct. 25, 1864.
44,106	Morse, C. A	Williamsport, Ohio	Medical compound	Sept. 6, 1864.
41,745	Morse, Edwin J., assignor to self and Josiah D. Richards	North Attleborough, Mass	Watch guard or chain	Feb. 23, 1864.
45,165	Morse, E. W	Chicago, Ill	Cars, railroad, locking doors for	Nov. 22, 1864.
41,529	Morse, Francis B	New Haven, Ct	Carriages, shaft coupling for	Feb. 9, 1864.
41,442	Morse, John H	Peoria, Ill	Windmills	Feb. 2, 1864.
45,261	Morse, Lewis	North Attleborough, Mass	Eye protectors	Nov. 29, 1864.
42,592	Morse, S. A	East Bridgewater, Mass	Collets	May 3, 1864.
41,851	Morse, Solon E	Montgomery, Vt	Butter workers	Mar. 8, 1864.
41,387	Morse, William A	Boston, Mass	Callipers	Jan. 26, 1864.
45,167	Mort, S. A	Dayton, Ohio	Washing machine	Nov. 22, 1864.
	Morten, Edward W., and Caleb Y. Fleetwood. (*See* Fleetwood & Morten.)			
42,011	Morton, William	Woodhull, N. Y	Drilling machines	Mar. 22, 1864.
43,458	Moseley, Charles S., assignor to E. W. Dennison	Boston, Mass	Labels or tags, machine for cutting or punching	July 5, 1864.
45,512	Moseley, Charles S	Waltham, Mass	Watches, tool for closing or contracting the barrels of	Dec. 20, 1864.
41,388	Moseley, Lucilius H	Poughkeepsie, N. Y	Ice crusher	Jan. 26, 1864.
44,147	Mosselman, Alfred F	France	Manure, manufacture of	Sept. 6, 1864.
43,596	Mottet, Joseph	Philadelphia, Pa	Pantaloons, apparatus for stretching	July 19, 1864.
	Moulton, C. G., and George Himrod. (*See* Himrod & Moulton.)			
	Moulton, Henry W. (*See* Keene, George A., assignor.)			
43,222	Moulton, Joseph T	Chicago, Ill	Elevator, grain	June 21, 1864.
43,787	Mouren, Joseph	France	Tanning apparatus	Aug. 9, 1864.
44,878	Mowbray, George M	Titusville, Pa	Wells, oil, ejectors for	Nov. 1, 1864.
45,168	Mowbray, G. M	Titusville, Pa	Pumps, air	Nov. 22, 1864.
45,461	Mowbray, G. M., assignor to J. D. Angier and F. Crocker	Titusville, Pa	Wells, oil, ejectors for	Dec. 13, 1864.
43,953	Mowery, Jacob, assignor to self and James H. Spencer	Philadelphia, Pa	Lamps, coal oil	Aug. 23, 1864.
44,550	Mowry, Charles	Oneida Lake, N. Y	Sawing staves, machines for	Oct. 4, 1864.
	Mowry, Daniel C., and Samuel G. Congdon. (*See* Congdon & Mowry.)			
41,122	Mozart, Don J Levi Beach, and Laporte Hubbell	New York, N. Y Farmington, Ct Winsted, Ct	Clocks, calendar	Jan. 5, 1864.
43,701	Mudget, M. D	Eden, Vt	Sugar boiling apparatus	Aug. 2, 1864.
1,648	Mumma, J. H., assignor, through mesne assignments, to H. K. Parsons.	Harrisburg, Pa	Straw cutter (Reissue)	Mar. 29, 1864.
	Mulley, J. W., assignor to D. M. Osborne and W. A. Kirby	Auburn, N. Y	Reaping and mowing machines. (Disclaimer filed February 8, 1864.)	
	Munder, W. C., and C. Bauer. (*See* Bauer & Munder.)			
44,879	Munger, William B	Hillsdale, Mich	Pumps	Nov. 1, 1864.
	Munroe, James F. and E. P. (*See* Babcock, Moses, assignor.)			
42,012	Munson, David	Indianapolis, Ind	Ruler, paper	Mar. 22, 1864.
44,880	Munson, David	Indianapolis, Ind	Lightning conductors	Nov. 1, 1864.
43,124	Munson, John	San Jose, Cal	Pumps	June 14, 1864.
45,622	Munson, Leverett	Saybrook, Ohio	Trusses	Dec. 27, 1864.
41,636	Munson, Sylvester	Joliet, Ill	Dampers	Feb. 16, 1864.
	Murdock, Albert L., and Francis Longhurst. (*See* Longhurst & Murdock.)			
42,499	Murdock, J. F	Wareham, Mass	Stove-pipe elbows	Apr. 26, 1864.
43,126	Murphy, Anna M	New York, N. Y	Envelopes, letter	June 14, 1864.
	Murphy, John C. (*See* Miller, William, assignor.)			
42,865	Murphy, John H	Boston, Mass	Dinner can	May 24, 1864.
41,854	Murphy, J. Y. D	Half Moon, Pa	Planters, corn	Mar. 8, 1864.
43,421	Murphy, Robert	Jasper, N. Y	Churns	July 5, 1864.
45,674	Murray, Edgar, assignor to Charles W. Dunlap	New York, N. Y	Skates	Dec. 27, 1864.
42,215	Murray, J. V, and Charles Borst	Brooklyn, N. Y New York, N. Y	Porthole closer	Apr. 5, 1864.
41,855	Murrill, James H	Baltimore, Md	Sugar cutting machine	Mar. 8, 1864.
42,680	Murtha, David	Philadelphia, Pa	Brick machine	May 10, 1864.
	Mussey, Henry E., and Martin W. Pond. (*See* Pond & Mussey.)			
42,013	Muzzy, Lucius H	Springfield, Ohio	Churns, barrel	Mar. 22, 1864.
43,079	Myers, Abraham, assignor to self, C. M. Hall and E. R. Myer.	Philadelphia, Pa	Gas apparatus	June 7, 1864.
	Myers, B. F. (*See* Wilcox, Wm. E., assignor.)			
41,714	Myers, Calvin E	Bristol, Vt	Sled brake, self-acting	Feb. 23, 1864.
45,298	Myers, H. B., assignor to self, James A. Ostrom and H. Crawford.	Schoolcraft, Mich	Fence	Nov. 29, 1864.
41,443	Myers, M. D	Ilion, N. Y	Ladders, extension	Feb. 2, 1864.
	Myers, R. P. (*See* Vedder, N. S., assignor.) Design.			
42,145	Myers, Samuel, assignor to self and George W. Early	Chicago, Ill	Vinegar, apparatus for the manufacture of	Mar. 29, 1864.
42,304	Naglee, Joseph M	Philadelphia, Pa	Siphons	Apr. 12, 1864.
	Nash, Merritt. (*See* Whitmarsh, Henry M., assignor.)			
45,623	Natcher, Gabriel	Sidney, Ohio	Cannon, many-barreled	Dec. 27, 1864.
42,258	Nation, Robert, assignor to self and James N. Orr	Chebanse, Ill	Ploughs, gang	Apr. 5, 1864.
	Naudain, Andrew, and Wm. H. Walton. (*See* Walton & Naudain.)			
45,335	Nauman, Wm. H	Dayton, Ohio	Drills, seed	Dec. 6, 1864.
	Nax, Leonard, and Albert Kuhn. (*See* Kuhn & Nax.)			

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
	Naylor, Francis, *et al.* (*See* Lewis, Price & Naylor.)			
42,785	Naylor, Peter	New York, N. Y	Balls, Minie, devices for making	May 17, 1864.
42,786	Naylor, Peter	New York, N. Y	Balls, Minie, grooving and sizing	May 17, 1864.
45,624	Neal, Daniel B	Indianapolis, Ind	Sorghum evaporator	Dec. 27, 1864.
41,146	Neal, John S	Madison, Ind	Hoisting apparatus, steam	Feb. 2, 1864.
44,836	Neal, Moses, assignor to Neal & Finch	Kalamazoo, Mich	Churns	Oct. 25, 1864.
1,620	Neal, Thomas H	Pittsburg, Ill	Locomotives, running gear of (Reissue)	Feb. 16, 1864.
43,329	Nearns, David W	St. Louis, Mo	Vessels, sea-pipes for	June 28, 1864.
44,107	Needham, E. P	New York, N. Y	Pneumatic ways for transmission of parcels	Sept. 6, 1864.
45,428	Needham, Joseph S	South Danvers, Mass	Caterpillar nests, instrument for destroying	Dec. 13, 1864.
	Needham, Wales. (*See* Nelson, John, assignor.)			
44,334	Negly, Jacob	Fairview, Ill	Water elevators	Sept. 20, 1864.
41,715	Neikirk, D. F	Republic, Ohio	Hay elevating forks	Feb. 23, 1864.
1,907	Nell, John, ass'r to Wm. M. Brasher and S. H. Herriman	Clinton, Mass	Floorcloth pattern (Design)	Mar. 1, 1864.
44,213	Neill, John E	Brooklyn, N. Y	Steam, apparatus for superheating	Sept. 13, 1864.
44,441	Neilson, George	Boston, Mass	Burners, kerosene	Sept. 27, 1864.
44,442	Nelson, David	Port Washington, Ohio	Plough	Sept. 27, 1864.
45,069	Nelson, Henry G	Lockport, N. Y	Waterwheels	Nov. 15, 1864.
41,123	Nelson, John, assignor to self and Wales Needham	Rockford, Ill	Harvesters, raking devices for	Jan. 5, 1864.
43,597	Nelson, Robert	Albany, N. Y	Tooth brushes	July 19, 1864.
44,918	Nelson, Thomas, ass'r to the New York Quartz Company	New York, N. Y	Emery wheels	Nov. 1, 1864.
	Nelson, Wm. D., and E. S. Dickinson. (*See* Dickinson & Nelson.)			
44,738	Nelson, William S	St. Louis, Mo	Template, adjustable	Oct. 18, 1864.
42,104	Nettleton, Willford H	Bristol, Ct	Clock pillars	Mar. 29, 1864.
45,169	Neubert, F. W	Pittsburg, Pa	Legs, artificial	Nov. 22, 1864.
1,703	Neumann, Cæsar	New York, N. Y	Skirts, hoop (Reissue)	June 14, 1864.
1,755	Neumann, Cæsar	New York, N. Y	Skirts, skeleton (Reissue)	Aug. 30, 1864.
44,814	Neumeyer, Henry	Macungie, Pa	Bellows, foot	Oct. 25, 1864.
43,859	Neuss, Henri T	Williamsburg, N. Y	Lubricators	Aug. 16, 1864.
43,037	Nevell, George J	Philadelphia, Pa	Metal bars, apparatus for bending	June 7, 1864.
42,681	Nevens, J. P	Starks, Maine	Pumps	May 10, 1864.
42,014	Nevins, William	Irving, N. Y	Planters, potato	Mar. 22, 1864.
42,866	Newberry, William B	Dorchester, Mass	Paper from Spanish grass, manufacture of	May 24, 1864.
	Newberry, Wm. B., *et al.* (*See* Vanderburgh, Geo. E., ass'r.)			
41,168	Newell, A. F	Warren, Ohio	Fruit boxes	Jan. 5, 1864.
1,889	Newell, Samuel B	Cincinnati, Ohio	Trade mark (Design)	Jan. 26, 1864.
	New England Glass Company. (*See* Magoun, Joseph, ass'r.)			
	New England Gutta Percha Roofing Co. (*See* Spooner, Charles M., assignor.)			
45,513	Newhall, Walter P., assignor to George P. Ganster	Peekskill, N. Y	Burners, night	Dec. 20, 1864.
43,330	Newman, John B	Milford, Pa	Guns, heavy, mounting	June 28, 1864.
	New York Quartz Company. (*See* Vanderburgh, Geo. E., assignor.) Reissue.			
	New York Quartz Company. (*See* Vanderburgh, Geo. E., assignor.) Reissue.			
	New York Quartz Company. (*See* Vanderburgh, Geo. E., assignor.) Reissue.			
	New York Quartz Company. (*See* Nelson, Thomas, ass'r.)			
	New York Rubber Company. (*See* Alden, Henry A., ass'r.)			
41,531	Newton, Isaac	New York, N. Y	Vessels, iron-clad, means for the protection of the anchor cables of. (Antedated January 11, 1864.)	Feb. 9, 1864.
41,964	Newton, Isaac, and Norman W. Wheeler, assignors to Isaac Newton	New York, N. Y Brooklyn, N. Y	Engines, vacuum	Mar. 15, 1864.
	Newton, Luke V	New York, N. Y	Types, metallic, engraved plates for, preparing the face of. (Extension.)	Aug. 9, 1864.
1,884	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	Jan. 19, 1864.
1,885	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	Jan. 19, 1864.
1,886	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	Jan. 19, 1864.
1,898	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	Feb. 16, 1864.
1,899	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	Feb. 16, 1864.
1,900	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	Feb. 16, 1864.
1,901	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	Feb. 16, 1864.
1,921	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	Mar. 15, 1864.
1,922	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	Mar. 15, 1864.
1,923	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	Mar. 15, 1864.
1,924	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	Mar. 15, 1864.
1,925	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	Mar. 22, 1864.
1,941	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	May 10, 1864.
1,942	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	May 10, 1864.
1,943	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	May 10, 1864.
1,953	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	June 14, 1864.
1,954	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	June 14, 1864.
1,955	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	June 14, 1864.
1,956	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	June 14, 1864.
1,972	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	July 19, 1864.
1,973	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	July 19, 1864.
1,974	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	July 19, 1864.
1,975	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	July 19, 1864.
1,976	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	July 19, 1864.
1,977	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	July 19, 1864.
1,978	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	July 19, 1864.
1,999	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	Nov. 29, 1864.
2,000	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	Nov. 29, 1864.
2,001	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	Nov. 29, 1864.
2,002	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	Nov. 29, 1864.
2,003	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	Nov. 29, 1864.
2,008	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	Dec. 13, 1864.
2,009	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	Dec. 13, 1864.
2,010	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	Dec. 13, 1864.
2,011	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	Dec. 13, 1864.
2,012	Ney, Elemir J., assignor to the Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	Dec. 13, 1864.
42,015	Nichols, Barak T	Newark, N. J	Saddles	Mar. 22, 1864.
45,514	Nichols, John	Fond du Lac, Wis	Belt tightener	Dec. 20, 1864.
45,515	Nichols, John	Fond du Lac, Wis	Elevator, grain	Dec. 20, 1864.
	Nichols, John M. (*See* Gleason, F. A., assignor.)			
44,214	Nichols, Wm. H., and Horatio H. Abbe	Chatham, Conn	Screws, moulds for casting ornamental beads to	Sept. 13, 1864.
42,216	Nicholson, William T	Providence, R. I	File-cutting machine	Apr. 5, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
42,217	Nicholson, William T	Providence, R. I	File-cutting machine	Apr. 5, 1864.
44,443	Nicholson, William T	Providence, R. I	File for dressing metal	Sept. 27, 1864.
44,815	Nickolds, H	Providence, R. I	Hooks and eyes	Oct. 25, 1864.
42,867	Niemoller, F. J	Richfountain, Mo	Fire shovels	May 24, 1864.
44,881	Niles, S. R	Rawsonville, Mich	Tuyeres. (Antedated November 8, 1864)	Nov. 1, 1864.
	Nimbs, A. B., *et al.* (*See* Mey, Frederick H. C., assignor.)			
	Nimbs, A. B., and John C. Clifford. (*See* Kellogg & McKee, assignors.)			
42,734	Nimbs, A. B., assignor to self and J. C. Clifford	Buffalo, N. Y	Elevator buckets, manufacture of	May 10, 1864.
44,108	Nimbs, A. B	Buffalo, N. Y	Elevator, coal, buckets	Sept. 6, 1864.
45,336	Nimbs, A. B	Buffalo, N. Y	Elevator, grain	Dec. 6, 1864.
45,337	Nimbs, A. B	Buffalo, N. Y	Elevator, grain	Dec. 6, 1864.
42,959	Nimmo, George	Jersey City, N. J	Lead, black, crucibles	May 31, 1864.
43,127	Nimmo, George, and Robert S. Stenton	Jersey City, N. J New York, N. Y	Furnace for heating and welding	June 14, 1864.
44,335	Nimmo, George	Jersey City, N. J	Tires, steel, moulds for casting	Sept. 20, 1864.
42,868	Nischwitz, Frederick	Brooklyn, N. Y	Vegetables, machine for washing and scouring	May 24, 1864.
42,787	Nixon, Daniel M	Danville, Ill	Buckles, harness	May 17, 1864.
	Nixon, William Penn. (*See* Robbins, E. Y., assignor.)			
	Nixon, William Penn. (*See* Robbins, E. Y., assignor.)			
	Noble, Charles. (*See* Cornell, John, assignor.)			
	Noble, C., and J. G. Abbott. (*See* Smith & Brown, ass'rs.) Design.			
44,109	Noble, John A	Florence, Mass	Stove-pipes, damper for	Sept. 6, 1864.
44,444	Noble, O. E	Penn Yan, N. Y	Pulverizing and levigating substances, machine for. (Antedated Sept. 16, 1864.)	Sept. 27, 1864.
41,341	Nobles, Milton V., assignor to self and John C. Nobles	St. Anthony's Falls, Minn	Plumb and squares, reversible	Jan. 19, 1864.
42,218	Noe, Lewis F	New York, N. Y	Pavements, street	Apr. 5, 1864.
43,788	Noette, Francis V	Brooklyn, N. Y	Umbrellas	Aug. 9, 1864.
42,536	Nolty, G. J., assignor to self and D. Robertson	New York, N. Y	Pen, fountain	Apr. 26, 1864.
44,445	Norcross, Joseph W	Boston, Mass	Sails, attachment of	Sept. 27, 1864.
44,446	Norcross, Joseph W	Boston, Mass	Row-lock	Sept. 27, 1864.
45,625	Norcross, Joseph W	Middletown, Conn	Boom and gaff joints	Dec. 27, 1864.
44,373	Norcross, Joseph W., ass'r to W. W. Wilcox and Jos. Hall, jr.	Boston, Mass	Row and scull lock	Sept. 20, 1864.
42,393	Norcross, Nathaniel	Livermore, Maine	Press, cheese	Apr. 19, 1864.
	Nordlinger, S., *et al.* (*See* Illofsky, Ignatz, assignor.)			
	Norris, Samuel. (*See* Rodier, Louis C., assignor.)			
	Norris, Samuel. (*See* Rodier, Louis C., assignor.)			
41,716	North, J. E	Candor, N. Y	Washing-machine	Feb. 23, 1864.
42,960	Northrup, C. B	New York, N. Y	Horses, rocking, spring. (Antedated May 30, 1864)	May 31, 1864.
	Northrup, James. (*See* Gage, C. G., assignor.)			
	Northrup, N. W., and Mills L. Callender. (*See* Callender & Northrup.) Reissue.			
	Northrup, N. W., and Mills L. Callender. (*See* Callender & Northrup.) Reissue.			
	Northrup, N. W., and Mills L. Callender. (*See* Callender & Northrup.) Reissue.			
	Northrup, N. W., and Mills L. Callender. (*See* Callender & Northrup.) Reissue.			
43,128	Norton, Frank H	New York, N. Y	Medical compound	June 14, 1864.
	Norton Furnace Company. (*See* Magee, John, assignor.)			
43,434	Norton, Lewis A	Healdsburg, Cal	Paddle-wheel	July 5, 1864.
42,016	Norton, Marcus P	Troy, N. Y	Desk and chair, office, combined	Mar. 22, 1864.
1,748	Norton, Marcus P., assignor to Jacob Shavor and A. C. Corse	Troy, N. Y	Stamps, post office (Reissue)	Aug. 23, 1864.
44,739	Norton, Tertius S	Chicopee, Mass	Steel to iron, method of attaching	Oct. 18, 1864.
	Norwalk Lock Company. (*See* Elwell, Henry H., assignor.)			
	Norwalk Lock Company. (*See* Elwell, Henry H., assignor.)			
44,882	Norwood, Rufus	Baltimore, Md	Pipe, smoking	Nov. 1, 1864.
	Nourse, Joel. (*See* Adams, Sanford, assignor.)			
42,869	Nowak, Moritz	Williamsburg, N. Y	Compound, blasting	May 24, 1864.
43,860	Nowlan, Samuel	New York, N. Y	Paper, manufacture of	Aug. 16, 1864.
45,338	Nowlan, Samuel	New York, N. Y	Stoves, cooking. (Antedated Nov. 16, 1864)	Dec. 6, 1864.
	Noxon, Henry, and Orville M. Cronkhite. (*See* Cronkhite, Willard F., assignor.)			
43,038	Noyes, Elfameo M	Newark, N. J	Combs	June 7, 1864.
43,598	Noyes, George E	Washington, D. C	Valves, governor	July 19 1864.
	Noyes, Isaac, jr., *et al.* (*See* Millet, John W., assignor.)			
45,421	Noyes, William	New York, N. Y	Damper regulators. (Antedated Dec. 3, 1864)	Dec. 13, 1864.
42,961	Noyes, W. C	Seymour, Conn	Wrenches	May 31, 1864.
42,962	Nunns, William	New York, N. Y	Dancer, automaton	May 31, 1864.
45,516	Nutt, John C. and J. L	Cleveland, Ohio	Saw mills	Dec. 20, 1864.
41,856	Nye, John C	Cincinnati, Ohio	Stencil plate	Mar. 8, 1864.
42,105	Nye, John C	Cincinnati, Ohio	Car axles, railroad	Mar. 29, 1864.
41,088	Oakes, W. H	New York, N. Y	Press, die-sinking, for obtaining relief plates for surface printing.	Jan. 5, 1864.
	Oakley, Jesse. (*See* Leslie, G. M., assignor.)			
	Oatley, George D. (*See* Goff, Hiram H., assignor.)			
	Obermuller, F. E. (*See* Wolf, Frederick M., assignor.)			
43,599	O'Brien, William D	Brooklyn, N. Y	Railroad rails	July 19, 1864.
44,647	Ochiltree, S. P., W. S. Weir, jr. and N. P. Baymount	Monmouth, Ill	Saw-filing machine	Oct. 11, 1864.
41,317	Odell, Eli	Winterset, Iowa	Planes	Jan. 19, 1864.
44,883	Odiorne, George	Boston, Mass	Air, apparatus for carburetting	Nov. 1, 1864.
44,447	O'Donnell, J. D	Washington, D. C	Retort stands. (Antedated Sept. 16, 1864)	Sept. 27, 1864.
	O'Drulland, Frank, *et al.* (*See* Brown, Myron E., assignor.)			
42,017	Ogborn, Harrison	Richmond, Ind	Beehives	Mar. 22, 1864.
41,232	Ogborn, Harrison, and John W. Free	Green's Fork, Ind	Separators, grain	Jan. 12, 1864.
43,924	Ogden, Marshall B	Fond-du-Lac, Wis	Bell, door	Aug. 23, 1864.
45,170	Ohmer, Augustus J	Hamilton, Ohio	Fountain, refreshment, portable	Nov. 22, 1864.
42,394	O'Kane, James	New York, N. Y	Needle-threaders	Apr. 19, 1864.
	Old, James, and Ira Robbins. (*See* Robbins & Old.)			
	Oldenberg, C. W., *et al.* (*See* Witsil, George L., assignor.)			
41,389	Older, William H	Packwaukee, Wis	Cultivators. (Antedated Jan. 20, 1864)	Jan. 26, 1864.
43,789	Olds, A. M	Chicago, Ill	Measures, lumber	Aug. 9, 1864.
42,500	Olds, A. W	Green Oak, Mich	Ladder, fruit	Apr. 26, 1864.
42,219	Olds, Edward F	Lyon, Mich	Ladder	Apr. 5, 1864.
45,430	Olds, E. F	South Lyon, Mich	Ladders, fruit	Dec. 13, 1864.
42,682	Oliver, Francis E	New York, N. Y	Car springs	May 10, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
41,262	Olmstead, Joseph, assignor to T. P. Dinsmore	Chicago, Ill	Tire, device for shrinking	Jan. 12, 1864.
41,315	Olmstead, Joseph, assignor to self and John H. Lewis	Knoxville, Ill	Planters, corn	Jan. 19, 1864.
44,920	Olmstead, Joseph, assignor to self and John H. Lewis	Knoxville, Ill	Planter, corn	Nov. 1, 1864.
42,593	Olmstead, L. H	Newark, N. J	Oil cans	May 3, 1864.
44,448	Olmstead, L. H	Newark, N. J	Friction clutch	Sept. 27, 1864.
42,220	Olmsted, S. J	Binghamton, N. Y	Plough handles	Apr. 5, 1864.
44,215	Olmsted, S. J	Binghamton, N. Y	Plough	Sept. 13, 1864.
	Olmsted, William, *et al.* (*See* Miller, Peck & Olmsted.)			
	Orcutt, Charles F., and John V. B. Carter. (*See* Carter & Orcutt.)			
42,821	Orcutt, Nelson, assignor to self and George W. Gregory	Binghamton, N. Y	Butter from milk, producing	May 17, 1864.
	Orr, James N. (*See* Nation, Robert, assignor.)			
	Orton, James, and Charles R. Foote. (*See* Foote & Orton.)			
41,445	Ortwine, William	Baltimore, Md	Houses, construction of	Feb. 2, 1864.
45,264	Osborn, James D	Goshen, Ind	Cultivators	Nov. 29, 1864.
	Osborne, D. M., and W. A. Kirby. (*See* Mulley, J. W., assignor.) Disclaimer.			
	Osborne, David M. (*See* Kirby, William A., assignor.)			
	Osborne, David M. (*See* Kirby, William A., assignor.)			
	Osborne, David M. (*See* Burdick, Orrin H., assignor.)			
	Osborne, David M. (*See* Kirby, William A., assignor.) Reissue.			
42,683	Osborne, Lewis E	New Haven, Conn	Letter clip	May 10, 1864.
42,788	Osborne, William	South Adams, Mass	Steam traps	May 17, 1864.
1,628	Osgood, Enoch	New York, N. Y	Gins, cotton (Reissue)	Mar. 8, 1864.
44,884	Osgood, James M	Somerville, Mass	Regulator, automatic	Nov. 1, 1864.
41,263	Osgood, William F., assignor to Orin F. Osgood	Lowell, Mass	Planters, corn	Jan. 12, 1864.
	Ostrom, James A., *et al.* (*See* Myers, H. B., assignor.)			
44,740	Otis, Charles R	Yonkers, N. Y	Hoisting apparatus, brakes of	Oct. 18, 1864.
45,070	Otis, Frederick S	Brooklyn, N. Y	Skirts, hoop	Nov. 15, 1864.
42,684	Otis, Nathaniel	Cook county, Ill	Funnels, measuring	May 10, 1864.
42,259	Otis, Nathaniel, assignor to self and Joseph Fanyon	Chicago, Ill	Washing machine	Apr. 5, 1864.
44,885	Otis, Samuel L	Manchester, Conn	Knitting machines, circular	Nov. 1, 1864.
44,886	Overbagh, Addison	Hudson, N. Y	Fryer, egg	Nov. 1, 1864.
44,485	Overhiser, J. C., assignor to self and George W. Gregory	Binghamton, N. Y	Oil cans	Sept. 27, 1864.
1,598	Owen, George	Jacksonville, Ill	Plough couplings (Reissue)	Jan. 5, 1864.
1,879	Owen, George B	New York, N. Y	Clock case (Design)	Jan. 5, 1864.
41,169	Owen, Miron	Potsdam, N. Y	Presses, cheese	Jan. 5, 1864.
	Owens, Lane, Dyer & Co. (*See* Kefer, John, assignor.)			
	Owens, Lane, Dyer & Co. (*See* Petticrew, Algernon S., assignor.)			
42,715	Oxley, James	Great Britain	Bread cutter. (Patented in England Oct. 30, 1862)	May 10, 1864.
42,789	Oxnard, Thomas	Marseilles, France	Evaporating liquids, apparatus for	May 17, 1864.
	Packard, H. F., and T. K. Reed. (*See* Reed & Packard.) Reissue.			
	Packard, H. F., and T. K. Reed. (*See* Reed & Packard.) Reissue.			
	Packard, H. F., and T. K. Reed. (*See* Reed & Packard.)			
45,171	Packard, Samuel W., and Charles A. Meekins	Buckland, Mass	Vegetable cutter	Nov. 22, 1864.
43,883	Packer, Charles W., assignor to self and George Bates	Philadelphia, Pa	Ovals, machine for cutting	Aug. 16, 1864.
45,565	Packer, Charles W., assignor to self and George Bates	Philadelphia, Pa	Objects with straight sides and semicircular ends, machine for cutting.	Dec. 20, 1864.
1,932	Packer, Daniel F	Pittsburg, Pa	Trade mark (Design)	Apr. 19, 1864.
43,331	Paden, Samuel K	Volant, Pa	Harvesting machines	June 28, 1864.
	Paddock, Wm., and N. C. Whitcomb. (*See* Whitcomb & Paddock.)			
44,648	Paersch, Adalbert	New Orleans, La	Photographs, apparatus for washing and drying	Oct. 11, 1864.
42,106	Page, C. D	Grand Rapids, Mich	Brick kilns	Mar. 29, 1864.
42,501	Page, C. D	Grand Rapids, Mich	Lime kilns	Apr. 26, 1864.
1,933	Page, Wm. H., assignor to Wm. H. Page & Co	Norwich, Conn	Letters, ornate (Design)	Apr. 19, 1864.
43,377	Pagenstecher, Albert	Chili	Vessels, water defence as the protecting armor of	June 28, 1864.
44,584	Pagenstecher, Albert	Chili	Propeller, hydraulic. (Antedated March 31, 1864)	Oct. 4, 1864.
43,425	Paige, William H	Springfield, Mass	Fire-escape ladders	July 5, 1864.
45,377	Paige, Wm. H., assignor to self and Elisha Child, jr	Springfield, Mass	Brick machine	Dec. 6, 1864.
42,050	Paine, Calvin H., assignor to Charles S. Horton	Providence, R. I	Jacks, carriage	Mar. 22, 1864.
42,822	Paine, Hiram E., assignor to Elisha Waters	Troy, N. Y	Stitching horse	May 17, 1864.
41,531	Painter, Edward	East Hampton, Mass	Lubricators	Feb. 9, 1864.
45,339	Painter, William	Afton, Iowa	Water elevators	Dec. 6, 1864.
	Palm, John H., and David Lippy. (*See* Lippy & Palm.)			
1,682	Palmer, A., and S. G. Williams, assignors, through mesne assignments, to Dayton S. Morgan and Wm. H. Seymour.	Brockport, N. Y Janesville, Wis	Harvesters (Reissue)	May 31, 1864.
44,967	Palmer, Ashley H	Skaneateles, N. Y	Fence, portable	Nov. 8, 1864.
43,791	Palmer, A. Judson	Brooklyn, N. Y	Dough-kneader	Aug. 9, 1864.
45,299	Palmer, Charles H., assignor to George Edwards	Newark, N. J	Harness snaps. (Antedated November 16, 1864)	Nov. 29, 1864.
	Palmer, Egbert M. (*See* Lezat, Nelson, assignor.)			
1,988	Palmer, George T	Brooklyn, N. Y	Aquarium or fish tank (Design)	Sept. 20, 1864.
1,816	Palmer, Isaac E	Middletown, Conn	Bed canopy (Reissue)	Nov. 8, 1864.
45,629	Palmer, Isaac E	Middletown, Conn	Looms, circular, for weaving the covering of cords, &c	Dec. 29, 1864.
41,390	Palmer, Isaac H	Lodi, Wis	Threshers, band cutting and feeding attachment to	Jan. 26, 1864.
43,223	Palmer, J	Cleveland, Ohio	Car roofs, railroad	June 21, 1864.
44,216	Palmer, Jacob T	Greencastle, Ind	Churn	Sept. 13, 1864.
43,790	Palmer, Jerome	Painesville, Ohio	Fence posts	Aug. 9, 1864.
42,305	Palmer, Lucius C	Winchester, Conn	Scythe rods or bars, manufacture of	Apr. 12, 1864.
44,968	Palmer, Milton J	Homer, N. Y	Whiffletrees, coupling for	Nov. 8, 1864.
45,071	Palmer, S. W. and J. F	Auburn, N. Y	Clothes wringer and mangle	Nov. 15, 1864.
43,925	Palmer, Timothy G	Greenville, N. Y	Derricks for stacking hay	Aug. 23, 1864.
41,857	Palmer, William	New York, N. Y	Fire-arms, revolving	Mar. 8, 1864.
	Palmiter, Clebron D., and John L. Boorum. (*See* Boorum & Palmiter.)			
42,395	Palmiter, J	Jamestown, N. Y	Staves, machines for dressing	Apr. 19, 1864.
	Pancoast, S. (*See* Felter, George, assignor.)			
44,551	Parce, Justus	Fairport, N. Y	Butter, box or tub for putting up	Oct. 4, 1864.
42,502	Parham, Charles	Philadelphia, Pa	Sewing machine	Apr. 26, 1864.
44,217	Parham, Charles	Philadelphia, Pa	Sewing machine	Sept. 13, 1864.
44,742	Parham, Charles	Philadelphia, Pa	Press, fruit and vegetable	Oct. 18, 1864.
1,984	Paris, Daniel E	Troy, N. Y	Stove, plates of a (Design)	Aug. 16, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
45,627	Paris, Daniel E	Troy, N. Y	Stoves, cooking	Dec. 27, 1864.
	Paris, Daniel E. (*See* Vedler, Nicholas S., ass'r.) Design.			
43,861	Parish, S. M	Baldwinsville, N. Y	Bricks, &c., apparatus for drying	Aug. 16, 1864.
	Park, Austin F	Troy, N. Y	Telegraph, electric, manipulators (Extension)	Aug. 19, 1864.
42,221	Park, John	Joliet, Ill	Stoves, cooking	Apr. 5, 1864.
41,717	Park, R. W	Allegheny, Pa	Rafts, barrel, construction of	Feb. 23, 1864.
42,594	Park, Robert W	Pittsburg, Pa	Floating barrels, connexion for	May 3, 1864.
44,101	Parker, Andrew	Cleveland, Ohio	Saw and planing machines, feed rollers for. (Antedated September 1, 1864.)	Sept. 6, 1864.
43,625	Parker, Edward, assignor to self and Wm. L. Jordan	Philadelphia, Pa	Barrel, oil, metallic	July 19, 1864.
44,954	Parker, Edward, assignor to Hotchkiss Manufacturing Co	Middletown, Conn	Eyelets	Aug. 23, 1864.
42,107	Parker, Emery	West Meriden, Conn	Bell, call	Mar. 29, 1864.
1,707	Parker, Emery	Meriden, Conn	Door knobs to spindles, mode of attaching (Reissue)	June 21, 1864.
43,382	Parker, Emery	West Meriden, Conn	Door knobs to their spindles, mode of attaching	June 28, 1864.
44,619	Parker, Ezra	Beverly, Ohio	Pumps, bellows	Oct. 11, 1864.
41,935	Parker, George A	Lancaster, Mass	Piers, &c., mode of construction of	Mar. 15, 1864.
44,111	Parker, George A	Lancaster, Mass	Structures, subaqueous	Sept. 6, 1864.
42,870	Parker, Granville	Worcester, Mass	Propeller	May 24, 1864.
	Parker, John, and H. Hannin. (*See* Bolles, Jesse N., ass'r.) Reissue.			
	Parker, John E., and Henry J. Whipple. (*See* Cummings, G. N., assignor.)			
44,650	Parker, J. J	Marietta, Ohio	Feed cutter	Oct. 11, 1864.
45,431	Parker, J. W	St. Charles, Ill	Washing machine	Dec. 13, 1864.
42,306	Parker, Owen H	Hopkinton, Mass	Sole edge and heel shave	Apr. 12, 1864.
45,265	Parker, R. W	Woburn, Mass	Carriage springs	Nov. 29, 1864.
41,392	Parker, Samuel J	Ithaca, N. Y	Preserving fruit in jars, &c	Jan. 26, 1864.
41,532	Parker, Samuel J	Ithaca, N. Y	Jars, fruit	Feb. 9, 1864.
44,336	Parker, Thomas	Philadelphia, Pa	Coal scuttle and ash sifter combined	Sept. 20, 1864.
	Parkers, Snow & Co. (*See* Smith, Rodney L., assignor.)			
45,266	Parkinson, R. B., and J. M. Maris	Philadelphia, Pa	Medicine chest	Nov. 29, 1864.
44,149	Parkhurst, P. P	Milford, Mass	Stoves, heating	Sept. 27, 1864.
41,936	Parkhurst, Stephen R	New York, N. Y	Wool, &c., machine for picking and cleaning	Mar. 15, 1864.
45,072	Parmelee, William H	Hopkins, Mich	Evaporator	Nov. 15, 1864.
	Parmenter, Wm. E., *et al.* (*See* Grundy, Thomas, assignor.)			
44,837	Parr, Sam'l, assig'r to self, J. A. Fox, and J. A. Robertson	Boston, Mass	Vessels, monitor, construction of	Oct. 25, 1864.
44,743	Parrish, Robert A., jr	Philadelphia, Pa	Hose, valve arrangements for. (Antedated Dec. 12, 1863)	Oct. 18, 1864.
41,937	Parrott, Robert P	Cold Spring, N. Y	Shells, explosive, percussion fuse for	Mar. 15, 1864.
43,334	Parshall, Charles H	Detroit, Mich	Valves, cut-off	June 28, 1864.
43,629	Parson, Perceval Moses	England	Ordnance, strengthening	July 19, 1864.
45,267	Parsons, George F	Baltimore, Md	Collars, horse	Nov. 29, 1864.
	Parsons, H. K. (*See* Mumma, Jacob H., assignor.) Reissue.			
	Parsons, H. K. (*See* Krauser, John, assignor.) Reissue.			
44,651	Parsons, H. K	Harrisburg, Pa	Mills, cider	Oct. 11, 1864.
	Parsons, J. Russell. (*See* Roney, Benj. F., ass'r.) Reissue.			

No.	Patentee.	Residence.	Invention or discovery.	Date.
44,816	Parsons, Sanford E	Wilkesbarre, Pa	Stove, coal	Oct. 25, 1864.
	Partinsky, Charles, and Wm. H. Bovee. (*See* Bovee & Partinsky.)			
43,702	Partridge, John	Pittsfield, Mass	Rakes, horse	Aug. 2, 1864.
1,946	Partridge, John W	Roxbury, Mass	Hat, ladies' (Design)	May 17, 1864.
42,902	Partureau, L. M. F	France	Thread clews, enveloped	May 24, 1864.
43,129	Partz, August F. W	Wurtsborough, N. Y	Ores, sulphurets and other, roasting	June 14, 1864.
44,450	Partz, A. F. W	Wurtsborough, N. Y	Ore crushers	Sept. 27, 1864.
43,426	Patch, Charles	South Reading, Mass	Sewing machine shuttle	July 5, 1864.
	Patchell, O. C. (*See* Snook, Wm. G., assignor.)			
1,931	Paterson, James, assignor to Edward Harvey	Elizabethtown, N. J	Floor cloth pattern (Design)	Apr. 5, 1864.
45,268	Paton, James	Newburg, Ohio	Nuts, machine for making	Nov. 29, 1864.
45,269	Paton, J., T. Campbell and R. Paton	Newburg, Ohio	Bolts and rivets, machine for making	Nov. 29, 1864.
1,756	Paton, Robert	New York, N. Y	Seat, school (Reissue)	Aug. 30, 1864.
	Pattee, S. L., and John H. Aldrich. (*See* Aldrich & Pattee.)			
	Patterson, C. S., *et al.* (*See* Goodes & Miller, assignors.) Reissue.			
45,517	Patterson, E. C	Chicago, Illinois	Separators, grain	Dec. 20, 1864.
41,391	Patton, James M	Indianapolis, Ind	Calendars	Jan. 26, 1864.
43,331	Paul, Seth D	Lawrence, Mass	Spinning woolen yarns, mules for	June 28, 1864.
42,685	Payne, Charles F	Gardner, Mass	Fire-arm, breech-loading	May 10, 1864.
42,108	Payne, F. C	New York, N. Y	Bed-bottom, folding	Mar. 29, 1864.
44,887	Payne, Frederick C	New York, N. Y	Bedstead, bureau	Nov. 1, 1864.
41,533	Payne, Lyman E	Disco, Mich	Bed-bottom, spring	Feb. 9, 1864.
41,231	Peacock, Hyla H	Philadelphia, Pa	Saddle-bags and medicine case. (Antedated Dec. 20, 1863)	Jan. 12, 1864.
42,018	Peak, John, and F. T. Pinkham	Boston, Mass	Burial cases	Mar. 22, 1864.
42,019	Pearl, F. M	Owensboro', Ky	Tobacco, mode of securing a desirable color to	Mar. 22, 1864.
	Pears, Thomas T., and C. F. Crosfeldt. (*See* Crosfeldt & Pears.)			
43,600	Pearson, Preston C	Harrison county, Ind	Press, hay	July 19, 1864.
43,926	Pearson, William	Windsor Locks, Ct	Wrench, pipe	Aug. 23, 1864.
44,744	Pease, Julius A	New York, N. Y	Hats, paper-pulp	Oct. 18, 1864.
41,637	Pease, W. H	Dayton, Ohio	Tobacco cutters	Feb. 16, 1864.
	Peck, E. B., *et al.* (*See* Miller, Peck & Olmsted.)			
44,652	Peck, Isaac D	South Bristol, N. Y	Pitchforks	Oct. 11, 1864.
43,601	Peck, Milo	New Haven, Ct	Fire-arms, patched balls for	July 19, 1864.
41,234	Peck, Milo and Charles, and Robert W. Wright	New Haven, Ct Orange, Ct	Print addresses on newspapers, machine to	Jan. 12, 1864.
	Peck, Milo. (*See* Lawrence, James, assignor.)			
41,718	Peck, Obed	Windsor, Vt	Bits in braces, securing	Feb. 23, 1864.
	Peck, Samuel. (*See* Collins, Smith, assignor.)			
41,089	Peck, Alfred	England	Evaporating liquids, apparatus for	Jan. 5, 1864.
43,703	Peln, John H	New York, N. Y	Jars, liquid, measuring nozzles for	Aug. 2, 1864.
1,640	Peirce, Gideon	Ercildown, Pa	Rakes, horse (Reissue)	Mar. 22, 1864.
45,518	Peirce, Isaac Newton	Boston, Mass	Composition for crayons	Dec. 20, 1864.
42,790	Pelsue, Hosea	East Wallingford, Vt	Barrel hoops, device for chamfering	May 17, 1864.
44,374	Pelton, Samuel, assignor to Fell, Pelton & Brearsley	Trenton, N. J	Thresher and separator	Sept. 20, 1864.
44,451	Pender, Jo. S	New York, N. Y	Compasses, mariners'. (Antedated September 19, 1864)	Sept. 27, 1854.
45,549	Pendergast, Timothy	New Haven, Ct	Carriage shafts, couplings for	Dec. 20, 1864.
44,771	Penfield, Charles R., assignor to George W. Penfield	Lockport, N. Y	Planing machine	Oct. 18, 1864.
42,871	Penn, W. P	Belleville, Ill	Drills, grain	May 24, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
43,335	Penn, W. P	Belleville, Ill	Drills, seed and grain	June 28, 1864.
44,452	Penn, Worden P	Belleville, Ill	Harvesters	Sept. 27, 1864.
44,817	Penniman, Benjamin F	New York, N. Y	Coal and ores, process for purifying	Oct. 25, 1864.
41,412	Pennock, Morton, assignor to self and Samuel Pennock	Kennett Square, Pa	Pavements and gutters, cast iron	Jan. 26, 1864.
41,318	Peple, Anthony	East Bellerica, Mass	Wool, composition for scouring	Jan. 19, 1864.
45,628	Pepper, Truman W., Louis Planer and Joseph Kayser	New York, N. Y	Sewing machine	Dec. 27, 1864.
42,503	Pepple, Edmund	New Carlisle, Ind	Pumps, wind-wheel	Apr. 26, 1864.
41,938	Perce, Elbert	Brooklyn, N. Y	Globes, geographical	Mar. 15, 1864.
1,997	Percival, George G	Brooklyn, N. Y	Bottle, ink (Design)	Nov. 8, 1864.
44,838	Perkins, Charles H., assignor to the Union Horseshoe Co	Providence, R. I	Horseshoes, machines for making	Oct. 25, 1864.
44,839	Perkins, Charles H., assignor to the Union Horseshoe Co	Providence, R. I	Horseshoes, machines for making	Oct. 25, 1864.
44,840	Perkins, Charles H., assignor to the Union Horseshoe Co	Providence, R. I	Horseshoes, machines for making	Oct. 25, 1864.
42,595	Perkins, F. B	Roxbury, Mass	Hoisting machine	May 3, 1864.
41,235	Perkins, Gustavus S	Essex, Mass	Cable stopper	Jan. 12, 1864.
42,396	Perkins, James	Newark, N. J	Preserving eggs, meats, &c	Apr. 19, 1864.
45,340	Perkins, John M., and Mark W. House	Cleveland, Ohio	Oil cans, safety	Dec. 6, 1864.
43,704	Perkins, P. B	Almond, N. Y	Sawing machines	Aug. 2, 1864.
44,552	Perkins, S. W	Geneseo, Ill	Weather strips for doors	Oct. 4, 1864.
1,603	Perley, Charles	New York, N. Y	Windlasses, method of fitting the heaving socket and head of. (Reissue.)	Jan. 12, 1864.
	Perley, Charles	New York, N. Y	Stoppers, cat-head and shank painter. (Extension)	Mar. 23, 1864.
43,792	Perley, Charles	New York, N. Y	Bank bills, &c., clasp for	Aug. 9, 1864.
43,793	Perley, Charles	New York, N. Y	Hawse pipe stopper	Aug. 9, 1864.
	Perrie, Henry. (*See* Leland, Edwin A., assignor.)			
42,222	Perrin, Abram	Cleveland, Ohio	Screw, planking	Apr. 5, 1864.
43,862	Perry, Dan	Pawtucket, R. I	Water elevators	Aug. 16, 1864.
41,719	Perry, Edward L	New York, N. Y	Boat and pontoon. (Antedated February 7, 1864)	Feb. 23, 1864.
44,654	Perry, E. L	New York, N. Y	Horse covers	Oct. 11, 1864.
45,073	Perry, E. L	New York, N. Y	Rafts, life	Nov. 15, 1864.
44,337	Perry, Eli	Baldwinsville, N. Y	Pumps	Sept. 20, 1864.
	Perry, John G	South Kingston, R. I	Meat cutting apparatus (Extension)	Feb. 23, 1864.
43,130	Perry, John G	South Kingston, R. I	Stove pipe elbows	June 14, 1864.
43,131	Perry, John G	South Kingston, R. I	Sausage filler	June 14, 1864.
43,427	Perry, John G	South Kingston, R. I	Meat cutters	July 5, 1864.
43,428	Perry, John G	South Kingston, R. I	Meat cutters	July 5, 1864.
43,259	Perry, Samuel M., assignor to Edward S. Renwick	Brooklyn, N. Y	Pistol, breech-loading	June 21, 1864.
43,260	Perry, Samuel M., assignor to Edward S. Renwick	Brooklyn, N. Y	Pistol, breech-loading	June 21, 1864.
43,863	Perry, Stuart	Newport, N. Y	Milk, equalizing the temperature of	Aug. 16, 1864.
	Perzel, John G., and Frederick M. Ruschhaupt. (*See* Ruschhaupt & Perzel.)			
1,654	Peteler, Alois	New Brighton, N. Y	Disinfecting foul air in vessels, apparatus for. (Reissue)	Apr. 19, 1864.
	Peters, Charles H., and George Wissler. (*See* Wissler & Peters.)			
42,397	Peters, Daniel, and W. D. Wilson	Keokuk, Iowa	Curriers' slicker, whitening	Apr. 19, 1864.
	Peterson, G. K., and W. H. Hepburn. (*See* Hepburn & Peterson.)			
	Peterson, G. K., and W. H. Hepburn. (*See* Hepburn & Peterson.)			
42,963	Petrie, Charles E	Cherry Valley, Ohio	Stalls, cattle, stanchions for	May 31, 1864.
43,740	Petticrew, Algernon S., assignor to Owens, Lane, Dyer & Co.	Dayton, Ohio	Saw-mills	Aug. 2, 1864.
45,270	Pfaff, John	Philadelphia, Pa	Fifes	Nov. 29, 1864.
44,818	Pfleghar, Frank P., and William Schollhorn	New Haven, Conn	Nuts, machine for polishing	Oct. 25, 1864.
44,775	Phelps, James N., assignor to Phelps Electro-Amalgamating Company.	New York, N. Y	Amalgamating apparatus	Oct. 18, 1864.
43,522	Phelps, O. C	New York, N. Y	Propeller	July 12, 1864.
43,705	Phelps, O. C	New York, N. Y	Sewing machines, feed-wheels of	Aug. 2, 1864.
42,223	Philip, Peter, and P. J. Stophilbeen	Hudson, N. Y Schodack, N. Y	Presses, baling	Apr. 5, 1864.
42,791	Philipp, Albert	Appleton, Wis	Seeding machine	May 17, 1864.
45,172	Philipp, Albert	Appleton, Wis	Washing machine	Nov. 22, 1864.
43,464	Philippe, Adrien	Switzerland	Time-keepers, springs and barrels for	July 5, 1864.
43,523	Phillipps, John, and Albert Tschop	Siddonsburg, Pa	Drills, rock	July 12, 1864.
45,173	Phillips, Charles P	Syracuse, N. Y	Carriage springs	Nov. 22, 1864.
43,039	Phillips, Dewey	Shaftsbury, Vt	Water wheel	June 7, 1864.
	Phillips, E., and S. W. Slocumb. (*See* Slocumb & Phillips.)			
42,504	Phillips, Luther E	Bristol, N. Y	Forms, tapering, machine for cutting	Apr. 26, 1864.
45,450	Phillips, Philip William	England	Car propeller	Dec. 13, 1864.
42,792	Phleger, Leonard	Philadelphia, Pa	Spark arresters	May 17, 1864.
44,888	Phleger, Leonard	Philadelphia, Pa	Heating apparatus, combined steam and hot-air	Nov. 1, 1864.
	Phœnix Iron Company. (*See* Sellers, George H., assignor.)			
	Phœnix Iron Company. (*See* Sellers, George H., assignor.)			
42,687	Pickering, Barton	West Milton, Ohio	Sewing machine	May 10, 1864.
44,112	Pierce, Anthony, jr	New Bedford, Mass	Zinc, impure, treating	Sept. 6, 1864.
42,505	Pierce, Charles L	Buffalo, N. Y	Sawing machines	Apr. 26, 1864.
44,218	Pierce, Charles L	Buffalo, N. Y	Whip holder	Sept. 13, 1864.
	Pierce, Isaac, and James T. Hall. (*See* Hall & Pierce.)			
	Pierce, Isaac, and James T. Hall. (*See* Hall & Pierce.)			
44,969	Pierce, Jabish	Wyanet, Ill	Ploughing machine	Nov. 8, 1864.
45,520	Pierce, Jabish	Wyanet, Ill	Ploughs, wheel	Dec. 20, 1864.
44,745	Pierpont, Joshua	La Harpe, Ill	Ploughs	Oct. 18, 1864.
	Pierpont, William	Salem, N. J	Straw carriers (Extension)	Apr. 23, 1864.
42,596	Pietsch, Herman	New York, N. Y	Ore separator and amalgamator	May 3, 1864.
43,261	Pike, Robert G., assignor to Nicholas Pike	Middletown, Conn	Fire-escape ladders	June 21, 1864.
41,393	Pilbeam, Alexander	England	Sewing machine cases	Jan. 26, 1864.
	Pincus, E., *et al.* (*See* Goodes & Miller, assignors.) Reissue.			
44,746	Pincus, Edward, and George Rehfuss	Philadelphia, Pa	Buttons by rivets, punches for attaching	Oct. 18, 1864.
42,506	Pine, James	Troy, N. Y	Harvesters	Apr. 26, 1864.
44,655	Pine, James	Troy, N. Y	Mowing machines	Oct. 11, 1864.
41,782	Pingree, S. W	Lawrence, Mass	Bark, tan, extracting	Mar. 1, 1864.
	Pinkham, F. T., and John Peak. (*See* Peak & Pinkham.)			
	Pinner, Moritz. (*See* Fromont, L. M. H., assignor.)			
	Pinner, Moritz. (*See* Bouvet, Jean, assignor.)			
	Pinner, Moritz. (*See* Bouvet, Jean, assignor.) Reissue.			
	Pinner, Moritz. (*See* Dusantoy, Auguste Francis, assignor.)			
	Pinner, Moritz. (*See* De Bussy, Charles, assignor.)			
	Pirsson, Joseph P	New York, N. Y	Engines, steam, surface condenser for (Extension)	Mar. 23, 1864.
43,524	Pistorius, Frederick	Chicago, Ill	Piano-forte action	July 12, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
42,020	Pitezel, John H	Three Rivers, Mich	Saddlers' stitching horse	Mar. 22, 1864.
44,451	Pitkin, W. H	Providence, R. I	Heels, mode of breasting	Sept. 27, 1864.
44,970	Pitman, Isaac	Providence, R. I	Ventilator, thermo-circulating	Nov. 8, 1864.
41,939	Pitt, J. W	North Adams, Mass	Water-wheels, method of connecting governors with the gates of.	Mar. 15, 1864.
43,821	Placet, Paul Emile	France	Photo-galvanography	Aug. 9, 1864.
43,927	Planer, Louis	New York, N. Y	Sewing machines	Aug. 23, 1864.
	Planer, Louis, *et al.* (*See* Pepper, Planer & Kayser.)			
44,819	Plass, John T	New York, N. Y	Ores, machines for crushing	Oct. 25, 1865.
43,336	Platt, Wm. K., and	Gloucester, N. J	Carding and other machines, devices for oiling wool in	June 28, 1864.
	Henry Holcroft	Media, Pa		
1,887	Plume, David S	Newark, N. J	Stair rod (Design)	Jan. 19, 1864.
41,859	Plymate, Nathaniel W	Freeland, Ohio	Hay-shocking machines	Mar. 8, 1864.
	Poffenberger, John C., and Thomas H. Storms. (*See* Storms & Poffenberger.)			
41,444	Pollack, Heinrich, and Edwin Schmidt	Hamburg	Sewing machine	Feb. 2, 1864.
45,626	Pollard, L. L	Worcester, Mass	Rakes, horse	Dec. 27, 1864.
44,338	Polley, Clark	Scott, Ohio	Carriages, axle lubricators for	Sept. 20, 1864.
41,319	Pollock, David	Lancaster, Pa	Locomotives, feed-water heaters for. (Antedated January 17, 1864.)	Jan. 19, 1864.
45,271	Polyblank, William	Cleveland, Ohio	Washing machine	Nov. 29, 1864.
42,224	Pond, Joseph F	Cleveland, Ohio	Wringers, rollers for	Apr. 5, 1864.
	Pond, Josiah S. (*See* Tylee, Felix, assignor.)			
41,090	Pond, Julius R	New Hartford, Conn	Milk, condensing	Jan. 5, 1864.
42,398	Pond, Julius R	New Hartford, Conn	Milk, &c., apparatus for concentrating	Apr. 19, 1864.
41,320	Pond, Martin W., and Lyman W. Darling	Elyria, Ohio	Breast strap, harness, slide	Jan. 19, 1864.
44,113	Pond, Martin W., and Henry E. Mussey	Elyria, Ohio	Harness, breast strap, shield for	Sept. 6, 1864.
45,071	Pond, Moses	Boston, Mass	Stoves	Nov. 15, 1864.
45,432	Pond, Moses	Boston, Mass	Stove, cooking	Dec. 13, 1864.
	Pond, S. P., and N. T. Spear. (*See* Thayer, Eli, assignor.)			
	Pond, S. P., and N. T. Spear. (*See* Thayer, Eli, assignor.)			
	Ponomareff, C., *et al.* (*See* Day, Benjamin, assignor.)			
41,264	Porter, D'Arcy, assignor to self and J. H. Woodman	Cleveland, Ohio	Washing machine	Jan. 12, 1864.
43,459	Porter, D'Arcy, assignor to self and K. Smith	Cleveland, Ohio	Straw cutter	July 5, 1864.
43,040	Porter, Edward	Tallmadge, Ohio	Churns	June 7, 1864.
44,656	Porter, John H	New York, N. Y	Blacking boxes, foot-rest for	Oct. 11, 1864.
45,630	Porter, John H	New York, N. Y	Ash sifter and shovel, combined	Dec. 27, 1864.
41,265	Porter, Luther E., assignor to E. W. Skinner	Lake Mills, Wis	Mills, sugar. (Antedated December 10, 1863)	Jan. 12, 1864.
41,638	Porter, Samuel A	Prescott, Wis	Leach, ash	Feb. 16, 1864.
	Porter, Samuel A. (*See* Davis, Hiebeler & Porter.)			
	Portner, Robert. (*See* Sigel, John N., assignor.)			
	Post, John, and Gideon Hamilton. (*See* Hamilton & Post.)			
43,429	Potter, Charles S	Brooklyn, N. Y	Petroleum, &c., process of treating	July 5, 1864.
44,998	Potter, Elisha O., assignor to self and Charles A. Warland.	Pawtucket, R. I	Files, machine for cutting	Nov. 8, 1864.
	Potter, Ransom S., and Edwin F. Hurlbut. (*See* Hurlbut & Potter.)			
	Potter, Robert M., and Charles E. Lloyd. (*See* Lloyd & Potter.)			
45,631	Potts, Robert B., and Frederick Klett	Camden, N. J	Lime, super-phosphate of, apparatus for the manufacture of.	Dec. 27, 1864.
45,174	Potts, W. W	Rushville, Ill	Planting, device for making ground for	Nov. 22, 1864
	Poultney, Thomas. (*See* Sneider, Charles E., assignor.)			
	Poultney, Thomas. (*See* Crispin, Silas, assignor.)			
	Poultney, Thomas. (*See* Sneider, Charles Edw'd, assignor.)			
43,224	Pountney, William	Brooklyn, N. Y	Glass molten, metallic moulds for	June 21, 1864
2,017	Powell, Israel A	Lawrenceville, Ill	Trade mark (Design)	Dec. 20, 1864
45,378	Powell, James, assignor to Samuel C. Glenney and Wm. E. Weeks.	Troy, N. Y	Soap for cleaning harness, &c.	Dec. 6, 1864.
44,553	Powell, John B	Philadelphia, Pa	Fans, automatic	Oct. 4, 1864.
	Powell, Wm. J., and John W. Latcher. (*See* Latcher & Powell.)			
1,985	Powers, Albert E	Lansingburg, N. Y	Floor oil cloths (Design)	Aug. 16, 1864.
	Powers, Deborah, Albert E. and N. B. (*See* Green, Geo., assignor.) Design.			
45,433	Powers, D. J	Madison, Wis	Sorghum-juice evaporator. (Antedated Nov. 30, 1864)	Dec. 13, 1864.
1,626	Powers, John, and E. M. Smith, assignors, through mesne assignments, to Mitchell, Vance & Co.	New York, N. Y	Harvesters (Reissue)	Feb. 23, 1864.
	Powers, John J. (*See* Caulkins, E. M., assignor.)			
	Prang, Louis. (*See* Roberts, Lewis A., assignor.)			
45,341	Prater, Eli B	Washoe county, Nevada	Gold and silver, machines for collecting and amalgamating	Dec. 6, 1864.
44,747	Pratt, Edward	Grand Detour, Ill	Cultivators	Oct. 18, 1864.
45,434	Pratt, E. L	Boston, Mass	Iron, sad	Dec. 13, 1864.
41,266	Pratt, E. L., assignor to Geo. R. Carter and D. H. Goodell	Boston, Mass	Apple-parer	Jan. 12, 1864.
43,955	Pratt, E. L., assignor to Geo. R. Carter and D. H. Goodell	Boston, Mass	Apple-parer	Aug. 23, 1864.
43,956	Pratt, E. L., assignor to Geo. R. Carter and D. H. Goodell	Boston, Mass	Peach-parer	Aug. 23, 1864.
41,940	Pratt, E. L., and John B. Thompson	Boston, Mass	Carriage wheel, elastic	Mar. 15, 1864.
	Pratt, F. R., *et al.* (*See* Shepardson, H. S., assignor.)			
45,675	Pratt, George, assignor to Chickering & Sons	West Roxbury, Mass	Piano-forte action	Dec. 27, 1864.
	Pratt, Ira C., and E. M. Dever. (*See* Dever & Pratt.)			
45,632	Pratt, James	Chicago, Ill	Lightning rods	Dec. 27, 1864.
42,507	Pratt, Julius H	New York, N. Y	Books, ivory-covered	Apr. 26, 1864.
41,639	Pratt, William E	Iowa City, Iowa	Water elevators	Feb. 16, 1864.
44,889	Preiss, William	New York, N. Y	Sewing machines	Nov. 1, 1864.
44,114	Prentice, John	New York, N. Y	Cigar machines	Sept. 6, 1864.
41,819	Prentiss, Elijah Freeman, and	Philadelphia, Pa	Distilling and rectifying whiskey and other spirits, apparatus for.	Mar. 1, 1864.
	Robert Adam Robertson	Liverpool, England		
41,858	Prentiss, Elijah Freeman, and	Philadelphia, Pa	Distilling rock-oil and other hydro-carbons, apparatus for	Mar. 8, 1864.
	Robert Adam Robertson	Liverpool, England		
43,225	Prentiss, J. W., and E. M. Birdsall	Penn Yan, N. Y	Harvesters	June 21, 1864.
42,872	Presber, F. W., and Philipp Shiebel	Winchester, Conn	Cutlery, table, manufacture of	May 24, 1864.
43,525	Pressey, J. B.,	Iowa	Harvesters	July 12, 1864.
	M. A. Wheaton, and	California		
	Daniel Sheets	Missouri		
	Prestele, Jos., and Jos. Anger. (*See* Anger & Prestlee.)			
44,890	Prétat, C. E	New York, N. Y	Photographic albums	Nov. 1, 1864.
41,322	Price, Daniel K	Ossian, N. Y	Churns	Jan. 19, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
43, 864	Price, George B.	Watervliet, N. Y	Pea sheller	Aug. 16, 1864.
	Price, John, *et al.* (*See* Lewis, Price & Naylor.)			
41, 941	Price, Thomas J	Industry, Ill	Sugar pans, skimming, apparatus for	Mar. 15, 1861.
42, 109	Price, Thomas J	South Union, Ky	Sugar, manufacture of	Mar. 29, 1864.
44, 657	Price, Thomas J	Industry, Ill	Sugar evaporators, skimmer for. (Antedated Nov. 15, 1863.)	Oct. 11, 1864.
44, 820	Price, William	Cincinnati, Ohio	Washing and scouring machine	Oct. 25, 1864.
45, 521	Price, William	Cincinnati, Ohio	Clothes-drying machine	Dec. 20, 1864.
43, 226	Pries, Ernest	New York, N. Y	Accordions	June 21, 1864.
	Priest, Joseph, *et al.* (*See* Woodward, Priest & Ernest.)			
43, 371	Prince, George W., assignor to Banker & Carpenter	Cambridge, Mass	Cans, tin, manufacture of	June 28, 1864.
43, 865	Prindle, Horace	Spafford, N. Y	Washing machine	Aug. 16, 1864.
41, 640	Prout, G. W	Ashland, N. Y	Hay, &c., apparatus for elevating	Feb. 16, 1861.
	Prussing, Ernst. (*See* Miller, John J., assignor.)			
	Prussing, Ernst. (*See* Miller, John J., assignor.)			
	Prussing, Ernst. (*See* Miller, John J., assignor.)			
	Prussing, Ernst. (*See* Miller, John J., assignor.)			
42, 996	Pullan, Richard B., assignor to Jessie D. Pullan	Cumminsville, Ohio	Tents, ventilating, openings for	May 31, 1864.
	Pullman, Geo. M., and Ben. Field. (*See* Field & Pullman.)			
	Purcell, Thomas, and R. D. Jones. (*See* Jones & Purcell.)			
45, 435	Purington, Frederick H	Willimantic, Conn	Alarm, drawer or till	Dec. 13, 1864.
41, 394	Purinton, James, jr	Lynn, Mass	Boots and shoes, mode of finishing the soles of	Jan. 26, 1864.
	Purkiss, John H., and David Gay. (*See* Gay & Purkiss.)			
44, 554	Purple, George	Wellington, Ohio	Buckle, harness	Oct. 4, 1864.
	Purse, Samuel N. (*See* Tombs, Samuel A., assignor.)			
44, 454	Pursel, Absalom	New Village, N. J	Horse powers, breaks for	Sept. 27, 1864.
45, 633	Putnam, George W	Peterboro', N. Y	Meat masher	Dec. 27, 1864.
1, 606	Putnam, Henry W	New York, N. Y	Bottle-stopper fastenings (Reissue)	Jan. 19, 1864.
43, 337	Putnam, Perley	Laconia, N. H	Car wheels	June 28, 1864.
	Putney, C. F, and T. C. Bartle. (*See* Bartle & Putney.)			
42, 399	Quick, Garrett S	Auburn, N. Y	Leather for cotton or woolen cards, machine for	Apr. 19, 1864.
43, 602	Quick, George F	Philadelphia, Pa	Harvesters, cutting apparatus for	July 19, 1864.
43, 262	Quick, J. H., assignor to H. R. Withington and John Butterworth, jr.	Trenton, N. J	Threshing and grain-separating machines	June 21, 1864.
	Quincy, Geo. H., and Geo. Harwood. (*See* Clissold, Wm., assignor.) Reissue.			
	Quincy, George H. (*See* Harwood, Geo. Shaw, assignor.)			
44, 971	Quirin, George, and Lorenz Berkel	Smithton, Ill	Ploughs, gang	Nov. 8, 1864.
42, 508	Ranke, I. C	Brooklyn, N. Y	Hats, brush, apparatus for making	Apr. 26, 1864.
41, 236	Race, Washburn	Lockport, N. Y	Supporter and lock, sash	Jan. 12, 1864.
44, 115	Race, Washburn	Lockport, N. Y	Skates	Sept. 6, 1864.
45, 075	Race, Washburn	Lockport, N. Y	Skates	Nov. 15, 1864.
42, 400	Radcliff, Cornelius M	Piermont, N. Y	Car coupling	Apr. 19, 1864.
	Radley, James, and John W. Hunter, deceased, by Margaret D. Hunter, administratrix.	New York, N. Y	Spark arresters (Extension)	Jan. 20, 1864.
43, 866	Ragsdale, Mary Ann	Grass Valley, Cal	Medicine for cure of scarlatina, sore throat, &c	Aug. 16, 1864.
44, 046	Rait, David, assignor to Samuel I. Glassey	New York, N. Y	Enamelling, japanning, and inlaying, preparing metallic substances for.	Aug. 30, 1864.
45, 436	Rakestraw, Albert, and Wm. Colwell	Chillicothe, Ill	Registering measured grain, machines for	Dec. 13, 1864.
45, 076	Ralph, William	Utica, N. Y	Cheese vats	Nov. 15, 1864.
	Rammage, Ann. (*See* Sellers, William, assignor.)			
42, 509	Rammell, Thomas Webster	England	Railways, pneumatic. (Patented in England Feb. 10, 1860.)	Apr. 26, 1864.
42, 716	Rammell, Thomas Webster	England	Disks, centrifugal, revolving in air or water. (Patented in England November 6, 1860.)	May 10, 1864.
44, 339	Ramsey, John	Pittsburg, Pa	Sewing machines, braiding guide for	Sept. 20, 1864.
	Ramsey, John, and John Thomson. (*See* Thomson & Ramsey.)			
44, 014	Rand Jacob	Roxbury, Mass	Motion to belts, mode of transmitting	Aug. 30, 1864.
45, 342	Rand, J. B	Fisherville, N. H	Soap, manufacture of	Dec. 6, 1864.
42, 444	Rand, Jacob B., assignor to self and Jason Smith	Fisherville, N. H	Soap, composition	Apr. 19, 1864.
43, 706	Randall, George E	Yaphank, N. Y	Bag-holder and measure	Aug. 2, 1864.
45, 175	Randall, P. M	San Francisco, Cal	Grinding plates	Nov. 22, 1864.
44, 972	Randall, S. G	New York, N. Y	Cars, railroad, apparatus for supplying the pneumatic springs of.	Nov. 8, 1864.
44, 973	Rands, Christopher	Englewood, N. J	Millstone, artificial	Nov. 8, 1864.
44, 455	Rank, Amos	Salem, Ohio	Railroad chairs	Sept. 27, 1864.
43, 227	Rankin, John, and J. N. McIntire	New York, N. Y	Churns	June 21, 1864.
43, 741	Ranous, Edgar E., assignor to H. B. Tainter and F. D. Jackson.	New York, N. Y	Collars, paper, pressing	Aug. 2, 1864.
44, 015	Ransom, Franklin	Buffalo, N. Y	Churn	Aug. 30, 1864.
43, 271	Raschette, Woldemar, assignor to Alexander Trippel	Russia	Furnace, blast	June 21, 1864.
	Rausch, A. W. V., and Isaac L. Hilt. (*See* Hilt & Rausch.)			
41, 447	Rawson, D. W. S	Peru, Ill	Pitcher, beer	Feb. 2, 1864.
	Rawson, Norman, and Charles Richmond. (*See* Lenk, Baron W., assignor.)			
45, 457	Ray, James N., assignor to self and John M. Wheatley	Indianapolis, Ind	Wood bending machines	Dec. 13, 1864.
44, 658	Ray, T. Louis	Flora, Ill	Cultivator and seeder	Oct. 11, 1864.
42, 873	Ray, Thomas S	Buffalo, N. Y	Steam gauges	May 24, 1864.
42, 874	Raymond, F., and A. Miller	Cleveland, Ohio	Pumps, lifting	May 24, 1864.
43, 794	Raymond, Hyland	Racine, Wis	Dampers	Aug. 9, 1864.
45, 676	Rayner, Joseph, assignor to self and J. R. Moffitt, H. Clark and H. Tamplin.	Piqua, Ohio	Threshing and separating machines, grain	Dec. 27, 1864.
44, 456	Reason, W. A	Chicago, Ill	Composition for forming blackboards, slates, &c	Sept. 27, 1864.
41, 395	Reay, George H	New York, N. Y	Envelope machine, apparatus for feeding paper to	Jan. 26, 1864.
43, 645	Rector, John H., and Alvah Sweetland	Syracuse, N. Y	Blacking-box holder	July 26, 1864.
41, 983	Redding, William F	Troy, N. Y	Weather boarding, stop gauge for	Mar. 1, 1864.
43, 795	Redman, Alexander N	Boston, Mass	Rasps, machine for cutting. (Antedated July 23, 1864.)	Aug. 9, 1864.
42, 110	Redmond, Owen	Rochester, N. Y	Sewing machine	Mar. 29, 1864.
	Reed, Almet. (*See* Slayton, Phineas L., assignor.)			
	Reed, Almet. (*See* Slayton, Phineas L., assignor.)			
42, 021	Reed, Daniel	Derby, Conn	Cup, soap	Mar. 22, 1864.
	Reed, George W. (*See* Adams, William V., assignor.)			
	Reed, H. H., *et al.* (*See* Goodes & Miller, assignors.) Reissue.			
42, 111	Reed, J. T	Charlestown, Mass	Gloves, kid, dyeing	Mar. 29, 1864.
42, 597	Reed, Martin	Rochester, N. Y	Barrel hoops, machines for crimping	May 3, 1864.
1, 729	Reed, T. K., and H. F. Packard, assignors to T. K. Reed and C. E. Howard.	West Bridgewater, Mass	Eyelet machines (Reissue)	July 19 1864.
1, 730	Reed, T. K., and H. F. Packard, assignors to T. K. Reed and C. E. Howard.	West Bridgewater, Mass	Eyelet machines (Division of reissue)	July 19, 1861.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
43, 928	Reed, T. K., and H. F. Packard	East Bridgewater, Mass North Bridgewater, Mass	Buttons, spring catch	Aug. 23, 1864.
43, 816	Reed, Timothy K., assignor to Elmer Townsend	North Bridgewater, Mass	Eyeleting machines	Aug. 9, 1864.
	Reed, Thomas L., and David K. Hoxsie. (*See* Hoxsie & Reed.)			
41, 170	Reed, Willoughby H	Philadelphia, Pa	Fabrics, textile, instruments for inserting rivets in	Jan. 5, 1864.
45, 077	Reed, W. H	Philadelphia, Pa	Buttons to fabrics, fastening	Nov. 15, 1864.
41, 641	Reese, Adam R	Phillipsburg, N. J	Harvesters, rakes for	Feb. 16, 1864.
41, 860	Reese, Adam R	Phillipsburg, N. J	Harness, wire	Mar. 8, 1864.
45, 343	Reese, Jacob	Pittsburg, Pa	Furnaces, puddling, application of hot blast to	Dec. 6, 1864.
	Reeves, George C., and Douglas McIntyre. (*See* McIntyre & Reeves.)			
44, 340	Reeves, Joseph F., jr	Baltimore, Md	Steaming oysters and preserving fruit, apparatus for	Sept. 20, 1864.
	Reeves, W. R., and David Hammend. (*See* Hammond & Reeves.)			
43, 707	Rehfuss, George	Philadelphia, Pa	Button-holes, machines for cutting	Aug. 2, 1864.
43, 742	Rehfuss, George, assignor to the American Button-hole Sewing Machine Company.	Philadelphia, Pa	Sewing machine	Aug. 2, 1864.
	Rehfuss, Geo., and Edward Pinens. (*See* Pincus & Rehfuss.)			
	Reiblein, Charles, and James Withycombe. (*See* Withycombe & Reiblein.)			
	Reichel, Richard. (*See* Lipps, Jean S., assignor.)			
41, 237	Reichenbach, John	Pittsburg, Pa	Legs, artificial	Jan. 12, 1864.
41, 238	Reichenbach, John	Pittsburg, Pa	Legs, artificial	Jan. 12, 1864.
42, 225	Reid, John S	Muncie, Ind	Heaters	Apr. 5, 1864.
41, 534	Reid, Joseph	Fort Wayne, Ind	Pen, fountain	Feb. 9, 1864.
41, 091	Reid, J. Wyatt	New York, N. Y	Pumps	Jan. 5, 1864.
44, 457	Reid, Lawrence, and John Rogers	New York, N. Y Brooklyn, N. Y	Soap	Sept. 27, 1864.
42, 445	Reid, William, assignor to self and Thomas Reid	West Hebron, N. Y	Casks, manufacturing. (Antedated April 15, 1864)	Apr. 19, 1864.
41, 535	Reinhardt, H. D	Baltimore, Md	Legs, artificial	Feb. 9, 1864.
45, 272	Reist, John	Philadelphia, Pa	Kettle, wash	Nov. 29, 1864.
45, 273	Reister, George H	Washington, Iowa	Wind-wheels	Nov. 29, 1864.
	Remington, E., & Sons. (*See* Rider, Joseph, assignor.)			
	Remington, E., & Sons. (*See* Rider, Joseph, assignor.)			
41, 861	Renfrew, Sylvester	Marseilles, Ill	Punching and shearing, apparatus for	Mar. 8, 1864.
42, 793	Renwick, Edward S	New York, N. Y	Locks	May 17, 1864.
	Renwick, Edward S. (*See* Perry, Samuel M., assignor.)			
	Renwick, Edward S. (*See* Perry, Samuel M., assignor.)			
41, 092	Requa, E. B	Jersey City, N. J	Lamp cones	Jan. 5, 1864.
42, 875	Resley, Horace	Cumberland, Md	Railroads, rails for	May 24, 1864.
	Ressegine, Wm. F., deceased, by Louisa Ressegine, administratrix.	Brooklyn, N. Y	Mattresses, spring (Extension)	June 10, 1864.
44, 696	Ressel, Henry	Austria	Propeller and steering apparatus	Oct. 11, 1864.
	Rex, A., *et al.* (*See* Collen, John B., assignor.)			

No.	Patentee.	Residence.	Invention or discovery.	Date.
44, 341	Reynard, Peter, and Victor Varin	New York, N. Y	Insects and vermin, device for destroying	Sept. 20, 1864.
42, 686	Reynolds, Andrew J	Sturgis, Mich	Pumps, submerged, double-acting	May 10, 1864.
44, 891	Reynolds, Andrew J	Sturgis, Mich	Pumps, submerged, double-acting	Nov. 1, 1864.
44, 016	Reynolds, Charles H	North Kingston, R. I	Bobbins	Aug. 30, 1864.
44, 748	Reynolds, Edmond	Corunna, Mich	Hay-forks, horse	Oct. 18, 1864.
45, 634	Reynolds, Edmond	Corunna, Mich	Hay elevating forks	Dec. 27, 1864.
45, 635	Reynolds, Edmond	Corunna, Mich	Stove dexter	Dec. 27, 1864.
41, 171	Reynolds, Edwin	Mansfield, Conn	Windlasses	Jan. 5, 1864.
41, 862	Reynolds, Edwin	Mansfield, Conn	Printing press, lithographic	Mar. 8, 1864
43, 796	Reynolds, Edwin	Mansfield, Conn	Lithographic power press	Aug. 9, 1864
42, 688	Reynolds, Henry	Springfield, Mass	Fire-arms, revolving	May 10, 1864
45, 176	Reynolds, Henry	Springfield, Mass	Fire-arms, cartridge extracter for	Nov. 22, 1864
	Reynolds, Jabez, *et al.* (*See* Bodley, Reynolds & Van Emon.)			
43, 338	Reynolds, Rensselaer	Stockport, N. Y	Looms, power, let-off motion of	June 28, 1864
	Reynolds, Wm. H. and Francis W., *et al.* (*See* Emerson, James, assignor.)			
41, 351	Rhodes, Benjamin, assignor to James McGeary	Great Britain	Pipes, joints, bottles, casks, and other vessels, making and coating.	Jan. 19, 1864.
	Rhodes, Charles M., *et al.* (*See* Witsil, George L., assignor.)			
42, 401	Rhodes, Daniel	Pawtucket, R. I	Ploughs	Apr. 19, 1864.
43, 339	Rice, Delos E	Detroit, Mich	Ordnance, loading	June 28, 1864.
44, 219	Rice, H	Youngstown, Ohio	Churns	Sept. 13, 1864.
45, 122	Rice, Herman, assignor to Moritz Fleischman	Youngstown, Ohio	Washing machine. (Antedated October 30, 1864)	Nov. 15, 1864.
44, 056	Rice, Lorenzo	West Winsted, Conn	Cutlery, table, manufacture of	Aug. 30, 1864.
44, 974	Rice, S. G	Albany, N. Y	Snuff sifter	Nov. 8, 1864.
44, 975	Rice, S. G	Albany, N. Y	Tobacco, machine for dressing	Nov. 8, 1864.
41, 536	Rice, W. B	Feltonville, Mass	Puzzle for children	Feb. 9, 1864.
42, 964	Rice, Z. B	Boston, Mass	Washing machine	May 31, 1864.
42, 226	Rich, J. F	Chatham Run, Pa	Flannel, wool	Apr. 5, 1864.
45, 522	Rich, J. T	Rahway, N. J	Governors. (Antedated December 14, 1864)	Dec. 20, 1864.
	Rich, William G. (*See* Lauchlie, Samuel, assignor.)			
42, 537	Richard, S., assignor to self and W. C. Barnes	Southbridge, Mass	Shoe knife	Apr. 26, 1864.
45, 566	Richards, Celius E., assignor to Wm. H. Conant and G. A. Shepardson.	North Attleboro', Mass	Collar and bosom, shirt, detached	Dec. 20, 1864.
45, 437	Richards, Charles B	Hartford, Conn	Steam traps	Dec. 13, 1864.
44, 555	Richards, Jesse F	Providence, R. I	Eyelets, machine for making	Oct. 4, 1864.
41, 396	Richards, John	Columbus, Ohio	Squares, trying	Jan. 26, 1864.
45, 344	Richards, John W	Newark, N. J	Seeding machines	Dec. 6, 1864.
	Richards, Josiah C. (*See* Howe, Jerome B., assignor.)			
	Richards, Josiah D. (*See* Morse, Edwin J., assignor.)			
	Richards, Walter D., and David Knox. (*See* Griffin, C. H., assignor.)			
	Richardson, Augustus. (*See* Bullard, A. B. W., assignor.)			
43, 929	Richardson, George J	Philadelphia, Pa	Fire-arms, breech-loading	Aug. 23, 1864.
45, 345	Richardson, G. W	Graysville, Ill	Harvesters	Dec. 6, 1864.
	Richardson, John, *et al.* (*See* Vanderburgh, Geo. E., ass'r.)			
42, 965	Richardson, Joseph D	Elizabethtown, Ky	Saw-mills	May 31, 1864.
43, 626	Richardson, M. A., assignor to self and Wm. H. Keeler	Sherman, N. Y	Bootjack	July 19, 1864.
44, 976	Richardson, Samuel M	New York, N. Y	Latches	Nov. 8, 1864.
44, 977	Richardson, Samuel M	New York, N. Y	Latches, knob	Nov 8, 1864.
	Richardson, Stephen, 2d. (*See* Varran, Augustus D., ass'r.) Design.			

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
42, 987	Richardson, Thos., John James Lundy and Robert Irvine	Great Britain	Oils, &c., from vegetable and animal substances, process of extracting.	May 31, 1864.
41, 720	Richardson, William H	Philadelphia, Pa	Umbrellas, hooks for fastening	Feb. 23, 1864.
1, 949	Richers, Charles F., assignor to Charles Wood, Charles Hughes and Stephen Frahrler.	New York, N. Y	Spoon or fork handle (Design)	June 7, 1864.
41, 942	Richey, John E., and C. Hotchkiss	Van Wert, Ohio	Beehives	Mar. 15, 1864.
	Richmond, Charles, and Norman Rawson. (*See* Lenk, Baron W., assignor.)			
	Richmond, Edward. (*See* Waite, Enoch, assignor.)			
	Richmond, Edward. (*See* Allen, Stephen M., assignor.)			
43, 340	Richmond, Edward	Brookline, Mass	Leather paper for floor cloths, &c	June 28, 1864.
41, 397	Richmond, F. J	Ashford, Conn	Sawing machines	Jan. 26, 1864.
43, 549	Ricketson, Barton, and A. B. Smith, assignors to Barton Ricketson	New Bedford, Mass Clinton, Pa.	Carts	July 12, 1864.
	Riddle, J. J. (*See* Hendrick, H. H., assignor.)			
41, 893	Ridenour, Wm., and Mahlon K. Biser, assignors to selves and George Fry.	Springfield, Ohio	Presses, hay and cotton	Mar. 8, 1864.
45, 636	Rider, Alex. K	Hydeville, Vt.	Engines, rotary	Dec. 27, 1864.
45, 637	Rider, Alex. K	Hydeville, Vt.	Engines, rotary	Dec. 27, 1864.
1, 663	Rider, Joseph, assignor to self and E. Remington & Sons	Newark, Ohio	Fire arms, breach-loading (Reissue)	May 3, 1864.
45, 123	Rider, Joseph, assignor to self and E. Remington & Sons	Newark, Ohio	Fire-arms, breach-loading	Nov. 15, 1864.
45, 177	Rider, J. J	Wilton Junction, Iowa	Cultivators	Nov. 22, 1864.
41, 093	Ridge, Joseph	Richmond, Ind	Lamps, coal-oil	Jan. 5, 1864.
41, 094	Ridge, Joseph	Richmond, Ind	Lamps, coal-oil	Jan. 5, 1864.
	Ridley Robert, *et al.* (*See* Donisthorpe, Firth & Ridley.)			
42, 402	Riedel, G. Adolph	Philadelphia, Pa	Car springs	Apr. 19, 1864.
43, 708	Riedel, G. Adolph	Philadelphia, Pa	Car springs	Aug. 2, 1864.
41, 398	Riggs, John Findley	Fremont, Nebraska Territory	Sugar and sirup from sorghum, &c	Jan. 26, 1864.
1, 830	Riggs, John Findley	Fremont, Nebraska Territory	Sugar, manufacture of (Reissue)	Nov. 29, 1864.
43, 742	Riggs, John Findley, assignor to self and S. G. Daily	Fremont, Nebraska Territory	Sugar evaporators, skimming attachment for	Aug. 2, 1864.
44, 659	Riggs, W. S	Hightstown, N. J	Furrowing device	Oct. 11, 1864.
45, 178	Rillot, Jean E. A	San Francisco, Cal	Feet, mould for taking impressions of	Nov. 22, 1864.
43, 228	Rindge, Isaac	Cincinnati, Ohio	Gun carriages, operating	June 21, 1864.
41, 095	Ripley, Ezra	Troy, N. Y	Culinary vessels	Jan. 5, 1864.
	Ripley, Ezra, and N. S. Vedder. (*See* Vedder & Ripley.)			
44, 116	Ripley, John L	Fremont, Ohio	Hay forks, horse	Sept. 6, 1864.
43, 430	Rippon, William F	Providence, R. I	Spinning machines, self-lubricating bolsters of	July 5, 1864.
42, 998	Ritter, Andrew J	Rahway, N. J	Lamps. (Antedated March 23, 1864)	May 31, 1864.
41, 721	Ritterhoff, F. W., and C. A. Colquitt	New York, N. Y	Tobacco, machine for cutting	Feb. 23, 1864.
42, 997	Rivot, Louis Edward, assignor to Jacques Gaillardon	Paris, France	Ores, auriferous and argentiferous, treating	May 31, 1864.
43, 867	Routh, Benjamin T	Norwich, Conn	Corks, machine for trimming	Aug. 16, 1864.
43, 603	Robbins, E. Y., assignor to William Penn Nixon	Cincinnati, Ohio	Drying apparatus	July 19, 1864.
43, 604	Robbins, E. Y., assignor to William Penn Nixon	Cincinnati, Ohio	Fireplaces	July 19, 1864.
43, 605	Robbins, George	Watertown, Mass	Soap, process for making	July 19, 1864.
	Robbins, H. W., *et al.* (*See* Smith & Brown, ass'rs.) Design.			
45, 346	Robbins, Ira, and James Old	Pittsburg, Pa	Rakes, horse	Dec. 6, 1864.
42, 598	Robbins, Louis S	New York, N. Y	Barrels, preparing, to contain coal oil, petroleum, &c	May 3, 1864.
42, 625	Robbins, Martin, and Charles Heery, assignors to Charles Heery.	Cincinnati, Ohio	Brush, circular	May 3, 1864.
41, 413	Robbins, Richard C., assignor to self, Henry L. Case, Jesse M. Kean and John W. Mason.	New York, N. Y	Pipes, gas and water, casting packing rings in	Jan. 26, 1864.
41, 722	Roberts, Benjamin	Clintondale, N. Y	Press, baling	Feb. 23, 1864.
	Roberts, Charles G. (*See* Graves, Frederick, assignor.)			
41, 784	Roberts, Francis H	Wilmington, Del	Planters, hand. (Antedated February 21, 1864)	Mar. 1, 1864.
43, 132	Roberts, John W	New Monmouth, N. J	Press, baling	June 14, 1864.
43, 656	Roberts, Joseph L., assignor to Mauran & Tuck	Dorchester, Mass	Bedstead, folding	July 26, 1864.
42, 260	Roberts, Lewis A., assignor to Louis Prang	Boston, Mass	Card holder	Apr. 5, 1864.
42, 307	Roberts, Martyn John	Wales	Spinning machines	Apr. 12, 1864.
42, 308	Roberts, Martyn John	Wales	Spinning and other machines, devices for lubricating spindles, &c., in. (Patented in England May 25, 1863.)	Apr. 12, 1864.
45, 658	Roberts, Robert	Utica, N. Y	Fire-arms, magazine or self-loading	Dec. 27, 1864.
45, 274	Roberts, Thomas D	Middletown, N. Y	Saws, frames for	Nov. 29, 1864.
	Robertson, D. (*See* Nolty, G. J., assignor.)			
45, 523	Robertson, D. F	Middletown, N. Y	Bandages, catamenial	Dec. 20, 1864.
	Robertson, Daniel M., *et al.* (*See* Bidwell, Jason A., ass'r.)			
45, 524	Robertson, Daniel M	Manchester, N. H	Screw gripe. (Antedated December 9, 1864)	Dec. 20, 1864.
	Robertson, J. A., *et al.* (*See* Parr, Samuel, assignor.)			
	Robertson, James. (*See* Huntington, Wm. S., assignor.)			
	Robertson, Loring A. (*See* Wonder, Jeremiah, assignor.)			
	Robertson, Robert Adam, and Elijah Freeman Prentiss. (*See* Prentiss & Robertson.)			
	Robertson, Robert Adam, and Elijah Freeman Prentiss. (*See* Prentiss & Robertson.)			
43, 041	Robertson, T. J. W	New York, N. Y	Glass, machine for grinding, cutting, and engraving	June 7, 1864.
43, 042	Robertson, T. J. W	New York, N. Y	Glass, machine for cutting, polishing, dressing, and ornamenting.	June 7, 1864.
43, 043	Robertson, T. J. W	New York, N. Y	Glass, machine for ornamenting	June 7, 1864.
45, 078	Robie, Jacob C	Binghamton, N. Y	Latches	Nov. 15, 1864.
	Robin, Lucien, *et al.* (*See* Roussel, Delaugre & Robin.)			
44, 220	Robinson, Alfred	New York, N. Y	Roofing fabric	Sept. 13, 1864.
45, 275	Robinson, Alfred	New York, N. Y	Roofing fabrics, bituminous, paint for	Nov. 29, 1864.
45, 347	Robinson, Charles	New York, N. Y	Electro-magnetic machines for ringing bells	Dec. 6, 1864.
	Robinson, Edward, and E. Chamberlin. (*See* Hicks, Wm. C., assignor.)			
	Robinson, G. H., *et al.* (*See* Hines, J. P., assignor.)			
	Robinson, Henry M. (*See* Wayne, James B., assignor.)			
42, 309	Robinson, John	Lawrence county, Pa	Rakes, hay	Apr. 12, 1864.
42, 310	Robinson, Thomas L	Boston, Mass	Fish to guano, &c., apparatus for reducing	Apr. 12, 1864.
44, 221	Robinson, William H., and Jacob Behel	Earlville, Ill	Fences, devices for stretching the wires of	Sept. 13, 1864.
43, 709	Robitaill, Charles, and Florian Dahis	Brooklyn, N. Y	Fire-arms, revolving	Aug. 2, 1864.
42, 403	Robjohn, Thomas	Mott Haven, N. Y	Ruffles, band. (Antedated February 19, 1864)	Apr. 19, 1864.
42, 404	Robjohn, Thomas	New York, N. Y	Ruffles, fluted, apparatus for making	Apr. 19, 1864.
42, 510	Robjohn, Thomas	New York, N. Y	Ruffles, fluted	Apr. 26, 1864.
42, 876	Robjohn, Thomas	New York, N. Y	Sewing machine guide	May 24, 1864.
42, 877	Robjohn, Thomas	New York, N. Y	Sewing machine guide	May 24, 1864.
1, 890	Robley, Joseph	Brooklyn, N. Y	Cloth, oil, pattern (Design)	Jan. 26, 1864.
1, 908	Robley, Joseph, assignor to Brasher, Herriman & Co	Brooklyn, N. Y	Floor cloth pattern (Design)	Mar. 1, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
1,944	Robotham, William, assignor to self and Walter Greacen	Newark, N. J	Trade mark (Design)	May 10, 1864.
	Robotham, William. (*See* Greacen, Walter, assignor.)			
	Rock, George. (*See* Liebermann, Henry, assignor.)			
42,689	Rockwood, E. G	Hillsdale, Mich	Buckle	May 10, 1864.
44,821	Rodefer, Joseph	Cincinnati, Ohio	Roofs	Oct. 25, 1864.
41,863	Roder, Conrad	Ceralvo, Ky	Looms, hand	Mar. 8, 1864.
43,283	Roder, Conrad, assignor to self and Konrad Froehlich	Ceralvo, Ky	Looms, power	June 21, 1864.
41,864	Rodier, Louis C., assignor to Samuel Norris	Springfield, Mass	Padlocks	Mar. 8, 1864.
44,047	Rodier, Louis C., assignor to Samuel Norris	Springfield, Mass	Bit stocks, bit holders for	Aug. 30, 1864.
44,749	Rodman, Asa B	Lyons, Iowa	Harvesters, rakes for	Oct. 18, 1864.
45,677	Rogers, C. B., assignor to C. B. Rogers & Co	Norwich, Conn	Saws, circular, on their arbors, mode of adjusting	Dec. 27, 1864.
45,438	Rogers, Francis P	Philadelphia, Pa	Spout, rain	Dec. 13, 1864.
43,133	Rogers, H. C	Scranton, Pa	Coal breakers	June 14, 1864.
42,794	Rogers, Henry J	Washington, D. C	Telegraphs, semaphoric. (Antedated January 25, 1864)	May 17, 1864.
1,934	Rogers, John	New York, N. Y	Group of figures (Design)	Apr. 19, 1864.
1,935	Rogers, John	New York, N. Y	Group of figures (Design)	Apr. 19, 1864.
1,936	Rogers, John	New York, N. Y	Group of figures (Design)	Apr. 19, 1864.
1,947	Rogers, John	New York, N. Y	Group of figures, statuette (Design)	May 17, 1864.
1,967	Rogers, John	New York, N. Y	Group of figures (Design)	June 28, 1864.
	Rogers, John, and Lawrence Reid. (*See* Reid & Rogers.)			
41,321	Rogers, John R	Berlin, Wis	Seed sowers, broadcast	Jan. 19, 1864.
44,750	Rogers, Joseph E. and Joseph C	Lewis township, Pa	Saw-mills	Oct. 18, 1864.
41,323	Rogers, R. E., and James Black	Philadelphia, Pa	Boilers, steam	Jan. 19, 1864.
42,405	Rogers, Richard H	New York, N. Y	Ink for hand stamps, &c	Apr. 19, 1864.
45,678	Rohrer, Samuel, assignor to self and W. W. Granger	Palmyra, Mo	Forge, portable	Dec. 27, 1864.
45,639	Rollins, T. E	Corning, N. Y	Eccentric cage	Dec. 27, 1864.
1,770	Roney, Benjamin T., assignor to Russell Parsons	Hoosick Falls, N. Y	Harvesters, grain and grass (Reissue)	Sept. 20, 1864.
43,341	Roney, William C. and James H	Gallupville, N. Y	Ointment and salve, vegetable	June 28, 1864.
44,660	Root, E. K	Hartford, Conn	Cartridges, metallic, primed	Oct. 11, 1864.
45,079	Root, E. K	Hartford, Conn	Cartridges, metallic, priming	Nov. 15, 1864.
42,878	Root, John B	New York, N. Y	Engines, steam, valve gear for	May 24, 1864.
43,744	Root, John B., assignor to Root's Rotary Engine Company	New York, N. Y	Engines, rotary	Aug. 2, 1864.
44,892	Roots, P. H	Connersville, Ind	Blower cases	Nov. 1, 1864.
44,822	Rose, C. B	Sunderland, Mass	Bits in braces, mode of securing	Oct. 25, 1864.
44,823	Rose, C. B	Sunderland, Mass	Bits in braces, mode of securing	Oct. 25, 1864.
41,124	Rose, Helen, assignor to herself and Giles Sanford	Milford, Mass	Fluid, washing	Jan. 5, 1864.
42,311	Rose, Helen	Milford, Mass	Hair, composition for preserving and curing the	Apr. 12, 1864.
42,795	Rose, Salomon	Cincinnati, Ohio	Composition for destroying vermin	May 17, 1864.
	Rose, Timothy	Cortlandville, N. Y	Water-wheels (Extension)	Sept. 21, 1864.
42,599	Rose, W. E	Waukon, Iowa	Pen-holder, pen-case, and money safe, combination of	May 3, 1864.
42,600	Ross, George	Newport, Ky	Moulds, black washing	May 3, 1864.
1,629	Ross, Joseph W	Boston, Mass	Inkstands (Reissue)	Mar. 8, 1864.
41,785	Ross, Robert	Bethlehem, Pa	Lubricators	Mar. 1, 1864.
	Ross, Robert, and Hosea Willard. (*See* Willard & Ross.) Reissue.			
	Ross, Robert, and Hosea Willard. (*See* Willard & Ross.) Reissue.			
	Ross, Robert, and Hosea Willard. (*See* Willard & Ross.) Reissue.			
	Ross, Robert, and Hosea Willard. (*See* Willard & Ross.) Reissue.			
	Ross, Robert, and Hosea Willard. (*See* Willard & Ross.) Reissue.			
	Ross, Robert, and Hosea Willard. (*See* Willard & Ross.) Reissue.			
	Ross, Robert, and Hosea Willard. (*See* Willard & Ross.) Reissue.			
42,112	Ross, Walter	Oshkosh, Wis	Drills, grain	Mar. 29, 1864.
45,179	Rossman, William F	Hudson, N. Y	Fire-pot, soldering	Nov. 22, 1864.
41,642	Roth, J. Angustus	Philadelphia, Pa	Fibrous material from corn stalks	Feb. 16, 1864.
42,406	Rothschild, Louis	New Haven, Conn	Cloth, apparatus for sponging	Apr. 19, 1864.
44,661	Rounds, Marcus T	Taunton, Mass	Nail machines	Oct. 11, 1864.
43,646	Rounds, Samuel H., and Walter L. Strong	San Francisco, Cal	Ores, mills, &c., machine for concentrating dust from	July 26, 1864.
	Rousha, Charles. (*See* Tiffin, Algernon R., assignor.)			
43,463	Roussel, Julien, Laurent Delangre and Lucien Robin	France	Cans, preserve and other	July 5, 1864.
41,786	Rowand, Archibald H	Allegheny, Pa	Bungs, plugs, &c., moulds for casting	Mar. 1, 1864.
	Rowand, J. T., *et al.* (*See* Collin, John B., assignor.)			
	Rowden, George. (*See* Dickinson, Charles W., assignor.)			
42,227	Rowe, A. H	Hartford, Conn	Fire-arms, breech-loading	Apr. 5, 1864.
43,526	Rowe, Philip C	Boston, Mass	Tobacco pipe, portable	July 12, 1864.
44,978	Rowe, Philip C	Boston, Mass	Pumps	Nov. 8, 1864.
1,840	Rowe, Philip C., assignor to Charles Houghton, trustee	Roxbury, Mass	Tobacco pipe (Reissue)	Dec. 27, 1864.
42,407	Rowland, Robert	New York, N. Y	White lead, manufacture of	Apr. 19, 1864.
42,966	Roys, F	East Berlin, Conn	Metal, sheet, forming seams to	May 31, 1864.
42,967	Roys, F	East Berlin, Conn	Metal, sheet, machine for bending edges of	May 31, 1864.
	Rubenow, Ernst, and Wm. Class. (*See* Class & Rubenow.)			
	Rubenow, E., and Charles Joseph. (*See* Class, Wm. T., assignor.)			
42,735	Rubsam, C., assignor to self and Charles P. Hall	Newark, N. J	Hose pipes, clamps for stopping leaks in	May 10, 1864.
45,276	Rudolph, Fred., and William Kasefang	Jersey City, N. J	Brush handle	Nov. 29, 1864.
43,134	Rugee, Herman	Milwaukie, Wis	Fastenings, sash	June 14, 1864.
43,229	Ruland, George R., and William W. Green, jr	Bryan Centre, N. Y	Mills, cider	June 21, 1864.
45,439	Rundell, Edgar D	Hudson, N. Y	Hay forks, horse	Dec. 13, 1864.
44,458	Rundell, Luther	Pike, N. Y	Flax, machine for breaking and dressing	Sept. 27, 1864.
44,824	Rundlett, Samuel C	Portland, Maine	Rakes, hand, revolving	Oct. 25, 1864.
41,865	Rundquist, Charles	Knoxville, Ill	Stump extractors	Mar. 8, 1864.
41,643	Runk, J. L	Nashville, Ill	Ploughs, gang	Feb. 16, 1864.
43,606	Rupertus, Jacob	Philadelphia, Pa	Fire-arm, revolving	July 19, 1864.
42,446	Ruschhaupt, F. M., assignor to Anthony L. Fleury and John G. Kershaw.	Philadelphia, Pa	Furnaces, puddling. (Antedated April 6, 1864)	Apr. 19, 1864.
42,447	Ruschhaupt, F. M., assignor to Anthony L. Fleury and John G. Kershaw.	Philadelphia, Pa	Carbonic acid and other gases, apparatus for generating. (Antedated April 9, 1864.)	Apr. 19, 1864.
43,647	Ruschhaupt, Frederic M., and John George Perzel	New York, N. Y	Wool, cleaning. (Antedated April 29, 1863)	July 26, 1864.
	Rusco, Volney E. (*See* Webber, Thomas, assignor.)			
45,348	Rush, Artemus	Fairfield, Iowa	Depthing tools	Dec. 6, 1864.
	Russel, G. H., *et al.* (*See* White, James, assignor.)			
44,825	Russell, John	Cumberland, Md	Mills, smut	Oct. 25, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
41, 723	Rust, George S	Chester, Ill	Mills, apple	Feb. 23, 1864.
43, 745	Ryan, William H., assignor to self and T. E. C. Brindley	Louisville, Ky	Wood-bending machines	Aug. 2, 1864.
44, 261	Ryne, Richard, assignor to William S. Hicks	New York, N. Y	Pen and pencil-holders	Sept. 13, 1864.
	Sabin, Harvey, deceased, by Calista E. Sabin, admin'x	Canandaigua, N. Y	Rakes, horse (Extension)	Nov. 28, 1864.
43, 135	Safford, A. M	Springfield, Mass	Herbals and scrap-books	June 14, 1864.
41, 450	Safford, J. A	Boston, Mass	Leather-splitting machine	Feb. 2, 1864.
42, 408	Safley, Andrew	Mt. Vernon, Iowa	Harrows	Apr. 19, 1864.
45, 080	Sage, S. L., and O. T. Baker	Huntington, Ohio	Rack, shed, and fold, sheep, portable, combined	Nov. 15, 1864.
	Sager, Daniel. (*See* Gray, J. N., assignor.)			
43, 342	Sager, Daniel	Albany, N. Y	Beer cooler	June 28, 1864.
45, 081	Sager, Daniel	Albany, N. Y	Manger	Nov. 15, 1864.
41, 587	Saladee, Cyrus W	Paducah, Ky	Cards, game	Feb. 9, 1864.
42, 511	Saladee, Cyrus W	Paducah, Ky	Stirrups	Apr. 26, 1864.
42, 512	Saladee, Cyrus W	Paducah, Ky	Stirrups	Apr. 26, 1864.
1, 736	Saladee, Cyrus W	Paducah, Ky	Stirrups (Reissue)	Aug. 9, 1864.
45, 640	Saladee, Cyrus W	Putnam, Ohio	Currycombs	Dec. 27, 1864.
41, 820	Saladee, C. W., assignor to Samuel Hart and Isaac Levy	Paducah, Ky	Card games, register for	Mar. 1, 1864.
42, 603	Salade, William, and E. M. Luckett	Philadelphia, Pa	Egg beater	May 3, 1864.
43, 431	Salmon, W. M	Edwardsburg, Mich	Sawing machines	July 5, 1864.
	Saltzman, Jacot & Co. (*See* Jacot, Charles E., assignor.)			
44, 286	Sampson, Blaney E	Boston, Mass	Carriages	Oct. 25, 1864.
45, 300	Sampson, Blaney E., assignor to self and George N. Trowbridge.	Boston, Mass	Spinning machines, bearings for flyers of	Nov. 29, 1864.
42, 334	Samuels, James, assignor to self and William H. Gale	Lynn, Mass	Boots and shoes, machine for shaping heels for	Apr. 12, 1864.
44, 556	Sanborn, Francis G	Andover, Mass	Scissors	Oct. 4, 1864.
42, 228	Sanders, Benjamin Davis	Wellsburg, West Virginia	Piercing implements, elastic cushion for	Apr. 5, 1864.
42, 409	Sanders, Benjamin D	Wellsburg, West Va	Separator, grain	Apr. 19, 1864.
	Sanders, Delos, and D. Frey. (*See* Frey & Sanders.)			
42, 736	Sanders, Leopold, assignor to Thomas B. De Forest	New York, N. Y	Hoop skirts	May 10, 1864.
43, 710	Sanders, Leopold	New York, N. Y	Hoop skirts	Aug. 2, 1864.
42, 022	Sandhop, Henry	New York, N. Y	Pavement driver	Mar. 22, 1864.
1, 821	Sands, Thomas	Guilford, N. H	Needles, knitting, machine for making (Reissue)	Nov. 15, 1864.
	Sanford, Giles. (*See* Rose, Helen, assignor.)			
43, 343	Sanford, Peleg S	Westport, Mass	Carriage wheels, tightening tires of	June 28, 1864.
	Sanford, W., *et al.* (*See* Martin, Benjamin G., assignor.)			
44, 017	Sangster, Hugh	Buffalo, N. Y	Lamps	Aug. 30, 1864.
44, 222	Sangster, James and Amos W., assignors to Thos. J. Coury	Buffalo, N. Y	Stoves, parlor	Sept. 13, 1864.
44, 018	Santee, W. M	Dixon, Ill	Wind-wheels	Aug. 30, 1864.
45, 458	Sargeant, Henry W., assignor to self and G. Brayton Johnson	Boston, Mass	Clothes pins	Dec. 13, 1864.
41, 324	Sargent, Charles G	Graniteville, Mass	Wool, machine for washing	Jan. 19, 1864.
44, 459	Sargent, George B	Boston, Mass	Embossing and seal press	Sept. 27, 1864.
	Sargent, John D. (*See* Stevens, Levi, assignor.)			
41, 125	Sargent, Joseph F., assignor to Elmer Townsend	Boston, Mass	Eyeleting machine	Jan. 5, 1864.
44, 048	Sargent, Joseph F., assignor to Elmer Townsend	Boston, Mass	Pegging machine	Aug. 30, 1864.
44, 049	Sargent, Joseph F., assignor to Elmer Townsend	Boston, Mass	Pegging machine	Aug. 30, 1864.
44, 691	Sargent, Joseph F., assignor to Elmer Townsend	Boston, Mass	Pegging machine	Oct. 11, 1864.
42, 146	Sargent, Joseph F., and Elmer Townsend, assignors to Elmer Townsend.	Boston, Mass	Punching machines	Mar. 29, 1864.
41, 449	Sattley, Marshall	Taylorsville, Ill	Ploughs, gang	Feb. 2, 1864.
45, 082	Saunders, Benjamin	Nashua, N. H	Warp dresser beams, friction apparatus for	Nov. 15, 1864.
43, 627	Saunders, Benjamin, assignors to A. H. Saunders and R. Kitson.	Nashua, N. H	Yarn, machine for dressing or sizing	July 19, 1864.
43, 884	Saunders, Benjamin, assignor to Albert H. Saunders and George Draper.	Nashua, N. H	Warp beams from one machine to another in factories, machine for conveying.	Aug. 16, 1864.
	Savage, John Richard, and John Smith. (*See* Smith & Savage.)			
44, 486	Savary, George T., assignor to Benjamin B. Savary, jr	Reading, Mass	Traps, fly	Sept. 27, 1864.
42, 796	Savels, I. N. C	Stoughton, Mass	Last	May 17, 1864.
42, 879	Saviers, M	Kansas city, Mo	Camp fires, shields for	May 24, 1864.
45, 083	Savoral, Eduvart	Washington, D. C	Tubing, spiral, manufacture of	Nov. 15, 1864.
43, 711	Sawin, A. A	West Irving, Iowa	Saccharine juices, evaporator for	Aug. 2, 1864.
43, 136	Sawyer, C. B	Fitchburg, Mass	Elevator, balanced	June 14, 1864.
41, 096	Sawyer, Eben A	Portland, Me	Clew blocks to clews, means of attaching	Jan. 5, 1864.
41, 097	Sawyer, Henry	Roxbury, Mass	Powders, &c., putting up	Jan. 5, 1864.
	Sawyer, Luke. (*See* French, Erastus L., assignor.)			
44, 342	Sawyer, N. C	Boston, Mass	Fuel, preparing peat for	Sept. 20, 1864.
44, 557	Sawyer, N. C	Boston, Mass	Peat, machine for condensing	Oct. 4, 1864.
	Saxton, James A. (*See* Willard & Ross, assignors.) Reissue.			
	Saxton, James A. (*See* Willard & Ross, assignors.) Reissue.			
	Saxton, James A. (*See* Willard & Ross, assignors.) Reissue.			
	Saxton, James A. (*See* Willard & Ross, assignors.) Reissue.			
	Saxton, James A. (*See* Willard & Ross, assignors.) Reissue.			
	Saxton, James A. (*See* Willard & Ross, assignors.) Reissue.			
	Saxton, James, A. (*See* Willard & Ross, assignors.) Reissue.			
44, 460	Saxton, Joseph	Washington, D. C	Hydrometers	Sept. 27, 1864.
43, 797	Sayre, George W	Pisgah, Ohio	Churns	Aug. 9, 1864.
	Sayre, J. M., and A. Smith. (*See* Mackenzie, P. W., assignor.) Reissue.			
42, 229	Scaife, O. P.	Pittsburg, Pa	Cars, railroad, roofs of	Apr. 5, 1864.
	Scanewald, Ferdinand W., and William Lange. (*See* Hockstätter, Heinrich, assignor.)			
	Scarritt, Russell	St. Louis, Mo	Bedsteads, sofa (Extension)	Sept. 20, 1864.
	Schaffer, Bernhard, and Christian Rudenburg. (*See* Vaessen, Hubert Jos., assignor.)			
	Schaffer, Bernhard, *et al.* (*See* Thomas, George, assignor.)			
45, 207	Schaffer, Bernhard, assignor to self and Christian Budenberg.	Prussia	Boilers, steam, low-water detecters for	Nov. 22, 1864.
44, 662	Schaeffenber, Theodore	New York, N. Y	Fire-works, machine for charging	Oct. 11, 1864.
45, 084	Scharff, Louis	Conshohocken, Pa	Pipes, terra-cotta, forming sockets on	Nov. 15, 1864.
42, 690	Scheffer, Theodore	Paterson, N. J	Boilers, steam, water gauges for	May 10, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
44, 487	Schemmals, Peter, assignor to Uriah P. Harris	Chicago, Ill	Hose connexions	Sept. 27, 1864.
45, 180	Schenck, John H	St. Louis, Mo	Food, concentrated. (Antedated July 15, 1863)	Nov. 22, 1864.
45, 641	Schermerhorn, Thomas K., and Joseph Anderson	Brooklyn, N. Y	Fire-arms, expanding tompion for. (Antedated Dec. 17, 1864.)	Dec. 27, 1864.
	Schettler, F. R. (*See* Morris, Thomas A., assignor.)			
41, 399	Schifflin, George Philip	New York, N. Y	Skate fastening	Jan. 26, 1864.
	Schifflin, George P. (*See* Held, L., assignor.)			
45, 525	Schieler, Theodore M	Nashville, Tenn	Railways, street, rail for	Dec. 20, 1864.
45, 181	Schmedinghoff, Joseph	Cincinnati, Ohio	Stoves, summer	Nov. 22, 1864.
	Schmidt, Edwin, and Heinrich Pollack. (*See* Pollack & Schmidt.)			
41, 325	Schmoele, William, jr	Philadelphia, Pa	Ordnance, breech-loading	Jan. 19, 1864.
44, 663	Schneider, Jacob F	Brooklyn, N. Y	Refrigerator	Oct. 11, 1864.
42, 880	Schnitzer, John	New York, N. Y	Railroad chairs	May 24, 1864.
45, 085	Schnoutz, Henry, and Henry Bremenkamp	Cincinnati, Ohio	Faucets	Nov. 15, 1864.
	Schöllhorn, William, and Frank P. Pfleghar. (*See* Pfleghar & Schöllhorn.)			
41, 098	Schooley, John C	New York, N. Y	Refrigerator	Jan. 5, 1864.
41, 099	Schooley, John C	New York, N. Y	Refrigerator	Jan. 5, 1864.
44, 223	Schott, George	New York, N. Y	Beds, feathers for	Sept. 13, 1864.
	Schrag, Philip, and Oscar Fulke. (*See* Falke & Schrag.)			
45, 679	Schrag, Philip, assignor to Eberhard Faber	New York, N. Y	Pencils, machines for sand-papering	Dec. 27, 1864.
43, 432	Schramm, G. W	Brooklyn, N. Y	File hook	July 5, 1864.
43, 344	Schrink, John	Toledo, Ohio	Bottling soda, &c., sirup gauge for	June 28, 1864.
43, 798	Schultz, Carl, and Thomas Warker	New York, N. Y	Soda fountains. (Antedated July 28, 1864)	Aug. 9, 1864.
	Schultse, F. (*See* Zunkeler, Ferdinand, assignor.)			
43, 433	Schumann, Theodore, and C. G. Frash	New York, N. Y	Barrels water and oil tight, composition for making	July 5, 1864.
	Schuyler, Isaac S., and George P. Ganster. (*See* Ganster & Schuyler.)			
	Schuyler, Isaac S., and George P. Ganster. (*See* Ganster & Schuyler.)			
45, 526	Schwartz, Theodore	New York, N. Y	Engines, caloric. (Antedated Dec. 7, 1864)	Dec. 20, 1864.
42, 903	Schwartzkopf, L., and E. Kalowsky	Prussia	Wrenches	May 24, 1864.
43, 230	Schwippl, Chrystomus	New York, N. Y	Clocks	June 21, 1864.
42, 691	Schwilter, Anton	New York, N. Y	Engines, rose	May 10, 1864.
44, 461	Schwilter, Anton	New York, N. Y	Engine, rose, for ornamenting glass, &c	Sept. 27, 1864.
	Scofield, Charles, and A. G. Simmons. (*See* Simmons & Scofield.)			
	Scofield, L. S. (*See* Hoxsey, E. D., assignor.)			
43, 930	Scofield, L. S	Boston, Mass	Corsets, skirt-supporting	Aug. 23, 1864.
44, 827	Scott, Cornelius W	Constantine, Ohio	Gun-lock	Oct. 25, 1864.
1, 883	Scott, George	New York, N. Y	Bottle (Design)	Jan. 12, 1864.
42, 881	Scott, John O	New York, N. Y	Journal boxes for railroad cars	May 24, 1864.
43, 231	Scott, Melchi	Fairfield, Iowa	Tire or hoop bender	June 21, 1864.
44, 462	Scovil, Jasper	Hamburg, N. Y	Seed sower	Sept. 27, 1864.
44, 343	Scoville, H. H., and P. W. Gates	Chicago, Ill	Amalgamating and silver, apparatus for	Sept. 20, 1864.
	Scoville Manufacturing Co. (*See* Webb, William, assignor.)			
	Scoville Manufacturing Co. (*See* Webb, William, assignor.)			
41, 537	Scripture, Eliphalet S	Brooklyn, N. Y	Oil cans	Feb. 9, 1864.
43, 345	Scripture, Eliphalet S	Brooklyn, N. Y	Oil cans	June 28, 1864.
43, 434	Scully, Daniel	Baltimore, Md	Mills, cider	July 5, 1864.
42, 113	Seabury, Alfred L	Norfolk, Va	Envelopes, opening	Mar. 29, 1864.
	Seabury, J. L., *et al.* (*See* Martin, Benjamin G., assignor.)			
41, 400	Sealy, Samuel A	Brooklyn, N. Y	Soap, manufacture of	Jan. 26, 1864
44, 463	Seaman, Abram H	Coxsackie, N. Y	Water elevators	Sept. 27, 1864
45, 349	Searing, Ichabod	Morristown, N. J	Corpse-preserving cases	Dec. 6, 1864.
	Sears, Charles, and Tappen Townsend. (*See* Townsend, John P., assignor.)			
44, 558	Seavey, Henry M	Chicago, Ill	Filters and coolers	Oct. 4, 1864.
44, 117	Seeley, E	Scranton, Pa	Pavement, concrete, composition for	Sept. 6, 1864.
	Seely, N. S., and W. H. (*See* James, Henry, assignor.)			
45, 182	Seely, Obadiah	Syracuse, N. Y	Churns	Nov. 22, 1864.
41, 787	Seely, Samuel J	New York, N. Y	Buildings, sheet-iron, mode of strengthening and improving.	Mar. 1, 1864.
42, 692	Seely, Samuel J	New York, N. Y	Beams, corrugated	May 24, 1864.
44, 751	Seely, Samuel J	New York, N. Y	Piles, mode of sinking	Oct. 18, 1864.
45, 527	Seely, Samuel J	New York, N. Y	Tunnels	Dec. 20, 1864.
42, 538	Sees, John Randolph, assignor to Wm. F. Weaver	New York, N. Y	Feed water heaters	Apr. 26, 1864.
42, 539	Sees, John Randolph, assignor to Wm. F. Weaver	New York, N. Y	Locomotives, feed water heaters for	Apr. 26, 1864.
42, 540	Sees, John Randolph, assignor to Wm. F. Weaver	New York, N. Y	Steam gauge	Apr. 26, 1864.
42, 541	Sees, John Randolph, assignor to Wm. F. Weaver	New York, N. Y	Valves, check	Apr. 26, 1864.
42, 410	Seibel, Jacob	Manlius, Ill	Harvesting machines	Apr. 19, 1864.
45, 642	Seibel, Jacob	Manlius, Ill	Harvesters	Dec. 27, 1864.
1, 698	Seiberling, John F	Doylestown, Ohio	Harvesters (Reissue)	June 14, 1864.
1, 699	Seiberling, John F	Doylestown, Ohio	Harvesters (Division B, of reissue)	June 14, 1864.
1, 700	Seiberling, John F	Doylestown, Ohio	Harvesters (Division C, of reissue)	June 14, 1864.
1, 701	Seiberling, John F	Doylestown, Ohio	Harvesters (Division D, of reissue)	June 14, 1864.
1, 702	Seiberling, John F	Doylestown, Ohio	Harvesters (Division E, of reissue)	June 14, 1864.
44, 893	Seiberling, J. F	Doylestown, Ohio	Harvesters	Nov. 1, 1864.
44, 894	Seiberling, J. F	Doylestown, Ohio	Harvesters	Nov. 1, 1864.
44, 344	Seidle, Frederick	Mechanicsburg, Pa	Rakes, horse	Sept. 20, 1864.
44, 019	Selby, James	Peoria, Ill	Planter, corn	Aug. 30, 1864.
	Selkreg, John H., *et al.* (*See* Mix & Horton, assignors.)			
41, 450	Selleck, Samuel	Rosendale, N. H	Breast strap slides	Feb. 2, 1864.
41, 724	Sellers, Alfred	New York, N. Y	Bank notes, &c., plates for printing	Feb. 23, 1864.
41, 789	Sellers, Coleman	Philadelphia, Pa	Drilling and boring metals, machines for	Mar. 1, 1864.
41, 101	Sellers, George Escol	Sellers' Landing, Ill	Paper stock, preparing vegetable fibre for	Jan. 5, 1864.
41, 102	Sellers, George Escol	Sellers' Landing, Ill	Paper stock, &c., forming, drying and packing	Jan. 5, 1864.
41, 538	Sellers, George Escol	Sellers' Landing, Ill	Fibres, vegetable, disintegrating and separating	Feb. 9, 1864.
42, 051	Sellers, George H., assignor to the Phœnix Iron Company	Phœnixville, Pa	Bars, iron, machines for straightening	Mar. 22, 1864.
42, 147	Sellers, George H., assignor to the Phœnix Iron Company	Phœnixville, Pa	Links, bar, manufacture of	Mar. 29, 1864.
42, 797	Sellers, William	Philadelphia, Pa	Iron, machines for planing	May 17, 1864.
43, 137	Sellers, William	Philadelphia, Pa	Metal planing machines	June 14, 1864.
42, 994	Sellers, William, assignor to Ann Rammage	New York, N. Y	Fastenings for doors, stair rails, lasts, &c	May 31, 1864.
	Semple, Lewis, and Robert Barckley. (*See* Barckley & Semple.)			
45, 643	Senderling, M. L.	Jersey City, N. J	Trucks for transporting casks	Dec. 27, 1864.
	Sergeant, Thomas L., and Allen S. Ballard. (*See* Ballard & Sergeant.)			

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
42, 114	Severance, Asa F	Concord, N. H	Corn shellers	Mar. 29, 1864.
43, 712	Severance, Samuel	Pittsburg, Pa	Spikes, machines for making	Aug. 2, 1864.
43, 607	Seward, Moses	New Haven, Conn	Carriage work, axle clip for	July 19, 1864.
42, 693	Sewell, William, and Adam S. Cameron	New York, N. Y	Pump valves	May 10, 1864.
42, 694	Sewell, William, and Adam S. Cameron	New York, N. Y	Pumps, steam, direct action	May 10, 1864.
1, 731	Sewell, William, and Adam S. Cameron	New York, N. Y	Pumps, steam, direct action (Reissue)	July 19, 1864.
45, 644	Sewell, William, and Adam S. Cameron	New York, N. Y	Pumps, valve arrangement for	Dec. 27, 1864.
45, 087	Sexton, Daniel	San Gabriel, Cal	Wines, liquors, &c., apparatus for racking	Nov. 15, 1864.
45, 183	Sexton, Daniel	San Gabriel, Cal	Liquids from casks, apparatus for transferring	Nov. 22, 1864.
42, 604	Sexton, Deming W	East Hampton, Conn	Bell, call	May 3, 1864.
45, 184	Sexton, F. L	Wellington, Ohio	Fence, field	Nov. 22, 1864.
1, 621	Sexton, Samuel B	Baltimore, Md	Stoves (Reissue)	Feb. 16, 1864.
1, 622	Sexton, Samuel B	Baltimore, Md	Stoves (Division of reissue)	Feb. 16, 1864.
1, 774	Sexton, Samuel B	Baltimore, Md	Stoves (Reissue)	Sept. 27, 1864.
44, 345	Sexton, S. B	Baltimore, Md	Stove, base-burning	Sept. 20, 1864.
44, 346	Sexton, S. B	Baltimore, Md	Frying-pan	Sept. 20, 1864.
	Seyfert, McManus & Co. (*See* McCleery, William, assignor)			
	Seyfert, McManus & Co. (*See* Lario, Rock, assignor.)			
45, 087	Seymour, Albert	Hartford, Conn	Tree protector	Nov. 15, 1864.
	Seymour, Charles. (*See* Stephens, D. S., assignor.)			
1, 613	Seymour, E. W., and G. W. Gregory, assignors to George W. Gregory.	Binghamton, N. Y	Hay elevators (Reissue)	Feb. 2, 1864.
41, 239	Seymour, Frederick J	Wolcottville, Conn	Shoe-laces, machine for cutting tags on	Jan. 12, 1864.
42, 798	Seymour, Frederick J	Wolcottville, Conn	Lacings, apparatus for tagging	May 17, 1864.
	Seymour, Henry, and Hermann Wendt. (*See* Wendt & Seymour.)			
	Seymour, Henry J. (*See* Wood, Robert, assignor.)			
	Seymour, William H., and D. S. Morgan. (*See* Palmer & Williams, assignors.) Reissue.			
1, 683	Seymour, William H., assignor, through mesne assignments, to Dayton S. Morgan.	Brockport, N. Y	Reaping machines (Reissue)	May 31, 1864.
44, 464	Shafer, N. Mendal	New York, N. Y	Pavement, street	Sept. 27, 1864.
44, 664	Shaler, Nathaniel S	Newport, Ky	Preserving fruit, &c	Oct. 11, 1864.
41, 943	Shaler, Reuben	Madison, Conn	Pistol, toy	Mar. 15, 1864.
43, 799	Shaler, Reuben	Madison, Conn	Hoop toys	Aug. 9, 1864.
1, 639	Shaler, Reuben, assignor to Orasmus M. and Thos. J. Vail	Madison, Conn	Skates, wheel (Reissue)	Mar. 15, 1864.
41, 326	Sharp, Dennis P	Ithaca, N. Y	Rakes, horse	Jan. 19, 1864.
1, 880	Sharp, George	Philadelphia, Pa	Spoon handle (Design)	Jan. 5, 1864.
	Sharp, G. D. (*See* Hunt, John, assignor.)			
41, 100	Sharp, Henry	Port Richmond, N. Y	Wrenches	Jan. 5, 1864.
	Sharp, J. W., and William H. Hurlbut. (*See* Hurlbut & Sharp.)			
41, 240	Sharp, William	Millport, N. Y	Tuyere, blacksmiths'	Jan. 12, 1864.
	Sharpe, Lucian, and Joseph R. Brown. (*See* Brown, James S., assignor.)			

No.	Patentee.	Residence.	Invention or discovery.	Date.
	Sharpe, Lucien. (*See* Brown, Joseph R., assignor.)			
1, 720	Sharps, Christian, assignor to Sharps Rifle Company	Hartford, Conn	Fire-arm, breech-loading	July 5, 1864.
41, 866	Sharret, John W	Portsmouth, Va	Vessels, sails of, safety cleat for releasing the	Mar. 8, 1864.
45, 645	Sharret, John W	Portsmouth, Va	Sails, jib, devices for working	Dec. 27, 1864.
43, 527	Shattuck, Daniel, and Clinton K. Daniels	Chicago, Ill	Soap, manufacture of	July 12, 1864.
1, 660	Shaver, Archibald G	New Haven, Conn	Eraser and pencil sharpener (Reissue)	Apr. 26, 1864.
42, 968	Shavor, Jacob, and Albert C. Corse	Troy, N. Y	Stoves, cooking, covers for	May 31, 1864.
	Shavor, Jacob, and Albert C. Corse. (*See* Norton, Marcus P., assignor.) Reissue.			
1, 625	Shaw, A. B., assignor to self and N. H. Shaw	Swanton, Vt	Sewing machine (Reissue)	Feb. 23, 1864.
41, 644	Shaw, Charles A	Biddeford, Me	Gas fixtures	Feb. 16, 1864.
	Shaw, Charles A. (*See* Twambley, Samuel G., assignor.)			
	Shaw, Charles A. (*See* Goodwin & Emery, assignors.)			
	Shaw, Charles A. (*See* Gilman, Albert H., assignor.)			
	Shaw, Charles A. (*See* Goodwin, Simeon, assignor.)			
	Shaw, Charles A. (*See* Boothby, Erastus, assignor.)			
1, 902	Shaw, Charles A., and James R. Clark	Biddeford, Me	Sewing machine (Design)	Feb. 16, 1864.
41, 539	Shaw, Henry F	West Roxbury, Mass	Saws, gig	Feb. 9, 1864.
42, 917	Shaw, Henry F., assignor to self and W. S. Locke	West Roxbury, Mass	Sink-strainer and stench-trap, combined	May 24, 1864.
1, 651	Shaw, Jehyleman	Bridgeport, Conn	Silver, &c., from waste solutions, apparatus for saving (Reissue.)	Apr. 5, 1864.
43, 868	Shaw, L. L	Lewiston, Me	Looms, take-up motion for	Aug. 16, 1864.
44, 897	Shaw, P. D	Carson City, Nevada	Saw-mills	Nov. 1, 1864.
41, 350	Shaw, Robert Tennent	New York, N. Y	Flax, hemp, &c., mode of separating the fibres of	Jan. 19, 1864.
41, 352	Shaw, Robert Tennent	New York, N. Y	Flax, hemp, &c., retting and disintegrating	Jan. 19, 1864.
45, 646	Shaw, Samuel J	Marlboro', Mass	Button or fastener, sleeve	Dec. 27, 1864.
44, 665	Shaw, Silvester	Russellville, Ohio	Horses, apparatus for throwing	Oct. 11, 1864.
42, 448	Shaw, T	Philadelphia, Pa	Boilers, steam	Apr. 19, 1864.
42, 627	Shaw, Thomas, assignor to self and Philip S. Justice	Philadelphia, Pa	Gauge for measuring the pressure of explosive gases	May 3, 1864.
44, 559	Shaw, Thomas, assignor to self and Philip S. Justice	Philadelphia, Pa	Pumps, test	Oct. 4, 1864.
45, 680	Shaw, Thomas, assignor to self and Philip S. Justice	Philadelphia, Pa	Boilers, steam, low-water signals for	Dec. 27, 1864.
43, 608	Shaw, William	Hudson, N. Y	Fastenings, sash	July 19, 1864.
41, 401	Shaw, William A., and Gardner Willard	New York, N. Y	Pipe, lead, tinned, manufacture of	Jan. 26, 1864.
45, 185	Shaw, William T., and John Manz	Wilmington, Del	Harvesters, raking attachments to	Nov. 22, 1864.
41, 103	Shearer, D. H	Drakesville, Iowa	Threshers, grain	Jan. 5, 1864.
43, 528	Shearer, D. H	Drakesville, Iowa	Washing machine	July 12, 1864.
41, 327	Shedd, J. Herbert, and William Edson	Boston, Mass	Pumps, rotary	Jan. 19, 1864.
42, 882	Sheehan, Thomas	Dunkirk, N. Y	Mill picks	May 24, 1864.
	Sheets, Daniel, *et al.* (*See* Pressey, Wheaton & Sheets.)			
	Sheffler, Charles. (*See* Herrick, G. F., assignor.)			
1, 667	Shelden, J. F	Abington, Ill	Sorghum juice and syrup, refining. (Reissue)	May 10, 1864.
	Shelden, S. W., and H. H. Mason. (*See* Mason & Shelden.)			
44, 224	Sheldon, Gilbert L	New Marlboro', Mass	Threshing machine	Sept. 13, 1864.
43, 044	Sheldon, William D	Wolcott, N. Y	Carriage brakes	June 7, 1864.
41, 725	Shellaberger, Michael M	Randolph county, Ind	Button-hole cutters	Feb. 23, 1864.
42, 230	Shelley, George A	Madison, Conn	Square and level combined	Apr. 5, 1864.
42, 695	Shenton, Francis	Statington, Pa	Slate and other frames, machine for making	May 10, 1864.
1, 957	Shepard, Charles J	Brooklyn, N. Y	Range, cooks', plates of a (Design)	June 14, 1864.
42, 883	Shepard, F. M	New York, N. Y	Rubber, India, tablet	May 24, 1864.
43, 158	Shepard, F. M., assignor to self and W. A. Shepard	New York, N. Y	Syringes, India-rubber	June 14, 1864.
42, 799	Shepard, George L	New York, N. Y	Legs, artificial	May 17, 1864.
	Shepard, Gustavus. (*See* Ambler, A. J., assignor.)			

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
45,088	Shepard, Josiah	New Britain, Conn	Buckles	Nov. 15, 1864.
44,666	Shepard, Richard	Brooklyn, N. Y	Tag-holder for bales, &c. (Antedated March 17, 1864)	Oct. 11, 1864.
45,301	Shepard, Richard, assignor to Fitch, Estee & Co	Brooklyn, N. Y	Envelopes, paper	Nov. 29, 1864.
	Shepard, R. R. (*See* Howe, Lymon, assignor.)			
	Shepardson, George A., and William H Conant. (*See* Richards, Cellus E., assignor.)			
43,138	Shepardson, H. S	Shelburne Falls, Mass	Friction clutches or pulleys	June 14, 1864.
44,225	Shepardson, H. S	Shelburne Falls, Mass	Levels, spirit	Sept. 13, 1864.
41,894	Shepardson, H. S., assignor to self, F. R. Pratt and W. H. Maynard.	Shelburne Falls, Mass	Countersinks	Mar. 8, 1864.
44,667	Shepherd, Forrest	New Haven, Conn	Tree protector	Oct. 11, 1864.
42,115	Shepherd, George	Philadelphia, Pa	Liniment for rheumatism, &c	Mar. 29, 1864.
44,347	Shepherd, Samuel	Nashua, N. H	Cocks, gauge	Sept. 20, 1864.
42,411	Sheridan, James	St. Louis, Mo	Ploughs, snow	Apr. 19, 1864.
44,226	Sherwood, Benjamin	New York, N. Y	Trusses	Sept. 13, 1864.
	Sherwood, C. W., and John Sperry. (*See* Sperry & Sherwood.) Reissue.			
44,753	Sherwood, Henry M	Chicago, Ill	Ink wells, fastening covers of	Oct. 18, 1864.
45,440	Sherwood, Rebecca	Fort Edward, N. Y	Paper pulp, reducing straw and other fibrous substances for the manufacture of.	Dec. 13, 1864.
	Sherwood, Samuel S. (*See* Douglas, Alexander, assignor.)			
	Shiebel, Philip, and F. W. Presber. (*See* Presber & Shiebel.)			
43,713	Shipe, Joseph	Upper Augusta, Pa	Corn-sheller	Aug. 2, 1864.
42,800	Shipherd, W. C	New York, N. Y	Lasts, shoe	May 17, 1864.
	Shipman, Henry A. (*See* Hoadley, Robert, assignor.)			
1,832	Shireman, Joseph H	East Berlin, Pa	Rakes, horse	Dec. 6, 1864.
42,316	Shirley, Daniel H	Boston, Mass	Skates	Apr. 12, 1864.
42,116	Shockley, U. H	Litchfield, Ill	Drills, grain. (Antedated March 23, 1864)	Mar. 29, 1864.
	Sholes, C. Latham, and Samuel W. Soule. (*See* Soule & Sholes.)			
41,126	Sholl, Charles, assignor to F. A. De Mey	Brooklyn, N. Y	Torpedoes, submerged, method of removing	Jan. 5, 1864.
41,867	Sholl, Christian	Mount Joy, Pa	Gauges, joiners'. (Antedated Feb. 25, 1864.)	Mar. 8, 1864.
41,645	Sholl, Joseph	Burlington, N. J	Stoves, cooking	Feb. 16, 1864.
41,540	Shore, Edward	Conshohocken, Pa	Knitting machine	Feb. 9, 1864.
45,350	Short, Thomas	Fairmount, Ill	Drill, grain, and corn-planter, combined	Dec. 6, 1864.
45,647	Shoup, William	Saltsburg, Pa	Pumps. (Antedated April 26, 1862)	Dec. 27, 1864.
44,022	Shunk, A. J	Shanesville, Ohio	Rakes, horse	Aug. 30, 1864.
1,686	Shunk, Christian	Youngstown, Ohio	Iron, manufacture and refining of (Reissue)	May 31, 1864.
43,609	Sias, William and Holland	Henderson, N. Y	Rack, feed	July 19, 1864.
42,412	Sibbald, George	Philadelphia, Pa	Lanterns, magic	Apr. 19, 1864.
42,117	Sibley, John J	New York, N. Y	Sewing machine	Mar. 29, 1864.
45,351	Sibley, Willard E	Weston, Mass	Dovetailing machines	Dec. 6, 1864.
41,788	Siemens, Charles William and Frederick	Great Britain	Furnaces, regenerator	Mar. 1, 1864.
42,717	Siemens, Charles William and Frederick Siemens	Great Britain Prussia	Gas-producer or furnace	May 10, 1864.
41,241	Sigel, John N., assignor to self and Robert Portner	Alexandria, Va	Paper, &c., sizing and water-proofing	Jan. 12, 1864.
43,800	Silsbee, Charles E	Detroit, Mich	Soap	Aug. 9, 1864.
	Silsbee, N. D., *et al.* (*See* Vanderburgh, George E., assignor)			
	Silver, A. R. (*See* Dole, L. A., assignor.)			
	Silver, Albert R. (*See* Dole, L. A., assignor.)			
41,868	Silver, Thomas	New York, N. Y	Spring tension regulator	Mar 8, 1864.
44,021	Silverthorn, N	Prescott, Wis	Hog-cleaning machine	Aug. 30, 1864.
	Silvester, Albert H., *et al.* (*See* Simonds, Silvester & Caldwell.)			
41,790	Simmons, A. G., and Charles Scofield	Utica, N. Y	Sewing machine	Mar. 1, 1864.
42,884	Simmons, J. P	Fulton, N. Y	Carriages, hold-back irons for	May 24, 1864.
	Simonds, E. W., *et al.* (*See* Waterman, L. B., assignor.)			
44,227	Simonds, J. C., and Freeman Godfrey	Grand Rapids, Mich	Water wheels	Sept. 13, 1864.
44,560	Simonds, Warren A	Boston, Mass	Air for illuminating purposes, apparatus for carbonizing	Oct. 4, 1864.
43,264	Simonds, Warren A. assignor to self and S. G. B. Coombs	Boston, Mass	Air for illuminating purposes, apparatus for carbonizing	June 21, 1864.
42,023	Simonds, Warren A., Albert H. Silvester and Charles Caldwell	Boston, Mass Boston, Mass Chelsea, Mass	Gas, apparatus for regulating the pressure of	Mar. 22, 1864.
42,231	Simpson, Edwin L	Bridgeport, Conn	Compound and varnish, water-proof	Apr. 5, 1864.
1,688	Simpson, E. L., assignor, through mesne assignments, to the Simpson Water-proof Manufacturing Company.	New York, N. Y	Fabrics, flocked, manufacture of (Reissue)	May 31, 1864.
1,721	Simpson, E. L., assignor, through mesne assignments, to the Simpson Water-proof Manufacturing Company.	New York, N. Y	Fabrics, compositions for water-proofing and coating (Reissue.)	July 5, 1864.
44,348	Simpson, Joseph	Newark, Ohio	Stoves, cooking, parlor	Sept. 20, 1864.
	Simpson, R. W. W. (*See* Harrison, Edward, assignor.)			
	Simpson, R. W. W. (*See* Harrison, Edward, assignor.)			
	Simpson, R. W. W. (*See* Harrison, Edward, assignor.)			
	Simpson, Wm., and John S. Gisborne. (*See* Gisborne & Simpson.)			
	Sims, John A., *et al.* (*See* Corser, Samuel A., assignor.)			
44,349	Sinclair, Charles	New York, N. Y	Ships, ventilator for	Sept. 20, 1864.
43,714	Sinclair, Wm. D	Trenton, N. J	Pantaloon legs, device for preserving the shape of	Aug. 2, 1864.
	Sisson, Samuel A., and Abraham Stoler. (*See* Stoler & Sisson.)			
42,605	Skaats, Abraham, jr	New Haven, Conn	Cog-wheels, construction of	May 3, 1864.
	Skidmore, R. E. (*See* Beers, John C., assignor.)			
	Skinner, E. W. (*See* Porter, Luther, assignor.)			
42,696	Slack, Strickland	Oxford, Pa	Car-coupling	May 10, 1864.
41,646	Slate, Dwight	Hartford, Conn	Rifling machines, apparatus for grinding cutter bits for	Feb. 16, 1864.
41,328	Slaughter, W	Westerville, Ohio	Churns	Jan. 19, 1864.
41,466	Slaton, Phineas Leeson, assignor to C. S. Mitchell	New York, N. Y	Looms, circular, for weaving hats, &c	Feb. 2, 1864.
45,208	Slayton, Phineas L., assignor to Almet Reed	New York, N. Y	Looms for weaving hats, &c	Nov. 22, 1864.
45,209	Slayton, Phineas L., assignor to Almet Reed	New York, N. Y	Garments, horse-hair woven	Nov. 22, 1864.
42,801	Sleppy, Simon P	Wilkesbarre, Pa	Sewing machines, &c., tension indicator for	May 17, 1864.
44,897	Sloan, James C	Camden, N. J	Water-coolers	Nov. 8, 1864.
42,232	Sloan, Seymour	Kewanee, Ill	Cultivators	Apr. 5, 1864.
1,839	Slocum, Frank P., assignor, through mesne assignments, to the Brooklyn Fire-arms Company.	Brooklyn, N. Y	Fire-arms, revolving (Reissue)	Dec. 20, 1861.
42,513	Slocum, S. W., and E. Phillips	Fulton City, Ill	Cultivators	Apr. 26, 1864.
	Sloper, G., and John McCall. (*See* McCall & Sloper.)			
43,610	Smedley, A. and C. D	Carthage, Ohio	Washing-machine	July 19, 1864.
42,024	Smedley, John D	Chicago, Ill	Tunnels, indicating	Mar. 22, 1861.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
	Smith, A., and James M. Sayre. (*See* Mackenzie, P. W., assignor.) Reissue.			
43, 435	Smith, Addison	Perrysburg, Ohio	Paper-fastener	July 5, 1864.
44, 980	Smith, Addison	Perrysburg, Ohio	Ruling machines, adjustable atmospheric fountain-feeder for.	Nov. 8, 1864.
	Smith, Alexander	West Farms, N. Y	Carpets, two and three-ply, manufacture of. (Extension.)	Dec. 10, 1864.
	Smith, A. B., and Barton Ricketson. (*See* Ricketson & Smith.)			
42, 233	Smith, Alba F	Norwich, Conn	Engines, steam, locomotive	Apr. 5, 1864.
44, 465	Smith, Albert M	Brooklyn, N. Y	Sewing machines, mechanism for starting	Sept. 27, 1864.
43, 045	Smith, Anthony M	Brooklyn, N. Y	Fastening, sash	June 7, 1864.
44, 843	Smith, Austin A	Seneca Falls, N. Y	Injectors for the hair	Oct. 25, 1864.
	Smith, Canby S., and Henry Holcroft. (*See* Holcroft & Smith.)			
	Smith, Canby S., and Henry Holcroft. (*See* Holcroft & Smith.)			
41, 791	Smith, Charles	Buffalo, N. Y	Hair restorer	Mar. 1, 1864.
41, 541	Smith, Charles R	Haverhill, N. H	Fence posts	Feb. 9, 1864.
43, 801	Smith, Charles W	Evans, N. Y	Shells, igniting fuses for	Aug. 9, 1864.
45, 352	Smith, Charles W	New York, N. Y	Screw blanks, machine for making. (Antedated February 7, 1864.	Dec. 6, 1864.
45, 528	Smith, De Witt C	Cincinnati, Ohio	Sewing machine	Dec. 20, 1864.
44, 982	Smith, Earle H., and Daniel C. Chapman	Hudson, N. J New York, N. Y	Sewing machines	Nov. 8, 1864.
	Smith, Ebenezer A. (*See* Van Gieson, A. H., assignor.)			
41, 746	Smith, Edgar M., assignor to Mitchell, Vance & Co	New York, N. Y	Harvesters	Feb. 23, 1864.
	Smith, E. M., and John Powers. (*See* Powers & Smith.) Reissue.			
42, 413	Smith, Edward A	St. Albans, Vt	Lime, burning	Apr. 19, 1864.
	Smith, Edward C., and James T. Wood. (*See* Wood & Smith.)			
	Smith, Edward Cone, and J. Theodore Wood. (*See* Wood & Smith.)			
43, 715	Smith, Frederick	Allegheny, Pa	Picture frames, oval, enamelling	Aug. 2, 1864.
41, 464	Smith, F. F., assignor to self and Samuel W. Collins, president of the Collins Company.	Collinsville, Conn	Plough plates, cast cast-steel, cooling and tempering	Feb. 2, 1864.
1, 705	Smith, F. F., assignor to the Collins Company	Collinsville, Conn	Plough plates, mode of casting (Reissue)	June 21, 1864.
1, 706	Smith, F. F., assignor to the Collins Company	Collinsville, Conn	Ploughs (Division of reissue)	June 21, 1864.
1, 965	Smith, Garrettson, and Henry Brown, assignors to J. G. Abbott and C. Noble.	Philadelphia, Pa	Stove, cook's, plates of a (Design)	June 21, 1864.
1, 968	Smith, Garrettson, and Henry Brown, assignors to J. H. Hayward, D. L. Bartlett and H. W. Robbins.	Philadelphia, Pa	Stove (Design)	July 12, 1864.
42, 118	Smith, George L	Brooklyn, N. Y	Grates	Mar. 29, 1864.
41, 542	Smith, George W	Springfield, N. J	Drains	Feb. 9, 1864.
45, 089	Smith, George W	Springfield Township, N. J	Drains	Nov. 15, 1864.
44, 118	Smith, George and Charles F. Henis	Cincinnati, Ohio	Water gauges, magnetic	Sept. 6, 1864.
44, 981	Smith, Gilbert E	Racine, Wis	Stoves-pipes, dampers for	Nov. 8, 1864.
42, 119	Smith, Hamilton E	Pittsburg, Pa	Washing machine	Mar. 29, 1864.
44, 228	Smith, Hamilton E	Cincinnati, Ohio	Fire-places	Sept. 13, 1864.
43, 232	Smith, Harlow C	Chicago, Ill	Preserving fruits, &c. (Antedated June 15, 1864)	June 21, 1864.
42, 542	Smith, Isaac, assignor to self, Cornelius B. Debawn and John B. Morrell.	New York, N. Y	Fire-arms, breech-loading	Apr. 26, 1864.
42, 514	Smith, J. D	Peoria, Ill	Cultivators	Apr. 26, 1864.
42, 120	Smith, Jacob J	Philadelphia, Pa	Bedstead fastening	Mar. 29, 1864.
45, 459	Smith, James, assignor to Major and James H. Smith	New Haven, Conn	Screw plates	Dec. 13, 1864.
42, 121	Smith, James, and Allan Greig	Tarrville, Pa	Gas from petroleum, apparatus for separating. (Antedated March 23, 1864.)	Mar. 29, 1864.
42, 606	Smith, James L	Tuscola, Ill	Ventilators	May 3, 1864.
	Smith, Jason. (*See* Rand, Jacob B., assignor.)			
41, 647	Smith, John, and John Richard Savage	Philadelphia, Pa	Sulphuric acid, manufacture of	Feb. 16, 1864.
	Smith, John J. (*See* Baker, W. C., assignor.)			
43, 648	Smith, John Jos. Charles	Philadelphia, Pa	Types, printers', making. (Antedated July 19, 1864)	July 26, 1864.
43, 649	Smith, John Jos. Charles	Philadelphia, Pa	Types, printers', machine for cutting	July 26, 1864.
45, 353	Smith, John Jos. Charles	Philadelphia, Pa	Printers' type, making. (Antedated November 30, 1864)	Dec. 6, 1864.
43, 716	Smith, John W	Iowa Point, Kan	Harvesters, corn	Aug. 2, 1864.
45, 460	Smith, John W., assignor to self and Jonas Greene	Washington, D. C	Gas, coal, for illumination, manufacture of. (Antedated October 17, 1863.	Dec. 13, 1864.
45, 186	Smith, Jonathan B	Winfield, N. Y	Harvesting machines	Nov. 22, 1864.
41, 726	Smith, Joseph H	Cohasset, Mass	Vessels, sunken, mode of raising	Feb. 23, 1864.
41, 402	Smith, Joseph Nottingham	New York, N. Y	Guns, sub-marine	Jan. 26, 1864.
	Smith, K. (*See* Porter D'Arcy, assignor.)			
	Smith, Leonard	Troy, N. Y	Smut machines (Extension)	Feb. 10, 1864.
	Smith, Lorenzo, and George Westinghouse. (*See* Westinghouse & Smith.)			
45, 441	Smith, Lysias	Gorsuch, Mills, Md	Trees, fruit, composition for preserving	Dec. 13, 1864.
42, 802	Smith, Marshall	St. Louis, Mo	Mail pouches	May 17, 1864.
	Smith, Newton T., and John T. Johnson. (*See* Johnson & Smith.)			
	Smith, Patrick. (*See* Davis, Jarvis, assignor.)			
45, 451	Smith, Robert	Sherbrooke, Canada	Tobacco cutter, self-feeding	Dec. 13, 1864.
	Smith, Robert, and Godfrey Ermen. (*See* Ermen & Smith.)			
44, 983	Smith, R. A	Philadelphia, Pa	Dumping carts. (Antedated October 25, 1864)	Nov. 8, 1864.
43, 529	Smith, R. D. O	Washington, D. C	Fire-arms, revolving, cartridge retracter for	July 12, 1864.
45, 529	Smith, Robert D. O	Washington, D. C	Calipers	Dec. 20, 1854.
45, 530	Smith, Robert L	Stockport, N. Y	Wind wheels	Dec. 27, 1864.
42, 803	Smith, Robert M	Baltimore, Md	Acid, waste, from petroleum refineries, mode of utilizing the.	May 17, 1864.
41, 965	Smith, Rodney L., assignor to Parkers, Snow & Co	West Meriden, Conn	Lamp-burner	Mar. 15, 1864.
	Smith, S. B., *et al.* (*See* Carpenter, Nicholas, assignor.)			
43, 139	Smith, Solomon S	North Fairfield, Ohio	Planter, corn, hand	June 14, 1864.
44, 350	Smith, Walter F	Green Point, N. Y	Heater, sad-iron	Sept. 20, 1864.
42, 122	Smith, Willard H	New York, N. Y	Lamp-burners	Mar. 29, 1864.
42, 123	Smith, Willard H	New York, N. Y	Wick tube	Mar. 29, 1864.
44, 668	Smith, William	Shrewsburg, Pa	Carriages, springs for	Oct. 11, 1864.
44, 895	Smith, William	Philadelphia, Pa	Hoisting apparatus	Nov. 1, 1864.
45, 648	Smith, William G	Carlisle, Pa	Photographic glass rack	Dec. 27, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
	Smith, A., and James M. Sayre. (*See* Mackenzie, P. W., assignor.) Reissue.			
43,435	Smith, Addison	Perrysburg, Ohio	Paper-fastener	July 5, 1864.
44,980	Smith, Addison	Perrysburg, Ohio	Ruling machines, adjustable atmospheric fountain-feeder for.	Nov. 8, 1864.
	Smith, Alexander	West Farms, N. Y	Carpets, two and three-ply, manufacture of. (Extension.)	Dec. 10, 1864.
	Smith, A. B., and Barton Ricketson. (*See* Ricketson & Smith.)			
42,233	Smith, Alba F	Norwich, Conn	Engines, steam, locomotive	Apr. 5, 1864.
44,465	Smith, Albert M	Brooklyn, N. Y	Sewing machines, mechanism for starting	Sept. 27, 1864.
43,045	Smith, Anthony M	Brooklyn, N. Y	Fastening, sash	June 7, 1864.
44,843	Smith, Austin A	Seneca Falls, N. Y	Injectors for the hair	Oct. 25, 1864.
	Smith, Canby S., and Henry Holcroft. (*See* Holcroft & Smith.)			
	Smith, Canby S., and Henry Holcroft. (*See* Holcroft & Smith.)			
41,791	Smith, Charles	Buffalo, N. Y	Hair restorer	Mar. 1, 1864.
41,541	Smith, Charles R	Haverhill, N. H	Fence posts	Feb. 9, 1864.
43,801	Smith, Charles W	Evans, N. Y	Shells, igniting fuses for	Aug. 9, 1864.
45,352	Smith, Charles W	New York, N. Y	Screw blanks, machine for making. (Antedated February 7, 1864.	Dec. 6, 1864.
45,528	Smith, De Witt C	Cincinnati, Ohio	Sewing machine	Dec. 20, 1864.
44,982	Smith, Earle H., and Daniel C. Chapman	Hudson, N. J New York, N. Y	Sewing machines	Nov. 8, 1864.
	Smith, Ebenezer A. (*See* Van Gieson, A. H., assignor.)			
41,746	Smith, Edgar M., assignor to Mitchell, Vance & Co	New York, N. Y	Harvesters	Feb. 23, 1864.
	Smith, E. M., and John Powers. (*See* Powers & Smith.) Reissue.			
42,413	Smith, Edward A	St. Albans, Vt	Lime, burning	Apr. 19, 1864.
	Smith, Edward C., and James T. Wood. (*See* Wood & Smith.)			
	Smith, Edward Cone, and J. Theodore Wood. (*See* Wood & Smith.)			
43,715	Smith, Frederick	Allegheny, Pa	Picture frames, oval, enamelling	Aug. 2, 1864.
41,464	Smith, F. F., assignor to self and Samuel W. Collins, president of the Collins Company.	Collinsville, Conn	Plough plates, cast cast-steel, cooling and tempering	Feb. 2, 1864.
1,705	Smith, F. F., assignor to the Collins Company	Collinsville, Conn	Plough plates, mode of casting (Reissue)	June 21, 1864.
1,706	Smith, F. F., assignor to the Collins Company	Collinsville, Conn	Ploughs (Division of reissue)	June 21, 1864.
1,965	Smith, Garrettson, and Henry Brown, assignors to J. G. Abbott and C. Noble.	Philadelphia, Pa	Stove, cook's, plates of a (Design)	June 21, 1864.
1,968	Smith, Garrettson, and Henry Brown, assignors to J. H. Hayward, D. L. Bartlett and H. W. Robbins.	Philadelphia, Pa	Stove (Design)	July 12, 1864.
42,118	Smith, George L	Brooklyn, N. Y	Grates	Mar. 29, 1864.
41,542	Smith, George W	Springfield, N. J	Drains	Feb. 9, 1864.
45,089	Smith, George W	Springfield Township, N. J	Drains	Nov. 15, 1864.
44,118	Smith, George and Charles F. Henis	Cincinnati, Ohio	Water gauges, magnetic	Sept. 6, 1864.
44,981	Smith, Gilbert E	Racine, Wis	Stoves-pipes, dampers for	Nov. 8, 1864.
42,119	Smith, Hamilton E	Pittsburg, Pa	Washing machine	Mar. 29, 1864.
44,228	Smith, Hamilton E	Cincinnati, Ohio	Fire-places	Sept. 13, 1864.
43,232	Smith, Harlow C	Chicago, Ill	Preserving fruits, &c. (Antedated June 15, 1864)	June 21, 1864.
42,542	Smith, Isaac, assignor to self, Cornelius B. Debawn and John B. Morrell.	New York, N. Y	Fire-arms, breech-loading	Apr. 26, 1864.
42,514	Smith, J. D	Peoria, Ill	Cultivators	Apr. 26, 1864.
42,120	Smith, Jacob J	Philadelphia, Pa	Bedstead fastening	Mar. 29, 1864.
45,459	Smith, James, assignor to Major and James H. Smith	New Haven, Conn	Screw plates	Dec. 13, 1864.
42,121	Smith, James, and Allan Greig	Tarrville, Pa	Gas from petroleum, apparatus for separating. (Antedated March 23, 1864.)	Mar. 29, 1864.
42,606	Smith, James L	Tuscola, Ill	Ventilators	May 3, 1864.
	Smith, Jason. (*See* Rand, Jacob B., assignor.)			
41,647	Smith, John, and John Richard Savage	Philadelphia, Pa	Sulphuric acid, manufacture of	Feb. 16, 1864.
	Smith, John J. (*See* Baker, W. C., assignor.)			
43,648	Smith, John Jos. Charles	Philadelphia, Pa	Types, printers', making. (Antedated July 19, 1864)	July 26, 1864.
43,649	Smith, John Jos. Charles	Philadelphia, Pa	Types, printers', machine for cutting	July 26, 1864.
45,353	Smith, John Jos. Charles	Philadelphia, Pa	Printers' type, making. (Antedated November 30, 1864)	Dec. 6, 1864.
43,716	Smith, John W	Iowa Point, Kan	Harvesters, corn	Aug. 2, 1864.
45,460	Smith, John W., assignor to self and Jonas Greene	Washington, D. C	Gas, coal, for illumination, manufacture of. (Antedated October 17, 1863.	Dec. 13, 1864.
45,186	Smith, Jonathan B	Winfield, N. Y	Harvesting machines	Nov. 22, 1864.
41,726	Smith, Joseph H	Cohasset, Mass	Vessels, sunken, mode of raising	Feb. 23, 1864.
41,402	Smith, Joseph Nottingham	New York, N. Y	Guns, sub-marine	Jan. 26, 1864.
	Smith, K. (*See* Porter D'Arcy, assignor.)			
	Smith, Leonard	Troy, N. Y	Smut machines (Extension)	Feb. 10, 1864.
	Smith, Lorenzo, and George Westinghouse. (*See* Westinghouse & Smith.)			
45,441	Smith, Lysias	Gorsuch, Mills, Md	Trees, fruit, composition for preserving	Dec. 13, 1864.
42,802	Smith, Marshall	St. Louis, Mo	Mail pouches	May 17, 1864.
	Smith, Newton T., and John T. Johnson. (*See* Johnson & Smith.)			
	Smith, Patrick. (*See* Davis, Jarvis, assignor.)			
45,451	Smith, Robert	Sherbrooke, Canada	Tobacco cutter, self-feeding	Dec. 13, 1864.
	Smith, Robert, and Godfrey Ermen. (*See* Ermen & Smith.)			
44,983	Smith, R. A	Philadelphia, Pa	Dumping carts. (Antedated October 25, 1864)	Nov. 8, 1864.
43,529	Smith, R. D. O	Washington, D. C	Fire-arms, revolving, cartridge retracter for	July 12, 1864.
45,529	Smith, Robert D. O	Washington, D. C	Calipers	Dec. 20, 1854.
45,530	Smith, Robert L	Stockport, N. Y	Wind wheels	Dec. 27, 1864.
42,803	Smith, Robert M	Baltimore, Md	Acid, waste, from petroleum refineries, mode of utilizing the.	May 17, 1864.
41,965	Smith, Rodney L., assignor to Parkers, Snow & Co	West Meriden, Conn	Lamp-burner	Mar. 15, 1864.
	Smith, S. B., *et al.* (*See* Carpenter, Nicholas, assignor.)			
43,139	Smith, Solomon S	North Fairfield, Ohio	Planter, corn, hand	June 14, 1864.
44,350	Smith, Walter F	Green Point, N. Y	Heater, sad-iron	Sept. 20, 1864.
42,122	Smith, Willard H	New York, N. Y	Lamp-burners	Mar. 29, 1864.
42,123	Smith, Willard H	New York, N. Y	Wick tube	Mar. 29, 1864.
44,668	Smith, William	Shrewsburg, Pa	Carriages, springs for	Oct. 11, 1864.
44,895	Smith, William	Philadelphia, Pa	Hoisting apparatus	Nov. 1, 1864.
45,648	Smith, William G	Carlisle, Pa	Photographic glass rack	Dec. 27, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
45,124	Smith, William G., assignor to self, John F. Barney and Jacob A. Wilder.	Chicago, Ill	Journals, railroad car	Nov. 15, 1864.
	Smith, W. Henry, and Joseph John William Watson. (*See* Watson & Smith.)			
44,669	Smith, W. H	Birmingham, Conn	Projectiles for rifled ordnance, packing	Oct. 11, 1864.
44,670	Smith, W. H	Birmingham, Conn	Projectiles, sub-calibre, jacket for	Oct. 11, 1864.
41,127	Smith, Wilson H., assignor to self, R. M. Bassett and C. D. Gibson.	Birmingham, Conn	Projectiles for rifled ordnance	Jan. 5, 1864.
1,787	Smith, Wilson H., assignor to self, R. M. Bassett and C. D. Gibson.	Birmingham, Conn	Projectiles for rifled ordnance, packing (Reissue).	Oct. 4, 1864.
1,788	Smith, W. H., assignor to self and R. M. Bassett	Birmingham, Conn	Projectile for rifled ordnance (Reissue).	Oct, 4, 1864.
43,957	Smith, W. H., assignor to self and R. M. Bassett	Birmingham, Conn	Fire-arms, breech loading	Aug. 23, 1864.
43,870	Smyth, David M	New York, N. Y	Collars, paper, apparatus for making	Aug. 16, 1864.
41,180	Smyth, David M., assignor to self and S. N. Lewis	New York, N. Y	Blind staples, machine for inserting	Jan. 5, 1864.
41,465	Smyth, David M., assignor to self and S. N. Lewis	New York, N. Y	Nets, head, ladies'	Feb. 2, 1864.
44,692	Sneider, Charles Edward, assignor to self and Thomas Poultney.	Baltimore, Md	Cartridges, priming	Oct. 11, 1864.
45,210	Sneider, Charles Edward, assignor to self and Thomas Poultney.	Baltimore, Md	Cartridge, metallic, priming	Nov. 22, 1864
	Snell, Jasper, and John R. Deihm. (*See* Deihm & Snell.)			
	Snively, Joseph, jr. (*See* Miller, James W., assignor.)			
41,128	Snook, Wm. G., assignor to self and O. C. Patchill	Corning, N. Y	Engine, steam, valve gear of	Jan. 5, 1864.
42,414	Snow, G. H	New Haven, Conn	Match safes	Apr. 19, 1864.
	Snow, George K	Canandaigua, N. Y	Paper, machines for folding (Extension).	Sept. 26, 1864.
44,466	Snow, H. D	Rochester, N. Y	Engine, steam, governors	Sept. 27, 1864.
	Snyder, E. D., *et al.* (*See* Howell, Thompson, & Snyder.)			
43,436	Snyder, John	Centre county, Pa	Wagon brake	July 5, 1864.
45,531	Snyder, J. H	Killbuck, Ill	Harvesting and seeding machines, threads for	Dec. 20, 1864.
42,148	Snyder, John H., assignor to Nelson Bigalow	Killbuck, Ill	Harvesters	Mar. 29, 1864.
45,277	Soggs, Henry	Columbus, Pa	Churns	Nov. 29, 1864.
45,314	Solomons, A. S	Washington, D. C	Book, writing, manifold	Dec. 6, 1864.
44,229	Somes, Daniel E	Washington, D. C	Houses, packing and preserving, hospitals and other buildings, mode of securing a uniform temperature in.	Sept. 13, 1864.
44,671	Somes, Daniel E	Washington, D. C	Air, pure and wholesome, in dwellings, &c., mode of securing.	Oct. 11, 1864.
44,672	Somes, Daniel E	Washington, D. C	Air in buildings, mode of cooling the	Oct. 11, 1864.
45,370	Sonstadt, Edward	Great Britain	Magnesium, manufacture of. (Patented in England November 8, 1862.)	Dec. 6, 1864.
45,684	Sonstadt, Edward	Great Britain	Magnesium, manufacture and purification of. (Patented in England May 21, 1863.)	Dec. 27, 1864.
41,329	Soper, Ephraim	New York, N. Y	Whiffle-tree attachment	Jan. 19, 1864.
44,488	Soule, Samuel W., and C. Latham Sholes, assignor to C. L. Sholes.	Milwaukie, Wis	Paging machine	Sept. 27, 1864.
43,931	Southworth, Israel H	Essex, Conn	Combs, toilet	Aug. 23, 1864.
42,124	Southworth, L. B	Deep River, Conn	Saws, jointing and burring	Mar. 29, 1864.
1,753	Southwick, Mass Branch	St. Hilaire, Canada	Food, articles of, mode of desiccating (Reissue).	Aug. 30, 1864.
42,607	Spaulding, Charles F	St. Johnsbury, Vt	Clothes wringer	May 3, 1864.
45,187	Spaulding, Edward	Worcester, Mass	Hammers, forge. (Antedated November 17, 1864.)	Nov. 22, 1864.
44,230	Spaulding, John	Mount Holly, Vt	Water wheels	Sept. 13, 1864.
41,104	Spaulding, William W	Galesburg, Ill	Washing machine	Jan. 5, 1864.
42,025	Spear, Lewis H	Braintree, Vt	Preserving animal and vegetable substances, mode of	Mar. 22, 1864.
	Spear, N. T., and S. P. Pond. (*See* Thayer, Eli, assignor.)			
	Spear, N. T., and S. P. Pond. (*See* Thayer, Eli, assignor.)			
	Speed, John J., and John A. Bailey. (*See* Bailey & Speed.)			
1,687	Speer, L. M	Belle Vernon, Pa	Sand, washing (Reissue).	May 31, 1864.
42,515	Spellerberg, Edward	Philadelphia, Pa	Arms, artificial	Apr. 26, 1864.
42,234	Spencer, A. B	Rochester, N. Y	Ventilators, car. (Antedated March 28, 1264)	Apr. 5, 1864.
44,984	Spencer, Basil	Lewisburg, Pa	Planter, cotton-seed	Nov. 8, 1864.
42,517	Spencer, Charles F	Rochester, N. Y	Shoes, lacing	Apr. 26, 1864.
45,355	Spencer, Charles L	Providence, R. I	Raisin seeder	Dec. 6, 1864.
1,652	Spencer, C. M., assignor, through, mesne assignments, to the Spencer Repeating Rifle Company.	Boston, Mass	Fire-arm, breech-loading (Reissue).	Apr. 12, 1864.
42,235	Spencer, Edward	St. Louis, Mo	Registering dies	Apr. 5, 1864.
41,944	Spencer, Robert	Newark, N. J	Saddle and sweat cloths	Mar. 15, 1864.
44,986	Spencer, Robert	New York, N. Y	Ores, method of decomposing and desulphurizing	Nov. 8, 1864.
45,188	Spencer, Robert	New York, N. Y	Gold and silver from ores by means of the vapor of mercury, mode of extracting.	Nov. 22, 1864.
	Spencer, James H. (*See* Mowry, Jacob, assignor.)			
	Spendelow, Henry, *et al.* (*See* Milson, Spendelow & Watson.)			
	Spendelow, Henry, *et al.* (*See* Milson, Spendelow & Watson.)			
1,609	Sperry, John, and C. W. Sherwood, assignors to O. L. Gardner.	New York, N. Y	Picture frames, machines for enamelling (Reissue).	Jan. 26, 1864.
45,189	Spicer, Stephen G	Philadelphia, Pa	Weather strips	Nov. 22, 1864.
44,022	Spofford, Charles, and William S. Bell, jr	Boston, Mass	Collars, shirt, paper	Aug. 30, 1864.
45,681	Spofford, Charles, and Valentine Fogerty, assignors to selves and William S. Bell.	Boston, Mass	Collars, paper	Dec. 27, 1864.
42,026	Spooner, Charles M., assignor to the New England Gutta-Percha Roofing Company.	New Bedford, Mass	Composition for stove polish	Mar. 22, 1864.
44,090	Spooner, William H	Bristol, R. I	Composition oil for lubricating, paint, &c	Nov. 15, 1864.
	Sprague, Leonard A., and Chas. Goodyear, jr. (*See* Goodyear & Sprague.)			
41,665	Springer, Joseph H., assignor to self and Milton Foreman	Philadelphia, Pa	Boilers, steam	Feb. 16, 1864.
42,052	Springer, Joseph H., assignor to self and W. F. Weaver	Philadelphia, Pa	Letter box. (Antedated March 9, 1864.)	Mar. 22, 1861.
	Sproule, William P. (*See* Higley, P. R., assignor.)			
43,871	Sprout, Ariel B	Hughesville, Pa	Steel, process of tempering	Aug. 23, 1864.
	Sprout, A. B., E. T., S. E. and L. B. (*See* Drake James B., assignor.)			
44,330	Squarza, Vincent	San Francisco, Cal	Faucet measure and indicator	Jan. 19, 1864.
44,829	Squire, Edwin	Cold Spring, N. Y	Pump, hydraulic	Oct. 25, 1864.
44,752	Squire, John J	Windsor Locks, Conn	Jars, preserve	Oct. 18, 1864.
43,717	Squire, T. H	Elmira, N. Y	Roofing, shingles for	Aug. 2, 1864.
45,356	Stabler, Edward	Montgomery county, Md	Fire-arm, magazine, cartridge retracter for	Dec. 6, 1864.
43,213	Stacey, William	Kittery, Maine	Mildew in canvass, cloth, &c., mode of preventing	June 21, 1864.
45,649	Stacey, William	Kittery, Maine	Anchor tripper	Dec. 27, 1864.
45,278	Stackpole, Greenleaf	Ellsworth, Maine	Sewing machines. (Antedated September 17, 1863)	Nov. 29, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
44,023	Stafford, Charles W	New York, N. Y	Shells, combined time and percussion fuse for	Aug. 30, 1864.
44,119	Stafford, Charles W	New York, N. Y	Ordnance	Sept. 6, 1864.
44,120	Stafford, Charles W	Saybrook, Conn	Car wheels, cast cast-steel	Sept. 6, 1864.
45,567	Stafford, C. W., assignor to American Projectile Company	New York, N. Y	Projectiles for rifled ordnance, sabot for	Dec. 20, 1864.
	Stafford, Daniel S., and Isaac Hawley. (*See* Hawley & Stafford.)			
45,091	Stagg, David I	New York, N. Y	Seat for schools and public buildings	Nov. 15, 1864.
42,149	Stains, Henry T., assignor to Robert Baird	Scottsville, Pa	Sewing machine	Mar. 29, 1864.
	Stall, S. L., *et al.* (*See* Webster, Camp & Stall.)			
43,817	Stanford, Otis W., assignor to self and Robert W. Gilchrist	Lebanon, Ohio	Separator, grain	Aug. 9, 1864.
44,985	Stangeland, Elias	Rochester, Minn	Steamer, vegetable	Nov. 8, 1864.
43,718	Stanley, Henry, and Reubin Comins	Troy, N. Y	Timbers, fastening	Aug. 2, 1864.
44,121	Stanley, Miles O	South Danvers, Mass	Bridle winkers, metallic	Sept. 6, 1864.
44,122	Stanton, J. W., assignor to self and M. B. Dodge	Black Hawk Point, Colorado Ter	Quartz-crushers	Sept. 6, 1864.
	Stanton, N. P. (*See* Ludlow, William D., assignor.)			
44,987	Staples, Robert H	Lowell, Mass	Chair, spring-back	Nov. 8, 1864.
	Starbuck Brothers. (*See* Tansley, William, assignor.)			
43,720	Stark, William	Bronson, Mich	Car, stock	Aug. 2, 1864.
41,792	Starkey, William	Bridgeport, N. J	Lamp chimneys	Mar. 1, 1864.
	Starr Arms Company. (*See* Gibson, Thomas, assignor.)			
42,697	Starr, Eben T	New York, N. Y	Fire-arms, locks of	May 10, 1864.
42,698	Starr, Eben T	New York, N. Y	Fire-arm, repeating	May 10, 1864.
45,532	Starr, E. T	New York, N. Y	Fire-arms, safety device for locks of	Dec. 20, 1864.
41,105	Starr, Isaac	Prairieville, Mich	Sawing, draw, machine	Jan. 5, 1864.
43,802	Starry, William H	Franklin, Ohio	Mills, grinding. (Antedated February 28, 1864)	Aug. 9, 1864.
43,437	Statz, John	Washington, D. C	Smoking pipes	July 5, 1864.
	Staub, John. (*See* West, Andrew, assignor.)			
41,583	Stearns, Caleb S., assignor to self and Thomas Corey	Marlboro', Mass	Leather, splitting and stripping	Feb. 9, 1864.
43,159	Stearns, Caleb S., assignor to self and Thomas Corey	Marlboro', Mass	Leather, splitting	June 14, 1864.
43,234	Stearns, E	Brooklyn, N. Y	Windlasses	June 21, 1864.
42,969	Stearns, Edward J	Catonsville, Md	Water-economizer	May 31, 1864.
45,650	Stearns, Frank M	Berea, Ohio	Grindstones, rests for. (Antedated December 2, 1862)	Dec. 27, 1864.
43,265	Stearns, George A., assignor to self and Elijah Valentine	Rochester, N. Y	Telegraphs, lightning-arresters for	June 21, 1864.
45,533	Stebbins, Julius M	Appleton, Wis	Seeding machine	Dec. 20, 1864.
41,945	Stechschult, William	Glandorf, Ohio	Axle boxes	Mar. 15, 1864.
45,279	Stechschult, William	Glandorf, Ohio	Carriage axle boxes	Nov. 29, 1864.
41,543	Stedman, Nathan	Aurora, Indiana	Pump valves	Feb. 9, 1864.
44,988	Steere, Erastus N	Providence, R. I	Spinning frames, self-oiling bolster for	Nov. 8, 1864.
42,699	Steiger, Hannah	Washington, D. C	Barrel cover	May 10, 1864.
	Steinbach, P. (*See* Volkmar, Charles and Henry, ass'ors.)			
45,190	Steller, C. E	McGregor, Iowa	Manger, feed	Nov. 22, 1864.
41,869	Stender, Charles C. F	Chicago, Ill	Dampers	Mar. 8, 1864.
	Stenton, Robert S., and George Nimmo. (*See* Nimmo & Stenton.)			
1 989	Stenton, Robert S	West Farms, N. Y	Skate (Design)	Sept. 20, 1864.
45,280	Stephens, Alexander	Washington, Iowa	Churns	Nov. 29, 1864.
42,236	Stephens, Anson P	Brooklyn, N. Y	Vise	Apr. 5, 1864.
41,821	Stephens, D. S., assignor to self and Charles Seymour	Laporte, Ind	Water wheels	Mar. 1, 1864.
1,958	Stephenson, John	New York, N. Y	Cars, railroad, pedestal for (Design)	June 14, 1864.
1,959	Stephenson, John	New York, N. Y	Cars, railroad, lamp box for (Design)	June 14, 1864.
1,960	Stephenson, John	New York, N. Y	Car step, railroad (Design)	June 14, 1864.
1,961	Stephenson, John	New York, N. Y	Car, railroad, clog-hanger for (Design)	June 14, 1864.
1,962	Stephenson, John	New York, N. Y	Cars, axle box for (Design)	June 14, 1864.
45,281	Stephenson, John	New York, N. Y	Car, railway, street	Nov. 29, 1864.
45,442	Stephenson, John	New York, N. Y	Latch for railroad-car doors	Dec. 13, 1864.
	Stern, P. and F., *et al.* (*See* Illofsky, Ignatz, assignor.)			
42,970	**Stetefeldt, Charles A**	New York, N. Y	Ores, shaking-table for separating	May 31, 1864.
43,140	**Stetefeldt, Charles A**	New York, N. Y	Furnaces for desulphurizing ores	June 14, 1864.
	Stevens, Charles L. (*See* Boon, Alonzo T., assignor.)			
44,673	Stevens, Charles S., and Alonzo T. Boon	Galesburg, Ill	Presses, hay	Oct. 13, 1864.
43,958	Stevens, E. M., assignor to Alfred B. Ely	Boston, Mass	Rounding machines	Aug. 23, 1864.
	Stevens, Frederick. (*See* Fogg, Luther, assignor.)			
	Stevens, Frederick. (*See* Havell, George, assignor.)			
44,231	Stevens, George, assignor to E. G. Weed	East Hardwick, Vt	Staves, machines for dressing	Sept. 13, 1864.
44,828	Stevens, Hennell	Memphis, Tenn	Cotton picker	Oct. 25, 1864.
1,599	Stevens, James H	East Durham, N. Y	Manure spreaders (Reissue)	Jan. 5, 1864.
41,267	Stevens, John, assignor to self, Achille F. Migeon and Franklin Farrel.	New York, N. Y	Buckles	Jan. 12, 1864.
44,123	Stevens, Joshua	Chicopee Falls, Mass	Fire-arms, breech-loading	Sept. 6, 1864.
45,568	Stevens, Levi, assignor to self and John D. Sargent	Fitchburg, Mass	Hydro-carbons, volatile, apparatus for vaporizing and aerating.	Dec. 20, 1864.
44,674	Stevens, Nathan P	Boston, Mass	Engines, steam, pistons for	Oct. 11, 1864.
43,046	Stevens, Simon	New York, N. Y	Ores and minerals, roasting and desulphurizing	June 7, 1864.
	Stevens, Simon. (*See* Hill, Levi L., assignor.)			
42,317	Stevens, William H	New York, N. Y	Gun, spring, toy	Apr. 12, 1864.
44,468	Stevens, William H	Danbury, Conn	Hat-bodies, apparatus for stretching	Sept. 27, 1864.
44,232	Stevens, William J	New York, N. Y	Pumping engines	Sept. 13, 1864.
41,242	Stevens, W. X	Worcester, Mass	Fire-arm, breech-loading	Jan. 12, 1864.
42,027	{ Stevenson, George, and John J. Crider }	Zionsville, Ind. Greenfield, Ind.	Huller and screen	Mar. 22, 1864.
	Stevenson, George, *et al.* (*See* Boyle, James E., assignor.)			
43,160	Stevenson, Peter, assignor to Bigelow Carpet Company	Clinton, Mass	Wool, &c., bleaching and whitening	June 14, 1864.
45,651	Stevenson, Samuel	Oil City, Pa	Shot, manufacture of	Dec. 27, 1864.
45,191	Stewart, Amos	Mount Lebanon, N. Y	Water wheel	Nov. 22, 1864.
41,106	Stewart, Francis L	Murrysville, Pa	Sugar evaporators	Jan. 5, 1864.
41,946	Stewart, John	New York, N. Y	Mosquito tent or frame. (Antedated March 5, 1864)	Mar. 15, 1864.
1,673	Stewart, Philo P	Troy, N. Y	Stoves, cooking (Reissue)	May 17, 1864.
1,684	Stewart, Philo P	Troy, N. Y	Stoves, cooking (Reissue)	May 31, 1864.
	Stewart, Philo P. (*See* Gardner, George W., assignor.)			
41,544	Stewart, R. L	Owasso, Mich	Saws, method of hanging	Feb. 9, 1864.
45,534	Stewart, W. F	Austin, Nevada Ter	Amalgamating ores, process for	Dec. 20, 1864.
44,754	Stickney, W. C., and H. B. Taylor	Putnam, Ohio	Horses' feet, securing shoes to	Oct. 18, 1864.
43,161	Stiles, Dorus A., ass'or to Merriam Manufacturing Company	Meridian, Conn	Chairs, toy, manufacture of	June 14, 1864.
41,403	Stiles, N. C	West Meriden, Conn	Punching press	Jan. 26, 1864.
43,530	Stillman, Jonathan P., assignor to Jesse A. Locke	Westerly, R. I	Wool, machine for drying	July 12, 1864.
43,803	Stillman, O. M	Westerly, R. I	Air and steam engines, combined	Aug. 9, 1864.
41,561	Stilwell, Edwin R	Dayton, Ohio	Feedwater heaters and filters	Oct. 4, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
44,375	Stilwell, R., assignor to self and A. D. Farrell	New York, N. Y	Mattress, spring	Sept. 20, 1864.
41,545	Stimers, Alban C	New York, N. Y	Condensers, surface	Feb. 9, 1864.
43,872	Stimers, Alban C	Castleton, N. Y	Boilers, steam, marine	Aug. 16, 1864.
	Stimers, Cassius P., and James E. Atwood. (*See* Atwood & Stimers.)			
41,546	Stivers, William	New York, N. Y	Drills	Feb. 9, 1864.
45,443	St. John, Cornelius	Boston, Mass	Lamp-burners	Dec. 13, 1864.
42,885	St. John, E	Elmira, N. Y	Railroad chairs	May 24, 1864.
42,971	Stock, John	New York, N. Y	Camera, photographic	May 31, 1864.
44,467	Stocker, Amos	Watertown, N. Y	Boots and shoes, ventilating	Sept. 27, 1864.
42,237	Stoddard, Curtis	North Brookfield, Mass	Channeling machine	April 5, 1864.
41,727	Stoddard, John P	Plymouth, Mass	Batting or wadding, fibrous	Feb. 23, 1864.
45,192	Stoddard Wolcott D	Muscatine, Iowa	Planter, corn	Nov. 22, 1864.
41,793	Stoler, Abraham, and Samuel A. Sisson	Bristol, Pa	Harvesters, raking attachments to	Mar. 1, 1864.
43,804	Stone, Draper	Pittsford, N. Y	Plough, gang, and seeder	Aug. 9, 1864.
44,351	Stone, John	Plattsburg, Mo	Plough, gang	Sept. 20, 1864.
	Stone, J. M., and Joseph Chase. (*See* Chase & Stone.)			
43,932	Stone, Samuel S	Troy, N. Y	Button-holes, machines for incising, and embossing and printing articles of wearing apparel.	Aug. 23, 1864.
42,804	Stoner, D. and J	West Overton, Pa	Fireplaces	May 17, 1864.
42,318	Stoops, Nesbitt D	Newark, N. J	Sewing-machine tables	April 12, 1864.
	Stophilbeen, P. J., and Peter Philip. (*See* Philip & Stophilbeen.)			
42,319	Storer, Jacob J	Portsmouth, N. H	Fibre, vegetable, preparation of	April 12, 1864.
44,898	Storer, Jacob J	Boston, Mass	Amalgamating gold and silver, apparatus for	Nov. 1, 1864.
	Storer, Jacob J., and James D. Whelpley. (*See* Whelpley & Storer.)			
	Storer, Jacob J., and James D. Whelpley. (*See* Whelpley & Storer.)			
45,282	Storms, Thomas H., and John C. Poffenberger	Jacksonville, Ill	Harvesters, corn	Nov. 29, 1864.
44,024	Stott, Benjamin	Westerly, R. I	Motion, stop	Aug. 30, 1864.
44,896	Stouder, David	Clayrinda, Iowa	Seeding machine and cultivator	Nov. 1, 1864.
43,550	Stowe, James G., and Edwin F. Allen, assignors to Burnside Rifle Company.	Providence, R. I	Cartridges, machine for filling	Aug. 9, 1864.
	Stowell, John, *et al.* (*See* Jaques, White & Stowell.)			
43,346	Stratton, Harris, jr	Leavenworth, Kansas	Tanning	June 28, 1864.
41,648	Stratton, Isaac	Swanzey, N. H	Wadding, mode of manufacturing	Feb. 16, 1864.
41,547	Stratton, James	Brooklyn, N. Y	Lights, gas, lamps, &c., reflector for	Feb. 9, 1864.
44,675	Straub, Isaac	Cincinnati, Ohio	Roofs, shingle, mode of protecting and repairing	Oct. 11, 1864.
	Straw, L. H., *et al.* (*See* Bean, Edward E., assignor.)			
45,302	Strawbridge, Abraham, assignor to self and Michael Lehman.	Covington, Ky	Furniture, rockers for	Nov. 29, 1864.
1,665	Strayer, Jacob	South Bend, Ind	Drills, seed (Reissue)	May 10, 1864.
1,666	Strayer, Jacob	South Bend, Ind	Drills, seed (Division of reissue)	May 10, 1864.
	Street, Wm. C. (*See* Adams, Aaron B., assignor.)			
41,451	Streeter, Leander R	Chelsea, Mass	Fastening hinged, sliding or other bodies	Feb. 2, 1864.
42,415	Streeter, Leander R	Chelsea, Mass	Rollers, elastic	April 19, 1864.
45,357	Strong, E. H	Janesville, Wis	Ventilator	Dec. 6, 1864.
	Strong, Walter L., and Samuel H. Rounds. (*See* Rounds & Strong.)			
	Stuart, S., and Richard Lavery. (*See* Lavery & Stuart.)			
	Stuart, S., and Richard Lavery. (*See* Lavery & Stuart.)			
42,125	Stubbe, J. W. H	Boston, Mass	Printing presses, lithographic	Mar. 29, 1864.
43,719	Stuck, John Christopher	Boston, Mass	Bedstead bottom	Aug. 2, 1864.
42,886	Stufflebeen, James	Milwaukie, Wis	Chamfering machine	May 24, 1864.
45,358	Stump, Henry	Adel, Iowa	Beehives	Dec. 6, 1864.
1,661	Sturtevant, Benj. F	Boston, Mass	Toothpicks (Reissue)	April 26, 1864.
43,235	Sturtevant, B. F	Boston, Mass	Boots and shoes	June 21, 1864.
43,236	Sturtevant, B. F	Boston, Mass	Leather, connecting two or more pieces of, together	June 21, 1864.
42,126	Suggett, James	Cortland, N. Y	Pumps for bored wells	Mar. 29, 1864.
44,469	Summers, T. A	Rochester, N. Y	Clothes-dryer. (Antedated September 16, 1864)	Sept. 27, 1864.
41,870	Süs, A. Wm	New York, N. Y	Knapsack hammock. (Antedated November 25, 1863)	Mar. 8, 1864.
42,805	Süs, A. Wm	New York, N. Y	Knapsacks	May 17, 1864.
42,601	Sutter, Joseph	New York, N. Y	Bedstead, folding	May 3, 1864.
42,602	Sutter, Joseph	New York, N. Y	Chairs and sofas, bottoms for	May 3, 1864.
45,092	Sutter, Joseph	New York, N. Y	Cars, sleeping. (Antedated November 3, 1864)	Nov. 15, 1864.
45,359	Sutter, Joseph	New York, N. Y	Lathe, chuck for. (Antedated November 23, 1864)	Dec. 6, 1864.
41,947	Sutton, R. T	Rochester, N. Y	Dryers, grain	Mar. 15, 1864.
1,750	Swan, James H., assignor, through mesne assignments, to James G. English and E. F. Mersick.	New Haven, Conn	Chair, folding (Reissue)	Aug. 30, 1864.
41,728	Swart, James	Hoffman's Ferry, N. Y	Cultivators	Feb. 23, 1864.
41,647	Sweet, Alonzo L	Norwich, Conn	Chimney caps	Feb. 16, 1864.
44,124	Sweet, Alonzo L	Norwich, Conn	Hoisting apparatus	Sept. 6, 1864.
	Sweetland, Alvah, and John H. Rector. (*See* Rector & Sweetland.)			
41,107	Sweetland, J. B	Fostoria, Ohio	Churn power	Jan. 5, 1864.
44,755	Sweetland, J. B	Pontiac, Mich	Churn	Oct. 18, 1864.
	Sweetser, H. C. (*See* Cartwright, James, assignor.)			
42,238	Swift, Almon	East Elmore, Vt	Butter-workers	April 5, 1864.
43,162	Sword, Porter L., and Geo. S. Tiffany, assignors to Porter L. Sword.	Adrian, Mich	Brick machine	June 14, 1864.
43,237	Sykes, Joseph	Muscatine, Iowa	Stencil plate	June 21, 1864.
44,910	Szerelmey, Nicholas Charles	England	Leather cloth, imitation leather, &c., manufacture of. (Patented in England January 1, 1862.)	Nov. 1, 1864.
41,404	Taber, John E	Fall River, Mass	Vehicles, wheel, springs for	Jan. 26, 1864.
41,747	Taft, George C., assignor to Thomas H. Dodge	Worcester, Mass	Wrench, screw	Feb. 23, 1864.
43,266	Taft, George C., assignor to Thomas H. Dodge	Worcester, Mass	Presses, copying	June 21, 1864.
43,372	Taft, George C., assignor to Thomas H. Dodge	Worcester, Mass	Drills	June 28, 1864.
	Taftezon, C., and O. Zellen. (*See* Zellen & Taftezon.)			
	Tainter, H. B., *et al.* (*See* Darlington, J. H., assignor.)			
	Tainter, H. B., and F. D. Jackson. (*See* Ranous, Edgar E., assignor.)			
41,452	Talbert, William	Washington, D. C	Railways, marine	Feb. 2, 1864.
	Talbot, J. S., *et al.* (*See* Day, Benjamin, assignor.)			
43,873	Talcott, George W	Buffalo, N. Y	Derricks, floating	Aug. 16, 1864.
43,238	Talcott, S. C	Ashtabula, Ohio	Carriage hub bands	June 21, 1864.
44,470	Tanner, Eugene B	Attica, Ohio	Hay forks, horse	Sept. 27, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
43, 438	Tanner, John W	New York, N. Y	Fifes, constructing	July 5, 1864.
45, 444	Tanney, La Cortes	Olmstead, Ohio	Press, cheese	Dec. 13, 1864.
44, 756	Tansley, William, assignor to Starbuck Brothers, A. Gulwits and J. Fleming.	Salisbury Centre, N. Y	Mills, bark	Oct. 18, 1864.
41, 794	Taplin, Albert	Providence, R. I	Lamps	Mar. 1, 1864.
41, 795	Taplin, Albert	Providence, R. I	Lamp collars	Mar. 1, 1864.
41, 650	Tarr, Asa F	Rockport, Mass	Mosquito bars to windows, fastening of	Feb. 16, 1864.
1, 991	Tatro, Wm. B	Hartford, Conn	Stove lamp, double	Sept. 27, 1864.
44, 693	Tattershall, Richard, assignor to self and A. J. Battin	Beloit, Wis	Buckle for harness tugs	Oct. 11, 1864.
41, 548	Taylor, Charles F	New York, N. Y	Spines, curved, machines for treating. (Antedated February 3, 1864.)	Feb. 9, 1864.
42, 516	Taylor, Charles F	New York, N. Y	Exercising machines	April 26, 1864.
45, 652	Taylor, Charles F	New York, N. Y	Exercising machines	Dec. 27, 1864.
41, 453	Taylor, Frederick R	New York, N. Y	Flocking India-rubber goods	Feb. 2, 1864.
42, 972	Taylor, Frederick R.	New York, N. Y	Rubber, India, tubing	May 31, 1864.
45, 653	Taylor, G. W., and A. E. Wright	Philadelphia, Pa	Trusses	Dec. 27, 1864.
41, 405	Taylor, Henry	Trenton, N. J	Belting, machine	Jan. 26, 1864.
45, 535	Taylor, Henry	U. S. navy	Angle protractors	Dec. 20, 1864.
	Taylor, H. B., and W. C. Stickney. (*See* Stickney & Taylor.)			
43, 531	Taylor, Henry K	Racine, Wis	Harvesters, raking attachments to	July 12, 1864.
42, 127	Taylor, Jacob	England	Spinning, machine for preparing cotton, &c., for. (Patented in England, May 26, 1862.)	Mar. 29, 1864.
	Taylor, John. (*See* Crocker, Peter, assignor.)			
44, 234	Taylor, J. W	North Collins, N. Y	Tanning compound	Sept. 13, 1864.
44, 676	Taylor, O. H	San Francisco, Cal	Shoes, ladies, attachment for	Oct. 11, 1864.
44, 677	Taylor, O. H	San Francisco, Cal	Washboard	Oct. 11, 1864.
44, 697	Taylor, O. H	Salisbury Centre, N. Y	Hats and caps, ventilating sweat leathers for	Oct. 18, 1864.
41, 651	Taylor, Simeon N	Burnet, Wis	Shafting, knuckle joints for	Feb. 16, 1864.
	Taylor, Stephen G. (*See* Davis, Thomas B., assignor.)			
42, 028	Taylor, U. D	Fort Madison, Iowa	Lamps, coal-oil	Mar. 22, 1864.
	Taylor, Wm. H., *et al.* (*See* Emerson, James, assignor.) Reissue.			
44, 026	Teel, George T	Hoboken, N. J	Broiler, meat	Aug. 30, 1864.
44, 562	Teller, George D	Buffalo, N. Y	Railroad rails	Oct. 4, 1864.
45, 303	Temple, Alonzo, assignor to self and J. L. Fitch	Bridgeport, Conn	Boilers, steam, composition for preventing incrustation in.	Nov. 29, 1864.
41, 729	Ten Eyck, William	Pike township, Pa	Paint composition	Feb. 23, 1864.
	Tent, Wm., and Agatha Montleart. (*See* Montleart & Tent.)			
43, 532	Terbill, J. R	Chicago, Ill	Washing machine	July 12, 1864.
41, 652	Terneson, William	Philadelphia, Pa	Plates, army	Feb. 16, 1864.
42, 608	Terrell, Franklin J	Ansonia, Conn	Skirt, hoop, clasps, machinery for forming	May 3, 1864.
43, 347	Terrell, John	Philadelphia, Pa	Teeth, artificial	June 28, 1864.
45, 536	Terwilliger, W. R., and Daniel Fitzgerald	New York, N. Y.	Safes. (Antedated April 26, 1864)	Dec. 20, 1864.
44, 352	Tewksbury, A. J	Haverhill, Mass	Last block fastening	Sept. 20, 1864.
43, 439	Thayer, Andrew T	New York, N. Y	Hair pins	July 5, 1864.
44, 262	Thayer, Eli, assignor to N. T. Spear and S. P. Pond	Worcester, Mass	Fuel, flue, &c., means of utilizing	Sept. 13, 1864.
44, 263	Thayer, Eli, assignor to N. T. Spear and S. P. Pond	Worcester, Mass	Burning fine coal, &c., apparatus for	Sept. 13, 1864.
43, 239	Thayer, Horace	Brooklyn, N. Y	Boxes, machine for making	June 21, 1864.
43, 240	Thayer, Horace	Brooklyn, N. Y	Boxes and cases, method of making	June 21, 1864.
43, 241	Thayer, Horace	Brooklyn, N. Y	Boxes, making	June 21, 1864.
45, 537	Thayer, Horace	Warsaw, N. Y	Boxes, cases, &c., treating wood for the manufacture of.	Dec. 20, 1864.
45, 538	Thayer, Horace	Warsaw, N. Y	Boxes, cases, &c., ends or heads for	Dec. 20, 1864.
41, 584	Thayer, Luther F., assignor to Wm. Faxon	Randolph, Mass	Tack, lasting	Feb. 9, 1864.
41, 871	Thirault, Alexis	New York, N. Y	Distilling rock-oil	Mar. 8, 1864.
44, 055	Thomas, George, assignor to B. Schaffer and C. Budenberg	Frankfort-on-the-Main	Locomotives	Aug. 30, 1864.
41, 872	Thomas, Henry B	Cascade, Iowa	Winnowers, grain	Mar. 8, 1864.
42, 628	Thomas, Henry B., assignor to Henry F. Hart	Chicago, Ill	Separator, grain	May 3, 1864.
45, 125	Thomas, Henry B., assignor to self and S. S. Merrill	Chicago, Ill	Screens and sieves, grain	Nov. 15, 1864.
44, 563	Thomas, James E	Pittsburg, Pa	Core barrel	Oct. 4, 1864.
44, 050	Thomas, Joseph, assignor to self and Catholina Lambert	New York, N. Y	Chinille, machine for making	Aug. 30, 1864.
44, 264	Thomas, Joshua jr., assignor to self and B. Barker	Cleveland, Ohio	Pumps, oil-well	Sept. 13, 1864.
42, 320	Thomas, Leopold	Allegheny, Pa	Nuts, manufacture of	April 12, 1864.
42, 700	Thomas, L. H	Waterbury, Vt	Carriages	May 10, 1864.
43, 611	Thomas, Robert	Buffalo, N. Y	Ships' knee	July 19, 1864.
43, 721	Thomas, Thomas	Platt's Mouth, Neb. Ter	Seeder and cultivator, combined	Aug. 2, 1864.
42, 128	Thomas, William H	Sacramento, Cal	Pumps	Mar. 29, 1864.
	Thompson, A. B., *et al.* (*See* Howell, Thompson & Snyder.)			
44, 471	Thompson, David W	Somerset, Pa	Mill-stone dress	Sept. 27, 1864.
45, 193	Thompson, Harriet H	Washington, D. C	Supporters, abdominal	Nov. 22, 1864.
43, 722	Thompson, Henry	Palmyra, Wis	Felloes, tightening	Aug. 2, 1864.
1, 909	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Carpet pattern (Design)	Mar. 8, 1864.
1, 910	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Carpet pattern (Design)	Mar. 8, 1864.
1, 911	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Carpet pattern (Design)	Mar. 8, 1864.
1, 912	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Carpet pattern (Design)	Mar. 8, 1864.
1, 913	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Carpet pattern (Design)	Mar. 8, 1864.
1, 914	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Carpet pattern (Design)	Mar. 8, 1864.
1, 915	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Carpet pattern (Design)	Mar. 8, 1864.
1, 916	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Carpet pattern (Design)	Mar. 8, 1864.
1, 917	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Carpet pattern (Design)	Mar. 8, 1864.
1, 918	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Carpet pattern (Design)	Mar. 8, 1864.
1, 919	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Carpet pattern (Design)	Mar. 8, 1864.
42, 029	Thompson, James	Vevay, Ind	Churns	Mar. 22, 1864.
42, 718	Thompson, James	England	Gun barrels, manufacture of	May 10, 1864.
41, 895	Thompson, J. A	Auburn, N. Y	Hat and velvet polishers	Mar. 8, 1864.
44, 125	Thompson, J. A	Auburn, N. Y	Photographic pictures, &c., cabinet for exhibiting. (Antedated September 2, 1864.)	Sept. 6, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
42,629	Thompson, James M., and George P. French, assignors to Seth D. Tripp.	Stoneham, Mass	Boots and shoes, machine for grinding and polishing the edges of heels for.	May 3, 1864.
44,489	Thompson, James M., G. P. French and S. D. Tripp, assignors to Seth D. Tripp	Stoneham, Mass Lynn, Mass	Boots, heels of, machines for polishing	Sept. 27, 1864.
42,261	Thompson, John, assignor to E. N. Colt	Brooklyn, E. D., N. Y	Stoves, foot	April 5, 1864.
	Thompson, John B., and E. L. Pratt. (*See* Pratt & Thompson.)			
44,223	Thompson, John S	Glenn's Falls, N. Y	Stave-jointing machines	Sept. 13, 1864.
44,678	Thompson, Julius	Taunton, Mass	Photographic plates, apparatus for drying	Oct. 11, 1864.
43,047	Thompson, Macklot	St. Louis, Mo	Distillation, preparing and treating grain for	June 7, 1864.
43,348	Thompson, Macklot	St. Louis, Mo	Spirits, alchoholic, manufacture of	June 28, 1864.
43,805	Thompson, Macklot	St. Louis, Mo	Alcohol, apparatus for rectifying	Aug. 9, 1864.
41,730	Thompson, M. L	Brooklyn, N. Y	Mosquito canopy	Feb. 23, 1864.
43,242	Thompson, Merritt L	Brooklyn, N. Y	Plants, boxes for transporting	June 21, 1864.
44,054	Thompson, Nathan	England	Jars and bottles, apparatus for stopping	Aug. 30, 1864.
42,030	Thompson, Pelatiah	Vevay, Ind	Churns, barrel	Mar. 22, 1864.
	Thompson, Robert L., and Augustine B. Crosby. (*See* Crosby & Thompson.)			
42,449	Thompson, Rosewell, assignor to Alfred B. Ely	Boston, Mass	Sewing machines	April 19, 1864.
43,141	Thompson, Thomas	Baltimore, Md	Spirits, apparatus for purifying and refining	June 14, 1864.
44,757	Thomson, James E	Buffalo, N. Y	Seallock	Oct. 18, 1864.
41,549	Thomson, John	Wayne, Ill	Barometers	Feb. 9, 1864.
43,048	Thomson, John, and Thomas Widdowfield	New York, N. Y Brooklyn, N. Y	Furnaces for melting metals, &c	June 7, 1864.
44,472	Thomson, John, and John Ramsey	Toledo, Ill	Planter, corn	Sept. 27, 1864.
41,550	Thomson, P. W	Truro, Ill	Cultivators	Feb. 9, 1864.
42,239	Thorn, Charles R., and Alfred Leigh	Clinton Station, N. J	Wrenches	April 5, 1864.
44,494	Thornton, John, James and William, assignors to Martin Landenberger.	England	Knitting machine. (Patented in England Aug. 8, 1863.)	Sept. 27, 1864.
	Thorp, George H. (*See* Budd, Henry L., assignor.)			
	Throp, John A., and John Cox. (*See* Cox & Throp.)			
	Thurber, A. W., and Benjamin G. Watson. (*See* Watson & Thurber.)			
1,933	Thurber, Theodore	Auburn, N. Y	Trade mark (Design)	April 26, 1864.
42,887	Tibbitts, William	Lafayette, N. Y	Churns	May 24, 1864.
43,874	Tice, Isaac P	New York, N. Y	Paper, machine for cutting and twisting	Aug. 16, 1864.
41,243	Tiemann, George	Brooklyn, N. Y	Surgical instruments, fastenings for	Jan. 12, 1864.
45,539	Tiffany, George S	Palmyra, Mich	Sewer pipes	Dec. 27, 1864.
	Tiffany, George S., and Porter L. Sword. (*See* Sword & Tiffany.)			
44,919	Tiffin, Algernon R., assignor to Charles Rousha	New Haven, Conn	Reefing apparatus	Nov. 1, 1864.
45,194	Tilden, Howard	Philadelphia, Pa	Churn dashers	Nov. 22, 1864.
	Tilden, Howard. (*See* Walker, Sylvenus, assignor.)			
	Tileston, George W., and Joseph A. Latham. (*See* Latham & Tileston.)			
43,275	Tileston, William	Georgetown, D. C	Holsters	June 21, 1864.
44,126	Tileston, William	Georgetown, D. C	Fire-arms, revolving, safety stop for	Sept. 6, 1864.
45,093	Tillman, R	New York, N. Y	Skates	Nov. 15, 1864.
44,235	Tilton, John S	Philadelphia, Pa	Stoves	Sept. 13, 1864.
42,806	Tilton, Joseph C	Pittsburg, Pa	Soap, compound	May 17, 1864.
44,679	Tindall, Thomas J	New York, N. Y	Harvesters. (Antedated September 28, 1864)	Oct. 11, 1864.
42,240	Tingley, Albert H	Providence, R. I	Stoves, heat-governors for. (Antedated March 30, 1864)	April 5, 1864.
42,651	Tinkelpaugh, J. B	Hastings, Minn	Hame fastening	May 10, 1864.
43,243	Tinsley, William	New York, N. Y	Stoves, cooking	June 21, 1864.
43,163	Tisdale, Charles D., assignor to self and Barna W. Tisdale.	East Boston, Mass	Trucks, railway, adapted to different gauges of tracks	June 14, 1864.
44,694	Tisdale, Charles D., assignor to self and Joseph H. Clapp	East Boston, Mass	Car trucks, construction of	Oct. 11, 1864.
42,416	Titcomb, Benaiah	Baltimore, Md	Harvesters	April 19, 1864.
44,473	Titsworth, John N	Aurora, Ill	Heater, sad-iron	Sept. 27, 1864.
44,236	Titus, G. A	Mantonville, Minn	Seeding machine	Sept. 13, 1864.
	Tobacco Pipe Company. (*See* Dickinson, Daniel A., ass'r.)			
	Tobacco Pipe Company. (*See* Dickinson, Daniel A., ass'r.)			
42,807	Todd, A. W	Chicago, Ill	Knife for cutting honey	May 17, 1864.
43,723	Todd, A. W	Chicago, Ill	Fumigator	Aug. 2, 1864.
45,360	Todd, A. W	Chicago, Ill	Pumps for locomotive tenders, &c	Dec. 6, 1864.
42,609	Todd, Joseph	Madison, Ind	Burner, gas, sockets. (Antedated April 1, 1864)	May 3, 1864.
44,237	Todd, Joseph and Isaac N	Madison, Ind	Fans, ladies'	Sept. 13, 1864.
45,654	Todd, Walter	Ottawa, Ill	Separator, grain	Dec. 27, 1864.
42,241	Todd, William	Barnesville, Ohio	Cane strippers	Apr. 5, 1864.
43,806	Toll, Charles F	Boston, Mass	Locks	Aug. 9, 1864.
41,406	Toll, Jose	Locust Grove, Ohio	Motive power. (Antedated January 24, 1864)	Jan. 26, 1864.
42,737	Tombs, Samuel A., assignor to self and Samuel N. Purse	Ashley, Mo	Cultivators	May 10, 1864.
41,407	Tomlinson, James	Racine, Wis	Ploughs	Jan. 26, 1864.
42,417	Tomlinson, James	Racine, Wis	Pumps	Apr. 19, 1864.
	Tompkins, Daniel F., *et al.* (*See* Watts, Wilcox & Tompkins.)			
45,540	Tooker, A. W	Chemung, Ill	Horse power	Dec. 20, 1864.
43,440	Torrey, R. S	Bangor, Me	Car wheels and axles, mode of attaching	July 5, 1864.
44,027	Toshach, William	New York, N. Y	Car springs, railroad	Aug. 30, 1864.
43,724	Totman, E	Columbus, Pa	Sawing machines	Aug. 2, 1864.
41,822	Tower, Isaiah, deceased, by Mary Tower, administratrix	Rochester, N. Y	Augers, machine for making	Mar. 1, 1864.
	Tower, Levi L. (*See* Boynton, Leander W., assignor.)			
45,655	Towers, Wm. H	New York, N. Y	Heater, gas, drum	Dec. 27, 1864.
	Towle, Hamilton E., and Wm. Miller. (*See* Miller & Towle.)			
42,418	Town, Edward, and James L. Chichester	Buffalo, N. Y	Ruling, paper, machine	Apr. 19, 1864.
	Towne, John H	Philadelphia, Pa	Hammer, steam, direct action (Extension)	Aug. 22, 1864.
44,899	Towne, Lawriston	Providence, R. I	Chain for ornament	Nov. 1, 1864.
44,030	Towne, Wm. J	Newton, Mass	Damper and register, ventilating	Aug. 30, 1864.
44,238	Towne, Wm. J	Newton, Mass	Tree protector	Sept. 13, 1864.
44,029	Townsend, Elmer	Boston, Mass	Soles, &c., machine for introducing pegs and cement into.	Aug. 30, 1864.
	Townsend, Elmer. (*See* Sargent, Joseph F., assignor.)			
	Townsend, Elmer. (*See* Sargent, Joseph F., assignor.)			
	Townsend, Elmer. (*See* Butterfield, Wm., ass'r.) Reissue.			
	Townsend, Elmer. (*See* Reed, Timothy K., assignor.)			
	Townsend, Elmer. (*See* Sargent, Joseph F., assignor.)			
	Townsend, Elmer, and Joseph F. Sargent. (*See* Sargent & Townsend.)			

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
44,127	{ Townsend, Frederick, and { Nathan S. Clement	Albany, N. Y Worcester, Mass	Fire-arm, breech-loading	Sept. 6, 1864.
	Townsend, Israel, and William Fields. (*See* Fields & Townsend.)			
43,885	Townsend, John P., assignor to Tappen Townsend and Charles Sears.	New York, N. Y	Castings, &c., manufacture of dry moulds for. (Antedated August 4, 1864.)	Aug. 16, 1864.
41,796	Townsend T. J	Baltimore, Md	Lamp chimneys	Mar. 1, 1864.
	Townsend, Wm. Isaac. (*See* Broadwell, Lewis Wells, ass'r.)			
	Toy, Joseph, and J. E. Chase. (*See* Chase & Toy.)			
43,933	Trapp, William	Elmira, N. Y	Barrels, machines for dressing heads to. (Antedated August 16, 1864.)	Aug. 23, 1864.
43,934	Trapp, William	Elmira, N. Y	Barrels, machines for dressing staves to. (Antedated August 16, 1864.)	Aug. 23, 1864.
43,935	Trapp, William	Elmira, N. Y	Barrels, machines for jointing headings to. (Antedated August 18, 1864.)	Aug. 23, 1864.
42,419	Traugh, S. A	Cincinnati, Ohio	Moulds, flasks for, slides and guides for	Apr. 19, 1864.
43,142	Travis, D. H	La Crosse, Wis	Engines, steam, valves for	June 14, 1864.
41,551	Treadway, A. R., and S. R. Warner	New Haven, Conn	Tin tubing, connecting	Feb. 9, 1864.
42,701	Treadwell, Daniel	Cambridge, Mass	Cannons, manufacture of hoops for	May 10, 1864.
41,244	Treadwell, W. B	Albany, N. Y	Coal scuttles	Jan. 12, 1864.
42,610	Treadwell, W. B	Albany, N. Y	Stoves, coal	May 3, 1864.
44,900	Treadwell, W. B	Albany, N. Y	Stove, coal, supply cylinder	Nov. 1, 1864.
44,758	Tremble, Hiram M	Mattoon, Ill	Planters, seed	Oct. 18, 1864.
43,049	Trim, Alfred	Iconium, Iowa	Wind wheels	June 7, 1864.
45,361	Triplett, Louis	Columbia, Ky	Fire-arms, magazine or self-loading	Dec. 6, 1864.
44,353	Tripp, B. H	Culpeper, Va	Shells, explosive	Sept. 20, 1864.
44,239	Tripp, James Seth	Danby, N. Y	Apple corer and quarterer	Sept. 13, 1864.
	Tripp, Seth D. (*See* Thompson & French, assignors.)			
43,050	Tripp, Seth D	Lynn, Mass	Leather, machine for cutting and embossing	June 7, 1864.
	Tripp, Seth D., *et al.* (*See* Thompson, French & Tripp.)			
	Tripp, Thomas, and M. H. Card. (*See* Card & Tripp.)			
45,362	Trippe, James	Orange, N. J	Paint composition	Dec. 6, 1864.
	Trippel, Alexander. (*See* Raschette, Waldemar, assignor.)			
1,990	Trischet, Samuel	New York, N. Y	Ruffle (Design)	Sept. 20, 1864.
41,873	Troemel, Otto	Manitowoc, Wis	Medicine for wounds, inflammation, &c	Mar. 8, 1864.
	Trofitter, E. T. (*See* Williams, Jarvis, ass'r.) Disclaimer.			
42,973	Troop, Jonathan	Erie, Pa	Wind-mills	May 31, 1864.
	Trowbridge, George N. (*See* Sampson, Blaney E., ass'r.)			
41,874	Trowbridge, Joseph M	United States army	Fire-arms, telescopic sight for	Mar. 8, 1864.
43,533	True, Daniel E	Leominster, Mass	Fastenings, blind and shutter	July 12, 1864.
43,686	True, Daniel E., assignor to self and Geo. T. Lincoln	Leominster, Mass	Turning spheres or balls, device for	Aug. 16, 1864.
42,129	True, George	Island of Madeira	Churns, mechanism for operating	Mar. 29, 1864.
42,904	True, George	Island of Madeira	Steam generator	May 24, 1864.
42,702	Trulender, Frederick	Salem, N. J	Fire-arms, breech-loading, cartridge extractor for	May 10, 1864.
44,564	Trull, Nehemiah	Shaker Village, N. H	Wind wheel	Oct. 4, 1864.
	Truslow, J., *et al.* (*See* Martin, Benj. G., assignor.)			
44,354	Truss, Thomas Seaville	England	Knapsacks, mode of carrying	Sept. 20, 1864.
41,245	Trussell, Richard	Brooklyn, N. Y	Guns, directing, by adjustable ports	Jan. 12, 1864.
45,094	Truxel, John S	Mt. Pleasant, Pa	Reaping and mowing machines	Nov. 15, 1864.
	Tschop, Albert, and John Phillips. (*See* Phillips & Tschop.)			
42,420	Tubbs, W. O	Spring, Pa	Harvesters	Apr. 19, 1864.
43,441	Tucker, Alfred G	Richview, Ill	Cultivators	July 5, 1864.
	Tucker, Charles Joseph and Henry. (*See* Godfrey, Thos., assignor.)			
43,349	Tucker, Stephen D	New York, N. Y	Printing presses	June 28, 1864.
43,350	Tucker, Stephen D	New York, N. Y	Printing presses	June 28, 1864.
	Tucker, William, and Edward Andrews. (*See* Andrews & Tucker.)			
43,351	Tully, Thomas	Waukegan, Ill	Ordnance, breech-loading	June 28, 1864.
45,682	Tunstill, Wm., assignor to Theodore H. Conkling	New York, N. Y	Looms, shuttle for	Dec. 27, 1864.
43,143	Tupper, Lorenzo B	New York, N. Y	Grate bars	June 14, 1864.
42,130	Turley, Marshall	Council Bluffs, Iowa	Washing machine	Mar. 29, 1864.
42,974	Turley, Marshall	Council Bluffs, Iowa	Composition for staining wool	May 31, 1864.
	Turnbull, John, and Turnbull, James, jr.	Baltimore, Md Simsbury, Conn	Looms for piled fabrics (Extension)	Jan. 20, 1864.
1,783	Turner, Charles B., assignor, through mesne assignments, to Alfred Berney.	Jersey City, N. J	Cars, railroad, operating brakes for (Reissue)	Oct. 4, 1864.
1,784	Turner, Charles B., assignor, through mesne assignments, to Alfred Berney.	Jersey City, N. J	Cars, railroad, operating brakes for. (Division of reissue)	Oct. 4, 1864.
41,875	Turner, Edward, assignor to Thomas Grannis	Baltimore, Md	Vessels, sunken, apparatus for raising	Mar. 8, 1864.
41,948	Turner, George	Lansing, Mich	Gate and door closing device	Mar. 15, 1864.
44,128	Turner, G. B	Cuyahoga Falls, Ohio	Flax, machine for breaking and cleaning	Sept. 6, 1864.
43,612	Turner, John T	Bridgewater, Mass	Hammers, steam, valve gear of	July 19, 1864.
44,680	Turner, Oren	Clinton, Wis	Horses, vicious, apparatus for handling	Oct. 11, 1864.
43,936	Turner, Seth	Onarga, Ill	Derricks for stacking hay	Aug. 23, 1864.
45,445	Turner, Seth	Onarga, Ill	Derrick	Dec. 13, 1864.
	Turner, Wm. H., *et al.* (*See* Tittman, Alexander, assig'r.)			
43,352	Turrell, George B	New York, N. Y	Lard, tallow, &c., mode of treating	June 28, 1864.
42,808	Tush, Elwood	Manchester, Iowa	Mills, fanning	May 17, 1864.
	Tustin, Wm., and Joseph Becher. (*See* Becher & Tustin.)			
42,809	Tuttle, B. F	Chelsea, Mich	Stump extractors	May 17, 1864.
	Tuttle, R., *et al.* (*See* Wheeler, S. H., assignor.)			
41,966	Twambley, Samuel G., assignor to Charles A. Shaw	Biddeford, Maine	Watch wheels, lathe rest for truing	Mar. 15, 1864.
45,363	Tweddle, Herbert W. C	Pittsburg, Pa	Distilleries, petroleum, mode of utilizing the waste gas from	Dec. 6, 1864.
	Twining, Alexander C	New Haven, Conn	Ice, manufacturing (Extension)	June 21, 1864.
	Twitchell, Chas. S., and Henry S. Golightly. (*See* Golightly & Twitchell.)			
	Twitchell, Chas. S., and Henry S. Golightly. (*See* Golightly & Twitchell.) Reissue.			
42,031	Twitchell, Homer	Naugatuck, Conn	Knives, pocket	Mar. 22, 1864.
42,131	Twyford, Charles	Red Bank, N. J	Brush	Mar. 29, 1864.
42,053	Tylee, Felix, assignor to self and Josiah S. Pond	Cleveland, Ohio	Furniture, spring for	Mar. 22, 1864.
44,240	Tyler, John	West Lebanon, N. H	Water wheels	Sept. 13, 1864.
42,975	Tyler, S. E., assignor to William W. Gilbert	Horicon, Wis	Drills, grain	May 31, 1864.
43,353	Tynan, Joseph E	Paterson, N. J	Car trucks, switching	June 28, 1864.
	Tyng, L. H., *et al.* (*See* Marshall, Moses, assignor.)			
43,650	Tyrrell, Alexander	Batavia, N. Y	Horse shoe	July 26, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
41, 246	Udell, George F., and Henry Mayell	Albany, N. Y	Soling, leather and rubber	Jan. 12, 1864.
	Udell, William E. (*See* Bourne, Charles S., assignor.)			
45, 364	Underhill, A. B	Meadville, Pa	Chuck	Dec. 6, 1864.
	Underwood, C. J., W. J. and C. H. (*See* McCall & Sloper, assignors.)			
41, 653	Underwood, F. J	South Hardwick, Vt	Indicators, station	Feb. 16, 1864.
43, 725	Underwood, Henry	Tolland, Conn	Potato parer	Aug. 2, 1864.
44, 474	Underwood, Henry	Tolland, Conn	Buttons for doors	Sept. 27, 1864.
44, 475	Underwood, Henry	Tolland, Conn	Locks	Sept. 27, 1864.
44, 476	Underwood, Henry	Tolland, Conn	Latches, door	Sept. 27, 1864.
45, 656	Underwood, John C	Richmond, Ind	Heaters	Dec. 27, 1864.
	Union Button Hole and Embroidery Machine Company. (*See* Vogel, Kasimer, assignor.) Reissue.			
	Union Horse-Shoe Company. (*See* Perkins, Chas. H., ass'or.)			
	Union Horse-Shoe Company. (*See* Perkins, Chas. H., ass'or.)			
	Union Horse-Shoe Company. (*See* Perkins, Chas. H., ass'or.)			
	Union Oil Company. (*See* Lewis, Sylvester, assignor.)			
	United States Sanitary Commission, &c. (*See* Christison, James, assignor.)			
	Upfield, William	Lancaster, Ohio	Boot trees (Extension.)	June 24, 1864.
41, 876	Upham, Abner T	Canton, Mass	Stoves, foot	Mar. 8, 1864.
	Upham, James P. (*See* Fuller, Jim B., assignor.)			
	Upham, James P. (*See* Fuller, Jim B., assignor.)			
	Upham, James P. (*See* Fuller, Jim B., assignor.)			
	Upham, Jas. P., and Jim B. Fuller. (*See* Fuller & Upham.)			
	Upham, Jas. P., and Jim B. Fuller. (*See* Fuller & Upham.)			
44, 355	Upjohn, Henry	Richland, Mich	Planter, corn	Sept. 20, 1864.
43, 807	Upton, Albert W	Lowell, Mass	Shoulder braces	Aug. 9, 1864.
	Utter, Isaac. (*See* Clarke, Orlando, assignor.)			
43, 167	Vaessen, Hubert Jos., assignor to Bernhard Schaffer and Christian Budenberg.	Belgium	Steam traps	June 14, 1864.
45, 095	Vail, Jacob	Newfield, N. Y	Fruit gatherers	Nov. 15, 1864.
	Vail, Orasmus M. and Thomas J. (*See* Shaler, Reuben, assignor.) Reissue.			
	Valentine, A. A. (*See* Holmes & Butler, assignors.) Reissue.			
	Valentine, Elijah. (*See* Stearns, George A., assignor.)			
42, 242	Valentine, William L. R	Fort Edward, N. Y	Water wheels	Apr. 5, 1864.
42, 335	Valetton, Louis D., assignor to H. W. Hensel	Philadelphia, Pa	Looms for weaving trimmings	Apr. 12, 1864.
	Van Anden, William	Poughkeepsie, N. Y	Railroad chairs, wrought iron, machine for making. (Extension.)	Apr. 23, 1864.
44, 477	Van Anden, William	Poughkeepsie, N. Y	Mowing machines	Dec. 27, 1864.
45, 365	Van Anden, William	Poughkeepsie, N. Y	Lubricators	Dec. 6, 1864.
43, 875	Van Buskirk, Roswell	Newark, N. J	Envelope, expansive	Aug. 16, 1864.
41, 877	Vance, Lorenzo	Philadelphia, Pa	Saw-mills	Mar. 8, 1864.
	Vanderbeck, Charles W., and John H. Wygant. (*See* Wygant & Vanderbeck.)			
41, 949	Vanderbilt, G. R	Mount Vernon, N. Y	Condensers	Mar. 15, 1864.
43, 534	Vanderburgh, George E	Mamaroneck, N. Y	Treating feldspar to obtain useful products	July 12, 1864.
42, 450	Vanderburgh, George E., assignor to Charles E. Hodges, Wm. B. Newbery, N. D. Silsbee and John Richardson.	Mamaroneck, N. Y	Paper, sizing	Apr. 19, 1864.
1, 674	Vanderburgh, George E., assignor, through mesne assignments, to New York Quartz Company.	Mamaroneck, N. Y	Silicates to a liquid or gelatinous state, mode of reducing. (Reissue.)	May 17, 1864.
1, 675	Vanderburgh, George E., assignor, through mesne assignments, to New York Quartz Company.	Mamaroneck, N. Y	Silicious substances, apparatus for treating. (Division B of reissue.)	May 17, 1864.
1, 676	Vanderburgh, George E., assignor, through mesne assignments, to New York Quartz Company.	Mamaroneck, N. Y	Stone, artificial, manufacture of. (Division C of reissue).	May 17, 1864.
42, 888	Vandercar, John	Brooklyn, N. Y	Furnaces, grate bars for	May 24, 1864.
43, 442	Vandercar, John	Brooklyn, N. Y	Dish pan	July 5, 1864.
42, 032	Vander Weyde, Peter H	New York, N. Y	Alarm, gas	Mar. 22, 1864.
41, 797	Vanderventer, John W	Dundee, Mich	Slitting gauges	Mar. 1, 1864.
45, 657	Vanduzer, J. T	Tyrone, N. Y	Beehives	Dec. 27, 1864.
	Van Emon, Samuel, *et al.* (*See* Bodley, Reynolds & Van Emon.)			
44, 565	Vangaasbeck, W	Williams' Bridge, N. Y	Stopper and lock, sash	Oct. 4, 1864.
1, 767	Van Gieson, A. H., assignor, through mesne assignments, to self and Ebenezer A. Smith.	Newark, N. J	Leather-splitting machine (Reissue)	Sept. 13, 1864.
43, 460	Van Gieson, William H., assignor to Thomas H. Bate and William Mills.	New York, N. Y	Fishing-line reels	July 5, 1864.
	Vangraafeiland, S. (*See* Baudissin, Julius O., assignor.)			
41, 454	Vangundy, E. W	Galesburg, Ill	Cultivators	Feb. 2, 1864.
	Van Hook, John W., and John F. Fox. (*See* Fox & Van Hook.)			
42, 132	Van Houten, Joseph	Mount Morris, N. Y	Mill, fanning, shaker	Mar. 29, 1864.
1, 657	Van Houten, Joseph	Mount Morris, N. Y	Separators, grain (Reissue)	Apr. 19, 1864.
43, 244	Van Houten, P. G	Cohocton, N. Y	Wagon brakes, acting	June 21, 1864.
45, 658	Van Kersen, James J	Kalamazoo, Mich	Wheelbarrows	Dec. 27, 1864.
1, 601	Van Kirk, Joseph T., and William M. Fulton	Philadelphia, Pa Elizabeth City, N. J	Lamps (Reissue)	Jan. 5, 1864.
	Van Marter, Joseph R., and James C. Barrett. (*See* Barrett & Van Marter.)			
41, 129	Van Nortwick, William H., assignor to self and R. S. Van Rensselaer.	Bordentown, N. J	Chair, reclining	Jan. 5, 1864.
44, 028	Van Oeckelen, C. J	New York, N. Y	Tobacco, &c., machine for making packages of	Aug. 30, 1864.
	Van Rensselaer, R. S. (*See* Van Nortwick, Wm. H., ass'or.)			
42, 133	Van Riper, J. H	New York, N. Y	Knife-cleaner	Mar. 29, 1864.
44, 241	Vanstrum, C. G., and P. G. Lindberg	Red Wing, Minn	Seeding machine	Sept. 13, 1864.
	Vant, Artemus B., *et al.* (*See* Cook, Arion M., assignor.)			
41, 108	Van Thiel, Henry J	Stapleton, N. Y	Lamp, bunker, suspended	Jan. 5, 1864.
	Varin, Victor, and Peter Reynard. (*See* Reynard & Varin.)			
43, 535	Varney, Thomas	San Francisco, Cal	Amalgamator	July 12, 1864.
1, 963	Varran, Augustus D., assignor to Stephen Richardson, 2d	North Attleboro', Mass	Watch chain (Design)	June 14, 1864.
	Vaughn, Richard. (*See* White, N. S., assignor.)			
2, 013	Vedder, Nicholas S	Troy, N. Y	Stove, plates of a (Design)	Dec. 13, 1864.
2, 014	Vedder, Nicholas S	Troy, N. Y	Stove plate (Design)	Dec. 13, 1864.
1, 881	Vedder, N. S., assignor to R. P. Myers	Troy, N. Y	Stove, cook's (Design)	Jan. 5, 1864.
1, 894	Vedder, Nicholas S., assignor to Cox & Church	Troy, N. Y	Stove, plates of a (Design)	Feb. 2, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
1,986	Vedder, Nicholas S., assignor to Daniel E. Paris	Troy, N. Y	Stove, plates of a (Design)	Aug. 16, 1864.
1,893	Vedder, Nicholas S., and Benjamin F. Johnson, assignors to Wagner & Fales.	Troy, N. Y	Stove plates (Design)	Jan. 26, 1864.
2,015	Vedder, N. S., and Ezra Ripley, assignors to N. S. Vedder.	Troy, N. Y	Stove plate (Design)	Dec. 13, 1864.
	Veer, William A. (*See* Fairchild, C. T., assignor.)			
43,937	Veerkamp, Florence, and Francis Leopold	Philadelphia, Pa.	Weaving cords, or coverings around cords, machine for	Aug. 23, 1864.
41,654	Verdier, Jean Baptiste	France	Life-preserver, marine	Feb. 16, 1864.
42,518	Vergnes, Maurice	New York, N. Y	Piano-forte, portable	Apr. 26, 1864.
43,245	Vergnes, Maurice	New York, N. Y	Piano-forte, portable	June 21, 1864.
43,536	Vergnes, Maurice	New York, N. Y	Inhalators	July 12, 1864.
44,566	Vergnes, Maurice	New York, N. Y	Piano-fortes	Oct. 4, 1864.
41,109	Vernol, Reuben C., and Joseph T. Martin	New York, N. Y	Propeller, marine	Jan. 5, 1864.
1,668	Ver Valen, R. A	Haverstraw, N. Y	Brick machine (Reissue)	May 10, 1864.
45,006	Vian, Marius	France	Ships' bottoms, composition for protecting	Nov. 8, 1864.
42,519	Vidal, Ulysses B	Philadelphia, Pa	Car springs	Apr. 26, 1864.
	Vierow, Victor, *et al.* (*See* Cowles, Case & Vierow.)			
41,878	Vigoureux, Stanislas	France	Woolens, &c., mixed-colored, mode of producing	Mar. 8, 1864.
44,901	Vining, George	Boston, Mass	Engines, rotary	Nov. 1, 1864.
43,537	Voak, John	Penn Yan, N. Y	Apple-parer	July 12, 1864.
1,805	Vogel, Kasimer, assignor to the Union Button Hole and Embroidery Machine Company.	Boston, Mass	Sewing machine (Reissue)	Nov. 1, 1864.
43,354	Vogel, William	Chelsea, Mass	Dryers, fruit	June 28, 1864.
44,921	Volkmar, Charles and Henry, ass'ors to Geo. P. Steinbach	Baltimore, Md	Slates, school, artificial	Nov. 1, 1864.
41,331	Von Nordhausen, Eugene	New York, N. Y	Manure, artificial	Jan. 19, 1864.
41,455	Vorster, Edward	Brooklyn, E. D., N. Y	Skates	Feb. 2, 1864.
41,950	Vose, Richard	New York, N. Y	Springs, helical	Mar. 15, 1864.
	Vose, William T. (*See* Clark, William P., assignor.)			
45,366	Vrydagh, Jesse A	Cincinnati, Ohio	Window shutters	Dec. 6, 1864.
	Vyse & Sons. (*See* Howard, Frank, assignor.)			
	Wacey, David. (*See* Hodges, Horatio, assignor.)			
43,726	Wade, DeWitt C	Holey, Mich	Soda fountain	Aug. 2, 1864.
42,421	Wadsworth, Joseph and James	England	Burners, gas	Apr. 19, 1864.
43,808	Wadsworth, W	Sacramento, Cal	Tilling the soil, device for	Aug. 9, 1864.
43,355	Wagener, Jeptha A	New York, N. Y	Sewing machines, braid guide for	June 28, 1864.
	Wager & Fales. (*See* Vedder & Johnson, ass'ors.) Design.			
42,719	Wagner, Alex. H	England	Doors, safety, for churches	May 10, 1864.
43,051	Wagner, A. H., assignor to Chas. and Augustus Kaestner	Chicago, Ill	Water wheels	June 7, 1864.
44,567	Wagner, Samuel	Monroe, Wis	Casks, machines for shaving hoops for	Oct. 4, 1864.
	Wain, John, and Robert Lakin. (*See* Lakin & Wain.)			
41,346	Wait, Windsor B., assignor to self and Jos. A. Fairbanks	Greenwood, Mass	Feed bags	Jan. 19, 1864.
42,611	Waite, Enoch	South Natick, Mass	Felting machine	May 3, 1864.
43,164	Waite, Enoch, assignor to Edward Richmond	South Natick, Mass	Felting machine	June 14, 1864.
44,242	Wakefield, Cyrus	South Reading, Mass	Rattanwaste, utilization of	Sept. 13, 1864.
42,422	Waldo, William B	Johnsville, N. Y	Gates	Apr. 19, 1864.
42,976	Wales, E. L	East Randolph, Mass	Sewing machine	May 31, 1864.
42,033	Walker, Alexander J	New York, N. Y	Wardrobe hooks	Mar. 22, 1864.
43,144	Walker, Alexander J	New York, N. Y	Clothes-hanger	June 14, 1864.
41,798	Walker, Alexander J	New York, N. Y	Hook, wardrobe	Mar. 1, 1864.
45,096	Walker, Andrew	Claremont, N. H	Pumps, rotary	Nov. 15, 1864.
1,608	Walker, Augustus	Buffalo, N. Y	Vessels, steam and sailing, for naval and merchant service, construction of. (Reissue)	Jan. 19, 1864.
1,631	Walker, Augustus	Buffalo, N. Y	Vessels, steam and sailing, for naval and merchant service, construction of. (Reissue.)	Mar. 8, 1864.
43,727	Walker, C. F	Benford's Store, Pa	Pantaloons, straps for holding down. (Antedated June 14, 1864.)	Aug. 2, 1864.
44,830	Walker, D. F	Potosi, Mo	Engines, steam, slide valves for	Oct. 25, 1864.
44,129	Walker, Edward L	Benford's Store, Pa	Hay elevators	Sept. 6, 1864.
45,283	Walker, Frederic C	New York, N. Y	Washing machine. (Antedated November 16, 1864)	Nov. 29, 1864.
42,703	Walker, J. H	Worcester, Mass	Leather, sole, drop for hammering	May 10, 1864.
42,810	Walker, J. H	Worcester, Mass	Sewing machine, welt gauge for	May 17, 1864.
43,356	Walker, J. H	Worcester, Mass	Boots and shoes, punches for cutting out welts of	June 28, 1864.
45,541	Walker, Sylvenus, assignor to Howard Tilden	Tremont, N. Y	Stove-cover lifter	Dec. 20, 1864.
41,552	Walker, William H	Fond-du-Lac, Wis	Sawing machine, shingle	Feb. 9, 1864.
45,542	Walkey, Jacob	Monroe, Wis	Kit, camp	Dec. 20, 1864.
45,543	Wall, Charles R. M	Brooklyn, N. Y	Malt liquors, process of brewing	Dec. 20, 1864.
	Wall, John, and James Hatfield. (*See* Hatfield & Wall.)			
42,322	Wallace, Samuel Jacob	Carthage, Ill	Grain binders	Apr. 12, 1864.
44,356	Wallace, William	Ansonia, Conn	Ordnance, breech-loading. (Antedated June 3, 1864)	Sept. 20, 1864.
44,097	Wallich, Levi J	Knoxville, Ill	Sawing, boring and mortising, machines for	Nov. 15, 1864.
45,659	Wallis, John N	Fleming, N. Y	Shears, hand	Dec. 27, 1864.
44,568	Wallis, Samuel	Townsend, Mass	Knitting machine	Oct. 4, 1864.
43,807	Wallis, Theodore	Scipio, N. Y	Shears	Aug. 9, 1864.
45,098	Wallmer, John	Goshen, Ind	Fence, board, board-holder in making	Nov. 15, 1864.
41,414	Walsh, Zachariah, assignor to Cornelius Walsh	Newark, N. J	Bags, travelling, frames for	Jan. 26, 1864.
43,357	Walton, Chauncey	Washington, D. C	Walls, &c., construction of piles for	June 28, 1864.
44,243	Walton, Chauncey	Washington, D. C	Ruling machine	Sept. 13, 1864.
45,195	Walton, Chauncey	Washington, D. C	Ruling, paper, machines	Nov. 22, 1864.
44,902	Walton, Wm. H., and Andrew Naudain, deceased, by Ellen S. and Arnold Naudain, administrators.	New York, N. Y West Farms, N. Y	Looms, circular	Nov. 1, 1864.
41,110	Walworth, C. C	Boston, Mass	Screw plate	Jan. 5, 1864.
1,752	Walworth, C. C., assignor to the Malleable Iron Fittings Company.	Branford, Conn	Gas-pipe fittings, machines for finishing (Reissue)	Aug. 30, 1864.
41,731	Wanklyn, Wm	England	Cotton, compressed, and other fibrous material, machine for treating.	Feb. 23, 1864.
45,109	Wanklyn, Wm	Great Britain	Gins, cotton, rollers for	Nov. 15, 1864.
44,031	Wanner, Albert	Hoboken, N. J	Pin, diaper	Aug. 30, 1864.
44,357	Wanebrough, Henry W., and Henry M. Diggins	Cincinnati, Ohio	Planter, corn	Sept. 20, 1864.
44,681	Wappich, Maximilian	Sacramento, Cal	Movements, mechanical	Oct. 11, 1864.
42,977	Warburton, Wm. F	Philadelphia, Pa	Hats	May 31, 1864.
42,630	Ward, James H., deceased, by Sarah A. Ward, adm'x	U. S. Navy	Guns, ships', operating	May 3, 1864.
	Ward, John jr. (*See* Johnson, Josee, ass'or.) Reissue.			
42,704	Ward, Jonathan	East Hardwick, Vt	Medical compound	May 10, 1864.
41,415	Ward, Samuel, assignor to George Campbell and John Clute	Amsterdam, N. Y	Knitting machines, circular, take-up for	Jan. 26, 1864.
42,889	Ward, Samuel, and L. J. Munger	Cambridge, Mass Charlestown, Mass	Horseshoes	May 24, 1864.
	Ward, Sam'l, and Henry Marcellus. (*See* Marcellus & Ward.)			

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
43, 728	Ward, S. W. H	New York, N. Y	Collars, shirt, paper, colored	Aug. 2, 1864.
	Ward, William E	Port Chester, N. Y	Bolt and rivet machine (Extension)	July 29, 1864.
	Warden, Wm. G. (*See* Hackett, Barnard, assignor.)			
42, 423	Ware, Preston, jr	Boston, Mass	Soles, composition, and moulds for the same	April 19, 1864.
43, 052	Ware, W. Powell	New York, N. Y	Boots and shoes	June 7, 1864.
41, 951	Warfield, D. R	Muscatine, Iowa	Gates. (Antedated March 9, 1864)	Mar. 15, 1864.
	Warfield, Henry, and Solomon Goddard. (*See* Goddard & Warfield.)			
	Warker, Thomas, and Carl Schultz. (*See* Schultz & Warker.)			
	Warland, Charles A. (*See* Potter, Elisha O., assignor.)			
45, 099	Warner, C. W	Williston, Vt	Rakes, horse	Nov. 15, 1864.
41, 732	Warner, James	Springfield, Mass	Fire-arms, breech-loading	Feb. 23, 1864.
45, 660	Warner, James	Springfield, Mass	Fire-arms, breech-loading. (Antedated Dec. 14, 1864)	Dec. 27, 1864.
1, 713	Warner, Jonathan E	Boston, Mass	Stave machines (Reissue)	June 28, 1864.
42, 034	Warner, Sheldon	Enfield, Mass	Saws for felling trees	Mar. 22, 1864.
	Warner, S. R., and A. R. Treadway. (*See* Treadway & Warner.)			
43, 145	Warner, Thomas	Germantown, Pa	Bolts for shutters	June 14, 1864.
44, 244	Warren, Charles	Milford, Mass	Inhaling apparatus	Sept. 13, 1864.
45, 544	Warren, C. H., and A. C. Baldwin	Tiffin, Ohio	Churns	Dec. 20, 1864.
42, 918	Warren, E., and Wm. Johnston, assignors to E. Warren	Marshall, Mich	Tools, farriers'	May 24, 1864.
41, 553	Warren, Henry	Goshen, Ind	Soap, washing	Feb. 9, 1864.
42, 705	Warren, John	Buffalo, N. Y	Pumps for deep wells	May 10, 1864.
41, 655	Warren, J. T	Stafford, N. Y	Cap, percussion, holder	Feb. 16, 1864.
43, 373	Warren, J. T., assignor to Robert A. Chesebrough	Stafford, N. Y	Cartridge box	June 28, 1864.
44, 999	Warren, J. T., and Robert A. Chesebrough, ass'ors to Robert A. Chesebrough	Stafford, N. Y New York, N. Y	Cartridge and percussion cap box, combined	Nov. 8, 1864.
41, 952	Warren, Oliver J	Chicago, Ill	Boot crimp	Mar. 15, 1864.
43, 267	Warth, Albin, assignor to Eberhard Faber	Stapleton, N. Y	Pencils, lead, machines for cutting	June 21, 1864.
41, 408	Washburn, George I	Worcester, Mass	Boiler feeder	Jan. 20, 1864.
41, 799	Washburn, George I	Worcester, Mass	Pumping and condensing, apparatus for	Mar. 1, 1864.
41, 896	Washburn, George I	Worcester, Mass	Wheels and pulleys, gear	Mar. 8, 1864.
41, 332	Washburn, Richard	Monsey, N. Y	Washing machine	Jan. 19, 1864.
43, 053	Washburn, Richard	Ramapo, N. Y	Planes, bench	June 7, 1864.
43, 810	Washburn, William	Boston, Mass	Radiators	Aug. 9, 1864.
43, 054	Waste, Charles and Orson	Cameron, Ill	Crushing and pressing machine	June 7, 1864.
41, 416	Waste, Orson and Charles, assignors to Charles Waste	Cameron, Ill	Hay for pressing, machine for cutting	Jan. 26, 1864.
1, 689	Waste, Orson and Charles, assignors to Charles Waste	Cameron, Ill	Hay for pressing, cutting (Reissue)	May 31, 1864.
45, 284	Waste, Orson and Charles	Cameron, Ill	Bales of hay, constructing	Nov. 29, 1864.
45, 285	Waste, Orson and Charles	Cameron, Ill	Bales, machine for preparing hay for pressing into	Nov. 29, 1864.
42, 612	Waterman, John	Keokuk, Iowa	Planter, corn	May 3, 1864.
44, 144	Waterman, Josiah	New York, N. Y	Burners, hydro-carbon, packing for	Sept. 6, 1864.
44, 841	Waterman, Julius, assignor to self and Joseph Mayer	New York, N. Y	Skirts, skeleton	Oct. 25, 1864.
43, 268	Waterman, L. B., assignor to self, E. W. Simonds and P. A. Fischer.	Chicago, Ill	Cultivator	June 21, 1864.
	Waters, Elisha. (*See* Paine, Hiram E., assignor.)			
45, 196	Waters, George F	Waterville, Me	Pruning shears	Nov. 22, 1864.
43, 246	Waters, Hervey	Northbridge, Mass	Roller stand	June 21, 1864.
43, 247	Waters, Hervey	Northbridge, Mass	Bayonet blank	June 21, 1864.
42, 243	Waters, H. N	Hartford, Conn	Boilers, steam, water heaters for	April 5, 1864.
43, 613	Waters, Zera	Bloomington, Ill	Skirt lifters, ladies'	July 19, 1864.
45, 110	Watkins, F	England	Nuts, machine for tapping	Nov. 15, 1864.
45, 452	Watkins, F	England	Bolts, machine for tapping	Dec. 13, 1864.
	Watkins, George, and John Lacy. (*See* Lacy & Watkins.)			
41, 656	Watson, Augustus	Washington, D. C	Flags	Feb. 16, 1864.
44, 265	Watson, Benjamin G., and A. W. Thurber, assignors to Benjamin G. Watson and Ira G. Briggs.	Jewett City, Conn	Spinning frames, steps for the spindles of	Sept. 13, 1864.
	Watson, George V., *et al.* (*See* Milsom, Spendelow & Watson.)			
45, 197	Watson, George V., George Milsom and Henry Spendelow	Buffalo, N. Y	Grain shovel	Nov. 22, 1864.
43, 876	Watson, James S	Newton, Mass	Desk, writing	Aug. 16, 1864.
42, 720	Watson, Jos. John William, and W. H. Smith	France	Condensers, surface	May 10, 1864.
45, 545	Watson, Lewis	South Plymouth, Mich	Cars, railroad, brakes for	Dec. 20, 1864.
44, 358	Watson, Thomas H	New York, N. Y	Jacks, hydraulic	Sept. 20, 1864.
42, 424	Watts, T. W	Rushville, Ill	Drills, grain	April 19, 1864.
42, 054	Watts, Wm., Fenn Willcox and Daniel F. Tompkins	Newark, N. J	Spikes and nails	Mar. 22, 1864.
41, 585	Wayne, James B., assignor to self and Henry M. Robinson	Detroit, Mich	Rock-breaking machine	Feb. 9, 1864.
	Wayne, Joseph W. (*See* Miller, Joseph R., assignor.)			
43, 538	Wayne, Joseph W., and Joseph R. Miller	Cincinnati, Ohio	Table, folding	July 12, 1864.
41, 111	Weaver, John	Knightstown, Ind	Medical compound	Jan. 5, 1864.
44, 903	Weaver, J. H	Waynesville, Ohio	Saws, machine for grinding and polishing	Nov. 1, 1864.
42, 978	Weaver, Robert B	Steubenville, Ohio	Bars, iron, for trucks, device for bending	May 31, 1864.
45, 286	Weaver, Theos	Harrisburg, Pa	Desk and seat, school	Nov. 29, 1864.
45, 287	Weaver, Theos	Harrisburg, Pa	Table and seat, school	Nov. 29, 1864.
	Weaver, W. F. (*See* Springer, Joseph H., assignor.)			
	Weaver, W. F. (*See* Sees, John Randolph, assignor.)			
	Weaver, W. F. (*See* Sees, John Randolph, assignor.)			
	Weaver, W. F. (*See* Sees, John Randolph, assignor.)			
44, 478	Webb, Albert L	East Troy, Wis	Rack, sheep	Sept. 27, 1864.
41, 879	Webb, Benjamin H	North Cambridge, N. Y	Boots and shoes, rubber, ventilating	Mar. 8, 1864.
41, 247	Webb, Rodolphus L	West Meriden, Conn	Locks	Jan. 12, 1864.
45, 100	Webb, Rodolphus L	West Meriden, Conn	Latches, knob	Nov. 15, 1864.
42, 262	Webb, Wm., assignor to the Scoville Manufacturing Co	Waterbury, Conn	Lamps	April 5, 1864.
43, 746	Webb, Wm., assignor to the Scoville Manufacturing Co	Waterbury, Conn	Hinges	Aug. 2, 1864.
41, 880	Webber, Charles T., and Paul Iverson	Janesville, Wis	Spikes, tools for drawing	Mar. 8, 1864.
45, 304	Webber, Thomas, assignor to self and Volney E. Rusco	Chicago, Ill	Boxes, dry goods, device for packing. (Antedated November 25, 1864.)	Nov. 29, 1864.
41, 130	Weber, Paul, and Louis Miller, assignors to Geo. L. Weber	Wurtemburg	Saddles, riding	Jan. 5, 1864.
42, 055	Webster, Charles, Wm. Camp and S. L. Stall	Akron, Ohio	Clay mills	Mar. 22, 1864.
1, 993	Webster, J. Taylor, assignor to Edward Harvey	New York, N. Y	Floor oil-cloths (Design)	Oct. 18, 1864.
41, 554	Webster, William	Morrisania, N. Y	Wrenches	Feb. 9, 1864.
41, 657	Webster, William	Middletown, Ohio	Cans, fruit, closing	Feb. 16, 1864.
45, 446	Weckesser, Lewis	New Haven, Conn	Nut making machines	Dec. 13, 1864.
43, 729	Weed, Charles and Stephen	Eldorado, Iowa	Engines, rotary	Aug. 2, 1864.
45, 101	Weed, Charles, and William C. Marr	Eldorado, Iowa	Water wheels	Nov. 15, 1864.
	Weed, E. G. (*See* Stevens, George, assignor.)			
43, 055	Weed, James	Muscatine, Iowa	Roofs, thatching	June 7, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
1,746	Weeks, John J., assignor, through mesne assignments, to Andrew Whiteley.	Springfield, Ohio	Harvesters (Reissue)	Aug. 23, 1864.
1,747	Weeks, John J., assignor, through mesne assignments, to Andrew Whiteley.	Springfield, Ohio	Harvesters (Div. B of reissue)	Aug. 23, 1864.
	Weeks, M. P., and John Griffin. (*See* Griffin & Weeks.)			
	Weeks, Wm. E., and Samuel C. Glenney. (*See* Powell, James E., assignor.)			
42,890	Weese, R. B.	Charlottesville, Ind	Medicine	May 24, 1864.
1,768	Weibling, Harmon G.	Denver City, Colorado Ter	Carriage wheels (Reissue)	Sept. 13, 1864.
42,134	Weil, Charles	New York, N. Y	Album clip	Mar. 29, 1864.
43,557	Weil, Frederic	France	Metals, mode of coating and bronzing. (Patented in France December 11, 1863.)	July 12, 1864.
41,333	Weild, William	Great Britain	Spinning rollers. (Patented in England September 20, 1859.)	Jan. 19, 1864.
44,585	Weild, William	Great Britain	Rollers, machines for fluting. (Patented in England September 20, 1859.)	Oct. 4, 1864.
	Weir, Wm. S., jr., *et al.* (*See* Ochiltree, Weir & Baymount.)			
43,443	Weisman, Joseph	Philadelphia, Pa	Steel, manufacture of	July 5, 1864.
43,444	Weisman, Joseph	Philadelphia, Pa	Composition for coating metal	July 5, 1864.
42,706	Weitling, William	New York, N. Y	Sewing machine shuttles, tension device for	May 10, 1864.
44,569	Weitman, C.	Hazleton, Iowa	Horses' feet, mode of securing shoes to	Oct. 4, 1864.
	Welch, Benjamin	Salisbury, Conn	Splints, surgeons' (Extension)	Aug. 19, 1864.
41,248	Welch, Peter	Oswego, N. Y	Barrel heads, machines for dressing	Jan. 12, 1864.
41,249	Welch, Peter	Oswego, N. Y	Barrels, machines for chamfering and crozing	Jan. 12, 1864.
42,244	Welch, Peter	Oswego, N. Y	Sawing heading for barrels, machines for	April 5, 1864.
41,555	Welch, Samuel G.	Athens, Ill	Cultivators	Feb. 9, 1864.
43,056	Weldon, James G	Pittsburg, Pa	Cock, stop, and case for pipes leading from street mains	June 7, 1864.
44,904	Weldon, James G.	Pittsburg, Pa	Cock, stop, cases	Nov. 1, 1864.
42,979	Welham, Thomas	Brownsville, Nebraska Ter	Hydrometer	May 31, 1864.
42,980	Welham, Thomas	Brownsville, Nebraska Ter	Hydraulic motors	May 31, 1864.
45,102	Welham, Thomas	Brownsville, Nebraska Ter	Water wheel, siphon	Nov. 15, 1864.
41,334	Weller, F. M.	Evanston, Ill	Trace fasteners	Jan. 19, 1864.
42,312	Wellman, Marshall D.	Pittsburg, Pa	Stoves, fireplace	April 12, 1864.
42,321	Wellman, Marshall D.	Pittsburg, Pa	Stoves, cooking	April 12, 1864.
45,288	Wells, Edwin F.	New York, N. Y	Car coupling	Nov. 29, 1864.
41,953	Wells, Ephraim B.	Uniontown, Pa	Washing and wringing machine	Mar. 15, 1864.
43,057	Wells, Heber	New York, N. Y	Blocks, wooden, fastening for	June 7, 1864.
42,313	Wells, Joseph	Hoboken, N. J	Paper bags, machines for making	April 12, 1864.
44,682	Wells, J. L.	Stockbridge, N. Y	Hay forks, horse	Oct. 11, 1864.
45,103	Wells, Morris	Williamsburg, N. Y	Metal, sheet, ware, machine for making	Nov. 15, 1864.
43,445	Wells, William	Middleton, Mass	Dough, machine for mixing and kneading	July 5, 1864.
45,546	Wells, William	Middleton, Mass	Shovel handles, machines for making	Dec. 20, 1864.
41,967	Wells, William, assignor to Alfred B. Ely	Middleton, Mass	Lasting machine	Mar. 15, 1864.
44,359	Wells, W. J.	Delaware, Ohio	Sawing machines	Sept. 20, 1864.

No.	Patentee.	Residence.	Invention or discovery.	Date.
43,358	Welsch, Anthony	Chicago, Ill	Matches, machines for cutting	June 28, 1864.
45,198	Wendt, Hermann, and Henry Seymour	Elizabeth, N. J	Shears, sheep, manufacture of	Nov. 22, 1864.
45,547	Werner, Frederick C	Beacon Falls, Conn	Spinning jacks	Dec. 20, 1864.
42,451	West, Andrew, assignor to self and John Staub	Canton, Ohio	Pincers, lasting	Apr. 19, 1864.
43,614	West, A. H	Hamilton, N. Y	Hop poles, machines for sharpening	July 19, 1864.
45,661	West, Thomas J	Alfred, N. Y	Horseshoes, machines for making	Dec 27, 1864.
43,058	West, Thomas L	West Salem, Wis	Dryers, fruit	June 7, 1864.
1,950	Westbrook, George W	New York, N. Y	Trade mark (Design)	June 7, 1864.
41,954	Westcott, Amos	Syracuse, N. Y	Churns	Mar. 15, 1864.
45,683	Westinghouse, George, and Lorenzo Smith, assignors to George Westinghouse	Schenectady, N. Y Sharon Springs, N. Y	Threshing machines	Dec. 27, 1864.
42,520	Westlake, William	Milwaukie, Wis	Lantern guards	Apr. 26, 1864.
43,730	Westlake, William	Milwaukie, Wis	Lanterns	Aug. 2, 1864.
41,335	Weston, David M	Boston, Mass	Lubricators	Jan. 19, 1864.
43,539	Weston, Horace S	Akron, Ohio	Cartridge-boxes	July 12, 1864.
45,104	Weston, H. S	Akron, Ohio	Knapsacks, soldiers', shoulder braces for	Nov. 15, 1864.
41,456	Weston, James W	New York, N. Y	Limbs, artificial	Feb. 2, 1864.
45,662	Weston, James W	New York, N. Y	Legs, artificial, supporters for	Dec. 27, 1864.
43,938	Wethered, Samuel	Baltimore, Md	Boilers, steam, thimbles for	Aug. 23, 1864.
42,056	Wetherill, Charles M., assignor to Isaac R. Diller	Lafayette, Ind	Gunpowder, &c	Mar. 22, 1864.
42,057	Wetherill, Charles M., assignor to Isaac R. Diller	Lafayette, Ind	Gunpowder, apparatus for the manufacture of	Mar. 22, 1864.
44,759	Whaley, Barnett B.	Brooklyn, E. D., N. Y	Buttons	Oct. 18, 1864.
41,336	Wheat, Jesse S	South Wheeling, West Va	Hides, machines for handling	Jan. 19, 1864.
	Wheaton, M. A., *et al.* (*See* Pressey, Wheaton & Sheets.)			
	Wheatley, John M. (*See* Ray, James N., assignor.)			
	Wheeler & Wilson Sewing Machine Company. (*See* Eames & Marsh, assignors.)			
41,556	Wheeler, Cyrenus, jr	Poplar Ridge, N. Y	Harvesting machines	Feb. 9, 1864.
41,557	Wheeler, Cyrenus, jr	Poplar Ridge, N. Y	Harvesting machines	Feb. 9, 1864.
41,558	Wheeler, Cyrenus, jr	Poplar Ridge, N. Y	Harvesting machines	Feb. 9, 1864.
41,559	Wheeler, Cyrenus, jr	Poplar Ridge, N. Y	Harvesting machines	Feb. 9, 1864.
42,521	Wheeler, Cyrenus, jr	Poplar Ridge, N. Y	Harvesters, raking attachments to	Apr. 26, 1864.
	Wheeler, Cyrenus, jr. (*See* Colburn, Sylvester, assignor.) Reissue.			
	Wheeler, Cyrenus, jr. (*See* Colburn, Sylvester, assignor.) Reissue.			
	Wheeler, Cyrenus, jr. (*See* Cook, A. J., assignor.)			
	Wheeler, Cyrenus, jr. (*See* Cook, A. J., assignor.)			
	Wheeler, Henry J. P., and John E. Parker. (*See* Cummings, G. N., assignor.)			
44,570	Wheeler, Joel A	Cleveland, Ohio	Mill pick	Oct. 4, 1864.
	Wheeler, Nath'l. (*See* Blakeslee, Charles W., assignor.)			
41,457	Wheeler, N. W	Ripon, Wis	Dampers	Feb. 2, 1864.
	Wheeler, Norman W., and Isaac Newton. (*See* Newton & Wheeler.)			
1,951	Wheeler, Russell, and Stephen A. Bailey	Utica, N. Y	Furnace, agricultural (Design)	June 7, 1864.
2,005	Wheeler, Russell, and Stephen A. Bailey	Utica, N. Y	Stove, cooks' (Design)	Dec. 6, 1864.
41,731	Wheeler, Seth	Albany, N. Y	Hay-elevating forks	Feb. 23, 1864.
44,479	Wheeler, Seth, and Edgar Jerome	Albany, N. Y	Horse powers	Sept. 27, 1864.
44,922	Wheeler, S. H., assignor to self, Rich'd Heddon, R. Tuttle and P. D. Beckwith.	Dowagiac, Mich	Boiler feeders	Nov. 1, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
1,669	Wheeler, Zenas	San Francisco, Cal	Amalgam and mercury, from ore pulp, machine for collecting and separating. (Reissue.)	May 10, 1864.
44,130	Wheeler, Zenas	San Francisco, Cal	Metallic concentrator	Sept. 6, 1864.
45,289	Wheeler, Zenas	San Francisco, Cal	Amalgamator	Nov. 29, 1864.
43,248	Wheeler, Zenas, and C. K. Hotaling	San Francisco, Cal Grass Valley, Cal	Mill, stamping, for quartz	June 21, 1864.
42,245	Wheelock, Jerome	Worcester, Mass	Piston packing	Apr. 5, 1864.
41,800	Whelpley, James D	Boston, Mass	Engines, steam, cut-off valves for	Mar. 1, 1864.
44,989	Whelpley, James D	Boston, Mass	Ore crushers	Nov. 8, 1864.
41,250	Whelpley, James D., and Jacob J. Storer	Boston, Mass	Ores, burning, roasting and smelting	Jan. 12, 1864.
44,990	Whelpley, James D., and Jacob J. Storer	Boston, Mass	Mills, grinding	Nov. 8, 1864.
43,540	Whipple, A. M	North Adams, Mass	Whip socket	July 12, 1864.
42,891	Whipple, Carlyle	Detroit, Mich	Water elevators	May 24, 1864.
45,000	Whipple, Cullen, assignor to John W. Fielder	Providence, R. I	Printing press, hand	Nov. 8, 1864.
45,371	Whipple, Cullen	Providence, R. I	Cotton and other fibrous material machine for preparing. (Patented in England July 1, 1863.)	Dec. 6, 1864.
41,881	Whipple, Milton D	Cambridge, Mass	Horse-shoe nails, blank for	Mar. 8, 1864.
41,955	Whipple, Milton D	Cambridge, Mass	Horse-shoe nails, machine for making	Mar. 15, 1864.
42,981	Whipple, Milton D	Cambridge, Mass	File blanks, machines for rolling	May 31, 1864.
1,895	Whitcomb, N. C	Oakhill, N. Y	Block, pulley, metal (Design)	Feb. 2, 1864.
43,511	Whitcomb, N. C., and William Paddock	Oakhill, N. Y	Pulley block	July 12, 1864.
42,707	White, Albert E	Rockford, Ill	Boot-blacking machine	May 10, 1864.
	White, Daniel F., *et al.* (*See* Jaques, White & Stowell.)			
44,145	White, George W., assignor to self and Austin G. Day	New York, N. Y	Ores, apparatus for roasting and reducing. (Antedated August 23, 1864.)	Sept. 6, 1864.
42,709	White, James, and John Madden	Cleveland, Ohio Youngstown, Ohio	Horse-shoe nails, machines for making	May 10, 1864.
45,305	White, James, assignor to self, W. F. Hoskins and G. H. Russel.	Cleveland, Ohio	Water wheels	Nov. 29, 1864.
41,658	White, Jonathan	Antrim, N. H	Apple-parer	Feb. 16, 1864.
44,842	White, Joseph P., assignor to self and Thomas Gannon	New York, N. Y	Presses	Oct. 25, 1864.
44,571	White, N. S., assignor to self and Richard Vaughn	Port Chester, N. Y	Car coupling	Oct. 4, 1864.
42,246	White, O. A., and J. W. Bostwick	Norwalk, Ohio	Sawing machines	Apr. 5, 1864.
1,802	White, Rollin	Springfield, Mass	Fire-arm, revolving (Reissue)	Oct. 25, 1864.
45,290	White, Rollin	Lowell, Mass	Fire-arms, revolving	Nov. 29, 1864.
	White, William H., and John Abernethy. (*See* Abernethy & White.)			
42,988	Whitelaw, Alexander	Scotland	Treating brine and salted meats to remove the salt	May 31, 1864.
1,757	Whiteley, Abner, assignor to William N. Whiteley	Springfield, Ohio	Harvesters (Reissue)	Aug. 30, 1864.
1,758	Whiteley, Abner, assignor to William N. Whiteley	Springfield, Ohio	Harvesters (Division of reissue)	Aug. 30, 1864.
	Whiteley, Andrew. (*See* Weeks, John J., assignor.) Reissue.			
	Whiteley, Andrew. (*See* Weeks, John J., assignor.) Reissue.			
41,734	Whiteley, William N	Springfield, Ohio	Harvesters	Feb. 23, 1864.
	Whiteley, William N., *et al.* (*See* Fisher, Henry, assignor.)			
1,614	Whiteley, William N., jr	Springfield, Ohio	Harvesting machines (Reissue)	Feb. 2, 1864.

No.	Patentee.	Residence.	Invention or discovery.	Date.
1,615	Whiteley, William N., jr	Springfield, Ohio	Harvesting machines (Division of reissue)	Feb. 2, 1864.
43,059	Whitin, John C	Northbridge, Mass	Spinning machines, spindle bolsters for	June 7, 1864.
44,131	Whitlock, Cyrus H	Whiting, Vt	Tree protector	Sept. 6, 1864.
44,132	Whitman, Samuel	Wayland, N. Y	Gates	Sept. 6, 1864.
44,266	Whitmarsh, Henry M., assignor to self and Meritt Nash	Abington, Mass	Lasts	Sept. 13, 1864.
	Whitmer, Michael, and Aaron Crisman. (*See* Crisman & Whitmer.)			
1,607	Whitney, Edward	Albany, N. Y	Collars and hames, horse (Reissue)	Jan. 19, 1864.
44,991	Whitney, Eli	New Haven, Conn	Fire-arm, breech-loading	Nov. 8, 1864.
43,939	Whitney, James A	Maryland, N. Y	Hay-elevating forks	Aug. 24, 1864.
42,708	Whitney, Waldo	Manchester, N. H	Water wheels	May 10, 1864.
41,251	Whittemore, Amos	Cambridgeport, Mass	Horse-shoe nails, machines for making	Jan. 12, 1864.
42,314	Whittemore, Amos	Cambridgeport, Mass	Spikes, machine for pointing	Apr. 12, 1864.
43,811	Whittemore, D. H	Worcester, Mass	Straw cutters	Aug. 9, 1864.
43,446	Whittemore, D. J	Milwaukie, Wis	Switch stands and signal targets	July 5, 1864.
41,560	Whittemore, Enoch	North Paris, Maine	Saw horses, folding	Feb. 9, 1864.
42,892	Whittemore, John R	Chicopee Falls, Mass	Straw cutters	May 24, 1864.
42,315	Wiard, Norman	New York, N. Y	Ordnance, construction of	Apr. 12, 1864.
42,323	Wibirt, William	Buffalo, N. Y	Wood-splitting machines	Apr. 12, 1864.
41,561	Wichers, G. O	Lawrence, Mass	Oil-stones, box or cans for	Feb. 9, 1864.
1,630	Wickersham, John B	New York, N. Y	Hat stand and other clothes-hanging apparatus (Reissue)	Mar. 8, 1864.
45,548	Wickersham, M. F	Springfield, Ill	Sweeping machines, street. (Antedated Dec. 25, 1862.)	Dec. 20, 1864.
43,146	Wickersham, William	Boston, Mass	Sewing machine	June 14, 1864.
44,760	Wicks, Frank	Kansas, Ill	Hay forks, horse	Oct. 18, 1864.
44,761	Wicks, Frank	Kansas, Ill	Elevators, hay, or stack builders	Oct. 18, 1864.
45,291	Wicks, Frank	Kansas, Ill	Horse power	Nov. 29, 1864.
	Widdowfield, Thomas, and John Thomson. (*See* Thomson & Widdowfield.)			
43,447	Widney, James	Allegheny, Pa	Car couplings	July 5, 1864.
42,035	Wiegand, S. Lloyd	Philadelphia, Pa	Envelope	Mar. 22, 1864.
43,731	Wiegand, S. Lloyd	Philadelphia, Pa	Paper, adhesive or gum. (Antedated July 25, 1864)	Aug. 2, 1864.
44,572	Wiegand, S. Lloyd	Philadelphia, Pa	Gas engines. (Antedated September 16, 1864.)	Oct. 4, 1864.
45,199	Wiegand, S. Lloyd	Philadelphia, Pa	Engines, steam. (Antedated November 9, 1864.)	Nov. 22, 1864.
41,181	Wiegand, S. Lloyd, and W. Barnet Le Van	Philadelphia, Pa	Grates, furnace. (Antedated December 21, 1863.)	Jan. 5, 1864.
41,182	Wiegand, S. Lloyd, and W. Barnet Le Van	Philadelphia, Pa	Engine, steam, indicators. (Antedated Dec. 21, 1863.)	Jan. 5, 1864.
43,060	Wiggin, George W	Exeter, N. H	Ditching machine	June 7, 1864.
43,359	Wiggins, Stephen	Bridgeport, Conn	Graining marble, &c., tool for	June 28, 1864.
	Wilber, John B., and Augustus J. Eddy. (*See* Eddy & Wilber.)			
42,893	Wilbur, Edward	Albion, N. Y	Stoves	May 24, 1864.
43,147	Wilcox, Henry S	West Meriden, Conn	Lock fasteners	June 14, 1864.
42,247	Wilcox, John W	New York, N. Y	Paper case or envelope	Apr. 5, 1864.
45,447	Wilcox, William E., assignor to self and B. F. Myers	St. Louis, Mo	Fan power	Dec. 13, 1864.
	Wilcox, W. W., *et al.* (*See* Norcross, Joseph W., assignor.)			
	Wilcox, W. W., and Joseph Hall, jr. (*See* Carroll, Thomas, assignor.)			
45,519	Wilde, Daniel	Washington, Iowa	Cultivators, corn	Dec. 20, 1864.
	Wilde, R. T. (*See* Lyon, S. H., assignor.)			
	Wilder, Frank A., and Hawkins Clark. (*See* Clark & Wilder.)			
	Wilder, Jacob A., *et al.* (*See* Smith, Wm. G., assignor.)			
43,818	Wilder, Moses G., assignor to self and H. B. Bigelow	Meriden, Conn	Presses, power	Aug. 9, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
43,877	Wilder, Warren	Wilkinsonville, Mass	Looms, shuttle for	Aug. 16, 1864.
43,940	Wilder, Warren	Wilkinsonville, Mass	Looms, shuttle for	Aug. 23, 1864.
41,562	Wilhelm, Joseph	Muscatine, Iowa	Cultivators	Feb. 9, 1864.
	Wilkie, W., and E. McKinley. (*See* McKinley & Wilkie.)			
42,435	Wilkins, Henry	Brownsville, Pa	Boilers, steam, alarm gauge-cock for. (Antedated April 8, 1864.)	Apr. 19, 1864.
45,200	Wilkins, Thomas	Greenville, Ill	Carriages, ambulance	Nov. 22, 1864.
1,952	Wilkinson, George, assignor to Gorham & Co	Providence, R. I	Spoon or fork handle (Design)	June 7, 1864.
44,245	Wilkinson, Henry	Newburg, N. Y	Fastener, door and window	Sept. 13, 1864.
44,573	Willard, Charles W., and John P	Chicago, Ill	Hammers, steam	Oct. 4, 1864.
	Willard, Gardner, and Wm. A. Shaw. (*See* Shaw & Gardner.)			
1,775	Willard, H., and R. Ross, assignors, through mesne assignments, to James A. Saxton.	Canton, Ohio	Harvesters (Reissue)	Sept. 27, 1864.
1,776	Willard, H., and R. Ross, assignors, through mesne assignments, to James A. Saxton.	Canton, Ohio	Harvesters (Division 2 of reissue)	Sept. 27, 1864.
1,777	Willard, H., and R. Ross, assignors, through mesne assignments, to James A. Saxton.	Canton, Ohio	Harvesters (Division 3 of reissue)	Sept. 27, 1864.
1,778	Willard, H., and R. Ross, assignors, through mesne assignments, to James A. Saxton.	Canton, Ohio	Harvesters (Division 4 of reissue)	Sept. 27, 1864.
1,779	Willard, H., and R. Ross, assignors, through mesne assignments, to James A. Saxton.	Canton, Ohio	Harvesters (Division 5 of reissue)	Sept. 27, 1864.
1,780	Willard, H., and R. Ross, assignors, through mesne assignments, to James A. Saxton.	Canton, Ohio	Harvesters (Division 6 of reissue)	Sept. 27, 1864.
1,781	Willard, H., and R. Ross, assignors, through mesne assignments, to James A. Saxton.	Canton, Ohio	Harvesters (Division 7 of reissue)	Sept. 27, 1864.
42,036	Willcox, Charles H., assignor to James Willcox	New York, N. Y	Sewing machine. (Patented in England May 13, 1862)	Mar. 22, 1864.
43,657	Willcox, Charles H., assignor to James Willcox	New York, N. Y	Sewing machine, hemmer for	July 26, 1864.
43,819	Willcox, Charles H., assignor to James Willcox	New York, N. Y	Sewing machine. (Patented in England May 13, 1862)	Aug. 9, 1864.
44,490	Willcox, Charles H., assignor to James Willcox	New York, N. Y	Sewing machine	Sept. 27, 1864.
44,491	Willcox, Charles H., assignor to James Willcox	New York, N. Y	Sewing machine	Sept. 27, 1864.
	Willcox, Fenn, *et al.* (*See* Watts, Willcox & Tompkins.)			
	Willcox, James. (*See* Cochran, Samuel B., assignor.)			
43,822	Willeme, François	France	Photo-sculpture	Aug. 9, 1864.
43,249	Williams, Almon	Berea, Ohio	Cultivators	June 21, 1864.
41,563	Williams, Christopher	Adrian, Mich	Car-axles and shafting, bearing for	Feb. 9, 1864.
43,615	Williams, Elijah D	New York, N. Y	Bullets, expanding	July 19, 1864.
44,492	Williams, E. D., deceased, by Mary G. Williams and John Owen, administrators.	New York, N. Y	Bullet for fire-arms	Sept. 27, 1864.
	Williams, Jarvis, assignor to E. T. Trofitter	Boston, Mass	Shot and shell, grinding and smoothing. (Disclaimer filed February 8, 1864.)	
44,360	Williams, Jeremiah B	Madison, Wis	Snow-plough	Sept. 20, 1864.
43,168	Williams, John	Montreal, Canada	Composition for lining puddling furnaces	June 14, 1864.
45,550	Williams, John S	Chicago, Ill	Harvesters	Dec. 20, 1864.
42,522	Williams, Joseph P	Summerville, Mass	Stove cover lifters	Apr. 26, 1864.
42,613	Williams, J. T	Newark, N. J	Cords, machine for twisting and plaiting	May 3, 1864.
42,184	Williams, Newton S	East Hampton, Conn	Screw-heads, moulds for casting	May 24, 1864.
42,523	Williams, Oren	Gouverneur, N. Y	Blinds, device for operating	Apr. 26, 1864.
	Williams, S. G., and A. Palmer. (*See* Palmer & Williams.) Reissue.			
42,919	Williams, Samuel S., assignor to H. J. Bailey	Pittsburg, Pa	Water elevators	May 24, 1864.
	Williams, Samuel S., assignor to H. J. Bailey. (*See* Bailey & Williams.)			
43,360	Williams, Stephen	Philadelphia, Pa	Planes, bench	June 28, 1864.
43,551	Williams, Turner, assignor to self and David Heaton, 2d	Providence, R. I	Sewing machines, &c., driving mechanism for	July 12, 1864.
44,905	Williams, William	St. Louis, Mo	Ordnance, breech-loading. (Antedated August 7, 1862)	Nov. 1, 1864.
	Williams, Wm. J. (*See* Lewis, Sylvester, assignor.)			
41,882	Williams, William S	Canton, Ohio	Shells, canister	Mar. 8, 1864.
42,614	Williams, William S	Canton, Ohio	Projectiles for rifled ordnance	May 3, 1864.
41,183	Williamson, David, assignor to the Moore's Patent Fire-arms Company.	Brooklyn, N. Y	Cartridge for revolving fire-arms	Jan. 5, 1864.
41,184	Williamson, David, assignor to the Moore's Patent Fire-arms Company.	Brooklyn, N. Y	Fire-arms, revolving	Jan. 5, 1864.
42,823	Williamson, David, assignor to the Moore's Patent Fire-arms Company.	Brooklyn, N. Y	Fire-arms, revolving	May 17, 1864.
	Williamson, D., and A. J. Bergen. (*See* Bergen & Williamson.)			
43,552	Williamson, Geo. W., assignor to self and Geo. W. N. Yost	Goldsboro', Mass	Barrels, oil, composition for lining	July 12, 1864.
44,574	Willis, Charles E	New York, N. Y	Cars, railroad, mode of operating	Oct. 4, 1864.
41,112	Willoughby, James D	Washington, D. C	Projectiles, explosive, submarine	Jan. 5, 1864.
45,292	Wills, William H	Boston, Mass	Cartridges, metallic	Nov. 29, 1864.
44,208	Willson, James L	Chicago, Ill	Stoves, heating	Sept. 13, 1864.
	Wilmot & Kissam Manufacturing Co. (*See* Leffingwell, John G., assignor.)			
	Wilson, Allen B	Waterbury, Conn	Sewing machines (Extension)	Nov. 4, 1864.
	Wilson, Allen B	Waterbury, Conn	Sewing machines (Extension)	Nov. 4, 1864.
43,732	Wilson, C. V	Newark, N. J	Iron, composition for carbonizing	Aug. 2, 1864.
45,111	Wilson, Edward B	England	Fireplaces and furnaces	Nov. 15, 1864.
44,246	Wilson, George W	Chelsea, Mass	Furnace heater	Sept. 13, 1864.
41,417	Wilson, Joseph B., assignor to David W. Moore	Fisherville, N. J	Can, fruit	Jan. 26, 1864.
41,823	Wilson, Joseph B., assignor to self and John M. Moore	Fisherville, N. J	Cement for sealing preserve cans	Mar. 1, 1864.
	Wilson, Lindsay, and R. L. Jeffreys. (*See* Jeffreys, Julius, assignor.)			
41,801	Wilson, Richard Remer	England	Fabrics, textile, machine for hot-pressing	Mar. 1, 1864.
44,906	Wilson, Riley P	New York, N. Y	Ores, roasting and desulphurizing. (Antedated October 15, 1864.)	Nov. 1, 1864.
45,105	Wilson, Robert	Macomb, Ill	Fire-arms, self-loading	Nov. 15, 1864.
	Wilson, W. D., and Daniel Peters. (*See* Peters & Wilson.)			
41,735	Winans, DeWitt C	New York, N. Y	Foot shield	Feb. 23, 1864.
44,992	Winans, H. N	New York, N. Y	Boilers, steam, draught regulators for	Nov. 8, 1864.
45,448	Winchell, J. B	Chicago, Ill	Washing machine	Dec. 13, 1864.
43,061	Winchester, Jonas	New York, N. Y	Furnaces for smelting ores	June 7, 1864.
41,564	Winents, Garret E	New York, N. Y	Vessels, mode of discharging	Feb. 9, 1864.
42,218	Wing, Charles P	Fayetteville, Wis	Harvesters	Apr. 5, 1864.
43,361	Wing, Charles P	Fayetteville, Wis	Harvesters	June 28, 1864.
	Wing, D. E., and T. T. Calkins. (*See* Calkins & Wing.)			
42,324	Wing, Horace	Buffalo, N. Y	Boot-crimping machines	Apr. 12, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
42,811	**Winger, Martin**	Ephrata, Pa	Mills, bark	May 17, 1864.
44,083	**Winship, Charles**	New Haven, Conn	Preserving provisions, apparatus for	Oct. 11, 1864.
41,113	**Winslow, L. C**	Canton, N. Y	Press, cheese	Jan. 5, 1864.
42,982	**Winsor, Joseph S**	Providence, R. I	Looms for weaving hair-cloth	May 31, 1864.
42,058	**Winter, Herman, assignor to James Gregory**	Boston, Mass	Vessels, fastening for deck and side lights of	Mar. 22, 1864.
43,616	**Winter, William**	Plainfield, N. J	Clocks, watchman's	July 19, 1864.
43,941	**Wisner, Joel**	East Aurora, N. Y	Sawing wood by wind power	Aug. 23, 1864.
42,615	**Wissler, George, and Charles H. Peters**	Cincinnati, Ohio	Sewing machine, binder attachment for	May 3, 1864.
	Withington, H. R., and J. Butterworth, jr. (*See* Quick, J. H., assignor.)			
41,409	**Withycombe, James, and Charles Reiblein**	Cleveland, Ohio	Cars, railroad	Jan. 26, 1864.
44,133	**Witmer, Abraham**	Henry, Ill	Brick press	Sept. 6, 1864.
43,374	**Witmer, Samuel H., assignor to Mahlon M. Wombaugh**	Cincinnati, Ohio	Mill, coffee, portable	June 28, 1864.
44,180	**Witsil, George L**	Philadelphia, Pa	Churn	Sept. 27, 1864.
42,059	**Witsil, George L., assignor to self, Charles M. Rhodes and C. W. Oldenberg.**	Philadelphia, Pa	Stoves, petroleum	Mar. 22, 1864.
43,887	**Witsil, George L., assignor to self and Clement Cresson**	Philadelphia, Pa	Washboard	Aug. 16, 1864.
43,148	**Wittich, Henry**	Baltimore, Md	Vinegar, manufacture of	June 14, 1864.
45,293	**Wixcel, Peter**	Lafayette, Ill	Rivets, tools for cutting	Nov. 29, 1864.
44,032	**Wolcott, Charles H**	Randolph, N. Y	Hoe and seed-planter	Aug. 30, 1864.
	Wolcott, L. B. (*See* Curtis, Corwin S., assignor.)			
44,361	**Wolf, Frederick**	Philadelphia, Pa	Cars, railroad, safety-brakes for	Sept. 20, 1864.
44,271	**Wolf, Friedrich, assignor to F. E. Obermuller**	Saxony	Looms	Sept. 13, 1864.
43,448	**Wolfinger, F. R**	Vermont, Ill	Cradle	July 5, 1864.
	Wombaugh, Mahlon M. (*See* Jackson, John H., assignor.)			
	Wombaugh, Mahlon M. (*See* Witmer, Samuel H., assignor.)			
41,666	**Wonder, Jeremiah, assignor to self and Loring A. Robertson.**	Truckville, Pa	Tanning	Feb. 16, 1864.
44,907	**Wood, Abner Brownell, jr**	Ovid, Mich	Bags, sacks, &c., fastening. (Antedated June 26, 1864)	Nov. 1, 1864.
44,362	**Wood, Barnabas**	Albany, N. Y	Teeth, fusible metal for filling. (Antedated March 20, 1864)	Sept. 20, 1864.
	Wood, Charles. (*See* Richers, Charles F., assignor.)			
42,983	**Wood, Daniel**	Rochester, N. Y	Gun sights, telescopic	May 31, 1864.
42,135	**Wood, David H**	Sandusky, N. Y	Vermin and insects, device for destroying	Mar. 29, 1864.
42,037	**Wood, D. S**	Albany, N. Y	Cars, railroad, axle boxes for	Mar. 22, 1864.
41,956	**Wood, Frederick**	Bridgeport, Conn	Hinges, concealed	Mar. 15, 1864.
42,710	**Wood, George E**	Providence, R. I	Car coupling	May 10, 1864.
41,718	**Wood, Henry, George Henry Fourdinier, and Richard Haselden, deceased, by Margaret L. Haselden, adm'x.**	Canada	Dryers, grain	Feb. 23, 1864.
42,711	**Wood, James F., 2d**	Cohocton, N. Y	Wagon brakes	May 10, 1864.
41,252	**Wood, James T., and Edward C. Smith**	Pittsburg, Pa	Nut and washer machine	Jan. 12, 1864.
42,038	**Wood, John**	Brooklyn, N. Y	Pile drivers	Mar. 22, 1864.
43,062	**Wood, John**	Brooklyn, N. Y	Armament, submarine	June 7, 1864.
43,149	**Wood, John**	New York, N. Y	Calisthenic pulleys and spring cords	June 14, 1864.
43,942	**Wood, John B**	Swansea, Mass	Scrapers, road	Aug. 23, 1864.
44,033	**Wood, John W**	Philadelphia, Pa	Car-spring fastener	Aug. 30, 1864.
41,114	**Wood, Joseph**	Red Bank, N. J	Car brakes, shoe for	Jan. 5, 1864.

No.	Patentee.	Residence.	Invention or discovery.	Date.
45,106	**Wood, Joseph**	Red Bank, N. J	Car brakes, shoe for	Nov. 15, 1864.
44,057	**Wood, Joshua B**	Norwich, N. Y	Rifles, telescopic sights for	Aug. 30, 1864.
45,367	**Wood, J. Theodore, and Edward Cone Smith**	Allegheny county, Pa	Bolts, carriage, machine for making	Dec. 6, 1864.
42,150	**Wood, Robert, assignor to Henry I. Seymour**	West Troy, N. Y	Chair seats	Mar. 29, 1864.
41,565	**Wood, S. W**	Cornwall, N. Y	Gold and silver amalgams, separating and collecting	Feb. 9, 1864.
41,803	**Wood, S. W**	Cornwall, N. Y	Fire-arms, revolving	Mar. 1, 1864.
44,363	**Wood, S. W**	Cornwall, N. Y	Fire-arms, revolving	Sept. 20, 1864.
44,247	**Wood, Sylvester A., and August F. Dumke**	Manitowoc, Wis	Engines, rotary	Sept. 13, 1864.
42,524	**Wood, Thomas E**	Boston, Mass	Cameras, photographic	Apr. 26, 1864.
43,651	**Woodard, George B., and** **A. B. Woodard**	Bolivar, N. Y Alfred Centre, N. Y	Carriage wheels	July 26, 1864.
43,250	**Woodbury, James A**	Boston, Mass	Engines, steam, slide valves for	June 21, 1864.
	Woodbury, J. A., and L. M. Berry. (*See* Berry & Graves, assr's.)			
41,802	**Woodbury, Joseph P**	Boston, Mass	Vessels, war, construction of	Mar. 1, 1864.
41,883	**Woodbury, Joseph P., and N. Ames**	Boston, Mass	Railroad switch, automatic	Mar. 8, 1864.
	Woodbury, Seth D., *et al.* (*See* Bean, B. T., assignor.)			
43,150	**Woodbury, Wm**	Gloucester, Mass	Sails, fore and aft, tackle for	June 14, 1864.
44,831	**Woodcock, Shepherd S., and** **George F. Meacham**	Summerville, Mass Watertown, Mass	Roofs of churches	Oct. 25, 1864.
41,458	**Woodman, C. T**	Boston, Mass	Leather dressers' table	Feb. 2, 1864.
41,659	**Woodman, C. T**	Boston, Mass	Faucets	Feb. 16, 1864.
42,136	**Woodman, C. T**	Boston, Mass	Leather, machine for ornamenting	Mar. 29, 1864.
	Woodman, I. H. (*See* Porter, D'Arcy, assignor.)			
45,663	**Woodruff, A. H**	Lansing, Iowa	Engines, steam, valve gear of	Dec. 27, 1864.
43,542	**Woodruff, Edmund W**	Washington, D. C	Fence, farm	July 12, 1864.
43,652	**Woodruff, Edmund W**	Washington, D. C	Oil can and powder canister	July 26, 1864.
41,736	**Woodruff, Jerome B**	Washington, D. C	Battering or piercing ram for naval offence and defence	Feb. 23, 1864.
42,895	**Woods, Oliver Evans**	Philadelphia, Pa	Knapsacks	May 24, 1864.
44,993	**Woods, Oliver Evans**	Philadelphia, Pa	Knapsacks	Nov. 8, 1864.
42,249	**Woodward, G. W**	New York, N. Y	Lanterns	Apr. 5, 1864.
44,051	**Woodward, R'd., J. Priest and Otto Ernst, ass'rs to O. Ernst.**	New York, N. Y	Collars, shirt, steel	Aug. 30, 1864.
43,653	**Woodworth, Rapha**	Underhill, Vt	Spark arresters	July 26, 1864.
44,248	**Woodworth, S. F**	Iowa Falls, Iowa	Saccharine juices, evaporator for	Sept. 13, 1864.
45,664	**Wooldridge, S. H**	Venice, Ill	Ploughs, shovel	Dec. 27, 1864.
44,762	**Woolsey, J. B**	Davis county, Iowa	Planter, corn	Oct. 18, 1864.
	Woolson, Amasa	Springfield, Vt	Cloth, machines for shearing (Extension)	May 21, 1864.
43,878	**Woolson, Amasa**	Springfield, Vt	Cloth shearing machine	Aug. 16, 1864.
41,804	**Woolworth, Calvin C**	New York, N. Y	Envelopes	Mar. 1, 1864.
44,923	**Wooster, Geo. H., assignor to E. C. Wooster**	New York, N. Y	Ruffles, band. (Antedated May 1, 1864)	Nov. 1, 1864.
44,034	**Worcester, W. H., and E. F. Jones**	Farmington, N. H	Springs, door	Aug. 30, 1864.
41,459	**Worden, Alva**	Ypsilanti, Mich	Leather fly-nets, machine for cutting	Feb. 2, 1864.
44,134	**Worsley, John**	Providence, R. I	Cars, railroad, brakeman's life preserver for	Sept. 6, 1864.
42,896	**Wortendyke, John B**	Goodwinville, N. J	Twine, paper, &c., machine for making	May 24, 1864.
44,249	**Wortendyke, John B**	Goodwinville, N. J	Twine, paper, &c., machine for cutting paper for	Sept. 13, 1864.
1,817	**Wortendyke, John B**	Goodwinville, N. J	Twine, paper, &c., machine for making (Reissue)	Nov. 8, 1864.
1,818	**Wortendyke, John B**	Goodwinville, N. J	Twine, paper, &c., machine for making (Div. of reissue)	Nov. 8, 1864.
1,825	**Wortendyke, John B**	Goodwinville, N. J	Twine, paper, &c., machine for cutting paper for (Reissue)	Nov. 22, 1864.
43,063	**Worth, G. C**	Upper Sandusky, Ohio	Latches	June 7, 1864.
	Worthington, W. S., and Henry W. Adams. (*See* Adams & Worthington.)			
	Wright, A. E., and G. W. Taylor. (*See* Taylor & Wright.)			
45,665	**Wright, A. G**	Santa Cruz, Cal	Balloons. (Antedated December 24, 1864)	Dec. 27, 1864.

List of patentees of inventions, designs, and reissues, 1864—Continued.

No.	Patentee.	Residence.	Invention or discovery.	Date.
42,984	Wright, Baxter	Cardiff, N. Y	Churn dasher	May 31, 1864.
42,325	Wright, Charles	Newark, N. J	Cutting, punching and bending machine	Apr. 12, 1864.
42,812	Wright, Edward, and Benaiah Fitts	Worcester, Mass	Looms	May 17, 1864.
45,126	Wright, Edward S., assignor to self and George Brown	New York, N. Y	Fire-arms, revolving. (Antedated November 13, 1864)	Nov. 15, 1864.
42,897	Wright, Elias M	Wyandot, Kansas	Car coupling	May 24, 1864.
44,908	Wright, E. M	Wyandot, Kansas	Carriage springs	Nov. 1, 1864.
45,381	Wright, George	Washington, D. C	Shells, explosive, time fuse for	Dec. 6, 1864.
42,712	Wright, Homer	Pittsburg, Pa	Jug tops	May 10, 1864.
41,737	Wright, J	St. Louis, Mo	Bolting flour, &c	Feb. 23, 1864.
44,135	Wright, Levi	Wapella, Ill	Sorghum evaporator	Sept. 6, 1864.
41,172	Wright, M. B	West Meriden, Conn	Lamp burners	Jan. 5, 1864.
41,586	Wright, Robert D., assignor to self and L. B. Holland	St. Louis, Mo	Engines, steam	Feb. 9, 1864.
	Wright, R. W., and Milo and C. Peck. (*See* Peck & Wright.)			
	Wright, Walter. (*See* Atkins, Jearum, assignor.) Reissue.			
	Wright, Walter. (*See* Atkins, Jearum, assignor.) Reissue.			
44,136	Wright, Warren	Springfield, Ohio	Mills, hominy	Sept. 6, 1864.
42,616	Wright, William	New York, N. Y	Cylinders, curved, machine for boring	May 3, 1864.
43,362	Wright, William	New York, N. Y	Engines, steam	June 28, 1864.
45,201	Wyckoff, Arcalous	Elmira, N. Y	Pipe for gas, water, &c	Nov. 22, 1864.
43,251	Wyckoff, Elias	Elmira, N. Y	Soda water apparatus	June 21, 1864.
43,879	Wygant, John H., and Charles W. Vanderbeck	Hackensack, N. J	Lamp burners	Aug. 16, 1864.
1,726	Wyllys, Newell, assignor to E. D. and George Draper	Milford, Mass	Spinning machines, drawing regulator for....(Reissue)	July 12, 1864.
45,551	Wynkoop, Francis G	Corning, N. Y	Pumps. (Antedated April 29, 1863)	Dec. 20, 1864.
42,250	Wynkoop, L. D	Owasso, Mich	Lathes, turning	Apr. 5, 1864.
	Wynne, John E. (*See* Doubler, J. W. H., assignor.)			
41,805	Yates, Joseph	Mott Haven, N. Y	Iron, manufacture of	Mar. 1, 1864.
41,806	Yates, Joseph	Mott Haven, N. Y	Iron, apparatus for the manufacture of	Mar. 1, 1864.
41,807	Yates, Joseph	Mott Haven, N. Y	Iron, furnaces and ovens for the manufacture of	Mar. 1, 1864.
41,808	Yates, Joseph	Mott Haven, N. Y	Iron, apparatus for the manufacture of	Mar. 1, 1864.
45,552	Yates, Theodore	Milwaukie, Wis	Railways, construction of	Dec. 20, 1864.
45,666	Yates, Theodore	Milwaukie, Wis	Cartridge for ordnance	Dec. 27, 1864.
42,426	Yocum, James, jr	Philadelphia, Pa	Moulding pulleys, apparatus for	Apr. 19, 1864.
	Yost, Geo. W. N. (*See* Williamson, Geo. W., assignor.)			
41,738	Young, Ebenezer	Camden Centre, Mich	Jack, lifting	Feb. 23, 1864.
1,711	Young, James	New York, N. Y	Bathing apparatus, electro-magnetic..........(Reissue)	June 28, 1864.
	Young, James	England	Oil, paraffine, making..........(Extension)	Oct. 7, 1864.
43,617	Young, Josiah	Bangor, Maine	Saws, circular, hanging	July 19, 1864.
43,543	Young, Wm. I	Le Roy, N. Y	Fence, field	July 12, 1864.
41,253	Youngman, J. E	Rockford, Ill	Sugar, apparatus for evaporating and refining	Jan. 12, 1864.
43,064	Zellen, O., and C. Taftezon	New York, N. Y	Engines, rotary	June 7, 1864.
41,957	Zengeler, John	Chicago, Ill	Mosquito net	Mar. 15, 1864.
42,427	Zeno, Sigismund	New York, N. Y	Nursing bottles	Apr. 19, 1864.
1,994	Zeuner, Charles, assignor to M. Greenwood & Co	Cincinnati, Ohio	Shovel and tongs stand..........(Design)	Oct. 18, 1864.
42,617	Zimmerman, Martin W. and John	Earl Township, Pa	Pumps	May 3, 1864.
44,909	Zuckerman, Jacob	San Francisco, Cal	Sewing machine, power, friction brake for	Nov. 1, 1864.
44,267	Zunkeler, Ferdinand, assignor to self and F. Schultze	Cincinnati, Ohio	Bungs, machines for cutting	Sept. 13, 1864.
41,254	Zwicki, Caspar	Pittsburg, Pa	Looms	Jan. 12, 1864.

DESCRIPTIONS AND CLAIMS OF PATENTS

ISSUED IN THE YEAR 1864.

ILLUSTRATED WITH ENGRAVINGS.

No. 41,047.—J. B. **Atwater**, Chicago, Ill.—*Automatic Railroad Pumps.*—January 5, 1864.—This invention relates to an apparatus for raising water to supply a tank at the side of a railroad, by means of the weight of the locomotive passing over the road. A section of the track is hinged so as to be depressed by the weight of the locomotive, and, acting through the medium of levers, serves to elevate the piston of an inverted suction pump, the said piston being drawn down by means of weights as the locomotive passes off the yielding track, thus causing the cylinder of the pump to be filled with water by atmospheric pressure, and afterwards to discharge the same into the tank.

Claim.—First, the yielding track A, employed in combination with a pump G H, substantially as described, for raising water by the weight of a locomotive or car.

Second, the combination of the levers E E′ F F′, weights P P, and cord K, with the yielding track A and pump G H, for the purpose specified.

No. 41,048.—James R. **Baker**, Kendallville, Ind.—*Lamp Burners.*—January 5, 1864.—This invention relates to that class of burners in which the cone and draught-chimney are adjusted, to admit of the wick being trimmed and lighted without detaching the chimney from the burner, and also to admit of the lamp being filled or replenished without detaching the burner.

Claim.—Having the upper part of the slide C made in the form of an annular plate D, with arms *b*, and carrying a spring F, the whole constructed and operating in the manner herein shown and described.

No. 41,049.—R. H. **Baker**, Jamestown, N. Y.—*Case for conveying Fruit Boxes.*—January 5, 1864.—This invention consists in the employment of a number of frames arranged in connexion with series of boxes, so constructed that they may be readily taken apart and adjusted together, and to be used in transporting fruit, such as berries of various kinds, the boxes, when empty, being capable of adjustment together in a compact form for return transportation.

Claim.—A fruit case constructed of a series of boxes, so arranged as to admit of being taken apart and adjusted together, and a series of frames to receive the boxes, all arranged substantially as set forth.

No. 41,050.—Isaac **Banister**, Newark, N. J.—*Thread-waxing Device for Sewing Machine.*—January 5, 1864.—This device is designed for covering thread with wax in a liquid state, with especial reference to the removal of the superfluous wax from the thread after it has passed through the wax-trough, which is effected by means of a tube or eye of India-rubber or other elastic or flexible material, which can be more or less expanded to suit thread of different sizes, and according to the quantity of wax to be retained in or upon the thread. The stock which holds the tube is composed of two plates, so constructed as to provide for the uniform expansion and contraction of the said tube.

Claim.—The combination of the two plates D E, the arched piece *i i*, and the set-screw J, the whole constructed and operating substantially as and for the purpose herein described.

No. 41,051.—Lewis F. **Betts**, Albion, Mich.—*Heaters.*—January 5, 1864.—Around the furnace is arranged a series of open flues through which the products of combustion pass, and suspended centrally within each flue is a conically-shaped air tube, the smaller end of which projects a short distance from the front of the plate and is provided with a cover, which closes the flue. The larger end of the air tube is made a little smaller than the flue, and communicates with the hot-air chamber, while the smaller end communicates with the external air.

Claim.—The use of an open flue F, in combination with the open detachable conical air tube J, connected, arranged, and operated substantially in the manner and for the purposes herein specified.

No. 41,052.—T. F. **Bingham**, Gowanda, N. Y.—*Beehives.*—January 5, 1864.—In the front part of the hive is fitted a frame B, the inner surface of which is covered with wire-gauze, and upon the top of the hive are placed two or more bars or oblong frames, covered on their lower surfaces with wire-gauze. In the upper part of these frames are inserted, when necessary, strips which close the frames and prevent the circulation of air. Upon the top of the hive are placed spare honey boxes, between which are placed the aforesaid frames. The comb-frames are each composed of a top bar of lozenge form in its transverse section, which bars rest upon shoulders at the upper parts of the front and back of the hive. The said bars have each attached to them centrally a pendant composed of two parallel strips, connected at their lower ends by cross-bars, and are provided with small blocks fitted between them at their centres, by which a passage for the bees is secured.

Claim.—First, the comb-frames G, constructed with top bars *h*, having bevelled or inclined upper surfaces, and with or without bevelled under surfaces, and having pendants attached centrally to them formed of two vertical parallel bars *k k*, substantially as and for the purposes herein set forth.

Second, the blocks *m*, fitted between the bars *k k* of the pendants of the comb-frames, as and for the purpose specified.

Third, the transferring bars *n*, in combination with the comb-frames G, for the purpose set forth.

Fourth, the removable ventilating frames B C C, provided with wire-gauze and strips or stoppers, substantially as and for the purpose specified.

Fifth, the combination of the sectional floor H, comb-frames G, spare honey-boxes D, and removable ventilating frames B C C, all arranged substantially as and for the purpose set forth.

No. 41,053.—A. M. Blinval, New York, N. Y.—*Preserving Eggs.*—January 5, 1864.—This invention consists in preserving eggs by encasing them severally in an impervious envelope, or envelopes, of suitable strength or texture, to prevent the escape of any portion of the egg in case the shell should break. Several eggs may be encased in one envelope or covering in such a manner, that while each egg is provided with an impervious covering, independently of that of the others, the series of coverings may be connected together.

Claim.—First, preserving eggs by enclosing them separately in an impervious covering or envelope, substantially as set forth.

Second, arranging several eggs, each being independently enveloped, as set forth, in a continuous covering, substantially as described.

No. 41,054.—Edward H. Boswell, Philadelphia, Pa.—*Skids for Drays.*—January 5, 1864.—This invention consists in a mode of connecting the skids to the dray, whereby the former are made to perform three separate and distinct offices, to wit, that of skids proper to aid in loading and unloading the dray, of extension bars to give additional length to the bed of the dray, and of rungs to hold the load on the dray, the skids being used in the latter capacity when an extension of the dray-bed is not required.

Claim.—Securing of the rungs or skids E E to the dray-bed A by means of the fastening formed of the slots *a* in the bars D D, the plates *b*, provided with the slots *c*, and partially covering the slots *a* and the T-shaped projections *d*, attached to the rungs or skids, substantially as and for the purposes herein set forth.

No. 41,055.—A. E. Boynton, Hartford, Wis., and George R. Boynton, Chicago, Ill.—*Stump Machine.*—January 5, 1864.—Upon the principal beam of the frame rests a bed of sufficient length to form a seat for two fulcrums, one of which is fixed to its seat in the bed, and is to be used when great power is required, while the other is used for gaining speed when the full power of the machine is not required, and is hung in such a manner as to render it easily removable when not in use. The lever is operated by means of a rope, or cable, secured at its ends to the upper and lower side of the end of the lever, the rope passing over pulleys and a shaft provided with a wheel, to which the power is applied.

Claim.—First, the use of two or more fulcrums, or their equivalents, when used for the purpose, and substantially the same as herein specified.

Second, the method of operating the lever L, by a rope or cable, in any manner substantially the same, when used for the purpose herein specified.

Third, the manner of loading said machine for transportation, on two or more wheels, by attaching the chains *x* to any part of said machine, so that it may be lifted in any manner equivalent to our specification.

No. 41,056.—M. C. Brelsford, Girard, Ill.—*Plough-beam Handles.*—January 5, 1864.—The plough stock, beam, and handles are made of a single piece of wood, which is steamed and bent in the form required.

Claim.—A plough stock, having the beam A and the handles B made out of one piece of wood, in the manner and for the purpose substantially as set forth.

No. 41,057.—Richard W. Clough, Williamsburg, N. Y.—*Sash Fastenings.*—January 5, 1864.—Within a box C, which is secured to the casing of a window, is fitted a pinion, which engages with a rack secured to the lower sash. Within the said box is also pivoted a pawl D, formed of a curved bar at the end of a radius bar, by elevating or lowering which the pawl will engage with or be freed from the pinion, and allow the sash to be raised and retained at any desired height.

Claim.—The construction and arrangement of the pawl D in the manner herein shown and described, when operating with the pinion B and rack A, as set forth, so that said pawl D will be confined within the box C, and will fall and lock the pinion by gravity.

No. 41,058.—Stephen B. Conover, New York, N. Y.—*Potato Diggers.*—January 5, 1864.—This invention consists in the employment of a rotary spiral elevator or conveyor, in connexion with a vibrating screen and a scoop or plough, all arranged within a mounted frame, so that the potatoes, as the machine is drawn along, will be ploughed up from the hills, separated from the earth, weeds, and trash, and deposited in suitable receptacles prepared for them. To the back part of the frame is attached a box, divided into compartments, each of which is provided with a hinged bottom, connected at one end by cords or chains to opposite ends of a bar N, which is pivoted to a spring bar secured to one side of the frame. This spring bar tends to keep the bottoms of the apartments closed, and by operating the bar N the bottoms are opened.

Claim.—First, the rotary conveyer, formed of the shaft E and spiral blades *h*, one or more in combination with the semi-cylindrical vibrating screen F, the above parts being placed within an adjustable frame A, and all arranged to operate as and for the purpose specified.

Second, the spring or elastic bar O, with bar N attached, and the latter connected by cords or chains b' to the hinged bottoms a' a'', as and for the purpose set forth.

No. 41,059.—James Cumming, Boston, Mass.—*Sizing and Smoothing Shot and Shell.*—January 5, 1864.—This invention consists in the employment of a horizontal turn-table, provided with two pairs of conical rollers arranged on axes parallel to each other, and forming a seat for the spherical body to be sized and smoothed, in combination with an adjustable grinding or polishing wheel, whereby the spherical body may be readily turned in either a horizontal or vertical plane. The two pairs of conical rollers are moved simultaneously to or from each other by means of a rod provided with a right and left hand screw, for the purpose of adjusting the said rollers to shot or shell of different sizes, and also to keep them over the turn-table. The adjustable grinding or polishing wheel is forced at a graduated distance against the spherical body to be sized and smoothed, by means of a spring, and is pressed back or eased forward by means of a treadle, so that the operator may have both hands at liberty to turn the spherical body or apply the gauge to it during the operation.

Claim.—First, the employment of a horizontally rotating turn-table, provided with two pairs of conical rollers arranged on axes parallel with each other, forming a seat for the spherical body to be sized and smoothed, in combination with an adjustable grinding or polishing wheel, substantially as and for the purpose described.

Second, moving simultaneously the two pairs of conical rollers to or from each other, substantially as set forth and for the purpose described.

Third, making the conical rollers adjustable in the line of their axes, substantially as and for the purpose described.

Fourth, the combination of the treadle lever Q, pin *i*, spring P, and adjusting screw M, substantially as set forth and for the purpose described.

No. 41,060.—James W. Davis, Washington, D. C.—*Socket for Paint and other Brushes.*—January 5, 1864.—A tube or socket is applied to a painter's brush, of any common form, for the purpose of preventing the paint from dropping upon the floor while the brush is in use. Attached to the inside of the socket or tube is a flange, which is designed to hold the drip when the brush is laid down.

Claim.—The combination of the socket *b* and flange *a* with brushes for painting, frescoing, and whitewashing, substantially as specified.

No. 41,061.—Asa C. Edwards, Southampton, Mass.—*Heat Radiators.*—January 5, 1864.—In a pipe leading from or connected with a stove, furnace, or any heating apparatus, is placed a series of tubes, communicating at one end with the external air, a portion of the said tubes being allowed to turn, and are provided with flanges that serve as dampers. In connexion with the said tubes is a spiral flange attached to a shaft, which is secured centrally within the main tube so as to cause the heated air to impinge against the sides of the tube and cause a greater radiation of heat.

Claim.—First, the employment or use in a drum or pipe of a series of heat-radiating tubes B, a certain number of which are movable or allowed to rotate and provided with flanges *a*, to serve as dampers, substantially as herein set forth.

Second, the tubes B, movable or fixed, in combination with the spiral flange C, said parts being arranged within the tube A, to operate substantially as set forth.

No. 41,062.—John Edwards, New York, N. Y.—*Head-Dresses for Ladies.*—January 5, 1864.—The head-dress is made of horse hair, dyed in imitation of human hair. One-half of the hairs are reversed, and the points of one portion are brought opposite the roots of the other portion in such a manner that the dark shades in the color of one hair are compensated by the light shades of an adjoining hair, and a braid of an apparently uniform color is produced.

Claim.—Reversing one-half of the hairs used in the manufacture of head-dresses, which are made of horse hair dyed in imitation of human hair, and bringing the roots of one portion opposite the points of the other portion, substantially as and for the purpose set forth.

No. 41,063.—**Andrew B. J. Flowers**, Indianapolis, Ind.—***Cross-cut Sawing Machines.***—January 5, 1864.—In this machine a vibrating motion is given to the saw, independently of its reciprocating movement, by means of a bar attached to an eccentric, upon which is fitted a yoke, the eccentric being placed upon a shaft that also carries a crank-wheel, by which means the kerf is cleared of the sawdust. A clamp lever formed of a bar *a* is provided with a mortise, through which passes a rope. This bar has a clamp or jaw fitted in the mortise, and works on a pivot so as to bite or clamp the rope between it and the bottom of the mortise, the latter being attached to the truck so as to place it in proper position with the saw. The bar V, with its spike *d*, serves to prevent the log from rolling, and also from rising during the first cuts.

Claim.—First, the giving of the saw Q a vibrating motion independently of its reciprocating movement, through the medium of the bar L, yoke K, and eccentric J, arranged substantially as and for the purpose herein set forth.

Second, the clamp lever W, formed of the bar *a*, provided with the mortise *b*, and clamp or jaw *c*, substantially as and for the purpose specified.

Third, the dog composed of the bar V and spike *d*, arranged and applied substantially as set forth.

No. 41,064.—**Jacob Frick**, Philadelphia, Pa.—***Blind and Shutter Fastenings.***—January 5, 1864.—The fastener is composed of two main parts, D and E, joined together by a pin, the part D having a shank, which is driven into the wall, and also having a hollow cylindrical projection, within which is a rod connected by a pin to the part E. To the rear of the part E is secured a bent spring, which bears against the back of the shutter, and serves to hold the shutter off from the wall and in contact with a shoulder on the part E, so as to prevent the shutter from rattling.

Claim.—First, the pieces D and E constructed, joined together, and operating substantially as described for the purpose specified.

Second, the piece D, with its hollow cylindrical projection *b*, spiral spring *g*, and rod *c*, connected to the piece E, and having a disk *d*, the whole being arranged for the depression of the piece E to the piece D, substantially as set forth.

Third, the spring F secured to the piece for operating on the shutter, substantially as described.

No. 41,065.—**John H. Gilliland**, Brooklyn, N. Y.—***Manufacture of Glass.***—January 5, 1864.—This invention consists in the employment of a furnace and pots similar to those used in the melting process, for the purpose of imparting a brighter and cleaner surface to the glassware in finishing, the glass not being exposed to the fumes of sulphur, smoke, or other deleterious agency.

In the outer shell of the furnace is a system of air-flues, which are open at the top and bottom on the exterior of the shell or cone, the lower opening being arranged at a suitable distance from the floor of the glass house for the reception of the heated and impure air, and the upper ones for the discharge of such air above the roof of the house.

Claim.—The employment for the finishing of glassware of a furnace and pots, substantially as herein described.

No. 41,066.—**Robert Hodgson Gratrix**, Salford, England.—***Dyeing and Printing with Aniline Colors.***—January 5, 1864.—Patented in England September 12, 1860.—This invention relates to a mode of applying the class of colors derived from aniline, naphthaline, nitro-benzine, cinchonine, and analogous substances, to the obtaining of patterns and designs upon textile materials and fabrics. The claim explains the nature of the invention.

Claim.—The employment or use of a compound of tannin with the colors derived from aniline or analogous substances formed either before or during the process of dyeing or printing, substantially in the manner herein specified, in combination with salts of tin or other suitable mordant or mordants, for the purposes set forth.

No. 41,067.—**Edward Hamilton**, Chicago, Ill., assignor to Himself and **Henry B. Goodyear**, of New Haven, Conn.—***Closing Bottles.***—January 5, 1864.—This invention consists in the employment of a ball or stopper of a light elastic substance, and of a diameter somewhat larger than the inside diameter of the neck of the bottle, so that a pressure greater than that exerted by the gases of the soda water shall be required to force it into the bottle.

Claim.—First, the method of stopping bottles containing liquids charged with gases by the employment in connexion with a bottle of a ball or other stopping-plug, made of a light, elastic substance, impervious to water and gas, so that the gases within the bottle may, without the aid of springs or other mechanical contrivances, force the ball or plug up the neck of the bottle and maintain it in position hermetically to close the bottle, substantially as herein shown and described.

Second, as a new article of manufacture, the herein described self-stopping bottle, the same consisting of a bottle containing a ball or plug of requisite shape, made of an elastic and light substance, but impervious to liquid or gaseous fluids.

Third, the combination of a bottle with an elastic ball of such diameter in relation to that of the neck of the bottle as that the force required to introduce the ball into the bottle from without shall exceed that exerted by the gases from within.

No. 41,068.—**William Hilton**, Belvidere, N. J.—***Lubricating Composition.***—January 5, 1864.—The ingredients of which this compound consists are petroleum oil, pulverized white rosin, and flowers of sulphur, to which is added lard-oil or rancid butter, and common salt finely pulverized.

Claim.—The admixture of the foregoing ingredients in the proportions named, and thereby manufacture a new lubricating oil for oiling machinery.

No. 41,069.—**Louis Hoffmeister**, Philadelphia, Pa.—***Eyes for Lacing Bootees and other Articles.***—January 5, 1864.—This device is formed of two flat rings from a thin plate of metal by means of suitable punches and dies, the two rings being connected by a strip. Upon one of the rings is formed a projecting annular flange, similar to an ordinary eyelet. The said strip is then bent so as to form an eye, and the eyelet is caused to pass through one of the rings.

Claim.—The within described eye for laces, consisting of a strip of metal formed, bent, and constructed for attachment to articles of wearing apparel, substantially as and for the purpose described.

No. 41,070.—**Franklin Benjamin Hunt**, Richmond, Ind.—***Straw-Cutter.***—January 5, 1864.—The cutting device in this machine consists of a spirally arranged knife secured to two arms upon a shaft in front of the feed-box, so that as the shaft is rotated the knife works closely over the outer edge of a metallic bed plate attached to the feed-box. The upper roller is so arranged as to adjust itself to the thickness of the layer of straw or other substance passing under it, the roller rising or falling in the arc of a circle, so as to be always at the same distance from the shaft of the cutter, and the substance cut will be retained in proper position on the bed. Attached to the frame of the upper feed-roller is a guard board or plate, which is caused to rise or fall with the upper feed-roller so as to prevent the substance being cut from passing over the top of the said roller.

Claim.—First, the combination with cutting bar or plate E of the single knife D and arms *c c*, attached to a driving shaft C located in front of and above the plate E, so as to effect an oblique or drawing cut, as explained.

Second, attaching the fly-wheel E′ to its shaft C in the manner shown, or in an equivalent way, to admit of said wheel slipping on its shaft in case the motion of the cutter or knife is arrested by any foreign substance, for the purpose of preserving the cutter or knife, as set forth.

Third, the bar *c′* connected directly to the shaft *n* of the lower feed-roller G, and connected to the shaft P of the upper feed roller H by the arm *f*, and having the pinions *b d′* attached to it, said bar and its pinions being arranged in gear with the pinions *a′ c′* of the feed-roller shafts *n p*, substantially as and for the purpose set forth.

Fourth, the guide board or guide plate *u* attached to the plate *t* of the frame of the upper feed-roller H, and extending down at the back of said roller to a level with the shaft *p* of the same, substantially as and for the purpose specified.

No. 41,071.—**Theodoric S. Hunter**, Cross Plains, Ind.—***Harvesters.***—January 5, 1864.—The blades or knives of which the cutting apparatus consists are of semi-circular shape, and that part of the guard fingers against which the grain is cut is concave, while the front part of the cutting edges is sharp pointed, by which means a convex cutting edge is made to work against a concave cutter.

Claim.—In combination with the convex, half-circular, smooth-edged cutters O the concave or scolloped guard fingers D, having smooth concave edges 2, against which the concave cutters work, the upper part 3 of the guard being closed, while the lower part 4 extends under and to the rear of the cutter, leaving an opening through which grass and other material is discharged to clear the cutters.

No. 41,072.—**T. H. and H. James**, Stockport, N. Y.—***Horse Hay Fork.***—January 5, 1864.—In the centre of the head of this devise is fitted an arbor provided with a rod at its upper end which serves as a handle for turning the head, and to the lower end of the arbor is secured a bar provided at each end with a spirally shaped tine. Projecting downwards from each end of the head is a straight tine or rod. The spiral tines are forced into the hay by turning the arbor when the hay is to be removed, the straight tines or rods preventing the head from turning.

Claim.—The lifting bar G, provided with a spiral tine H at each end, combined with the head A, in the manner herein shown and described.

Further, the steady tines or rods F attached to the head A, when used in combination with the spiral or screw tines H, for the purpose specified.

No. 41,073.—Moses A. Johnson, Lowell, Mass.—*Felted Fabric.*—January 5, 1864.—The felted fabric is composed of the hair of cattle, having mixed with it a small proportion of silk, waste, cotton or other fibrous material, coated on one or both surfaces, but not saturated, with a thin film of glue, size, gum, or other glazing material.

Claim.—As a new article of manufacture, the sheet of felted fabric herein described, having one or both surfaces coated with a film of sizing as set forth, but the body of the fabric not saturated or impregnated with the sizing material.

No. 41,074.—J. A. Lanzirotti, Paris, France.—*Automatic Railroad Switch.*—January 5, 1864.—To the front or sides of a locomotive or tender in front of a train is fitted a projecting rod or rods, which come in contact with a weighted lever or levers at the side of the rail, and which, through the medium of rods or chains, draw the points of the rails together, and thus automatically effect the movement of the switch.

Claim.—Combining with locomotives, tenders, or carriages in front of the train, a series of adjustable rods to operate at the sides of the rails, levers, or other appliances arranged in diverging lines of rails at different elevations, or more or less projecting laterally, so that by the adjustment of the said rods the switches at the points of contemplated change of rail may be worked automatically, substantially as herein shown and described.

No. 41,075.—J. George Lefler, Philadelphia, Pa.—*Filter.*—January 5, 1864.—At the upper end of a cylindrical casing is fitted a perforated plate which is connected by means of rods to a perforated cone formed of a metal plate at a short distance below the upper plate, the space between the two being filled with filtering material. The cone rests upon a flange so as to be readily removed. Over the upper end of the cylindrical case is fitted a cap piece connecting at the top with the outlet pipe.

Claim.—First, the perforated plates G and I, connected together by rods H, or their equivalents, and arranged for retaining a mass of filtering material within a casing A, and for the withdrawal of the said filtering material from the casing, substantially as and for the purpose herein set forth.

Second, in combination with the above, the cap D, adapted to the casing and rendered detachable from the same as set forth.

No. 41,076.—James Loecks, Indianapolis, Ind.—*Hair Restorative.*—January 5, 1864.—The ingredients of which this compound consists are olive or sweet oil, tincture of lobelia inflata, cypripedium pubescens, and agrimonia eupatoria.

Claim.—The compound herein described when composed of the substances specified, with the variations contemplated, and used for the purposes set forth.

No. 41,077.—Joseph L. Lowry, Pittsburg, Pa.—*Stop-cock.*—January 5, 1864.—The body of the stop-cock is constructed with a double stuffing box having a partition in the middle through which the stem passes. Around this stem and just underneath the partition is placed an India-rubber gasket. Just above the partition is placed another gum ring, which, as the valve is forced down, is pressed upon the partition by a collar on the valve stem.

Claim.—The double stuffing box T, with the partition J, in combination with the valve stem B and collar *m*, the gum rings above and below the partition arranged substantially as herein shown and set forth.

No. 41,078.—Benjamin Maillefert and Levi Hayden, New York, N. Y.—*Diving-room fixed at the end of a vessel.*—January 5, 1864.—At the end of a vessel of the monitor class, or other iron-plated vessel, is arranged a fixed working chamber made air-tight at its top and sides, but open at the bottom to the water, the lower end being about on a level with the bottom of the vessel. This chamber is to be supplied with compressed air by means of air-pumps, so that the water inside is depressed below the surface of that outside the vessel. In the rear of or at one side of the said chamber is arranged an air-lock with an air-tight door or manhole between it and the chamber, and a similar door between it and the interior of the vessel, to provide for the entrance and exit of workmen to or from the working chamber.

Claim.—First, providing a vessel with a fixed working chamber A, substantially as and for the purpose herein described.

Second, the air lock B, arranged in relation to the working chamber A, substantially as and for the purpose herein described.

No. 41,079.—George Mann, Jr., Ottawa, Ill.—*Windows for Railroad Cars.*—January 5, 1864.—The frame of the car window is hung on central pivots and arranged in such a manner that it may be adjusted in an oblique position relatively to the car body so as to deflect cinders, dust, &c., while the car is in motion, and at the same time to allow the air to pass out of the car. It may also be so adjusted as to cause the air to enter the car through the window when desirable.

Claim.—The supplemental window attached to the side of the car at the exterior of the ordinary or usual window, in the manner substantially as herein described, to admit of the adjustment of the supplemental window in an oblique position relatively with the side of the car, as and for the purpose specified.

No. 41,080.—C. W. Marsh and W. W. Marsh, Shabbona, Ill.—*Raking Devices for Harvesters.*—January 5, 1864.—Fitted within a horizontal rectangular frame is an endless band, and in front of the frame is arranged a sickle of the ordinary reciprocating kind, to the rear part of which latter is attached a series of upright projections. At the rear of the sickle and endless band is arranged an inclined endless-toothed apron upon rollers secured to an upright frame. This toothed apron receives the cut grain from the endless band and carries up the straws in a parallel position. A toothed belt F is arranged at one side of the inclined apron and serves to hold the buts of the stalks so as to prevent them from lagging or falling.

Claim.—First, providing the sickle C with ribs or projections *b*, when the latter are used in combination with the endless band B and toothed apron D, for the purpose specified.

Second, the toothed belt F, in combination with the toothed apron D and endless band B, as and for the purpose set forth.

No. 41,081.—H. H. Mason and S. W. Shelden, Springfield, Vermont.—*Mop Head.*—January 5, 1864.—This device consists of a cast-iron bar B, provided with a socket to receive the handle of the mop; a wrought-iron rod provided with end pieces that pass through the bar B, and a sliding or adjustable bar E with curved ends that receive the end pieces of the rod D and serve as guides for the bar E. The bars B are provided with teats in which are fitted spiral springs that press the bar E upon the cloth and retain it in position.

Claim.—A mop head constructed in the particular manner herein shown and described, to wit: the bars E B, of cast-iron, with attached teats connected by springs F and the rod D, of wrought iron, in one piece, all as set forth.

No. 41,082.—John Matthews, Jr., New York, N. Y.—*Bottling Liquids under Pressure.*—January 5, 1864.—The feeding head is provided with an India-rubber mouth-piece and feed-pipe, and has attached to it a plunger working through a stuffing-box, the plunger being so placed as to act directly in line with the axis of the bottle to be filled. A screen of hemispherical form and made of wires is attached to a circular plate affixed to the mouth of the feeding pipe, and serves to protect the workmen from the flying pieces of glass when a bottle bursts.

Around the centre is placed a perforated disk of metal lying flush with the surface of the table, for the purpose of allowing the waste liquor to escape without running over the edges of the table.

Claim.—First, the combination with the feeding head of a plunger operated in the manner and for the purposes substantially as set forth.

Second, attaching the screen to the mouth of the feeding head, whether the head is fixed or movable, in the manner and for the purpose substantially as described.

Third, surrounding the bottle with a perforated drain plate lying flush with the surface of the table, substantially as set forth.

No. 41,083.—Green B. McDonald, Louisville, Ky.—*Method of operating Cut-off Valves.*—January 5, 1864.—The piston H is fitted to work within an upright cylinder containing oil or other liquid. The said piston is provided with one or more openings, each fitted with a valve opening downwards. The cylinder is furnished with an outside pipe or passage *c*, which forms a communication between its upper and lower parts. The passage *c* is provided with a valve or cock, the spindle of which is furnished, upon the outside of the passage, with a lever by which it is adjusted by hand in a more or less open position, or connected with a governor in such a manner as to be properly regulated by the same.

In the lower part of the interior of the cylinder are upright grooves extending upwards, so that when the upper side of the piston has descended below the tops of the grooves, the liquid in the lower part of the cylinder will pass to the upper side thereof.

Claim.—First, the piston H, fitted with a valve or valves *b b* and the cylinder I, furnished with a side passage *c* and valve or cock *d*, and containing oil or other liquid, applied in combination with each other and with the induction or other cut-off valve A, to operate substantially as and for the purpose herein specified.

Second, the passage *f f* in the said cylinder I, arranged and operating in combination with the said piston H, substantially as and for the purpose herein described.

No. 41,084.—Henry Messer, Roxbury, Mass.—*Hot-air Engines.*—January 5, 1864.—The walls in the top of the furnace are made hollow, with projections into the space therein, the projections being tubular or depressed from the inner boundary of the furnace, and the parts are so arranged as to have the spaces in the wall or top connected with each other around the said depressions, and so disposed as to compel all the air in such spaces to come in contact with the heated projections, which protrude into the hollow wall or top.

The speed of the engine is retarded by forming a communication between the air-pump and cylinder in such a manner that when the engine moves at a normal rate of speed the regulator, by its action on a valve in the passage between the air-pump and the cylinder, operates to let all or a portion of the cold air into the cylinder directly from the air-pump, thus supplying the space left by the movement of the engine piston with cold air, instead of wasting generated caloric by allowing the heated air to blow off, while its entrance into the engine cylinder is throttled as in the usual method of regulating. Between the air-pump and furnace is arranged a single valve in such a manner that by a change in the position of the valve the supply of air from the pump may be made to pass entirely through the grate and fuel, or entirely into the furnace above the fuel, (first passing to be heated through the hollow spaces in the walls of the furnace,) or partially in both ways, as occasion may require.

Claim.—First, the construction of the walls or crown of the furnace, or both, in the manner and for the purpose substantially as described.

Second, checking the motion of a hot-air engine piston by connecting the air-pump with the cylinder in such a manner that the whole or a portion of the air condensed by the pump can pass into the cylinder without detention on its passage for the purpose of being heated, and by arranging in such a connexion or passage a valve so connected with the engine regulator that by the action thereof air may be admitted through said connexion, direct from the air-pump into the cylinder, for the purpose of checking the speed of its piston when moving too rapidly.

Third, the arrangement of the valve *i* with respect to the pump, the space below the grate, and the space in the walls of the furnace, substantially as and for the purpose specified.

Fourth, the arrangement in one passage of a valve operating to check the speed of the engine piston, substantially as described, with a valve operating to determine in what proportion air shall be supplied to the furnace above or below the fuel.

Fifth, a piston for hot-air engines, constructed with packing therein at its upper end, this being open for entrance and vibration of the connecting rod, and with an extension *o* downward therefrom, substantially as described, when this extension enters into and is surrounded by the casing *p* so as to leave space between *o* and *p* for non-conducting filling.

Sixth, the arrangement and combination of parts, substantially as shown and described, by which conduction of heat from the lower to the upper part of the cylinder is materially lessened.

Seventh, constructing the cap of a wrist or journal box with tubular screws capable of adjustment, and surrounding the screws or studs which hold the cap to the lower part of the box, substantially as and for the purpose specified.

Eighth, so constructing the lower part *b* of the cylinder and the valve seats, chambers, and induction and eduction passages, that they all form one and the same casting with the mouths or outlets of the valve chambers, in the same plane with the flanged open end of said part *b* of the cylinder, substantially as and for the reasons specified.

No. 41,085.—ADOLPH MILLOCHAN, New York, N. Y.—*Obtaining Useful Products from the "Tarry Residuum of Petroleum."*—January 5, 1864.—The nature of this invention will be understood from the claim.

Claim.—First, producing an oil or grease from petroleum or coal oil, tarry residuum, by the process herein set forth, said process consisting in treating said residuum firstly with benzine or "light oil," and then with an acid, and in removing the acid by means of an alkali and water, the whole substantially as described.

Second, also producing from said residuum an oil suitable for burning in lamps, by the within-described combination of processes, that is to say, by first preparing the oil or grease in the manner herein set forth and then distilling the same, substantially as specified.

No. 41,086.—JAMES R. MILLS, Bloomfield, Iowa.—*Cultivators.*—January 5, 1864.—This invention consists in the combination and arrangement of parts, as designated in the claim, for operating the drag beams, whereby the teeth of the latter may be raised separately or together, or moved laterally in either direction by means of a single lever operated by the foot of the driver when one set of the teeth is to be elevated alone. Means are also provided for adapting the plough to lay the furrows at such a distance from the plants as to prevent water from settling at their roots.

Claim.—First, in combination with the pivoted frame K K M R and drag beams H H′, constructed and arranged as specified, the post N and lever P, constructed and applied in the manner described to adapt the cultivator frames to be moved laterally, or either or both of them raised by means of a single lever, as explained.

Second, the movable bar O, when employed in combination with the post N, reversible lever P, and reversible beams H H′, in the manner described, for the purpose of adapting the machine for furrowing the ground so as to prevent the settling of water around the roots of the plants in wet weather.

No. 41,087.—F. H. MOORE, Boston, Mass.—*Boot Straps.*—January 5, 1864.—This invention consists in attaching a strap of metal or other suitable rigid or tough material to the back part of the boot, by means of two rivets which pass through the leather and the lower part of the strap, the latter being formed of two parts united at their lower ends so as to admit of an upward and downward movement of the straps on the rivets. The upper part of the strap is formed in a loop by which the boot is drawn on, and when the boots are on, the loops may be pressed down within the boot tops out of the way.

Claim.—A strap for boots and shoes, constructed of metal or other suitable rigid or tough material, and applied in such a manner as to be capable of being moved or adjusted by sliding in the boot or shoe, to effect the end herein set forth.

No. 41,088.—W. H. OAKES, New York, N. Y.—*Die-sinking Press for Obtaining Relief Plates for Surface Printing.*—January 5, 1864.—Through the forward projection of an upright standard is fitted the screw shaft of a pulley, which screw serves to elevate and depress the plunger, having on its lower end the proper die. On the under side of the pulley is a lug or stop H, made adjustable in circular slots by means of a thumb screw. The stop at a certain point in the revolution of the pulley strikes against the head of a set screw, and thus arrests the movement of the pulley. By elevating or depressing the set screw, the pulley may be permitted to have several revolutions, or only part of one revolution, as may be desired, by which means a series of impressions upon the plate may be made of precisely uniform depth.

Claim.—The screw lever or pulley F, or its equivalent, for the purpose of depressing the punch, tool, or die, in combination with the adjustable stop H and set screw I, whereby a uniform depth of impression is secured.

No. 41,089.—ALFRED PEEK, Manchester, England.—*Apparatus for Evaporating Liquids.*—January 5, 1864.—This apparatus is designed for evaporating saccharine or saline solutions, so that the heat necessary for evaporation cannot be raised beyond the boiling point of water, but may be kept to any required degree below that temperature.

The agitators consist of hollow disks attached to arms upon a hollow axle, through which passes a steam pipe. To this steam pipe are connected branch pipes, open at their ends, to convey the steam to the hollow disks. The steam, as it condenses, overflows into passages at each end of the hollow axle, and the water is conveyed into the space between the inner and outer pan, when it is carried off through orifices and a trap.

Claim.—The arrangement of the revolving agitators, hollow shaft, main and branch steam pipes and overflow passages, substantially as herein described, so as to prevent the temperature applied exceeding the boiling point of water.

No. 41,090.—JULIUS R. POND, New Hartford, Conn.—*Condensing Milk.*—January 5, 1864.—The inner surface of the vessel in which the milk is placed for condensation is coated with oleine of butter or other similar substance, for the purpose of preventing the milk from being burnt or scalded in the operation.

Claim.—The employment of oleine, or its equivalent, in the process of condensing milk.

No. 41,091.—J. WYATT REID, New York, N. Y—*Pumps.*—January 5, 1864.—In each cylinder-head of this pump are arranged four induction and four eduction pipes, one of each being above and one below each abutment. The induction pipes open inwards, being hinged to the inside of the boxes attached to the cylinder-heads, while the eduction valves open outward, and are hinged to the outside of the opposite cylinder-head. When the pistons are moved in one direction one of the upper and lower induction valves are open and the other two induction valves are closed, while at the same time one of the upper and lower eduction valves are open and the other two are closed. When the pistons move in the opposite direction the several valves change their positions correspondingly.

Claim.—The combination of the quadruple induction valves $I\ I'\ I^{*}\ I'^{*}$ and the quadruple eduction valves $E\ E'\ E^{*}\ E'^{*}$, with the abutments B, oscillating pistons D D′, shaft C, and cylinder A, in the manner herein shown and described.

No 41,092.—E. B. REQUA, Jersey City, N. J.—*Lamp Cones.*—January 5, 1864.—The upper part of the cone or deflector in this invention is provided with a slot or opening, extending across its apex and obliquely downward in opposite directions at its sides. Each side of this slot or opening is spread outward a little so as to form wings, for the purpose of deflecting the air into the cone through the lower ends of the slot toward the flame of the wick.

Claim.—First, the slot *a b*, extending straight across the apex of the cone and obliquely downwards in opposite directions at the sides, all as represented and described.

Second, the wings *c c*, constructed and operating as specified.

Third, the described combination of the peculiarly-shaped slot *a b* and wings *c c*, for the purpose set forth.

No. 41,093.—JOSEPH RIDGE, Richmond, Ind.—*Coal Oil Lamp.*—January 5, 1864.—This invention consists of a hemispherical cone or deflector, constructed with a comparatively larger orifice or slot than usual, in connexion with a chimney of such a form as to admit of its being much shorter than usual, the height of the chimney being reduced measurably in proportion to the enlargement of the slot in the cone.

Claim.—The hemispherical cone or deflector A′ with its longitudinal sectional slot, as constructed and described, in combination with the short chimney D, in the manner and for the purposes set forth and described.

No. 41,094.—JOSEPH RIDGE, Richmond, Ind.—*Coal Oil Lamp.*—January 5, 1864.—In this invention the wick-tube is surrounded by a perforated cylinder provided with openings on its opposite sides, one of which openings corresponds in size with an opening in the bottom plate of the said cylinder, through which the lamp may be filled. The cone is provided with hinged studs, attached to the cup or bottom piece J, by means of which it may be turned on one side to admit of the lamp being lighted. Attached also to the said cup are flanges or ears, which serve as stops to the apertures when the lamp is lighted.

Claim.—First, the hinged studs H H and the cup or bottom piece J, for the purpose set forth.

Second. the rigid closing of the perforated cylinder L at the points of its circumference F′ and F′, or at any other points thereof, for the purpose of controlling the form and size of the flame, as described.

Third, the aperture F′, in combination with the cup or bottom piece J and the orifice G, as set forth.

Fourth, the combination of the hinged studs H H, the cup J, the apertures F F′, and the ears E E, with the longitudinally sectional slot of the cone A.

Fifth, my device, as shown and described, constructed in the manner and for the purposes fully set forth.

No. 41,095.—Ezra Ripley, Troy, N. Y.—*Culinary Vessels.*—January 5, 1864.—In this invention the lifting handle, which takes the place of the usual bail, is secured to the upper part of the vessel at a point opposite the spout, and extends over the vessel centrally but is not attached to it at the other end.

Claim.—A culinary vessel having an opening A in its top to pour into, a spout, lip, or pouring-out place B at one side, and on the opposite side a lifting handle C extended over the middle portion of the vessel, but not across from side to side thereof, substantially as herein described.

No. 41,096.—Eben A. Sawyer, Portland, Me.—*Attaching Clew Blocks to Clews.*—January 5, 1864.—The clew *a* consists of three eyes, two of which receive the thimbles of the sail ropes. Between the two thimble-receiving eyes are rigidly affixed to the clew two metal plates *b b*, which form a fork for receiving between them the clew-line blocks. These forks or plates extend nearly the entire length of the block, and are let into recesses formed in the block. The block is secured to the forks by means of a single screw bolt, which serves also as a centre pin for the sheave.

Claim.—First, attaching clew-line blocks to their clews by means of a metal fork formed on said clews or other rigid connexion, substantially as and for the purposes described.

Second, uniting blocks to their clews by means of a single bolt, which also forms the pivot fastening of the sheave, substantially as described.

Third, the clew *a*, having a block-receiving fork *b b* formed on it, substantially as and for the purposes described.

No. 41,097.—Henry Sawyer, Roxbury, Mass.—*Putting up Powders, &c.*—January 5, 1864.—A cylindrical box to contain the powdered article is provided at one end with a cover and at the opposite end with delivery holes, over which latter is placed a seal or wafer of wax, or glutinous matter, so as to close them imperviously. When the contained powders are to be used, the cement or wafer is easily broken off, and the holes are free to discharge the powder.

Claim.—As a new article of manufacture, a package or case which, when made with distributing holes and filled, is cemented by the wax or wafer *e*, as set forth.

No. 41,098.—John C. Schooley, New York, N. Y.—*Refrigerator.*—January 5, 1864.—Opening into the provision chamber is a conduit which is submerged in the meltings of the ice underneath the ice chamber, and through which air is passed and cooled in its passage by the ice meltings coming in contact with the outer surface of the conduit, thus preventing the passing air from taking up any unpleasant odor from the meltings occasioned by the use of impure ice.

Claim.—The conduit F F, so arranged that the air passing through it will become cooled, and will flow into the preserving chamber without coming in contact with the ice or entering the ice chamber, substantially as and for the purposes set forth.

No. 41,099.—John C. Schooley, New York, N. Y.—*Refrigerator.*—January 5, 1864.—The object of this invention is to ventilate the refrigerator without passing air over the ice or a solid surface cooled by ice, or leading either the external or internal air into the ice chamber, which is effected by means of a horizontal plate or receptacle for the meltings, provided with an extended arm so arranged that the air for ventilation will enter it at a point above where it flows out into the preserving chamber. The bottom of the ice chamber is open, and the parts are so arranged that the internal air will be made to rotate and circulate, and the external air will pass in currents through the provision chamber.

Claim.—The peculiar construction of the plate or receptacle B, having an extended arm *d′*, so arranged that the air for ventilation will enter it at a point above where it flows out into the preserving chamber. Also, claim the combination of the open bottom ice chamber A, the receptacle or plate B, with its arm *d*, and the provision chamber C, all so arranged that the internal air will be made to rotate and circulate, and the external air will pass in currents through the provision chamber, the whole arranged and operating substantially in the manner and for the purposes set forth.

No. 41,100.—Henry Sharp, Port Richmond, N. Y.—*Wrench.*—January 5, 1864.—The movable jaw of the wrench is attached to a slide which is fitted on the shank or bar of the stationary jaw, the said shank being provided at one edge with a rack into which a lever attached to the sliding jaw works.

Claim.—The jaw E attached to the slide D, in combination with the lever G and rack C, all arranged substantially as shown to form a new and improved wrench.

No. 41,101.—George Escol Sellers, Sellers Landing, Ill.—*Preparing Vegetable Fibre for Paper Stock.*—January 5, 1864.—This invention consists in loosening the incrusting or adhering non-fibrous matter by fermentation, and then washing the same from the fibre, leaving it in a condition to be bleached with a less amount of chlorine than would have been required without the fermenting and washing process.

Claim.—First, the preparation of disintegrated vegetable fibre for white paper stock by the removal or change in the nature of the incrusting or adhering non-fibrous matter, by fermentations and washing previous to bleaching with chlorine, substantially as described.

Second, the use of chlorine as a solvent for the non-fibrous portions of vegetable substances that have become discolored and hardened by heat in the process of disintegration, combined with boiling and hot water washing to remove them from the fibre previous to bleaching, substantially as described.

No. 41,102.—George Escol Sellers, Sellers Landing, Ill.—*Forming, Drying and Packing Paper Stock, &c.*—January 5, 1864.—In this invention the water is extracted from the pulp or stock when in a mould or former by suction, and the stock is then pressed into a mass of sufficient tenacity to be handled, and at the same time porous enough to dry rapidly. After drying, the bale is again pressed for transportation, so that when the stock is released from the bale-ropes or confining bands, it regains, by its own elasticity, sufficient porosity to be readily separated and held in suspension by water; or when put into form for use, such as press, binders', trunk, or box boards, then by suction, consolidating a layer or thickness of pulp on a mould, so as to admit of a fresh layer being poured on without disturbing the first, and so on for a succession of layers, and then pressing it to the proper degree of solidity.

Claim.—First, the above-described mode of reducing paper pulp to a condition for transportation by a system of alternate exhaustion and compression, substantially as described and for the purpose specified.

Second, the use of the same mode for the combination of pulp or fibre and other matter of various qualities, for the purpose of producing boards or cards suitable for use in the arts.

No. 41,103.—D. H. Shearer, Drakesville, Iowa.—*Grain Thresher.*—January 5, 1864.—In this machine the shaker is formed of an inclined board, placed in the upper part of the framing, and working between guides. The said board is perforated with oblique holes, and to its surface is attached longitudinally a series of parallel strips notched on their upper edges. Between these toothed strips *d* are placed similar strips *e*, fitted between guides, and rigidly attached at their rear ends to a transverse rod secured to the frame.

To the upper end of the elevator box is connected an inclined spout, to which longitudinal play is given. The bottom of the spout is provided with a screen, beneath which is a supplemental spout, placed over another spout in the case which covers the threshing cylinder, and serves to deposit the grain so that it will not be again subjected to the action of the threshing cylinder.

Claim.—First, a shaker for a grain separating machine composed of a perforated board *a* having parallel toothed strips *d* attached longitudinally to it, in combination with the stationary toothed strips *e*, arranged substantially as and for the purpose set forth.

Second, the shaker spout S, provided with a screen *l* and supplemental spout T, arranged to discharge the grain and tailings into the machine, as shown for the purpose specified.

Third, the combination of the shaker A, board F, chute H, fan M, elevator, and shaker spout S, all arranged to operate as and for the purpose specified.

No. 41,104.—William W. Spaulding, Galesburg, Ill.—*Washing Machine.*—January 5, 1864; antedated December 5, 1863.—The rub-board, which is corrugated on its under side, is worked over the rollers, the clothes being placed between the two. The rub-board is kept in place by means of grooves and guide rollers when in operation.

Claim.—The oscillating braces E, guide grooves G, and guide rollers F, in combination with rollers B and rub-board C, substantially as and for the purpose specified.

No. 41,105.—Isaac Starr, Prairieville, Mich.—*Drag Sawing Machine.*—January 5, 1864.—In this machine the feed or carrying roller is operated by means of a pinion connected with the main driving wheel. The pinion is thrown into gear by means of a lever operated by hand, and out of gear by the log as it moves forward and presses against the dog-carriage lever, which operates a trigger connected with the lever *d*.

Claim.—The arrangement of the feeding gear, viz: The lever *d* for shifting the pinion which operates the roller in combination with the dog-carrying lever B′, and the trigger connected therewith, all constructed and operating substantially as described.

No. 41,106.—Francis L. Stewart, Murrysville, Penn.—*Sugar Evaporator.*—January 5, 1864.—Extending from the inner towards the outer end of the first compartments of a range of sugar pans are two abutments arranged over the side walls of the furnace and terminating at points over the end wall, leaving spaces at the end and on each side of the pan so that the scum arising in the middle or hottest portion accumulates behind these abutments and becomes separated from the clear juice. Under a series of openings that lead from the second to the third compartment is arranged a filtering draw which can be closed or adjusted by a sliding gate so that the juice or sirup may be run through a stratum of bone-black or other suitable material, for the purpose of removing the green taste of the sirup before the latter is finally boiled down in the finishing pan.

Claim.—First, separating the side bays, or that portion on either side of the pan A not over the fire, from that portion directly over it, by ledges *c c* which extend from the partition *b* to a point immediately over the front wall of the furnace, leaving a space between them and the front end of the pan A for the scum which is by ebullition thrown towards either side of the pan to pass behind the ledges, whereby it is prevented from being boiled into the sirup, as described.

Second, the shallow filtering drawer E, arranged within and extending across the front end of the pan C, and under the rear end of the pan B, in combination with the sliding gate or register *e*, constructed and operating in the manner described.

No. 41,107.—J. B. Sweetland, Fostoria, Ohio.—*Churn Power.*—January 5, 1864.—This invention consists in the employment of a drum of variable diameter upon which is wound a rope having a weight attached to its free end, in connexion with gear wheels and a grooved shaft so arranged as to impart motion to the dasher rod of a churn upon winding up the weight.

Claim.—The arrangement of the variable drum E, gearing C *e* H, crank K, adjusting balance L, and rods M N, with the dasher rod P, in the manner herein shown and described and for the purpose specified.

No. 41,108.—Henry J. Van Theil, Stapleton, N. Y.—*Suspended Bunk Lamp.*—January 5, 1864.—In this lamp the fountain is entirely closed at the top, and an opening is made in the bottom in which is fitted a screw plug, and through which the oil is supplied to the lamp. Projecting laterally from the lower part of the fountain is the wick tube which curves upward at its outer end; the object being to admit of a uniform supply of oil to the wick, and prevent leakage by overflow in a swinging lamp.

Claim.—A suspended or bunker lamp having its fountain A provided with a screw plug C in its bottom, and a horizontal wick tube D attached to its lower end, as herein set forth.

No. 41,109.—Reuben C. Varnol and Joseph T. Martin, New York, N. Y.—*Marine Propeller.*—January 5, 1864.—This invention relates to the employment of folding buckets in a reciprocating propeller, and it consists in certain means for providing for the reversal of the direction of the propulsion without the necessity of reversing the engine.

Claim.—First, the racks *i i* and pinions *j j*, in combination with the two sets of reve floats *b b* and *b b′*, substantially as and for the purpose herein specified.

Second, the bars *f f* and *e e*, in combination with the frames B C, the floats and the fram D D′, substantially as and for the purpose herein specified.

No. 41,110.—C. C. Walworth, Boston, Mass.—*Screw Plate.*—January 5, 1864.—The die box and handles of this instrument are formed integral with each other of malleableized iron. The handles are made hollow, and are bifurcated at their junction with the die-box so that the handle cores can be supported at each end. A cover is pivoted to the die-box so as to swing over the space in which the die is contained, and to retain its position, the cover being locked or cramped by a screw having its handle located on that side of the screw plate from which the socket protrudes, by which means it is protected from any damaging contact.

Claim.—A screw plate constructed substantially as described.

Also, the arrangement of the handle or thumb nut of the screw which clamps the die cover as specified, for the reasons set forth.

No. 41,111.—John Weaver, Knightstown, Ind.—*Medical Compound.*—January 5, 1864.—The ingredients forming this compound are brandy, columbo powdered, hydrastis canadensis, cascarilla bark powdered, and magnolia glauca, to be used for the treatment of camp diarrhœa.

Claim.—A compound of the ingredients and in the proportions substantially as specified, a specific for the cure of chronic camp diarrhœa.

No. 41,112.—James D. Willoughby, Washington, D. C.—*Submarine Explosive Projectiles.*—January 5, 1864.—This invention consists of travelling torpedoes which are suspended to buoys or suitable floats and propelled through the water by means of rockets of peculiar construction, which are applied to the floating torpedoes or to the buoys supporting them in such a manner that they can be guided and directed in their course to a vessel which it is desired to destroy, and then explode directly under the vessel at the moment of contact with it.

Claim.—First, the combination of buoys or floats A A′ A with a torpedo or magazine of powder suspended beneath the same, and operating substantially as and for the purposes herein described

Second, in combination with a floating torpedo, a rocket constructed and applied substantially as described.

Third, the means, substantially as described, applied to the buoy and torpedo for exploding the latter automatically.

Fourth, the adjustable extension rods E E, or their equivalents, for supporting the torpedo and rocket and allowing the same to be raised or depressed, substantially as described.

Fifth, the combination of a travelling torpedo with a "paying-out" apparatus constructed for guiding the torpedo in its course through the water without the interposition of the rudder, substantially as described.

Sixth, the combination of a "dark lantern" L with a travelling torpedo, substantially as and for the purposes described.

Seventh, arranging and supporting the torpedo beneath the buoy, substantially as described, in such a relation therewith that the torpedo can be brought under the keel of a vessel and there exploded, substantially as described.

Eighth, a rocket torpedo consisting of the magazine B, fuze or fuzes *c c*, and rocket D, constructed substantially as described.

No. 41,113.—L. C. Winslow, Canton, N. Y.—*Cheese Press.*—January 5, 1864.—This apparatus is composed of a lever frame provided with pawls and arranged with ratchet cam-wheels, pressure bars and an adjustable cheese bed.

Claim.—The ratchet cam-wheels B B, and lever frame C, provided with the double pawls D, in combination with the cheese board H and the pressure bars E E′ connected with the wheels B, as shown, all arranged to operate with or without the extension lever J, substantially as and for the purpose herein set forth.

No. 41,114.—Joseph Wood, Red Bank, N. J.—*Shoe for Car Brakes.*—January 5, 1864.—The sole of the shoe which bears upon the periphery of the car wheel has upon the opposite side two upper lugs or projections and two similar lower lugs or projections. Between the two upper and the two lower lugs are spaces for the reception of dovetailed projections on the shoe, the two parts being kept in position by means of a pin, so that the sole may readily be removed when worn and replaced by a new one.

Claim.—The shoe A and sole B, when one is dovetailed to the other and when they are so held together by a retaining pin or bolt *m*, or its equivalent, that on withdrawing the same the sole can be readily detached from the shoe as specified.

No. 41,115.—Edward E. Bean, Boston, Mass., assignor to himself, L. H. Straw, J. A. Locke and E. Leland, of same place.—*Implement for Disabling Ordnance.*—January 5, 1864.—This invention consists in the employment of a plug which can be inserted into the bore of a cannon, and by means of a key be locked or held immovably in place so that it cannot be withdrawn from or forced further into the cannon without using the key with which it is locked, by which means a gun can instantly be locked and rendered useless to the enemy, and in the event of its recapture the plug can be withdrawn by the use of the key.

Claim.—First, a plug for temporarily disabling a cannon, which can be inserted in its bore and locked in place, and can be again removed without injury to the gun by a suitable key, substantially as described.

Second, the segments F operated by the central cam D, in the manner and for the purpose substantially as described.

Third, operating the cam D by a combination key and lock, in the manner substantially as described for the purpose set forth.

Fourth, the projection *q* on the key G and lip 8 on the head B, by which the key may be employed for introducing or removing the plug, substantially as set forth.

No. 41,116.—Lewis M. Berry and Nathaniel S. Graves, Boston, Mass., assignors to Lewis M. Berry and Jas. H. Woodbury, of Winchester, Mass.—*Gig-Saw.*—January 5, 1864: antedated December 16, 1863.—This machine consists of two vertical, separate sliders, two parallel shafts, with mechanism for connecting the shafts and sliders, and also a mechanism for so connecting the two shafts as to cause one to drive the other, and both to be driven at the same rate of speed. An auxiliary slider is also employed, in connexion with a screw and nut, by which the saw may be properly strained between the two vertical sliders. With the two saw shafts are combined an endless band and two pulleys, with cranks or crank-pins, and a connecting rod, in such a manner as to cause both saws to rotate in the same direction.

Claim.—The combination of mechanism for supporting and operating the saw, the same consisting not only of the separate vertical sliders L L′, the two parallel shafts B C, and the cranked wheels I I, and slotted plates K K, (or mechanism for connecting each of the shafts and its slider,) but of mechanism, viz: the pulleys D D, and endless belt E, for connecting the two shafts in such manner that one may drive the other, and both be driven at the same rate of speed, the whole being substantially as described; and in connexion with the said combination, mechanism for straining the saw, the same consisting of the auxiliary slider O, the screw d, and nut c, the whole being applied so as to operate together as specified.

Also, the combination of the endless band E, and the two pulleys D D, with the connecting rod G, and its crank-pins F F, projecting from the said pulleys.

No. 41,117.—H. A. Briggs and Samuel S. Hopkins, Norwich, Conn., assignors to themselves and C. A. Converse, of same place.—*Revolving Fire-arms.*—January 5, 1864.—Within the main frame of the arm is a laterally swinging frame so constructed as to support both ends of the axis pin and to fit within recesses in the main frame, for the purpose of affording a firm support and durable attachment to the cylinder.

In combination with the swinging frame is a plunger, so arranged as to expel the discharged cartridge shells from and clean the chambers, and which, when not in use, lies close under the stationary barrel.

Claim.—First, the laterally swinging frame, having a bearing on a long pin f, which extends from the front to the back of the main frame A, and supporting the cylinder axis pin both in front and in rear of the cylinder, and otherwise applied in combination with the main frame A, substantially as and for the purpose herein specified.

Second, the plunger F, applied in combination with the laterally swinging link and with a cylinder which is arranged to swing laterally out of the main frame, substantially as and for the purpose herein specified.

No. 41,118.—Abram J. Gibson, Worcester, Mass., assignor to Edward Levermore, of New York, N. Y., and Jonathan Luther, of Worcester, Mass.—*Postage and other Stamps.*—January 5, 1864.—The nature of this invention is explained by the claim; the object being to prevent the restoration of cancelled stamps.

Claim.—In printing of postage and revenue stamps, or other stamps of similar character, requiring cancellation, with an impression or impressions made wholly or partly in fugitive ink, which will be destroyed or removed by the destruction or removal of the ink employed for their cancellation, substantially as herein described.

No. 41,119.—A. B. W. Bullard, Worcester, Mass., assignor to Augustus Richardson, Framingham, Mass.—*Composition for Paint.*—January 5, 1864.—The ingredients of which this composition consists are starch, Paris white, (or common whiting,) water, alum, and chloride of sodium.

Claim.—The above described composition, as made of the materials and in manner substantially as specified.

No. 41,120.—J. P. Hines, Independence, Iowa, assignor to himself, G. H. Robinson and John Dunster, of same place.—*Corn Planter.*—January 5, 1864.—Placed centrally upon a shaft in the frame of this machine is a toothed wheel C, and upon the same shaft are also two wheels F, placed under two hoppers, and provided with holes in their peripheries, into which are fitted screws. The front parts of these wheels work in semicircular recesses in sheathed standards attached to the framing. In the front part of the framing is fitted an upright spindle, the upper part of which passes through a lever operated by the driver from his seat.

Claim.—The arrangement and combination of the wheels C E E', hoppers F, and sheathed standards C, with the spindle G, lever H, and seat K, in the manner herein shown and described.

No. 41,121.—Joel McComber, Herkimer, N. Y., assignor to James McComber, of same place.—*Last-finishing Machine.*—January 5, 1864; antedated December 26, 1863.—This invention relates to a method of forming the toe and heel of lasts which are turned by machinery, the parts being so arranged as to be capable of being adjusted to operate upon lasts of different sizes, and also to form the curve at the ends of the last.

Claim.—First, the employment or use of the adjustable carriage F, in connexion with the plates G K applied to the carriage F, substantially as shown and arranged, so as to admit of a separate longitudinal adjustment of the plate K, while both plates G K are allowed to turn on the carriage from a pendant rod H, as a centre, for the purpose herein set forth.

Second, the adjustable plate O, provided with an upright ledge or flange o, having a concave recess p made in its upper surface, in combination with the longitudinal rib s attached to the under side of the plate G, substantially as and for the purpose herein set forth.

Third, the combination of the carriage F, plates G K, and cutter-head C, provided with the toe and heel cutters a b, all arranged and combined for joint operation, as and for the purpose herein set forth.

No. 41,122.—Don J. Mozart, New York, N. Y., Levi Beach, Farmington, and Laporte Hubbell, Bristol, Conn.—*Calendar Clocks.*—January 5, 1864.—This invention relates to mechanism for registering the month, day of the month, and days of the week, with a provision for the leap years, the parts being constructed and operated in such a manner as to require no additional force in the mainspring of the clock, and also to cause it to run a whole year with only one winding.

Claim.—First, the application of a mainspring E, to operate the year wheel of the calendar movements, independently of the mainsprings of the clock, substantially as described.

Second, the arm $e3$, in combination with the tripping wheel $b2$, when said arm extends through the face of the calendar, substantially as and for the purpose described.

Third, the vibrating arm $e3$, cylinder f, or its equivalent, and ratchet escape wheel f' for registering the revolutions of the wheel $b2$, substantially as described.

Fourth, as an element of a calendar clock, the year wheel D, constructed, applied, and operating substantially as and for the purposes described.

Fifth, the manner specified of combining the year wheel D and seven-leaf pinion g', for the purpose set forth.

Sixth, the supplemental or leap year tooth combined with year wheel D, and operated by an eccentric $r2$, cam wheel J, and arm L, substantially as described.

Seventh, the toothed month dial G applied to the arbor i of the year wheel D, and operated by said wheel through the medium of a spring K, substantially as described.

Eighth, and, in combination therewith, the cylinder escapement n, operating substantially as described.

Ninth, the month pinion H, in combination with the year wheel D, constructed substantially as described.

Tenth, the specified manner of applying the month and day pinions g' and H to the year wheel D, for the purpose set forth.

Eleventh, the arrangement of the three dial plates K G N for registering months, days of the month, and days of the week, substantially as described.

No. 41,123.—John Nelson, Rockford, Ill., assignor to himself and Wales Needham, of same place.—*Raking Devices for Harvesters.*—January 5, 1864.—The platform of this machine is placed upon the upper part of a shallow box, the latter having two parallel rods b b secured in it longitudinally. In the bottom of the box is arranged an endless chain. Upon the rods b b is fitted a rake which is connected to the endless chain by means of a link, one end of which is pivoted to a cross rod f, and the opposite end is similarly attached to the endless chain. To the under surface of the platform are attached two metal plates or projections r r, and also a rod s which extends across one of the slots. Pivoted to the cross rod f is also a lever G, one end of which is provided with a fork fitted on the shaft g, the other end being provided with a V-shaped projection. The forked end is so arranged as to prevent the shaft g from turning.

Claim.—The endless chain E, having the rake attached to it by means of the link H, and the rake fitted on guide rods b b, as shown, in combination with the slotted platform A, all arranged as and for the purpose specified.

Further, the lever G, provided at one end with the fork m, and at the opposite end with the V-shaped projection u, in combination with the shaft g', having teeth i attached, and the pendent plates r r, rod s, and plates t, at the under side of the platform, all arranged as and for the purpose specified.

No. 41,124.—Helen Rose, Milford, Mass., assignor to herself and Giles Sanford, of same place.—*Washing Fluid.*—January 5, 1864.—This fluid is composed of a solution of sal soda and lime, either slaked or unslaked, in a proper quantity of water, to which is added a small quantity of alcohol.

Claim.—The said hydro-alcoholic alkaline solution, as made in manner and for use substantially as hereinbefore described.

No. 41,125.—Joseph F. Sargent, Boston, Mass., assignor to Elmer Townsend, of same place.—*Eyeletting Machines.*—January 5, 1864.—This invention relates to an improvement in the machines for which patents were granted to the said Sargent January 6 and August 25, 1863, and the novelty consists in a method of feeding the eyelet to the operation of the clinching or setting tools, and an arrangement of mechanism for operating the lower set; also in the construction and operation of the hopper and a method of adjusting the upper set so as to adapt the setting devices to the use of varying stock and eyelets.

Claim.—The combination in one instrument of the set and feeding device, made to operate on the eyelet substantially as above set forth.

Also, imparting the vertical movements to the movable set by means of the rod g and levers n o, arranged and operating together substantially as specified.

Also, the manner of adjusting the upper set b with relation to the lower set and the stock to be eyeletted, as above set forth.

Also, the manner of applying the stop spring so that the flange of the eyelet is drawn against and over the same, for the purpose specified.

Also, the combination of a stationary hopper, with a rotating disk or plate and a chute, as above set forth.

Also, combining with the stationary hopper an adjustable or gauged gate, substantially in the manner as above specified.

And in combination with the vibrating set d, also the use of the spring pin or sliding pin r, to feed the eyelet from the stationary chute, substantially as described.

No. 41,126.—CHARLES SHOLL, Brooklyn, N Y., assignor to F. A. DE MEY, New York, N. Y.—*Method of Removing Submerged Torpedoes.*—January 5, 1864.—The nature and object of this invention are explained by the claim.

Claim.—The removal of torpedoes or other submerged or partly submerged obstacles or obstructions from harbors, rivers, or other waters, by throwing over them from a mortar or mortars, on board of a vessel placed at a suitable distance, projectiles which are connected with the vessel by one or more ropes or chains of suitable length, and then propelling the vessel in a direction to tighten the latter rope or ropes, or chain or chains, and drag away the said obstacles or obstructions, substantially as herein specified.

Also, the combination of the vessel A, one or more mortars B B, and projectiles C C, and the rope or ropes D D and *a*, or their equivalents, the whole arranged to operate substantially as and for the purpose herein specified.

No. 41,127.—WILSON H. SMITH, Birmingham, Conn., assignor to himself, R. M. BASSETT, and CHARLES D. GIBSON, of same place.—*Projectile for Rifled Ordnance.*—January 5, 1864.—This invention will be understood from the claim.

Claim.—Improved casing for sub-calibre projectiles, consisting of a light metallic jacket B, combined with a movable supporting disk C, and an exterior envelope E, of paper, papier maché, leather, rubber, gutta-percha, cotton, lithoconia, hemp, or other similar and equivalent soft, plastic, fibrous, or elastic materials, either singly or in their combinations, the whole being united and arranged substantially in the manner and for the purpose herein set forth.

Also, the combination of improved casing, as described, with any suitable form of sub-calibre projectile for ordnance, substantially as herein set forth.

No. 41,128.—WILLIAM G. SNOOK, Corning. N. Y., assignor to himself and O. C. PATCHILL, Blossburg, Pa.—*Valve Gear of Steam Engines.*—January 5, 1864.—In this machine the eccentric and its encircling strap are so constructed that in operating the valves a full opening is given to the ports both for induction and eduction during the first quarter of the stroke of the piston, and the ports are closed during the last quarter of the stroke, leaving the valve stationary and the ports fully open during the second and third quarters of the stroke, by which means the full pressure of the steam is maintained on the piston more nearly to the termination of the stroke, and a freer exhaust is provided than when the valve is connected with the common eccentric.

Claim.—The combination of the eccentric C, having its periphery composed of four arcs, and the strap D, having four bearing points, the whole operating substantially as and for the purposes herein set forth.

No. 41,129.—WILLIAM H. VAN NORTWICK, Bordentown, N. J., assignor to himself and R. S. VAN RENSSELAER, of same place.—*Reclining Chair.*—January 5, 1864.—This invention relates to an improvement in a reclining chair, for which a patent was granted to Van Nortwick and Van Rensselaer August 5, 1862, and the novelty consists in the combination of a series of frames with the seat and stationary frame, for the purpose of supporting the legs of the occupant of the chair when the said occupant is in a reclining position, the said frames being so arranged that they can be folded and moved out of the way when the chair is converted into an ordinary seat.

Claim.—As an improvement on the patent granted to me and R. S. Van Rensselaer on the fifth day of August, A. D. 1862, the sliding frame P, and folding frames Q. R, and S, or their equivalents, in combination with the seat D and the framework or other support to which the seat is hinged.

No. 41,130.—PAUL WEBER and LOUIS MULLER, Stuttgart, Wurtemburg, assignors to GEORGE L. WEBER, of New York, N. Y.—*Riding Saddle.*—January 5, 1864.—Attached to the bow in front and the cantel in the rear is a strap of leather which is drawn tightly at its edges, and receives the seat of the saddle. To the inner side of the saddle-tree are hinged pads formed of steel plates properly covered. and which rest upon the horse's back so as to allow a current to pass under the seat, the pads readily accommodating themselves to the shape of the horse's back.

Claim.—The seat C, being supported by the strip B and bows *b c*, in combination with the pads D D, constructed and operating in the manner and for the purpose substantially as shown and described.

No. 41,131.—C. S. ABEL, Chicago, Ill.—*Safety Hook.*—January 5, 1864.—The hook is provided with a hinged bar, which is kept in place by a spring. The spring is not fastened to the hook or bar, but one end is placed in a groove in the hook, while the other end rests against the bar. A guard *a* is placed on one or both sides of the bar, in order to prevent any accidental pressure on the top of the hook from depressing the bar.

Claim.—First, the combination of the hook A, the adjustable bar B, and the peculiarly arranged spring C, all arranged and operating substantially as and for the purposes herein pecified and shown.

Second, in combination with the above, the employment of one or two guards *a*, for the purposes specified.

Third, in combination with a snap hook, arranged as shown, the interior projection E, for the purposes herein shown and set forth.

No. 41,132.—NATHANIEL A. BATCHELOR, New York, N. Y.—*Mode of Ornamenting Metals.*—January 5, 1864.—Upon the surface of cast iron or other metal plates are placed thin plates of a different metal, of any desired form or design, which are caused to adhere to the first-named metal in any suitable way. These plates are then japanned and afterwards rubbed down and polished in such a manner as to leave their surfaces exposed, when they may be further ornamented by engraving, chasing, or otherwise, or the said plates may be engraved or chased before the application to the iron or other metal to be ornamented.

Claim.—The cementing of plate or sheet-metal ornaments to the article to be japanned, and then applying the japan as described.

No. 41,133.—CORNELIUS BOLLINGER, Harrisburg, Penn.—*Pump.*—January 5, 1864.—This invention consists in the application of lugs or stops on the inside of the cylinder head and on the piston head, so as to keep the piston head from turning when the piston rod is screwed through it to tighten the packing. The piston rod is provided with a screw and cone to press out the segments in the piston, in order to tighten the packing without removing the cylinder heads. The piston head and follower are provided with recesses for the cone on the piston rod, and a recess is also made in the cylinder head for the screw or end of the piston rod. A spring pawl is placed upon the follower, so as to act on the piston rod and prevent it from turning.

Claim.—First, the lugs R R, on the cylinder head, when applied to prevent its turning when the piston rod is screwed in to tighten the packing.

Second, a piston rod, with a screw working in the piston head, and provided with a cone, by which the segments to tighten the packing may be pressed out substantially as described.

Third, in combination with the cone on the piston rod, the recesses in the piston head and follower, which receive the cone, and also the recess in the cylinder head Q, which receive the end of the piston.

Fourth, in combination with the devices for tightening the packing, the spring pawl P^2 working into counter sinks in the piston rod, for the purpose set forth.

Fifth, the packing box on the cylinder head, in combination with the cone on the follower, or plate M^1.

In combination with the cylinder A, the valve box and valves constructed and arranged substantially as described.

No. 41,134.—JEHU BRAINERD and W. H. BURRIDGE, Cleveland, Ohio.—*Adjustable Clothes Rack.*—January 5, 1864; antedated December 30, 1863.—The bracket, which is secured to the wall or other convenient place, is provided with projections, upon which may be placed one or more arms that admit of being moved horizontally at their outer ends, and upon these are placed hooks that also turn in order to admit of clothes being hung upon them, and when not in use the arms may be folded out of the way.

Claim.—The bracket D, arms A B C, (one or more being used,) the reversible hook H I J, the several parts being constructed, arranged, and combined, as and for the purpose herein set forth.

No. 41,135.—LYMAN B. BROOKS, Salem, Mass.—*Toilet and Writing Case Combined.*—January 5, 1864.—This invention consists of a box or tray made of tin or other material, to which is attached a writing folio and a work and toilet case, which may be rolled up compactly around the box.

Claim.—The combination of the work and toilet case with roll-up writing case, substantially as described.

No. 41,136.—FRANKLIN C. BROWNELL, Brooklyn, N. Y.—*Ink Well.*—January 5, 1864; antedated December 30, 1863.—This invention is designed more particularly for school desks, and it consists in making an irregular or gradually contracting groove around the exterior of the ink well, with openings to admit lugs and a socket having one or more lugs adapted to enter the said groove. The well is fastened in the socket by turning the same with a key adapted for the purpose.

Claim.—The use of a contracting groove G, or its equivalent, around the exterior of an ink well or its top or cap, in combination with one or more lugs D D fastened to or forming part of the socket for the ink well, the same being constructed and operating substantially as and for the purposes specified.

No. 41,137.—O. C. BURDICT, New Haven, Conn.—*Die for Nut Machine.*—January 5, 1864.—The die is formed of four separate pieces or blocks, each piece corresponding in depth and breadth with the nut or piece to be swaged, the said pieces or blocks being so placed that each will form one of the four sides of the die, and when the outer angle or corner of the die or the face of the same shall have become worn by use, the position of the block may be changed to present a new face or angle.

Claim.—A die composed of four pieces, when the same are of the form and combined and arranged in the manner and for the purpose substantially as herein set forth.

No. 41,138.—James W. Cole, Chariton, Iowa.—*Spading Machine.*—January 5, 1864.—At the rear end of the frame of the machine are arranged two levers, connected at their front ends by means of a pitman to crank pulleys. To each end of the levers are attached two spade or fork standards, the latter being formed partly crooked or oblique. These standards are fitted to work between rollers, one roller being placed above and the other below the frame. As the machine moves forward the standards are forced downward under the action of the levers, the spades entering the earth obliquely; and as the standards are drawn upward they are forced towards the front part of the machine, owing to the peculiar form of the standards as they come in contact with the upper roller, causing the earth to be thrown outward or backward.

Claim.—The spade or fork standards M, constructed with a crook or oblique portion *e*, and operated through the medium of the levers L, pitman K, and crank pulleys J, or their equivalents, in combination with the rollers N N′, all arranged and applied to a mounted frame A, to operate as and for the purpose herein set forth.

No. 41,139.—Eleazer L. Collins, Wellfleet, Mass.—*Rolling Casks or Barrels.*—January 5, 1864.—To each end or head of a barrel is applied a circular disk, to the centre of which is journalled the ends of a draught yoke. The ends of the said yoke are kept pressed against the heads of the barrel by means of an elastic spring placed around the prongs of the yoke.

Claim.—My improved barrel-rolling apparatus, as constructed with the disks B B, or their equivalents, the draught yoke C, and the spring D, combined and arranged with respect to one another substantially in manner and so as to operate as specified.

No. 41,140.—C. O. Crosby, New Haven, Conn.—*Ladies' Collars.*—January 5, 1864.—This invention relates to ladies' collars made from frillings produced by the frilling machine, for which a patent was granted to Crosby and Kellogg December 2, 1862. For a description of the method of finishing reference must be had to the specification.

Claim.—As a new article of manufacture the within-described ladies' collar.

No. 41,141.—Daniel Dodge, Keeseville, N. Y.—*Machines for Making Horseshoe Nails.*—January 5, 1864.—This invention consists in the employment in a machine for making forged nails of cutters so constructed and applied as to cut the metal from the side of the nail in order to reduce the thickness and produce the desired form of the point. In combination with the said cutters is a moving finger or presser, so arranged in connexion with a fixed guide as to press the nail against the guide, and hold it in contact therewith and in proper position during the operation of cutting the point, and to act upon the point before or during the cutting operation, so as to bring it into line with the centre of the nail when the cutting is completed.

Claim.—First, the employment in a machine for making forged nails of cutters, so constructed, arranged, and operating as to serve the purpose of cutting metal from the side to reduce the thickness and produce the desired form of the point of the nail, substantially as herein specified.

Second, the finger *f*, or its equivalent, operating in combination with the upper cutter *b* and a fixed guide or gauge, substantially as and for the purposes herein set forth.

No. 41,142.—Samuel Davis, Providence, R. I.—*Washing Machine.*—January 5, 1864.—In this machine the dasher, which is composed of a series of bars connected by transverse rods, and attached to the lower part of an upright shaft, is provided on its upper surface with a circular disk of about half the diameter of the dasher. This disk serves to deflect the water laterally and through the channels of the dasher. The lower lever is attached to a standard on the side towards the operator, which standard is made with a transverse back rest, so as to support the lower lever when the dasher is out of the tub, and rests on the upper surface of a shelf extending over the edge of the tub.

Claim.—The combination and arrangement of the dasher B and upright C with the deflector D, lever E, standard I, rest *e*, and shelf *f*, substantially as described.

No. 41,143.—John Evans, New Haven, Conn.—*Lehigh Forge Fires.*—January 5, 1864.—This invention relates to an improvement in the Lehigh forge fire, for which a patent was granted to the said Evans March 24, 1863, and the novelty consists in combining a water top with the water front of the said Lehigh forge fire, for the purpose of cooling the atmosphere around the forge to a greater extent than can be done by the water chamber front alone.

Claim.—The combination of a hollow water chamber front D with a water top E, in the manner and for the purpose substantially as herein set forth.

No. 41,144.—Joseph P. Gallagher, St. Louis, Mo.—*Hydrants.*—January 5, 1864.—The lower end of the valve stem or plunger in this device is provided with a suitable valve A′ in the chamber B. Communicating with the valve chamber is a delivery pipe extending upward to a suitable point for the discharge of water, and connecting with the said pipe

is a waste pipe *k*, which also communicates with the chamber B above the valve when the same is closed. Above the closed valve is an opening *p* through which the waste water may escape, and thus avoid being frozen in the hydrant.

Claim.—The arrangement of the pipes *n k* in combination with the chamber B, valve A′, and opening *p*, all being constructed and arranged to operate substantially as and for the purposes set forth.

No. 41,145.—John W. Gay, Brooklyn, N. Y.—*Elastic Fur Band.*—January 5, 1864.—This invention consists of a strip of elastic woven shirred goods attached, while under more or less tension, to a strip of fur, the ends being united to form a band, so that the fur is drawn together by the contraction of the band, and can be stretched to the limit of the length of the fur, to be used for fur cuffs, muffs, &c.

Claim.—An elastic fur band composed of a strip of woven shirred goods, attached to the strip of fur, as and for the purposes specified.

No. 41,146.—John W. Gay, Brooklyn, N. Y.—*Muff.*—January 5, 1864.—This invention consists in the use of strips of fur or skins with thicker or longer hairs than those on the body of the muff, to form a handsome finish for the same, also to protect the edges of the skins from wear.

Claim.—A muff formed with strips of fur around the ends at the edges of the skins for the purposes and as specified.

No. 41,147.—C. H. Gifford, Auburn, Mass.—*Apple Coring and Slicing Machine.*—January 5, 1864.—This device is composed of a rotary fork, upon which is placed the apple to be operated upon, in connexion with a reciprocating knife and feeding pawl for rotating the fork. As the reciprocating bar descends, the knife makes a radial cut in the apple to its core, and as the knife rises, the pawl causes the toothed wheel to turn, which gives motion to the fork.

Claim.—The reciprocating knife in connexion with the intermittingly rotating fork, arranged to operate in the manner substantially as and for the purpose herein set forth.

No. 41,148.—Thomas S. Gilbert, Derby, Conn.—*Hoop Skirts.*—January 5, 1864.—The nature and object of this invention are explained by the claim.

Claim.—Overlapping the opposite ends of the hoops and securing them to vertical tapes, or their equivalents, so arranged with the hoops as that the tendency of the hoops to assume a straight condition will lock the hoops' ends and their vertical tapes together sufficiently to retain them effectually in any position to which they may be adjusted, substantially as set forth.

No. 41,149.—Thomas S. Gilbert, Derby, Conn.—*Hoop Skirts.*—January 5, 1864.—This invention consists in overlapping the ends of each hoop wire, or spring, and securing its ends in vertical tapes, which are also connected to the portion of the hoop adjacent to the overlapped end.

Claim.—Overlapping the ends of each spring *e* and securing its ends in or to a tape or tapes, which also retains that portion of the spring adjacent to each end of the latter.

No. 41,150.—Frederic Newborn Gisborn, London, England.—*Mode of Steering Vessels.*—January 5, 1864.—Patented in England June 1, 1862.—This invention consists in the employment of electrical apparatus so connected by wires with the different parts of the vessel, that the look-out officer or other person may, at any convenient part of the ship, communicate to the helmsman the requisite orders as to the direction in which to steer the ship, and by which, also, the helmsman, on receiving such orders, may reply thereto; an arrangement is also made for indicating the position of the rudder. The armatures are pivoted to move eccentrically upon their axes when attracted by the poles of the electro-magnets, and are made to open a series of shutters or lids, and thus expose to view the various words indicating the necessary orders.

Claim.—First, the eccentric movement of the armature herein described, whereby the operator is enabled to uncover a large signal with a very trifling movement of the armature, and with a minimum magnetic power consequent upon the armature being always in close proximity to the electro-magnet.

Second, the application of a double break in each circuit—the one being completed by the slide or shutter when up; the other by the pressure of the helmsman upon his reply lever, and thus by a single movement enabling him to repeat back many signals.

Third, the application of a contact maker to the rudder head or shaft of a vessel, for the purpose herein described, and especially the revolving side-wheel rubbing contact maker herein particularly described.

No. 41,151.—George W. Goodhue, Cincinnati, Ohio.—*Lubricating Compound.*—January 5, 1864.—This invention is explained by the claim.

Claim.—A lubricant composed by taking residuum from the decomposing vat when only partially divested of oil and combining pine tar therewith, in manner and in proportions substantially as specified.

No. 41,152.—**JOHN HAFER**, Bedford, Penn.—*Stove.*—January 5, 1864.—This invention is designed as an improvement upon the "Cone Radiator," for which a patent was granted to the said Hafer October 27, 1863, and the novelty consists in attaching to the jacket or case, projecting flanges, arranged at an angle to shed the ashes and soot, and so that in passing beneath the edges of the cones they will cause the ascending products of combustion to travel a greater distance over the outer surface of the cones, and also heat the flanges, thus furnishing an increased radiating surface.

Claim.—First, the flange *d*, resting on and projecting beyond the walls of the fire-pot, for the purposes set forth.

Second, the combination of a series of two or more flanges with the series of two or more cones of a stove, furnace, or radiator, arranged and operating substantially in the manner described.

No. 41,153.—**HENRY HAIGH** and **RICHARD HEATON**, Huddersfield, England.—*Dyeing Cotton, &c.*—January 5, 1864.—The nature of this invention is explained by the claim.

Claim.—The use of a solution of lime or other alkaline solutions, instead of bichrome or bichromate of potash, in the process of dyeing cotton or other vegetable fibrous substances, catechu brown.

No. 41,154.—**ELIAS HALE**, Terre Haute, Ind.—*Pump.*—January 5, 1864.—The pump is formed with two cylinders, between which is placed a standard provided with a set of adjusting holes, by means of which a double-handled operating lever is secured which may be adjusted higher or lower, as occasion may require. The said lever is provided with a long central opening, through which pass the piston rods, and to the lever are jointed connecting rods, which latter are in turn jointed to vibrating bars above, so that the operating lever may be raised or lowered at pleasure without a corresponding adjustment of the vibrating bars, and the stroke of the lever may be gauged to adapt it to the length of the pump or cylinder.

Claim.—The adjustable lever D, provided with the opening *h* and adjusting gauge bolt K, the connecting rods E E′, vibrating bars G G′, and standard C, the whole arranged and operating relatively to the piston rods H H′ and cylinders B B′, substantially as herein set forth.

No. 41,155.—**JAMES D. HALSTED**, Rye, N. Y.—*Horse Hay Fork.*—January 5, 1864.—In this device the fork is provided with a bail or sustaining bar, and a brace or toggle joint bar similar to that shown in the patent of N. Palmer, granted September 30, 1862; and the novelty consists in applying a lever to the fork in such a manner as to act against the toggle joint bar, and cause the latter to be easily moved so as to admit of the load being readily discharged.

Claim.—The employment or use in a horse hay fork provided with a brace or toggle joint bar D, of a lever F, arranged in relation with the toggle joint bar, to operate in the manner substantially as and for the purpose herein set forth.

No. 41,156.—**JOB B. HENDY**, Olean, N. Y.—*Bolting Shingle Blocks.*—January 5, 1864.—Upon a circular bed plate, which is secured to a table, is arranged a series of conical or conoidal metallic rollers, projecting somewhat above the table through corresponding slots therein. Extending from the centre of the bed plate to the edge of the table is a slot designed for the passage of a circular saw. From the table arises a standard, to the upper end of which is pivoted an arm provided on its outer end with a pointed pin, made adjustable to conform to the height of the block, which latter is also so adjusted and secured in position upon the bed plate that the heart of the timber will constitute the axis upon which the log is to be turned.

Claim.—A machine constructed with a bed plate A, rollers C, standard D, and pivoted arm E, substantially as described, for centring logs or cuts to be sawn into bolts for shingle machines.

No. 41,157.—**JAMES HOLLAND**, Conshohocken, Penn.—*Insulator for Telegraph Wires.*—January 5, 1864.—The insulator is formed of terra-cotta, earthenware, or other equivalent material, and fitted upon the top of the pole as a cap, the same being provided with a groove on the top and projections on the sides for the reception of the wires.

Claim.—An insulator or holder made of terra-cotta, earthenware, or equivalent substance or substances, adapted to a pole and formed for the reception of the wires, substantially as set forth.

No. 41,158.—**HENRY S. LANSDELL**, St. Louis, Mo.—*Steam Syphon for Raising Water.*—January 5, 1864; antedated November 2, 1863.—This device is so constructed and arranged that the end of the injection pipe shall occupy a position within a globe or socket opposite some part of the orifice through which water is introduced into the said globe or socket instead of projecting into the entrance of the discharge pipe, as usual. The delivery pipe is contracted near the mouth of the steam pipe by means of two reversed hollow cones, for the purpose of limiting the capacity of the discharge pipe at or near its entrance when water is to be forced under a heavy pressure or elevated to a considerable height.

Claim.—First, the arrangement of the globe or socket A, injection pipe B, and delivery pipe D, when the pipe B terminates within the globe or socket A above or opposite any part of the induction C, substantially as and for the purposes set forth.

Second, the combination of the above arrangement with the reversed cones *a*, *b*, in the manner herein shown and described.

No. 41,159.—**GEORGE LARGE**, Rosemond, Ill.—*Cultivator.*—January 5, 1864.—In this machine the two foot levers are so arranged in relation to the driver's seat and the bars and cross-pieces connecting with the shovel standard, as to enable the operator to raise two of the shovels so as to avoid any obstructions without disturbing the action of the remaining two shovels, and also to admit of the lateral movement of the shovels.

Claim.—The foot levers F, in combination with the tie G, the bars H, the bars P, the cross-pieces J and L, and the metal plates *m*, the whole constructed and arranged in the manner and for the purpose set forth.

No. 41,160.—**RUFUS K. LEE**, Brooklyn, N. Y.—*Carpet Tack Protector.*—January 5, 1864.—This invention consists in inserting an eyelet in the leather or other material which is usually placed under the head of the tack when the latter is used to secure a carpet to the floor.

Claim.—The tack protector formed by an eyelet introduced in a piece of leather or other suitable material, as set forth.

No. 41,161.—**SAMUEL R. MARSHALL**, Wilkesbarre, Penn.—*Portable Crane.*—January 5, 1864.—In this machine the swinging frame of the excavating machine is connected to the stationary upright and step usually attached to the outside of the railroad car or canal boat, so that the same may be readily lowered and allowed to pass with the said car or boat under the low bridges which span the highways without requiring it to be detached or dismantled.

Claim.—Attaching the swinging frame A of a portable crane to the stationary upright and step which are used to support it, so that the said swinging frame may be lowered and raised, substantially as described for the purposes specified.

No. 41,162.—**FRANK N. MARTIN**, Covington, Ky.—*Gun Sight.*—January 5, 1864.—This invention consists in the employment of a cover for the sights of a gun made of some transparent material, which is protected by a light metallic frame attached to the barrel of the gun, so as to allow the light to completely illuminate the sight.

Claim.—The open cylinder *b*, or its equivalent, made of suitable transparent material, for the purpose above specified.

No. 41,163.—**R. H. MATHEWS**, Alliance, Ohio.—*Foot and Kneeling Stool.*—January 5, 1864.—This invention consists in constructing and arranging a foot and kneeling stool for churches in such a manner as to admit of its being readily changed from one to the other, or turned back under the seat entirely out of the way.

Claim.—The herein-described construction of a combined foot and kneeling stool, the same being constructed, combined, and arranged substantially as and for the purpose herein set forth.

No. 41,164.—**JAMES S. MCCURDY**, Bridgeport, Conn.—*Sewing Machine.*—January 5, 1864.—This invention consists of a feed-bar slotted obliquely to its length, in combination with a fulcrum, upon which it both slides and oscillates longitudinally, together with an eccentric, in such a manner that the latter is caused to impart a rising and descending movement, and also the forward and retrograde movements, to the acting end of the feed-bar, and that the motion so imparted is modified by the obliquity of the slot, so that the feed-bar takes a firm hold upon the cloth before it moves forward. With the above is also combined a mechanism for adjusting the position of the fulcrum in reference to the eccentric, whereby the length of the feed at each operation can be regulated.

Claim.—The combination of an oblique, slotted feed-bar, fulcrum, and eccentric, or their equivalents, operating substantially as herein set forth.

Also, the combination of said oblique, slotted feed-bar, fulcrum, and eccentric, or their equivalents, with devices for adjusting the position of the fulcrum, the combination, as a whole, operating substantially as set forth.

No. 41,165.—**GEORGE B. MEDBERY**, Sprague, Conn.—*Picker for Looms.*—January 5, 1864.—In this device one screw only is employed in the connexion of the picker to the staff, the screw being passed through the staff and screwed into and through the picker, the latter being composed of several layers of leather or other suitable material.

Claim.—An improved application of the parts of the screw and the picker relatively to one another and the staff, the same being substantially as specified.

No. 41,166.—Joseph Merwin and Edward P. Bray, New York, N. Y.—*Fire-arms.*—January 5, 1864.—The object of this invention is to provide for the loading of a fire-arm constructed for the use of fixed ammunition with loose powder and ball in case the supply of fixed ammunition should become exhausted; and the novelty consists in the employment, in combination with a nipple and vent applied to such a fire-arm, of a hammer so constructed and applied that it will strike the shell of the fixed ammunition when that is used, and when percussion caps are used upon the nipple they will be struck and exploded, as upon the ordinary percussion lock.

Claim.—The arrangement of the vent *g* and nipple *d* in the breech-piece B, in combination with the hammer D, the recess *e*, nose *c*, chamber C, and shell E, as herein shown and described, so that, without removal or alteration of the breech-piece, either fixed or loose ammunition may be employed, as set forth.

No. 41,167.—Mary Jane Montgomery, New York, N. Y.—*War Vessels, the parts, applying to other Structures for Defence.*—January 5, 1864.—This invention consists in the employment of three tiers of corrugated iron beams. Between the inner beam and the adjacent one is interposed a plate B, the whole being secured together by means of screw bolts. Upon the outside of these corrugated beams is applied a series of imbricated plates C, which penetrate and fit into recesses formed on the outer part of the corrugated beams. These plates are designed to be made of steel, or rolled with a surface of steel, the ribs being of wrought iron. Into the recesses of the corrugations opening outwardly are introduced tongues of wood, having their outer faces flush with the curve formed by the convex faces of the corrugations, and to these tongues may be attached the outer planking.

Claim.—First, in armor for war vessels and other defensive structures the corrugated beams A A′ A″ and the intermediate flat plate or plates B, in combination with the steel plates C, or steel-faced plates C and C′, substantially as set forth.

Second, the introduction of wooden beams or tongues into the corrugations of corrugated iron beams in the manner set forth, and attaching thereto the planking I I I, or other sheathing material, substantially as described.

No. 41,168.—A. F. Newell, Warren, Ohio.—*Fruit Boxes.*—January 5, 1864.—This invention consists in forming the boxes of thin sheets or strips cut from a bolt or log corresponding in length and width to the size of the box required, and at the same time that the sheets are being cut from the bolt, they are also cut or slit at right angles, about half way through, at certain points or lines, so as to form the corners of the box, and also the joints or hinges for the cover. The cover consists of two leaves, the joint being formed by a cut or slit. The box is designed to be capable of being completely folded together for transportation when emptied of its contents at market.

Claim.—Grape and fruit boxes, as a new article of manufacture, composed of thin sheets of wood so cut, as herein described, that they may be folded into a compact form for transportation before being filled, completed and secured, as herein set forth.

No. 41,169.—Miron Owen, Potsdam, Y. Y.—*Cheese Press.*—January 5, 1864.—To the upper part of the framing of this press is hung an eccentric or cam, which is caused to act upon a roller operated by means of a lever and ratchet wheel, together with a pawl, to press down the plunger or follower.

Claim.—The combination and arrangement of the eccentric B, roller D provided with the ratchet wheel L, and lever K provided with the pawl Z, in the manner and for the purposes herein set forth.

No. 41,170.—Willoughby H. Reed, Philadelphia, Penn.—*Instrument for Inserting Rivets in Textile Fabrics.*—January 5, 1864.—This device consists of a sharp steel pin, provided with a hole in its head, into which fits the stem of a rivet, so that a piece of cloth may be pierced by the pin, and the stem of the rivet be easily passed through the cloth, when the pin may be removed.

Claim.—The use substantially in the manner described of the sharp-pointed pin H, with a hole or recess in the base for the purpose of inserting the stems of rivets into fabrics, as set forth.

No. 41,171.—Edwin Reynolds, Mansfield, Conn.—*Windlass.*—January 5, 1864.—Upon one end of the frame-work, which carries the windlass drum, is arranged a cross-shaft, carrying a pinion, which engages with a gear wheel upon the windlass shaft. Upon the said cross-shaft is a screw thread, bearing a nut, which extends down from a sliding bar. This bar is made to slide laterally in ways in the upper part of the frame; and upon the upper surface of the bar, on a line with the upper surface of the windlass barrel, are placed two sheaves, turning loosely on pins or shafts. The rope, in its passage to the drum, is made to pass between these sheaves, which consequently guide the lay of the rope upon the drum, so as to prevent it from overriding that portion of the rope previously wound on the drum.

Claim.—The application of a sheave or sheaves, mounted upon a traverse bar or guide, to a windlass rope, so that an impingement of the successive coils of the rope is prevented, in the manner and for the purpose substantially as described.

Also, the combination and arrangement of the drum *a*, screw shaft *d* and *i*, traverse bar *k*, and sheaves *m*, substantially as specified.

No. 41,172.—M. B. Wright, West Meriden, Conn.—*Lamp Burner.*—January 5, 1864.—Upon the upper part of the base of the burner, to which the wick tube is attached, is arranged a conical plunge, upon which is fitted a circular jacket, formed in a narrow slot in its upper end. The said jacket extends a short distance above the wick tube, so that when the wick is lighted the base of the flame will rest upon the top of the jacket, and be isolated from the wick tube; the object being to prevent the wick tube from becoming heated, so as to conduct the heat to the fountain of the lamp.

Claim.—The combination of a base A, of any suitable form, the flat wick tube B, and the converging jacket C, terminating in a level or nearly level top, forming an elongated aperture, at a distance above the top of the wick tube B, when the said parts are constructed and arranged in the manner herein shown and described, so that when in use the upper part of the wick will be exposed above the top of the wick tube, and the base of the flame will rest on the top of the jacket C.

No. 41,173.—Gaetano Amici. Copenhagen, Denmark, assignor to Thorvald F Hammer, of Boston, Mass.—*Illuminating and Signal Shell.*—January 5, 1864.—This invention consists in placing within a shell, of proper construction, an illuminating or signalizing pot, charged with luminous matter. The top of the pot is attached by a chain to a spreader and shield, a number of lines being provided to hold a cloth, made of any suitable material, to the spreader or shield. the cloth serving as a parachute to sustain the pot in an upright position after being discharged from the mortar.

Claim.—First, the combination of a parachute and its attached illuminating pot, with a shell of suitable form and material, to be fired from a gun or mortar.

Second, the shield and spreader *r′*, for the purpose of preventing the lines *k k* from becoming entangled with the chain *h* and pot *f*, and for facilitating the spreading of the parachute, the whole constructed substantially as herein set forth and for the purpose described.

No. 41,174.—Cornelius Bollinger, Harrisburg, Penn., assignor to himself and Joel K. Bollinger, of Manchester, Md.—*Pump.*—January 5, 1864.—In this pump the piston is constructed with a flange at its upper and lower ends, leaving a space between the two, in which is placed a packing ring of India-rubber that moves from one flange to the other when the piston is in operation. In the space next to the flanges are scores or grooves so as to form a seat for the packing ring when the pump is not in operation. The cylinder is caused to move in an opposite direction to the piston in pumping.

Claim.—First, the scores L L on the piston, for making it smaller next to the flanges than it is midway between them, to form seats for the packing ring when it comes to the flanges.

Second, in combination with the piston and packing above claimed, the cylinder arranged to traverse alternately in an opposite direction to the piston.

No. 41,175.—Joseph Christl, Newark, N. J.—*Constructing Flat Chains for Bracelets.*—January 5, 1864.—This invention consists in connecting two narrow chains by a series cross-bars, formed with parallel edges by bending the ends around and securing them to the two said chains; the two edges of the cross-bars being placed in contact with each other.

Claim.—In the construction of ornamental chains for bracelets and other articles of jewelry, the combination of the cross-bars with the chain or chains to which they are attached, and which are made substantially as herein described.

No. 41,176 —John H. Elward, Ottawa, Ill., assignor to himself and W. H. W. Cushman, of same place.—*Corn Planter.*—January 5, 1864.—This machine consists in the combination of a seed-dropping device and two cultivator hoes, one in front and one in the rear of the said device. The outward wing of the forward hoe is larger than the inner wing, while the inner wing of the rear hoe is larger than the outer, so that the front hoe will open the furrow and throw the clods outside, while the rear hoe will cover the furrow with the fine soil only, thus preventing the clods from accumulating over the seed. The rear end of the machine is supported upon rollers, which serve to break the clods, and are so arranged as to admit of being moved horizontally on the shaft and work inside of the hangers.

Claim.—In combination with a seed-dropping device, the two hoes D and L, when the wings of their blades are of unequal width, and when constructed and arranged in the manner and for the purposes herein described.

Also, in combination with the hoes D and L, as herein described, the clod-breaking rollers M, when the latter can be shifted so as to act inside of the furrow, substantially in the manner and for the purposes herein described.

Also, the double-slided seed-dropper, consisting, substantially, of the double seed box I, seed slides *f g*, and double-acting lever K.

No. 41,177.—**Thomas George Harold**, Brooklyn, N. Y., assignor to himself and **John W. Kessam**, of same place.—*Lock.*—January 5, 1864.—This invention consists in the employment of a turning block, fitted with stop-pins and a projecting arm acting upon a sliding bolt, which latter is kept in a projected position, so that it cannot be pressed back. The turning block is introduced within a screw tube, by means of which the surfaces in contact with the turning and stationary blocks can be regulated so as to press together more or less closely, and by which screw tube the turning block can be removed to change the position of the divided stop-piece without opening the other parts of the lock.

Claim.—First, a turning block, provided with an arm taking the notch or talon of a sliding bolt, as specified, in combination with the stationary block and divided stop-pins, whereby the bolt will be projected by the arm and retained in that position by the stop-pins, as set forth.

Second, the knob or turner (3) at the end of the turning block *e*, in combination with the divided stop-pins, whereby the lock can be locked without using the key, as specified.

Third, the tube *k*, screwed into the lock case and acting to adjust the bearing of the block *e* against the block *f*, for the purposes and as specified.

Fourth, inclines formed on the end of the stationary block *f*, in combination with divided stop-pins, for the purposes and as specified.

Fifth, divided stop-pins, formed with shanks projecting into the holes that receive the key bits, when such shanks are smaller than the pins themselves, for the purposes specified.

No. 41,178.—**Thomas George Harold**, Brooklyn, N. Y., assignor to himself and **John W. Kessam**, of same place.—*Lock.*—January 5, 1864.—In this lock a turning block and stop-pins are so constructed and arranged that the bolt can be withdrawn and the stop-pins made to coincide when unlocked as well as when locked, so as to prevent an impression being taken for a false key. Screw-bolts are introduced into a stock to form the key, so that the projecting lengths of such bits may be adjusted to accommodate various permutations of the divided stop-pins without changing such bits.

Claim.—First, constructing and arranging the turning block and stop-pins so that the bolt shall be withdrawn and the stop-pins made to coincide when unlocked, for the purposes and as specified.

Second, the pins or bits of the key formed as screws, adjusted within the key or holder so that their length may be determined, as specified.

No. 41,179.—**Joseph Magoun**, East Cambridge, Mass., assignor to the New England Glass Company.—*Lamp-burner.*—January 5, 1864.—The body and wick-tube cap of this burner are confined together by the wick tube without the use of solder; the wick tube being formed with main and counter shoulders, punched or struck up from it. The spring C is formed with arms that pass through the side of the cap and partly rest upon an annular bearing or shelf that forms a part of the body A of the lamp, and in connexion with a catch is maintained firmly in position on the said body.

Claim.—The improved burner, as having its body, wick-tube cap or supporter, and wick tube confined together by means of main and counter shoulders struck or punched up from the wick tube, as specified.

Also, the improved arrangement and application of the spring C relatively to the body A, the cap D, and the catch E, the whole being substantially as explained.

No. 41,180.—**David M. Smyth**, New York, N. Y., assignor to himself and S. N. Lewis, of same place.—*Machine for Inserting Blind Staples.*—January 5, 1864.—This invention consists of a self-acting device for inserting or suspending the staples so that they will all hang over a bar with the points downward, and in this position be fed into the machine. Means are also provided for taking one staple at a time and inserting it into the blind slat or rod, the blind slats being brought correctly into position, and presented for the reception of such staples by means of a movable gauge.

Claim.—First, separating the staples and suspending them by means of the bar *e*, and slot in the incline *c*, for the purposes and as specified.

Second, the bar *f*, in combination with the bar *e*, for retaining the staples in place as supplied to the machine, as set forth.

Third, the spring *o* and punch *i*, conveying the staples successively from the bar *e*, and driving them as specified.

Fourth, the sliding bed *k* and pins *l*, for receiving the blind and holding the slats in position while the staples are being inserted as specified.

No. 41,181.—**S. Lloyd Wiegand** and **W. Barnet Le Van**, Philadelphia, Pa.—*Furnace Grate.*—January 5, 1864; antedated December 21, 1863.—The grate bars in this furnace are so constructed as to maintain their proper relation to each other by means of tenons made separately from the bars, and interposed between them, being made to fit into the mortises in the bars, so that the bars can be more easily cast than when the tenons are cast with them upon one side, and the draught spaces can be readily varied.

Claim.—First, combining bars cast with mortises through them with tenons cast separate and placed between them, in the manner, or any equivalent manner, as set forth.

Second, separating the bars by means of flanges cast or otherwise formed or fixed upon the tenons for the purpose of regulating the draught spaces, as shown and described.

Third, the supporting bars of the grate, when constructed and shaped substantially as above described.

Fourth, the combination of the supporting bars, constructed as described, with the draught spaces near the end of the grate bars, when the supporting bars are located in relation to the series of tenons and mortises, substantially as above described.

Fifth, the combination of rims around the mortises with the tenons, when constructed and arranged substantially as set forth and described.

No. 41,182.—**S. Lloyd Wiegand** and **Barnet Le Van**, Philadelphia, Penn.—*Steam Engine Indicator.*—January 5, 1864; antedated December 21, 1863.—This invention consists in the employment of a vessel having one or more of its sides made of some flexible material, which, by variations of internal pressure therein, changes its form and imparts motion to a pencil which describes lines upon a sheet of paper moved by means of a connexion with a working part of the engine pump, or other hydraulic or pneumatic machine to which it may be attached, and thus records the changes in pressure in the vessel to which it may be connected during the several successive stages of the motion of the machine.

Claim.—First, the use of flexible vessels, inflating and contracting with variations of pressure therein, in combination with a pencil point for the purpose of describing or recording lines upon a moving sheet of paper, whether such vessels operate by the elasticity of their own walls, or by the elasticity of the walls thereof in combination with the elasticity of a spring or springs; or if such flexible vessels are not at all elastic, but are made to be so in effect by the combination of a spring or springs.

Second, the use of the combination of rollers, ratchet wheels, and cords, as drawn and described, for the purpose of moving the paper when combined with the flexible vessel and pencil, as hereinbefore set forth.

Third, the use of the second pencil for describing the neutral or atmospheric line, arranged substantially in the manner set forth.

No. 41,183.—**David Williamson**, Brooklyn, N. Y., assignor to Moore's Patent Fire-arms Company, of same place.—*Cartridge for Revolving Fire-arm.*—January 5, 1864.—This invention consists in the employment of an oblong or flattened nipple projecting from the rear end of a metallic cartridge case which in the fire-arm is sustained by a flat or nearly flat surface on one side while being struck on the opposite side by the hammer.

Claim.—A flattened or oblong teat or nipple at the rear end of the metallic cartridge case, to be struck by the hammer while resting upon a flat or nearly flat surface, substantially as and for the purposes specified; and, in combination therewith, the hemispherical rear end of the cartridge case, for the purposes and as specified.

No. 41,184.—**David Williamson**, Brooklyn, N. Y., assignor to Moore's Patent Fire-arms Company, of same place.—*Revolving Fire-arm.*—January 5, 1864.—The nature and object of this invention are explained by the claim.

Claim.—A series of parallel chambers in the cylinder of a revolving fire-arm, in which the inner or rear ends of the chambers are contracted in a hemispherical or tapering form from the ordinary calibre of the chamber to the rear end of the cylinder, so that an abutment is obtained in the cylinder itself at the rear of each chamber, without requiring an increase in the length of such cylinder, as specified.

No. 41,185.—**Stephen M. Allen**, of Woburn, Mass.—*Treating Flax, &c., to Produce a Short Fibre for Spinning.*—January 12, 1864.—This invention relates to the reduction of the long-stapled fibre by a compound process, *i. e.*, by a chemical and a mechanical process combined, the former to prepare the fibre so that it shall be in the best possible condition to be acted upon by machinery, and so that from long-stapled vegetable fibre a fibre shall be prepared which may be spun and woven on short stapled machinery, and that shall be absolutely free from the gluten or albumen that cements the particles together.

Claim.—First, the herein-described process of preparing vegetable long-stapled fibre to be reduced to suitable length for spinning and weaving on short-stapled machinery, and for other purposes, by submitting the fibre to the different operations of fermentation, washing, pressing, beating, &c., before drying the same, substantially as herein more fully set forth.

Second, the herein-described process of converting vegetable long-stapled fibre into fibre of suitable length for weaving and spinning on short-stapled machinery by combining with fermentation, washing, and other mechanical and chemical operations, before drying, the stranding or reducing of the fibre mechanically after drying the same, substantially as herein set forth.

No. 41,186.—**M. J. Althouse**, Waupan, Wis.—*Pumps.*—January 12, 1864.—The handle is attached to the pump by means of a pin or fulcrum confined by two bolts, for the purpose of preventing the pump from splitting, and retaining the pin in its proper place, the bolts being provided with screws and nuts. The barrel of the pump is designed to be made of hard maple, and so constructed and applied to the stock as to admit of its ends being reversed when either end becomes worn.

Claim.—The barrel C, the screw-bolt G, and the pin H, when constructed and applied to a pump-stock B, substantially as shown and described.

No. 41,187.—Daniel W. Amos, Bedford, Penn.—*Horse Rakes.*—January 12, 1864.—This invention consists in combining a lifting bar on the rake frame with tappets or wipers on the wheel and a connecting rod or knee lever in such a manner that when thrown into gear the knee lever will control the position of the rake teeth so that the rake teeth may be automatically lifted at the pleasure of the driver to clear them of the hay, and dropped again to gather a new supply. The upper end of the rake tooth is doubled over and mounted in a bracket on the frame, so that all the teeth may rise together, or each one separately, and be easily removed and replaced when broken.

Claim.—The combination of the knee lever or connecting rod K and lifting lever J with wipers on one of the wheels, substantially as described, for the purpose of enabling the driver to elevate and hold up the rake teeth without using his hands, as set forth.

Also, the combination of the rake teeth with the bracket I, when combined, arranged, and operating as set forth.

No. 41,188.—Myron J. Barcalo, Mount Morris, N. Y.—*Grain Separator.*—January 12, 1864.—To the under side of the lower end of an inclined sieve is attached a trapezoidal block, upon the lower edge of which is secured a separator formed of a frame covered with wire gauze, which is slightly bent upwards at its front edge, in order to prevent the grain from falling over the same. The separator may also be covered at its edge with a plate of metal D, so as to cover the edge of the wire gauze, or leave the same exposed.

Claim.—First, the longitudinally and vertically adjustable separator C, constructed of wire gauze, or partly of wire gauze and partly of a metallic plate, in combination with the sieve of a fanning mill, substantially as described.

Second, the separator C, constructed with a flat or arched surface, and having the edge c' turned up as described, for the purpose of preventing the grain which is cast upon the separator from falling over that edge.

Third, the sieve A and the separator C, in combination with an adjustable discharging screen D, which is shorter than the gains in which it moves, or of the same length, constructed and operating in the manner and for the purpose described.

No. 41,189.—D. C. Baughman, Adams, Ohio.—*Adjusting Logs in Saw-mills.*—January 12, 1864.—This invention relates to mechanism for adjusting logs to the saw in saw-mills whereby either one or both ends of the log may be adjusted to the saw, or the log may be moved from one side to the other of the saw by the power communicated to the engine, or by manual power, the same results being also effected automatically when desired.

Claim.—First, the shaft D, supported beneath the head and tail blocks A A', upon levers e e', and operating substantially as described.

Second, the combination of pinions f f', shaft D, spur wheels c c', and shaft-supporting levers e e', all operating substantially as described.

Third, the spur-wheel C, in combination with the shaft D and driving-pinion h, operating substantially as described.

Fourth, the combination of the two pawl-levers g and d, applied and operating substantially as described, for adjusting both ends of the log at one end of the machine obliquely to the plane of the saw.

Fifth, the vibrating driving pinion-shaft h' and pinion h, in combination with the lever E and spur-wheel C, for operating the travelling plates B B', substantially as described.

Sixth, the pivoted arm h^2, in combination with the rods j' j' and levers E H, substantially as and for the purposes described.

Seventh, the combination of the trip-staff p, catch s, levers t and v, operating substantially as and for the purposes described.

Eighth, applying a gauge-wheel J, or its equivalent, to operate in conjunction with a shifting pinion h, and such mechanism as will throw the wheel J out of action automatically when the log has been moved up to the saw the required distance, substantially as described.

No. 41,190.—W. H. Blood, San Francisco, Cal.—*Clothes-washing Machine.*—January 12, 1864.—This invention consists in the employment of a stationary concave of rollers fitted within a suds-box, and used in connexion with an oscillating yielding or elastic rubber attached to a rock-shaft, the latter having its bearings upon springs, and provided with a treadle attachment, by means of which the rubber is pressed down upon the clothes as it is moved backwards and forwards by the handle.

Claim.—The stationary concave of rollers C, placed within the suds-box A, in combination with the oscillating rubber K, attached to elastic plates h, and connected by pendant bars J J to a rock-shaft F, the bearings of which rest on spiral springs D, and the ends or journals of which are connected to a treadle I, all arranged substantially as and for the purpose herein set forth.

No. 41,191.—Seba Bogart, New York, N. Y.—*Sleeve Button.*—January 12, 1864.—This invention consists in a method of applying a sliding catch, a guide, and spring, in combination with the tongue or shank that passes through the holes in a garment and with the head of the button, by which the latter may be securely held and the operation easily performed.

Claim.—The sliding catch C, guide D, and spring h, combined with each other and with the head A, and the hook a, and notch c, on and in the tongue of the button, substantially as herein specified.

No. 41,192.—Jefferson Broom, Jr, New York, N. Y., and Samuel R. Brooks, St. Louis, Mo.—*Refuse Ejector for Steam Vessels.*—January 12, 1864.—This invention consists in the employment of a receiver provided with a valve, so arranged as to admit of a communication being formed between the receiver and the water at the exterior of the vessel, and to admit of said communication being cut off when desired, a pump or steam pressure being used in connexion with the receiver for the purpose; the object being to discharge ashes and other refuse matter from steam vessels without the necessity of elevating and discharging the same overboard, as is the usual practice.

Claim.—Ejecting and discharging ashes and other refuse matter from steam vessels by means of a receiver provided with a valve, and so arranged as to be capable of being used in connexion with pressure exerted by a pump, steam, or other suitable agency, as herein set forth.

No. 41,193.—Edgar Chipman, New York, N. Y.—*Churns.*—January 12, 1864.—The churn box is of a semi-cylindrical form, and suspended by a shaft between two uprights, so as to admit of an oscillating movement being imparted to it. Within the box are placed one or more agitators, consisting of a series of chambers of V-form, attached to a shaft, upon which they are allowed to revolve freely as the box is oscillated.

Claim.—The agitator D, one or more, constructed of chambers f attached to shafts e, in combination with the oscillating or rocking cream box A, substantially as herein specified.

No. 41,194.—Edgar Chipman, New York, N. Y.—*Washing Machine.*—January 12, 1864.—This invention consists in combining a seat with the body or box of a washing machine in such a manner that a person, while on the seat, may impart a rocking movement to the machine and thus operate the same. Within the box is hung a rotary pressure roller, so arranged as to admit of an independent self-adjusting movement, in order to yield to the clothes and prevent their wedging or binding.

Claim.—The combination of the seat C with the rocking box A of a washing machine, arranged substantially as shown, to admit of the rocking or oscillating of the box by a slight exertion of the occupant of the seat, as set forth.

Also, the hanging of the pressure roller within curved or segment grooves or bearings d' in the box A, substantially as shown, to admit of the self-adjusting relieving movement of said roller, as herein set forth.

No. 41,195.—R. S. Cole, Mount Pleasant, Iowa.—*Sugar Evaporator.*—January 12, 1864.—The pan is made in three compartments separated by partitions, and the bottom is formed with "shoulders" facing towards the fire, one at the front end of each section or compartment, so that the products of combustion, in passing through the flue, shall impart a greater degree of heat to the juice contained in the parts formed by the shoulders, and thus cause the scum to be thrown up where it can be readily separated from the juice. The flue inclines downwardly from the fireplace to the chimney.

Claim.—The combined arrangement of the fireplace C, descending or diminishing flue D, shoulders a b c, depressions d e f, and partitions g h, all as herein shown and described, and for the purposes explained.

No. 41,196.—L. O. Colvin, Philadelphia, Penn.—*Cow Milkers.*—January 12, 1864.—This invention relates to improvements upon a cow-milking device for which patents were granted to the said Colvin on May 22 and 29, 1860, and February 17, 1863 and it consists in applying an elastic bottom to the suction chamber, to which latter the teat tubes are attached, in connexion with a partition extending across the ducts of two of the teat tubes, so as to cut off the other two teat tubes from the passage leading to the chamber in which the piston is fitted. Attached to the main box is a conically shaped chamber, in which is fitted a piston, and which is provided also with a valve.

Claim.—First, the elastic bottom A', applied to the box or suction chamber A, in connexion with the partition e in said box or chamber, the plate E, and the teat tubes B B B' B', all arranged to operate in the manner substantially as and for the purposes herein set forth.

Second, the chamber C, provided with the elastic plunger or piston D, arranged relatively with the tube G, as shown, so as to perform the double function of a plunger and valve, substantially as set forth.

Third, the combination and arrangement of the box A, chamber C, and tube G with the valve I and teat tubes B B B′ B′, to form a new and improved device for the purpose specified.

No. 41,197.—Jonathan Conk, Red Bank, N. J.—*Packing for Journal Boxes.*—January 12, 1864.—This invention is designed as a substitute for cotton waste, or other similar fibrous material used for packing. The nature of the invention is explained by the claim.

Claim.—A packing for the purpose specified, composed of the zostera marina, (grass wrack, sea eel grass,) or other sea grass, dried or cured and saturated with any suitable lubricating substance.

No. 41,198.—Charles Crozat Converse, Dubuque, Iowa.—*Stoves.*—January 12, 1864.—This invention consists in the employment of a hinged or swinging toothed grate placed underneath the grate proper of a stove or furnace, and so arranged in relation therewith that the toothed grate, when not in use, may be sufficiently far below the grate proper to allow a free passage of air to the fire, and also admit of the escape of ashes and cinders. The toothed grate is raised when necessary to rake the fire and clean the grate proper by means of a lever and connecting rod, which may be operated by the foot.

Claim.—The arrangement of the toothed grate D, rod E, and treadle F with the hinged grate A and stove bottom B, in the manner and for the purpose herein shown and described.

No. 41,199.—T. R. Cornick Independence, Iowa.—*Grain Drills.*—January 12, 1864.—To the lower part of the seed box, at each side, is attached a pendent stirrup, upon which rests a scattering board, extending the entire length of the seed box. In the rear of the frame is placed a rod, upon which are loosely fitted a series of parallel bars K. To these bars are attached arms M provided, respectively, with shovel teeth.

Claim.—The arrangement of the suspended scattering board S with the seed-box E, beams K, stocks M, braces *h*, and shovels N, all as herein shown and described.

No. 41,200.—Isaac Cressman, Philadelphia, Penn., assignor to Daniel Bohler and Isaac Cressman, of same place.—*Stove for Heating Soldering Irons.*—January 12, 1864.—The nature and object of this invention will be understood by reference to the claim and engraving.

Claim.—First, the construction and arrangement of a pot or furnace for heating soldering irons by means of lighting gas mixed with atmospheric air, substantially as herein shown and described.

Second, the combination with a pot, or its equivalent, gas burner, and air chamber, under the arrangement described, of a wire-gauze covering and grate, the two having interposed pumice stone, as herein shown and described.

Third, combining the pot and gas-heating contrivances with a reverberatory shell to concentrate the heat upon the iron, substantially as herein shown and described.

No. 41,201.—John J. Crook, New York, N. Y.—*Hinge.*—January 12, 1864.—In the ends of the parts B B of the hinge are formed shoulders or depressions by means of a peculiarly constructed punch, which, after making such depression, is caused by an additional blow or blows to force the ends of the axis into the depression first made by the punch, so that the axis shall be entirely within the parts B B.

Claim.—The hinge above described, constructed by driving in a portion of the ends of the parts B B around the axis, and riveting or heading the ends of the axis C within the outer ends of the parts B B of the joint, as hereinbefore set forth.

No. 41,202.—R. M. Dalbey, Springfield, Ohio.—*Closing Fruit Jars, &c.*—January 12, 1864.—This invention consists in the employment of a clamp, the ends of which are curved to fit under the edges of the rim on the neck of the jar, and provided with a groove in which is fitted a metal slide. The slide is arranged to move upwards and downwards, and is provided with a hole in which an eccentric works, by means of which the cover is tightly held upon the jar.

Claim.—The combination of clamp C, slide *h*, or its equivalent, and eccentric *k*, when arranged to act on cover B, or its equivalent, substantially as and for the purpose set forth.

No. 41,203.—John Deere, Moline, Ill.—*Moulds for Casting Steel.*—January 12, 1864.—The nature of this invention is explained by the claim.

Claim.—For casting plough plates or other articles of steel, the use of moulds prepared as herein set forth; that is to say, the body of the mould formed of dry sand or loam, and its internal surface coated with plumbago, both of which substances, previous to being used, to be moistened with an aqueous solution of fire-clay, and the mould when so made to be thoroughly baked and dried in an oven or furnace, all substantially as and for the purpose herein described.

No. 41,204.—John Doyle, Hoboken, N. J.—*Skate Fastening.*—January 12, 1864.—This invention consists in the employment of a heel plate and an adjustable bar, the latter being operated by a cam, and the former secured to the runner of the skate in connexion with a hook or screw attached to the adjustable bar and a slotted plate attached to the sole of the boot or shoe.

Claim.—The heel plate B attached to, or cast with, the block C, which is secured to the runner A, in combination with the slotted plate H, secured to the sole *d* of the boot or shoe, and the adjustable bar D, provided with the screw G′, or its equivalent, and operated by the cam E, all arranged substantially as and for the purpose set forth.

No. 41,205.—Henry D. Dunbar, Hartland Four Corners, Vermont.—*Pistons for Steam Engines.*—January 12, 1864.—This invention consists in the employment of a cut and uncut packing ring or rings that are to be expanded by steam, and having the outside or wearing surface broader than the inside or steam surface, for the purpose of avoiding the wear on one side and too much pressure on the other. One end of the cut ring may be united to the uncut ring by a screw, rivet, or otherwise, the other end of the cut ring being free.

Claim.—First, a combined cut and uncut packing ring or rings with the outside or wearing surface broader than the inside or steam surface, which the steam, gas, air, or water acts upon to expand, substantially as and for the purpose described.

Also, the combination of the projecting and cut away portions of the rings *a c*, for the purpose of breaking the joint in the expanding ring; the two rings being united, and operating together substantially as herein described and represented.

No. 41,206.—James B. Eads, St. Louis, Mo.—*Operating Heavy Ordnance.*—January 12, 1864.—This invention consists in a method of placing a gun in a convenient position for loading, which is effected by lowering the same below the port-hole, or under the deck of a ship, or below the roof of a fort in which it may be used. The trunnions of the gun are fitted in the ends of a lever, by means of which, in connexion with another lever and connecting rods, the muzzle of the gun may be readily directed to the port-hole while the breech is raised or lowered.

Claim.—First, the use of a lever E, secured to the gun and held by a slide or other device at one end in such a manner as to direct the muzzle of the gun to the port-hole while the breech of the gun is raised or lowered.

Second, the mechanical devices substantially as described, for the purposes before mentioned.

No. 41,207.—James B. Eads, St. Louis, Mo.—*Turret and Pilot-House for ships-of-war or other war structures.*—January 12, 1864.—This invention consists in a method of arranging the pilot-house upon the turret, so that the latter may revolve freely, whilst the pilot-house remains stationary, without using a central support or column to hold the pilot-house and keep it from turning. Means are also provided for transmitting signals from the pilot-house to the engineer or other officer of the vessel.

Claim.—Placing a pilot-house or "look-out" on a turret or other revolving iron-clad or shielded protector in such manner that the turret may revolve freely, whilst the pilot-house remains stationary, and without using a central column or support to hold the latter from turning, substantially as and for the purpose described.

Also, the mechanism connecting the pilot-house or look-out with the turret or gun protector, so that the occupant of the house or "look-out" may transmit his power to the tiller-ropes, or to the bell or bells for signalling to the engineer or other officer in charge, substantially as herein described.

No. 41,208.—John Ericsson, New York, N. Y.—*Construction of Ordnance.*—January 12, 1864.—This invention relates to the employment, in the manufacture of ordnance, of a central core or barrel, and a system of barrels, hoops, or rings of wrought iron surrounding the said core from the breech to within any desired distance from the muzzle. The several parts are all put together in a cold state by the aid of hydraulic pressure, the band *k* and hoops *j j* being severally so tightly fitted to their cylinders on the core, and the trunnion band being so tightly fitted to the hoops *j′*, as to require a powerful pressure to bring them to their places, the object being to preserve the fibrous character of the wrought iron and prevent the union of the several parts from being disturbed by the heating and cooling of the piece when in use.

Claim.—First, in a piece of ordnance composed of a central core or barrel, and a series of surrounding hoops or bands, fitting the trunnion band upon the exteriors of hoops *j′ j′* and between the faces of other hoops *j j* of larger external diameter, when the said hoops all constitute one longitudinal series and the interior diameter of those *j j* are like those of *j′ j′*, smaller than the interior diameter of the trunnion band, substantially as herein described.

Second, the construction of a piece of ordnance of a central core or barrel A, provided with a solid flange *a* around its rear end and fitted with a series of plate-iron hoops or rings *j j′*, two forged bands *k l*, and a trunnion ring *n*, the whole combined and secured by a nut *m*, or its equivalent, substantially as herein specified.

No. 41,209.—Dennis Everett, Attleborough, Mass.—*Eye Protector.*—January 12, 1864.—This invention consists in dispensing entirely with the usual metallic setting for the glass by forming out of the wire cloth which forms the body of the protector a setting to receive the glass at the same operation which forms the body. That portion of the wire which composes the setting is covered with a surface of soft metal applied when in a state of fusion, for the purpose of giving the same a finished appearance.

Claim.—First, forming the setting for the glass of an eye protector out of the same wire gauze of which the body is composed, substantially as described.

Second, finishing the rim or setting for the glass of an eye protector with fusible metal, applied in the manner substantially as described.

No. 41,210.—R. Fanning, Clarksfield, Ohio.—*Sawing Machine.*—January 12, 1864.—The parts of the frame are so arranged as to admit of its ready adjustment to the size of the log. A beam B extends forward from the frame, and is provided with a spike to hold the log in position. A spring is attached to the rear of the frame, and is designed to react upon the saw beam when the saw is making the cut, and "to distribute the propelling power uniformly during the whole rotation of the pulley."

Claim.—The self-adjusting frame A B B', beam B'', and spike F, in combination with the spring N and saw K, the several parts being constructed, arranged, and operated as and for the purpose set forth.

No. 41,211.—Philo S. Felter, Cincinnatus, N. Y.—*Lock.*—January 12, 1864.—This invention is designed as an improvement upon a lock for which a patent was granted to the said Felter on December 17, 1861, and relates to a guard attachment for locks, whereby the keyhole may be obstructed by a plate so arranged as to prevent the insertion of an improper key. The invention consists in substituting a vibrating bar for a flexible one, as originally used, for the purpose of preventing the lock from being picked by a pressure upon the vibrating bar which permits the position of the slots in the disks to be ascertained.

Claim.—The use of a vibrating bar G, in combination with the bar H, the notched disks C, and the spindle I, all arranged and applied to the lock, to operate in the manner and for the purpose herein set forth.

No. 41,212.—Charles R. Foote and James Orton, Williamstown, Mass.—*Freight Car.*—January 12, 1864.—This invention is designed more especially for the transportation of coal oil and other liquids, grain in bulk, &c., and it consists in constructing the body of the car of cylindrical or approximate form, and encompassing the same with bands provided with flanges to serve as wheels. The body of the car is provided with an axle, the journals of which are fitted in oblong bearings in a frame, and arranged in connexion with self-acting brakes, all being combined in such a manner that the body of the car will rotate as it is drawn along.

Claim.—First, a car body, of cylindrical or an approximate form, with wheels fitted on its periphery and arranged to rotate with its contents or load on the rails, substantially as herein set forth.

Second, the frame D, in combination with the car body A, the journals of the latter being fitted in bearings in the former, substantially as described.

Third, the oblong bearings *c c* in the frame D, in combination with the shoes E placed on said frame, and all arranged to operate as and for the purpose set forth.

No. 41,213.—Maltby Fowler, North Branford, Conn.—*Hooks for Garments.*—January 12, 1864.—This invention consists in uniting the two portions of the wire, of which the back of the hook is formed, by means of the coating of tin or other metal or alloy which is used for "whitening" the hook, for the purpose of strengthening the back of the hook.

Claim.—A hook having the two portions ***a a*** of the wire, which forms its back, united by the whitening metal or alloy, substantially as and for the purpose herein specified.

No. 41,214.—William Fuzzard, Chelsea, Mass.—*Machines for Surface-sizing Fibrous Materials.*—January 12, 1864.—This invention consists in the employment of a smooth or polished metal cylinder, heated by steam or otherwise, over a portion of which the web to be surfaced passes, and which has a pressure roller (also heated by steam or otherwise) bearing against it, the metal cylinder having the glazing or size distributed upon its exterior by means of a revolving brush, or its equivalent, and at a point sufficiently distant from that where the web comes in contact with the cylinder, so that the glazing may become partially dry before being brought in contact with and applied to the web.

Claim.—The employment or use of a heated metallic cylinder B, or one having a metallic exterior or periphery, in connexion with a heated pressure cylinder C—one or more—and a polishing roller G, or its equivalent, arranged as shown, for the purpose of surfacing and drying simultaneously or at one operation fibrous materials, as set forth.

Also, the distributing or throwing of the glazing or sizing upon or against the cylinder B, or the web E, by means of a rapidly revolving brush-roller J, or its equivalent, running in contact with a roller I, partially submerged in the glazing, whereby the glazing or sizing is thrown against the cylinder or web in a fine mist, as set forth.

No. 41,215.—A. P. Grover, Eureka, Wis.—*Grain Cradle.*—January 12, 1864.—The cradle-finger is made of sheet-metal swaged in the form of a tube, the back of the same being left open. A yoke E is placed across the fingers, each finger being connected to the yoke by means of a stirrup, the neck of which, after passing through the yoke, receives the eyes of wire braces secured by nuts.

Claim.—First, a metallic cradle-finger, when made nearly tubular, the back of the finger being left open, in the manner and for the purposes substantially as set forth.

Second, the arrangement and combination of yoke E with the fingers, stirrups, and brace-rods, substantially in the manner and for the purposes specified.

No. 41,216.—Robert Hale, Fitchburg, Mass.—*Sheep Rack.*—January 12, 1864.—This invention relates to an improvement in sheep racks, for which a patent was granted to James P. Eaton on March 17, 1863. The "feeders" are pivoted to uprights at the sides of the rack in such a manner that when adjusted to admit of the cribs being cleaned or supplied with feed they will prevent the sheep from having access to the same.

Claim.—The employment or use in a sheep rack of pivoted feeders arranged in such a manner as to form a hopper when the rack is in use, and admit of being adjusted so as to prevent the animals having access to the rack while the latter is being cleaned, or while it is being supplied with feed, substantially as herein set forth.

No. 41,217.—James Hamblet, Jr., and B. F. Edmands, Boston, Mass.—*Electro-magnetic Pendulum.*—January 12, 1864.—This invention consists principally in the employment of wedge-shaped pallets in combination with the armature of the electro-magnet, and with one or more impulse-bars and springs, for the purpose of applying to the pendulum power obtained from an electro-magnet to maintain, and also, if desired, to imitate its motion, without subjecting it to the direct attraction of the magnet, or in any way attaching to it an armature, a fixed magnet, or any piece of metal subject to the attraction of a magnet.

The pallets are so applied in the circuit in which the electro-magnet is placed that the opening of the circuit to produce the necessary intermissions of the current takes place between the said pallets.

Claim.—First, the employment of wedge-shaped pallets *e f*, applied in combination with the armature of the electro-magnet, and with one or more impulse-bars and springs, to operate substantially as and for the purpose herein specified.

Second, so applying the said pallets in the circuit in which the electro-magnet is placed that the breaking of the circuit to produce the necessary intermissions in the current takes place between the said pallets.

No. 41,218.—George Shaw Harwood, Newton, Mass.—*Knitted Fabric.*—January 12, 1864.—This invention consists in the production, as a new article of manufacture, of a cloth for entire garments made by knitting instead of weaving the body of the cloth, and afterwards subjecting it to the several processes which are usually applied to woven cloths.

Claim.—The knit broadcloth fulled and finished as herein described.

No. 41,219.—B. A. Haycock, Richland, Iowa.—*Hooks for Cam-rods of Steam Engines.*—January 12, 1864.—This invention consists in forming the hook of the cam-rod of a steam engine with an adjustable slide, arranged in such a manner that the hook may at any time be made to fit snugly upon the wrist or crank, and thus admit of compensation for the wear of the hooks from use.

Claim.—The combination of the adjustable bar B and adjusting wedge D with the hook-bar A, substantially as and for the purpose herein shown and described.

No. 41,220.—Henry Helm, Salina, Kansas.—*Explosive Shells for Ordnance.*—January 12, 1864.—This invention consists in the application to shells of a friction primer so constructed and arranged as to be exploded by contact with the object it strikes, and combined with the friction-primer is a fuze of any required length, for the purpose of securing a reliable time-fuze, which will combine in one shell the advantages of the percussion shell, which explodes at the moment of impact with the object struck, and the time-fuze, which explodes at a given time from the moment of firing.

Claim.—First, the use in shells for ordnance of friction-primers, the head of which projects from the surface of the shell, so that on the impact of the shell the wire of the primer will be drawn sufficiently to explode it, substantially as described.

Second, in combination therewith the use of an adjustable time-fuze for regulating the interval between the impact and explosion, substantially as described.

No. 41,221.—G. G. Hunt, Bridgeport, Conn.—*Journal Boxes.*—January 12, 1864.—The axle is supplied with oil by means of a wick which passes underneath the axle, and is kept in contact therewith by means of a weight attached to each end of the wick, the said ends extending down into the oil in the axle box.

Claim.—The employment of a box A having hollow sides and hollow bottom, in combination with the axle C and wick G, all in the manner herein shown and described for the purpose set forth.

No. 41,222.—PETER H. JACKSON, New York, N. Y—*Windlass.*—January 12, 1864.—This device consists of a chain wheel combined with a double chain purchase connecting the walking beam to the windlass pawl lever, for the purpose of enabling the chain to be drawn in at a faster or slower speed, according to the weight of the anchor or the number of men actuating the walking beam.

Claim.—The combination of the chain wheels *g g*, ratchet wheels *d d*, pawl levers *f f*, walking beam or brake *k* and chain connexion *m*, forming a double or single purchase, as and for the purposes specified.

No. 41,223.—NELSON JOHNSON, Guilford, N. Y.—*Butter Worker.*—January 12, 1864.—An inclined tray is provided with a concave bottom formed of two inclined planes over which is arranged a roller of bi-conical form, fluted longitudinally and fitted in a travelling or sliding frame which is controlled or guided at one end by two rollers, the opposite end being controlled by the hand of the operator.

Claim.—The bi-conical fluted roller C, placed within a travelling or sliding frame B, attached to or connected with the tray A as shown, in combination with the concave bottom of the tray, formed of two longitudinal inclined planes *a*, parallel with the two conical surfaces of the roller, substantially as and for the purpose herein set forth.

No. 41,224.—DENNIS LANE, Plainfield, Vt.—*Saw-mill Carriage.*—January 12, 1864.—This invention consists in the employment of a dog of a bent form, one side or end of which is weighted; it is attached to a shaft F which is fitted loosely in the forked end of a lever so as to admit of the dog being adjusted in contact with any one of a series of ratchets upon the said shaft. The weighted end of the dog is connected by means of a chain and arm with a lever O, by which the slide bar is moved and the log carried to the saw. To one end of the slide bar is attached an upright box or case, in which are placed two segments S S, one being directly over the other. These segments are made to gear into racks, and by means of an arm and pawl the plate or bar T, which is fitted in the aforesaid box or case, may be so adjusted as to cause the log to be sawed more or less tapering, as required. The bearings of the shaft are each provided with a lip projecting over the upper surfaces of the racks to hold the same in gear with the pinions E.

Claim.—The dog J fitted in the lever L and connected with the lever or handle O, substantially as shown, so that by turning said handle or throwing the same upward, one end of the dog may be disengaged from its ratchet and the opposite end engaged with it, for the purpose herein set forth.

Also, adjusting the log so that the same may be sawed more or less tapering by means of the upright plate or bar T, racks *f* and segments S S, arranged with the arm U, pawl V and rack W, substantially as described.

Also, providing the bearings of the shaft F with lips *a*, arranged so as to project over the racks D D, substantially as and for the purpose specified.

No. 41,225.—D. LISTER, Glasgow, Kingdom of Great Britain and Ireland.—*Grates.*—January 12, 1864—This grate is designed more especially for burning wood, and is made in the form of a hopper with a closed bottom and inclined sides, the latter being provided with openings for the admission of air.

Claim.—The construction of a grate of a hopper-shape with a closed bottom and with apertures in its slanting sides, substantially as and for the purpose herein specified.

No. 41,226.—ALFRED E. LYMAN, Williamsburg, Mass.—*Adjustable Candlestick for Tents, Shops, &c.*—January 12, 1864.—The candle-holder is formed of two semicircular parts, one of which is movable and can be adjusted further from, or nearer to, the other by means of a set screw passing through a slot in the movable piece. The bracket is composed of joints screwed together so as to form an extension holder.

Claim.—The candlestick or holder herein described as a new article of manufacture, substantially as specified.

No. 41,227.—EDWIN T. MARBLE, Worcester, Mass.—*Machine for raising a Nap on Cloth.*—January 12, 1864.—In this machine the napping of the cloth is effected by means of a single napping drum furnished with teazles or their equivalents, which drum, after having been revolved in one direction, may have its motion reversed so as to operate upon the cloth in an opposite direction.

Over the feed and delivery rollers F G are arranged two stretching rollers H H, which are provided with parallel guide rollers, and under the drum is a tilting rack.

The gears on the shafts of the feed and delivery rollers are each provided with a friction apparatus and a positive connecting apparatus, for the purpose of preventing either of the rollers, while acting as a delivery roller, from over-stretching the cloth lengthwise of the same.

Claim.—The combination and arrangement of the two main draught and delivery rollers F G, the two cloth stretchers H H, the tilting rack D and the napping drum A, the whole being to operate substantially as specified.

Also, the combination of the two friction apparatuses and the two positive connexion apparatuses hereinbefore described, or their mechanical equivalents, with the driving, gearing, or mechanism of the main draught and delivery rollers F G.

Also, in combination with mechanism for driving the rollers F G, a means or mechanism substantially as described, viz., the gear *b*, or its equivalent, by which that one of the two which may be delivering the cloth or driving it forward may be revolved sufficiently faster than its mate to prevent the cloth from becoming slack.

Also, the improved tilting rack constructed of the main and supplementary racks to operate substantially as described.

The combination of the tilting rack D with the hand lever E by mechanism or means whereby during a movement of the said lever the rack may be tilted in manner as described.

Also, the combination of the reversing mechanism of the stretching rollers H H with the said rollers, the rollers F G, the drum A, and the tilting rack.

Also, the application of the roller carriages *d′ d′* to their respective rack rails *e′ e′* so as to project or lap underneath such rails, and the same operating to keep each of the carriages in connexion with its rail.

No. 41,228.—OBADIAH MARLAND, Boston, Mass.—*Refrigerating Dish Cover.*—January 12, 1864.—The dish cover is constructed with a reservoir or receptacle for holding ice, so arranged as to form an air space between the reservoir and cover, which is to be placed over dishes containing butter, fruit, or other articles for the table which require to be kept cool.

Claim.—The within-described refrigerating dish cover, with its reservoir or receptacle B for containing ice, arranged and operating substantially as described for the purpose set forth.

No. 41,229.—GEORGE T. MAY, Tompkinsville, N. Y.—*Steam Engine.*—January 12, 1864; antedated December 30, 1863.—This invention consists in the employment of an additional and distinct cylinder of about half the capacity, more or less, of the working cylinder or cylinders of the engine, open to the atmosphere at one end (or above the piston) and kept continuously charged at the other end (or below the piston) with steam or other confined elastic fluid; the action of the piston, when operated by a connexion from the working shaft of the engine, having the effect to alternately compress and attenuate the elastic fluid under it, and thereby to greatly diminish or retard, with each descending stroke, the development of the engine's power effectively during one part of a revolution, this operation of modulating the effectiveness of the developed power of the engine being further assisted by means of a reservoir attached to the cylinder.

Claim.—First, the reservoir G, in connexion with a modulator cylinder F, substantially as specified.

Second, the combination of a modulator cylinder F, reservoir G, piston rod H, piston I, steam ports 1 2 and 2′, 3 and 4, steam chest B, and valve boxes C and D, substantially as and for the purpose set forth.

Third, the same, in combination with a crank K, shaft J, and gearing O, or equivalent connexion with the main shaft of the engine, substantially as and for the purpose set forth.

Fourth. The art or method of modulating the mechanical effect throughout the revolution of an engine by means of the reaction obtained from a volume of steam or other elastic fluid, cut off at the appropriate moments of time from the boiler pressure, if steam, or equivalent if other fluid, and submitted to the process of alternate compression and attenuation under a piston operated from the engine; said process of compression and attenuation being effected within a combined modulator cylinder and reservoir, substantially as described.

No. 41,230.—ELISHA METS, Rochester, N. Y.—*Rims for Tables.*—January 12, 1864.—This invention consists of a rim to be applied to the under side of a table leaf, and bent in a circular, rounded, or oval form, so as to be readily fitted to a table, it being designed as an article of manufacture to be put into the market independently of the table, and to be applied at pleasure.

Claim.—As a new article of manufacture, the bent rim A, adapted especially to tables, constructed and arranged substantially as herein set forth.

No. 41,231.—JOHN O. MONTIGNANI, Albany, N. Y., assignor to WILLIAM R. HILL, of same place.—*Cord Tightener for Curtains.*—January 12, 1864.—This device consists of a contractile rubber band extending from the strap which carries the pulley or eye to a fixed stud upon the casing, or place to which the cord pulley is to be affixed, for the purpose of maintaining a constant tension upon the cord.

Claim.—The India-rubber spring band *d* extending from the fixed stud *e* to the strap or shell carrying the cord pulley or eye, for the purposes and as specified.

No. 41,232.—HARRISON OGBORN and JOHN W. FREE, Green's Fork, Ind.—*Grain Separator.*—January 12, 1864.—Beneath the hopper is placed the shoe, which is suspended by means of strips of iron at its rear part and by straps of leather at each corner of the front end. The upper part of the apron or wheat board is provided with adjustable guide ribs for the purpose of spreading the grain evenly on the apron. The front end of the screen rests upon a rocking "lever" or shaker, which is secured to some part of the frame and which serves to give the front end of the screen a vertical motion upwards when the machine is in operation.

Claim.—First, the adjustable guide ribs G, constructed and operated substantially as and for the purpose herein set forth.

Second, the suspending straps I attached to the under side of the front end of the shoe at C, substantially as described.

Third, the combination of straps I, shoe C, and guide ribs G, as and for the purpose set forth.

Fourth, the rocking lever E, constructed as described in combination with the straps I and shoe C.

No. 41,233.—Hyla H. Peacock, Philadelphia, Penn.—*Saddle Bags and Medicine Case.*—January 12, 1864; antedated December 20, 1863.—This invention consists in combining with the strap which rests on the saddle, cases which are made in two parts to receive bottles, and so arranged as to admit of ready access. The said cases are also provided with metal clasps for receiving and retaining the bottles, so as to prevent them from being disturbed or broken during transportation.

Claim.—First, the combination of the within-described cases with the strap A, each case being composed of the two portions B and B′, hinged together and arranged to open, substantially as set forth for the purpose specified.

Second, the metal clasps *a a*, arranged within a case for the reception and retention of bottles, substantially as and for the purpose described.

No. 41,234.—Milo and Charles Peck, New Haven, and Robert W. Wright, Orange, Conn.—*Machine to Print Addresses of Newspapers, &c.*—January 12, 1864.—This machine is designed mainly for the use of publishers of periodicals, for the purpose of printing rapidly the name and address of any subscriber upon each paper or bundle in the ordinary manner from raised type, or wooden type blocks, arranged in single-column galleys. The wooden blocks upon which the letters are cut are bevelled upon one side, so that a series of them, when placed in a column galley, shall form a continuous ratchet of which each block is a separate tooth, and which may be fed forward at regular intervals one or more teeth at a time, as may be required.

Claim.—First, the type or address blocks with bevelled edges, or the equivalent therefor, so arranged that when set up in a galley the blocks themselves constitute a ratchet by which the galley may be fed forward at regular intervals.

Second, the arrangement of wooden type or address blocks in columns or galleys in such manner that, while one side of the column forms a continuous ratchet of which each block is a tooth, as described, the other side or end of the blocks may form an irregular ratchet, operating only when a block containing a particular name or address is reached at any interval, substantially as described.

Third. The binder, Fig. 6, in combination with the address blocks and galley, when used in the manner and for the purpose set forth.

Fourth. The movable shield *p*, in combination with the dog *k*, the type or name blocks and the galley, or their equivalents, as herein set forth.

Fifth. The feed lever *a a′* with the platen arm *d*, the feed slide *h*, and the dog *k*, in combination with the wooden type blocks, when the blocks are so arranged in galleys as to form a ratchet moving at regulated intervals, substantially as described.

No. 41,235.—Gustavus S. Perkins, Essex, Mass.—*Cable Stopper.*—January 12, 1864.—The stopper is composed of a lever A, having on one side near its fulcrum a pair of curved claws *b b*, and on the same side, further from the fulcrum, a pair of straight prongs *c c*. The claws and prongs are of sufficient size, respectively, for the free admission of the links between them edgewise. The two prongs are of sufficient length to admit of a pin being passed through holes in their ends after having received a link. When the cable is to be slipped, this pin is drawn out and the lashing cut, when the lever will be thrown over, and the cable will be freed from the claws and prongs.

Claim.—First, the cable stopper composed of a lever A, furnished with a pair of claws *b b*, as described, and to be applied in connexion with the cable and with a shackle, or its equivalent, substantially as herein specified.

Second, the prongs *c c* and pin *d*, in combination with the prongs *b b* of the lever A, substantially as and for the purpose herein set forth.

No. 41,236.—Washburn Race, Lockport, N. Y.—*Sash Supporter and Lock.*—January 12, 1864.—This device consists of an eccentric, provided with two arms and placed at the head of the lower sash so as to retain the same at any desired elevation, and also to serve as a "stop" to prevent the window from being raised when closed.

Claim.—As a new article of manufacture, the combined sash supporter and lock C, consisting of the enlarged eccentric or stop *c* and the arms *d d*, the same being situated at the top of the lower sash B and arranged relatively with it, as herein set forth.

No. 41,237.—John Reichenbach, Pittsburg, Penn.—*Artificial Leg.*—January 12, 1864.—This invention relates chiefly to the construction of the ankle joint and the joint near the extremity of the foot or the toe joint, the same being designed to be attached to the natural leg where amputation has taken place below the knee. The nature of the invention will be understood from the claim and engraving.

Claim.—First, forming the ankle joint by means of a hook and eye, or ring, one attached to the foot, the other to the leg, forming a universal joint, in combination with springs of India-rubber or other elastic material placed in the cavity of the foot for the purpose of allowing the requisite motion of the foot with sufficient elasticity of tread, substantially as described.

Second, the mode of regulating the length of the leg from the knee to the sole of the foot by means of the hook-and-eye bolts *c* and *k*, furnished with screw nuts *n n′*, in combination with the India-rubber springs *i i*, substantially as described.

Third, so constructing the ankle joint, substantially as described, as that when the leg has been turned on its axis in the foot, the foot shall be automatically restored to its normal position in relation to the leg when raised from the ground by means of the combination of the hook-and-eye joint and India-rubber springs.

No. 41,238.—John Reichenbach, Pittsburg, Penn.—*Artificial Leg.*—January 12, 1864.—This invention relates to the construction of the knee joint in such a manner as to enable the wearer to straighten out the same when flexed with sufficient force to enable him to walk without a stick, or to ascend steps without extraneous assistance. The claim mainly describes the nature of the invention.

Claim.—First, constructing the knee joint of two hemispherical pieces, one attached to the thigh piece and the other to the leg piece, each working in a socket in that portion of the leg to which it is not attached, and connected together by a centre or joint pin, substantially as described.

Second, the use of a grooved pulley or disk turning on the centre or joint pin of the knee for guiding the extension cord in its passage over the cap of the knee, substantially as and for the purpose hereinbefore described.

Third, the combination of the hemispherical joint pieces *g g′*, one attached to the thigh and the other to the leg, each working in a cup-shaped socket in that portion of the leg to which it is not attached with the hinge pieces *d d′* and hinge pin *e*, either with or without the disk or pulley for the extensor cord, the whole being constructed and arranged substantially as hereinbefore described.

Fourth, the use of an extensor cord attached to the leg piece below the knee and extending over the pulley *f* over the cap of the knee, and thence passing up through the thigh, and having its origin in or being attached to a strap passed around the waist of the wearer and otherwise firmly secured to his body, so that by flexing the stump of the thigh outwards from the body the extensor cord is sufficiently loosened to allow of the flexure of the knee joint, and by straightening the stump of the thigh, or bringing it into a line with the body, the extensor cord may be drawn tight, thereby straightening out the leg at the knee joint, substantially as described.

No. 41,239.—Frederick J. Seymour, Wolcottville, Conn.—*Machine for Cutting Tags and Shoe Laces.*—January 12, 1864.—This invention consists in the employment of a serrated cutter, so arranged as to receive the tag in a diagonal position and separate both the double tags and lace by a compressing and diagonal cutting operation that points the ends of both tags. A yielding comb is also employed that acts as a distributor to the tagged braid and as a gauge to the tags while being cut. The tag braid is retained by means of a clamp near the end thereof, so that it may be in a position to be easily seized and pulled through for the next operation of separating the tags and laces.

Claim.—First, the notched cutters *h* and *i*, receiving the double tagged braid in a diagonal position and compressing and separating such double tags, substantially as specified.

Second, the yielding comb *n*, in combination with the cutters that separate the double tagged braid, substantially as specified.

Third, the guide hole *f*, in combination with the presser or clamp *g*, for the purpose and as specified.

No. 41,240.—William Sharp, Millport, N. Y.—*Blacksmith Tuyeres.*—January 12, 1864.—The fire-bed over the blast chamber is composed of a stationary plate *c* and a disk. The bed plate and disk have a small central aperture *e* in common, which is always open; they are also provided with openings *f g*, for regulating the fire by shutting off a portion of the wind from the blast chamber, and diminishing the area of the fire.

Claim.—The combination and arrangement of the partially rotating disk D and stationary bed plate C, provided with the unvarying opening *e*, and variable openings *g f*, or their equivalents, with the blast pipe A and blast chamber B, substantially in the manner and for the purposes shown and described.

No. 41,241.—John N. Sigel, Alexandria, Va., assignor to himself and Robert Portner, of same place.—*Sizing and Water-proofing Paper, &c.*—January 12, 1864.—This invention consists in the employment of resin, shellac, saudarac, or other suitable water-proof gum dissolved in a caustic alkaline solution, to which is added a sufficient quantity of chloric acid to bleach the material, remove the viscid oily matter from the gum and precipitate the remainder; this precipitate is then removed and dissolved in alcohol or other suitable spirit, and the paper, cloth, &c., saturated in the same.

Claim.—The process above described for treating fibrous materials to render them water-proof and increase their strength and durability.

No. 41,242.—W. X. Stevens, Worcester, Mass.—*Breech-loading Fire-arm.*—January 12, 1864.—A movable breech block C is fitted to slide vertically in the rear of the barrel. On one side of the breech piece is an upright projection which works in a corresponding groove in the side of the frame to serve as a guide to the front part of the block. On the other side of the block is a groove for the reception of a stud secured to the side of a sliding rod I which works in a groove in the frame outside of the breech block. To the back part of the rod I is secured a hook which receives a small elbow lever J. This lever is situated under a locking pin *h*, secured to the front end of a spring, the latter being arranged in a cavity in the frame. A nipple is so arranged as to admit of being operated upon by a hammer to explode a charge which is loaded through the muzzle of the piece in case the breech loading ammunition should be expended.

Claim.—First, operating a breech block C, working transversely to the bore of the piece by means of a sliding rod I, or its equivalent, working longitudinally within the breech frame, and combined with the said block by means of a stud and inclined groove or other devices having a similar wedge-like action, substantially as herein specified.

Second, so constructing such sliding rod I, or equivalent, and applying it in combination with the breech block C, as to enable it to enter a notch in the said block, and so serve the additional purpose of securing the said block in position for firing, substantially as herein described.

Third, the combination with each other and with the sliding rod I, or its equivalent of the spring locking pin *h* and the elbow lever J, substantially as and for the purpose herein described.

Fourth, so applying a movable stop-pin *k*, or its equivalent, that it serves at the same time to stop the opening movement of the breech, and as the means of preventing the withdrawal of the said block from the frame, and by a suitable movement will permit such withdrawal, substantially as herein described.

Fifth, the loose nipple N, having a movement endwise to enable it to be suitably operated upon by the hammer to produce the explosion of a fixed ammunition cartridge, and yet capable of conveying fire to a charge from an ordinary cap, substantially as herein described.

No. 41,243.—George Tiemann, Brooklyn, N. Y.—*Fastenings for Surgical Instruments.*—January 12, 1864.—This invention consists in the employment of a fastener or button which is applied to the heel or shank of the instrument and catches over the edge of the handle so as to secure the instrument firmly in an open position.

Claim.—The turning fastener or button applied to surgical and other instruments to retain them in position when opened out of a handle, as and for the purposes specified.

No. 41,244.—W. B. Treadwell, Albany, N. Y.—*Coal Scuttle.*—January 12, 1864.—The bottom plate of the scuttle is of an oval form, and the mouth is extended and formed with a contracted channel, for the purpose of adapting it to a small opening in a stove. On each converging edge of the mouth is attached a curved guard or fender to prevent the coal from falling over the sides when supplying a stove.

Claim.—First. a coal scuttle or bucket with an oval (instead of elliptical) bottom plate *a*, an extended and contracted channelled mouth A, and a semi-circular back, substantially as described.

Second, in combination the oval flange base C, oval bottom plate *a*, and oval body A *a′ b*, as represented in figures 1 and 2, for the purposes described.

Third, inclining the oval bottom plate *a* backwards from the base of the channel *b*, in combination with a longitudinally extended and laterally contracted mouth A, substantially as described.

Fourth, although I do not claim broadly a covered scuttle mouth, I do claim the two side fenders D D, so applied to the scuttle mouth as to admit of the use of a poker when necessary to prevent said mouth from choking up with coal in emptying the scuttle, substantially as described.

Fifth, a coal scuttle, constructed in all particulars substantially as herein described.

No. 41,245.—Richard Trussell, Brooklyn, N. Y.—*Directing Guns by Adjustable Ports.*—January 12, 1864.—The gun-port is formed with a port-slide, which covers and is fitted to work up and down over the exterior of an embrasure in the vessel or fortification, and containing a port of a size to admit only of a free passage of the muzzle and a sufficient portion of the length of the chase of the gun. The port-slide rises and falls with the elevation and depression of the gun without uncovering any portion of the embrasure, the movements of both being effected by means of power applied to racks and pinions arranged for the purpose.

Claim.—First, the combination of the port slide B applied outside of the embrasure and the self-closing port-stopper opening outward by the running out of the gun, substantially as herein described.

Second, elevating and depressing the gun by applying the necessary power to raise and lower the port slide by means of racks and pinions, or their equivalents, substantially as herein specified.

No. 41,246.—George F. Udell and Henry Mayell, Albany, N. Y.—*Leather and Rubber Soling.*—January 12, 1864.—This invention consists in cementing together entire sides or large pieces of leather, properly skived, with India-rubber soling, the parts being united by subjection to a strong pressure.

Claim.—The combination of leather in sides or large sheets with India-rubber soling, as described in the specification, being a new and useful article of manufacture.

No. 41,247.—Rodolphus L. Webb, West Meriden, Conn.—*Lock.*—January 12, 1864.—The tumbler and various parts of the lock are so arranged that, upon pulling the latch forward from the face plate before the insertion of the spindle, and giving the latch a half turn, it will be made to answer as a right or left hand latch, as may be desired.

Claim.—First, a tumbler *d* fitted loosely between the latch plates, in combination with a swivel spindle latch *g c*, substantially as and for the purpose described.

Second, the arrangement of the spindle *g*, spring *h*, studs *f*, yoke *e*, tumbler *d*, operating substantially as and for the purpose described.

No. 41,248.—Peter Welch, Oswego, N. Y.—*Machine for Dressing Barrel Heads.*—January 12, 1864.—This invention consists in a method of clamping the head of the barrel in the machine by means of a lever controlled by the foot of the operator. Means are also provided for throwing the feed into and out of gear, so that the head will only revolve while the saw and chisels are doing their work.

The position of the head in the clamps is regulated by means of two adjustable guides, so as to insure the accurate centring of the head, the adjustment being effected by a set screw upon an arm provided with a square collar, by which it is attached at any desired position to a square upright rod O′.

Claim.—First, the combination and arrangement, in the manner described, of the foot rod O′, lever I′, shaft J′, and clamp L′, for the purpose specified, not intending hereby to claim broadly the holding or clamping of the barrel head by means of a foot lever.

Second, the mode specified of throwing the feed into and out of gear by the combination of the clutch I J, fork P, rod Q, and fork R, constructed, operated, and operating substantially in the manner described.

Third, the adjustable gauges C′ D′, attached in the manner set forth to the rod O′, and arranged and operated substantially as specified.

No. 41,249.—Peter Welch, Oswego, N. Y.—*Machine for Chamfering and Crozing Barrels.*—January 12, 1864.—Upon the end of a horizontal shaft S is a bevel wheel R, which gears into a fixed bevel wheel P attached to the frame, the said shaft passing through and rotating in the tool stock, and carrying at its other end a worm wheel T, which gears into and drives the feed wheel U. This wheel is provided with cam grooves in its sides, and turns upon a central shaft. The cam grooves receive, respectively, pins attached to the slides V and W, which carry the tools by which the latter are caused to advance and recede, as the work requires.

Claim.—The new and improved mode of imparting the feed motion to the crozing and other tools, as hereinbefore set forth, the same consisting in the combination of the stationary bevel wheel P with the wheel R, shaft S, worm T, feed wheel U, pins *f g*, and slides V and W, constructed, arranged, and operating substantially in the manner described.

No. 41,250.—James D. Whelpley and Jacob J. Storer, Boston, Mass.—*Burning, Roasting, and Smelting Ores.*—January 12, 1864.—The nature of this invention consists in dropping finely pulverized and highly heated ores into a water bath or upon a current of water on the hearth, so as to obtain a joint action of heat and moisture at the same instant, for the purpose of more thoroughly desulphurizing, or otherwise chemically treating, the ores. The material, after being finely pulverized in a mill, is sifted or driven into the head of a perpendicular flue of a furnace, which is made expanding as it descends, in order to prevent the clinging of the substances to the sides of the flue.

Claim.—First, the heating and immediate quenching in water of finely pulverized ores, substantially as described.

Second, the perpendicularly expanding flue C, substantially as and for the purposes described.

Third, the horizontal or nearly horizontal flue D, in combination with the flue C, substantially as and for the purpose set forth.

Fourth, the combination of two or more furnaces with a perpendicular expanding flue, substantially as set forth and for the purpose described.

Fifth, the auxiliary chimneys K K′ over the furnace fires, for the relief of the fires during the process of kindling and extinguishing, substantially as described.

Sixth, the side openings in the perpendicular flue at graduated distances, with brick or iron removable stoppers, substantially as set forth, for the purpose of inspection and the admission of atmospheric air.

Seventh, the pouring of the material to be burned or roasted into the side hopper or air feed hole of a fan-blower for induction into the furnace, in combination with the second blower, substantially as and for the purpose described.

Eighth, the projection of a perpendicular blast from a fan-blower down through the top of the furnace and perpendicular expanding flue carrying the materials to be burned or roasted, substantially as described.

Ninth, the combination of two blowers—one at the head or above, and the other below, in the horizontal flue—to produce a balanced blast, substantially as described.

Tenth, the use of a water bath or a wet hearth, commencing at the bottom of the perpendicular flue and extending along the horizontal flue, substantially as and for the purpose described.

Eleventh, the use of the spray chamber G, and feeding the same with water by an induction pipe or sluice from the top or side, substantially as and for the purpose described.

Twelfth, connecting the pool of water in the spray chamber, by a circuit or canal, with the water external to the furnace, for the purpose of making a continual circulation, substantially as described.

Thirteenth, supporting the dross chimney C and horizontal flue D on piers and arches in a tank or trough, so that the surface of the water therein may, in effect, form a bottom to said chimney and flue, and allow the deposits to be raked out under said arches without opening the furnace or affecting the draught, substantially as described.

No. 41,251.—AMOS WHITTEMORE, Cambridgeport, Mass.—*Machine for Making Horseshoe Nails.*—January 12, 1864.—This invention relates to machinery for making horseshoe nails, with which a furnace is so connected that the rods of which the nails are made are passed directly through this furnace and brought directly under the swaging hammers, the object being to avoid the bending or buckling of the rods in the operations of heating them and introducing them at a welding heat under the hammer, the operations of the machine being automatic.

Claim.—First, a reciprocating furnace in combination with nippers, operating substantially as and for the purpose described.

Second, applying the thrusting nippers, which hold the rod during its forward movement, to a reciprocating furnace, in combination with nippers applied to the frame of the machine, substantially as and for the purposes described.

Third, a reciprocating nail-rod heating furnace, substantially as described.

No. 41,252.—JAMES T. WOOD and EDWARD C. SMITH, Pittsburg, Pa.—*Nut and Washer Machine.*—January 12, 1864.—This invention consists in the employment of a pair of grooved rollers furnished with punches or bosses, by means of which the bar is compressed and rolled into shape, and, at the same time, is partially perforated at proper intervals for the eye of the nuts, the perforations being made in both faces of the bar from above and below. As the bar is fed forward between the rolls, the forward end passes under a die, which presses it down, while a moving punch completes the perforation of the eye. The finished nut is then cut off by a square die, which forces it into a square cavity extending through the bed-plate of the machine, one finished nut being completed at each revolution of the machine.

Claim.—First, rolling and partially perforating the nut blanks on both faces before the nuts are severed from the bar, and preventing the bar from spreading laterally during the perforation by means of a pair of rollers, one having a projecting belt fitting into a groove in the other, and finished with short punches or bosses, substantially as described.

Second, the use, in combination with the rollers constructed as above described, of the round punch i, and dies h and k, and die block c', for the purpose of making finished nuts, substantially as hereinbefore described.

No. 41,253.—J. E. YOUNGMAN, Rockford, Ill.—*Apparatus for Evaporating and Refining Sugar.*—January 12, 1864.—This apparatus is composed of a series of furnaces so arranged in relation to each other, and provided with dampers, as to enable the heat to pass from one furnace through another and into a third, when desirable. The flue of each furnace is also provided with a damper, so that the heat can be admitted to or shut off from the different pans. Upon the outside of two of the pans are placed, respectively, two spouts, having beneath them other spouts or conductors, for receiving the fluid portion of the scum that is drawn over the inclined sides of the said pans. The worthless portion of the scum passes off at the ends of the perforated spouts, while the fluid portion is collected in a trough or reservoir J below. Pans Nos. 5 and 6 are intended for heating the crude juice previous to its introduction into the defecating pans.

Claim.—First, the furnaces A B C and C′, arranged as and for the purpose set forth.

Second, the arrangement of the dampers a a' and b b', in combination with the furnaces A B C and C′, for the purposes herein specified.

Third, the dampers c d and e, in combination with the flues E and F, when arranged and operating as described.

Fourth, the perforated spouts K and N, in connexion with the spouts K′ and N′, for the objects and purposes set forth.

Fifth, the bordered heaters Nos. 5 and 6, for the purposes described.

Sixth, the reservoir J, for receiving the fluid part of the scum, as specified.

No. 41,254.—CASPAR ZWICKI, Pittsburg, Penn.—*Loom.*—January 12, 1864.—This invention consists in the method of gearing the two main shafts, and arranging the cams thereon, for the purpose of working the picker staffs alternately, and also alternately lifting out of action the arms which operate the picker staffs when they are not worked.

Claim.—The arrangement of the cams a b on the shaft B, and of the cams J K upon the shaft G, said shaft G having two revolutions to one of the shaft G, and the cams of both shafts acting upon the rocking shafts g h to work alternately and move out of action alternately the picker staffs, substantially as described.

No. 41,255.—JOHN C. BEERS, Brooklyn, N. Y., assignor to himself and P. C. SKIDMORE, of same place.—*Collars for Lamps.*—January 12, 1864.—This invention consists in hinging the part which receives the burner directly to the lamp cap or collar which surrounds the oil reservoir, thus dispensing with an intermediate piece, which has heretofore been used.

Claim.—The combination of the part C with the ferrule by direct attachment, which allows the lamp to be opened sufficiently to fill it, substantially as and for the purpose set forth.

No. 41,256.—HENRY L. BUDD, New York, N. Y., assignor to himself and GEORGE H. THORP, of same place.—*Heater.*—January 12, 1864.—Surrounding the rear part of the fire-pot is a jacket, with which are connected inlet and outlet apertures provided with dampers so arranged that a current of air can be introduced from behind the heater to circulate around the fire-pot and pass out into the room, or be conducted by flues to rooms above.

Above the fire is placed a hollow vessel m, into which are introduced air passages, and an opening is provided at the top for the passage of hot air. Across this opening is a plate with two covers united together, and so arranged as to cause the air to enter the room or pass away by the hot air flue, as may be desired.

Claim.—First, the case f at the rear of the fire-pot, in combination with the dampers g and h and pipe l, as and for the purposes specified.

Second, the plate p across the opening o of the vessel m, through which the air circulates and is by said plate divided and caused to enter the room or pass away by the hot-air flue, as specified.

Third, the half-covers q and r, united together, and acting as specified in combination with the plate p, to direct the heated air, as set forth.

No. 41,257.—L. A. DOLE, Salem, Ohio, assignor to himself and A. R. SILVER.—*Tire-Upsetting Machine.*—January 12, 1864.—The key retainers are composed of a wrought metal bar bent in such a manner as to form a slotted contracted portion for receiving the keys, and enlarged at its lower end into an open circular portion, the latter being completely enveloped by cast metal, which is poured into the mould, and thus forms the anvil.

Four key retainers are arranged in pairs so that each will receive through them a wedge-shaped key for confining the tire to the surface of the anvil, the bend of the tire coming between the retainers.

Claim.—First, making the wrought metal key retainers of the tire-upsetting machine with a contracted slotted portion a, terminating in an enlarged eye b, substantially as and for the purpose described.

Second, the use of transverse wedge keys with V edges in combination with the wrought metal loops A applied to the anvil B substantially as described.

No. 41,258.—T. P. GRANGER, Pecatonica, Ill., assignor to himself and JOSIAH BEST.—*Planes for Jointing Table Leaves.*—January 12, 1864.—This invention consists in the employment of a series of planes to be used successively in finishing the edges or joints of table leaves.

Claim.—The herein-described series of planes for setting table joints, the same being constructed and used in the manner and for the purpose herein set forth.

No. 41,259.—HEINRICH HOCHSTÄTTER, Langen, Grand Duchy of Hesse Darmstadt, assignor to WILLIAM LANGE and FERDINAND W. SENNEWALD, of St. Louis, Mo.—*Composition for Percussion Caps, &c.*—January 12, 1864.—This composition consists of chlorite of lead, nitrate of potash, and gum amber, which is made into a paste with mucilage and afterwards granulated. When introduced into the cap it is coated with varnish.

Claim.—The application of chlorite of lead compounded as described herein as an explosive mass for the ignition of gunpowder.

No. 41,260.—Frank Howard, Boston, Mass., assignor to Vyse & Sons, of New York, N. Y.—*Hat.*—January 12, 1864.—This invention consists in providing the under side of the brim of the hat with a covering rendered water-proof, and stiffened by suitable preparations, being designed more especially for straw hats.
Claim.—A hat brim prepared and constructed substantially as herein described.

No. 41,261.—Robert B. Hurd, Paterson, N. J., and William Halladay, Brooklyn, N. Y., assignors to themselves and John S. Giles, of New York, N. Y.—*Hat.*—January 12, 1864.—This invention consists in forming the crown, and that portion of the body of the hat which fits the bead, of buckram, covered with plush or other similar material, and the brim of felt.
Claim.—A hat composed of buckram, covered with plush, or its equivalent, and brim of felt, the whole combined and constructed substantially as herein described.

No. 41,262.—Joseph Olmstead, Chicago, Ill., assignor to T. P. Dinsmore, of same place.—*Device for Shrinking Tire.*—January 12, 1864.—This invention consists in the arrangement of two brackets, one on either end of the eccentric, in combination with the eccentric wrist-pin or wrist-pins, and with the two pitmen and hand-lever, in such a manner that one of said brackets forms an extra bearing to the wrist-pin outside of one pitman, and the other bracket serves to sustain the hand-lever, and enables the same to be brought in to such a position that its end forms a bearing for the wrist-pin outside of the other pitman, and admits of its being moved through an arc of 180° or more.
Claim.—The arrangement of the brackets *e e'* projecting from the ends of the eccentric D, in combination with the wrist-pin *d*, pitmen E E', and hand-lever F, constructed and operating as and for the purpose shown and described.

No. 41,263.—William F. Osgood, Lowell, Mass., assignor to Orin F. Osgood, of same place.—*Corn Planter.*—January 12, 1864.—Attached to the rear part of the slide E, underneath the seed box, is a rod F, which is bent in such a manner that its from part will be in front of the wheel C. This rod has, at its rear end, a spiral spring connected with the frame, which serves to retain the slide in position. Upon the outside of the wheel is arranged a series of friction rollers, which, as the wheel revolves, strike against a rod on the bar F, and serve to actuate the slide E. Underneath the slide E is a metal plate H, which is rendered adjustable in such a manner as to admit of seeds of different kinds or sizes being dropped through to the seed tubes.
Claim.—The arrangement of the spring bar F, constructed as shown, with the wheel C, rollers *i*, and slides E H, in the manner herein described.

No. 41,264.—D'Arcy Porter, Cleveland, Ohio, assignor to himself and J. H. Woodman.—*Washing Machine.*—January 12, 1864.—The rubbers are composed of a series of slats secured to flexible bands, each slat being provided with a series of knobs upon their inner surface. The flexible belts are supported at one end by a bearing in the box, and at the other end by adjustable springs. Within the flexible rubbers is arranged a fluted roller upon a shaft extending through the sides of the box.
Claim.—The flexible series of rubbers F, when constructed and arranged as described, in combination with the springs K and fluted roller C, the several parts operating substantially as and for the purpose herein set forth.

No. 41,265.—Luther E. Porter, Lake Mills, Wis., assignor to E. W. Skinner, of Madison, Wis.—*Sugar Mills.*—January 12, 1864.—This invention consists in a method of adjusting the crushing rollers of a sugar mill by means of a lever operating upon sliding journal boxes that support the rollers in such a manner as to exert an equal pressure upon the cane throughout its entire length without regard to the varying size thereof.
Claim.—First, the combination and arrangement of the roller A, the adjustable journal box D, with a lever or combination of levers, operating substantially as and for the purposes herein specified and shown.
Second, in combination with said adjustable box and levers the employment of the sliding fulcrum G, arranged and operating as and for the purposes herein shown and described.

No. 41,266.—E. L. Pratt, Boston, Mass., assignor to George R. Carter, Boston, Mass., and D. H. Goodell, Antrim, N. H.—*Apple Parer.*—January 12, 1864.—This device is composed of a stationary annulus or ring, provided on its front surface with bevel gear teeth, in connexion with two radial arms *d h* extending from the centre of the ring, both arms having a common bearing upon the centre-pin, so as to have a common revolution around the ring, but independently of each other. To the arm *h* is applied the mechanism for carrying and imparting motion to the paring knife, which latter may be made to remove a continuous helical strip of the skin, and, when necessary, the knife can be kept stationary with respect to the fork, so as to cut in a plane perpendicular to the fork, in order to cut into the surface more deeply in some places than others.

Claim.—The manner of operating the fork and knife of the apple-paring machine by applying them to radial arms *d h* made to revolve around and to operate in conjunction with a wheel or ring *a*, substantially as and for the purpose set forth.
Also, so applying the mechanism which operates the knife that while the apple is rotating on its fork the progressive movement of the parer can be arrested, in the manner specified.

No. 41,267.—John Stevens, New York, N. Y., assignor to himself, Achille F. Migeon, and Franklin Farrel.—*Buckles.*—January 12, 1864.—The buckle is formed of sheet metal, with the edges turned up at right angles, so as to form the joint between the frame and tongue, which latter is united to the frame by a pin placed above the strap, so as to form a bent lever, the strap being attached to the short end of the same, thus causing the longer end to press upon and bind the moving part of the strap to the frame.
Claim.—First, the tongue *a*, formed as a bent lever, by locating the fulcrum *c* above the strap, so that the tongue *a* shall clamp the strap, as specified.
Second, forming the buckle tongue or frame of sheet metal bent up and united by the fulcrum or cross-pin, as specified.

No. 41,268.—John H. Aldrich, Holyoke, Mass.—*Flyers for Spinning Machines.*—January 19, 1864.—In this flyer the tubular arm extends a little below the cam or stop, so as to lead the roving easily on to the presser arm; the stop or cam is brought close up to the bearing or stem in the lower ear, so as to cause but little leverage or strain on the pin or stem, thus preventing its liability to work loose or be bent. A square hole is made to receive the squared end of the pin or stem, in order to obtain a nicer adjustment of the pressure on the bobbin as the roving is wound upon it.
Claim.—Constructing the cam or stop, and presser arm of sluicer and speeder flyers in one piece, with the stop close to the under side of the lower ear of the flyer, and having a hole to receive the squared end of the pin, thus preventing too great strain upon the pin, and admitting of greater nicety of adjustment, as herein described.

No. 41,269.—F. H. Bartholomew, New York, N. Y.—*Water Closet Valves.*—January 19, 1864.—The object of this invention is to provide a cock for supplying water to the closet, which cock shall be closed by the pressure of the water flowing through it, and at the same time regulating or retarding the closing of the valve, so as to insure a proper supply of water to the pan after the handle is dropped, by combining with it a variable chamber, while the valve, after having been opened by the force to tip the pan, shall remain open until closed by the force of water flowing through it, and avoid all extraneous forces capable of closing the valve without the action of the water.
Claim.—Combining with a pan water closet a supply valve R for admitting water into a pan, balancing diaphragms E H and a regulating chamber Z. for controlling the motion of the valve; the whole being constructed and arranged substantially as shown in Fig. 1 of the accompanying drawings, and for the purposes described.

No. 41,270.—Lorenzo Beach, Montrose, Penn.—*Horse Rake.*—January 19, 1864.—Attached to the side of the seat is a horizontal lever B, to which is connected a spring bar attached to the under side of the seat. The horizontal lever is connected with an upright lever L by means of a notch, and the upright lever is attached to the axle. The driver, by pressing his knee against the lever B, releases the lever L, which serves to raise the arms and teeth and thus discharge the gathered hay.
Claim.—In combination with the upright lever L the horizontal lever B and spring bar S, operating substantially in the manner described.

No. 41,271.—Horace A. Blakeman, Cuyler, N. Y.—*Cheese Curd Cutters.*—January 19, 1864.—This invention consists in the employment of a knife, secured to a sliding frame, to which an up-and-down motion is imparted. The knife is made to enter a box in which the curd is placed, and by means of a dog and ratchet, connected with the crank that gives motion to the knife, an intermittent horizontal motion is imparted to the box.
Claim.—The frame *c* and knife *d*, driven as represented, in combination with the box *e*, in the frame *f*, operated by the dog and ratchet, or their equivalents, when used as and for the purposes set forth.

No. 41,272.—Henry Bland, Luton, England.—*Tension Device for Sewing Machines.*—January 19, 1864.—This invention consists in the employment of an endless screw in connexion with a travelling index-plate and a scale, upon which latter are marked a series of numbers corresponding with the number or sizes of the thread to be used, in order to readily adjust the tension of the thread.
Claim.—The tension device composed of the screw B and scale C, combined substantially as and for the purpose herein specified.

No. 41,273.—Caleb H. Booth, Dubuque, Iowa.—*Grain-dryers.*—January 19, 1864.—This apparatus consists of a metallic cylinder provided on its inner surface with a spiral strip of metal, through which cylinder is passed the material to be dried. The said cylinde is caused to rotate within a casing or reservoir into which steam is conducted.

Claim.—The combination of the conveyor C E with the steam-heated reservoir A B enclosing it, all constructed substantially as shown, and by means thereof with steam, to bleach, to purify, and to dry flour and meal, but no other substance.

No. 41,274.—Clarissa Britain, St. Joseph, Mich.—*Lantern Dinner-pail.*—January 19, 1864.—This invention consists of a pail so constructed as to admit of a lamp being placed in its lower part to answer the purposes of a lantern, and also to heat articles of food which may be placed in the pail. Over the lamp are arranged pans which have a central opening in them, through which passes a flue from the lamp-chamber to the cover.

The bottom of the pail is adapted for receiving a shallow vessel, secured in any proper way.

Claim.—First, a lantern dinner-pail constructed and operating substantially as and for the purposes described.

Second, the combination of the lamp-chamber C, flue c^1, partition *c*, and upper receptacle for pans *d e* arranged within the pail *a*, substantially as and for the purposes described.

Third, constructing the cover of a dinner-pail with a flue h^1, in combination with a flue extending down to the chamber C, substantially as and for the purposes described.

Fourth, the combination of the removal bottom pan B, lamp-chamber C, and one or more heating chambers *d e*, substantially as and for the purposes herein described.

No. 41,275.—Hugh Burgess, Royers Ford, Penn—*Fibre from Flax, Hemp, &c.*—January 19, 1864.—This invention consists of a fibre produced by subjecting flax, hemp, or other fibrous material, after being properly cleansed, to the action of caustic alkali in a boiler under a pressure of steam applied in any suitable manner.

Claim.—A fibre suitable for textile purposes made from hemp, flax, and other fibre-yielding plants, by boiling them in an alkaline solution under pressure, substantially as described.

No. 41,276.—Hugh Burgess, Royers Ford, Penn.—*Disintegrating or Cottonizing Flax, Hemp, &c.*—January 19, 1864.—This invention consists in the method of producing fibres for textile purposes from flax, hemp, and other fibre-yielding plants, by subjecting them to a solution of caustic alkali under a suitable steam-pressure.

Claim.—The mode of producing fibres for textile purposes from flax, hemp, and other fibre-yielding plants by the action thereon of caustic alkaline solution at a suitable temperature, substantially as described.

No. 41,277.—Robert B. Carsley, New Bedford, Mass.—*Lathes for Turning Spherical Shapes.*—January 19, 1864.—This machine is composed of two circular disks D E. one of which, D, is firmly secured to a shaft, with which it rotates, and the other disk, E, is placed loosely upon the same shaft, and has a motion imparted to it in a contrary direction from disk D. The loose disk is capable of a movement lengthwise of the shaft to permit the introduction of the article to be turned between the disks.

The cutter is made in the form of a ring, the inner cutting edge forming a true circle; it is provided with a straight shank secured to a stock, which is arranged to travel in a line parallel with the main shaft, by which it is fed slowly towards the fixed disk.

Claim.—The combination of the two disks D E rotating in opposite directions, and the annular cutter *j*, substantially as and for the purpose herein specified.

No. 41,278.—Henry Caudwell, Oatlands House, Shillingford, England.—*Construction of Ships-of-war.*—January 19, 1864; patented in England April 10, 1863.—Over the deck of the vessel is placed a sloping roof formed of plates of wrought iron, along the sides of which, at suitable distances apart, are formed broad corrugations or projecting ribs. These corrugations are pierced to form portholes for the guns, the portholes being provided with shutters consisting of plates of iron or steel plate let into parallel rebated grooves formed in the edges of the armor plates.

Around the hull of the vessel, just above the water line, is a projecting rim of wrought iron for the purpose of deflecting shot, to which rim may be applied a covering of India-rubber.

Claim.—First, the corrugated armor-plated roof having the portholes in the corrugations *d d*, substantially as herein specified.

Second, the port-shutters, composed of a number of separate plates of iron or steel *e e* arranged one above another and fitted to groves in the edges of the armor-plates, to operate substantially as herein specified.

Third, the employment of India-rubber or other elastic material in combination with the circumscribing lip of the vessel, substantially as herein specified.

No. 41,279.—Samuel C. Chase, Charlestown, Mass.—*Mode of Coloring Kid Gloves &c.*—January 19, 1864.—This invention consists in first applying to the skin a coating of an alkaline solution applied in a warm state, and to produce a black color a coating of a hydrated solution of sal soda and logwood and powdered sumac is used. The mordant to be used, as well as the coloring materials, will depend upon the color which it is desired to impart to the skin or gloves.

Claim.—An improved process, substantially as above set forth, for treating and coloring kid skins or kid gloves.

No. 41,280.—C. O. Crosby, New Haven, Conn.—*Ruffles.*—January 19, 1864.—This invention consists in attaching to the ruffle or frill a ribbon or narrow strip of fabric to serve as a facing in attaching the ruffle to a garment, the said strip or ribbon being secured to the ruffle at the time the crimps are made in the machine by the same two rows of stitching which secure the crimps made by the crimping or frilling apparatus, as described in a patent issued to the said Crosby on December 2, 1862.

Claim.—As a new article of manufacture, the within-described ruffle, when the binding is turned under as described, and the frill and binding secured together by two rows of stitching, substantially as specified, whether the edge of the frill under the binding is turned over or not.

No. 41,281.—Frederick Curtis, Newton Lower Falls, Mass.—*Breech-loading Fire arm.*—January 19, 1864; antedated January 2, 1864.—The nature and object of this invention are mainly explained by the claim.

The trigger-locking mechanism consists of a slide or bolt *m* placed upon the trigger plate G of the gun, and secured to one end of the same by a screw or standard *n*. Through an opening in the trigger plate and slide passes an arm or stud I, which is hinged to the trigger plate, and upon the top of this arm presses a spring *w*, which is attached to the upper part of the standard *n*, so that in drawing down the handle of the guard lever the trigger will be held immovably in position.

Claim.—In combination with the trigger and the movable guard or lever of the breech-block a trigger-locking mechanism, which, by an upward movement of the said lever towards the trigger-plate and by other means or devices, shall be unlocked from the trigger, and while the lever may be depressed or forced away from the trigger plate, and for the purpose of lowering the breech block, shall lock or bolt the trigger, and thereby prevent accidental discharge of the fire-arm.

Also, the peculiar mechanism for operating the bolt *m*, the same consisting of the arm or retractor I and the spring *w*, (or their mechanical equivalents,) such being arranged with respect to the trigger bolt *m* and the guard lever C, and so as to operate and be operated in manner and under circumstances substantially as specified.

No. 42,282.—Phylander Daniels, Le Roy, N. Y.—*Artificial Legs.*—January 19, 1864.—The upper part of this leg is formed of sole-leather secured at its lower end to a block of wood, to which the knee joint is attached. This joint is formed of two metallic disks or circular plates, having shanks extending down into the wood of the inferior leg. Centrally through the joint passes an axis *f*, and near the edges of the plates are concentric slots, through which passes a bolt, which bears against the forward end of the slots when the leg is in an upright position.

The ankle joint is formed by a transverse axis passing through the inferior leg, the ends of the said axis resting in the ends of laterally acting hinges attached rigidly to the outside of the foot, so arranged as to allow the foot to incline somewhat sidewise in walking over uneven ground. The axis also passes through a socket, which is enlarged at each side of the centre to facilitate the same movement.

Claim.—Forming the socket A, for the reception of the natural thigh when amputation is above the knee, of sole-leather, or other thick leather, of sufficient stiffness to be self-supporting, and not requiring a skeleton frame, and so arranged that its flexibility will allow it to yield and adapt itself to the form of the natural member within, so as to secure ease to the wearer, said socket being used in combination with the block B, or its equivalent, for forming the knee joint, substantially as herein set forth.

Second, also the knee joint composed of the thin plates D D resting in the grooves *c c*, and connected by the axis *f*, substantially as herein described.

Third, in combination with the parts thus forming the knee joint the concentric slots *h h* and bolt *i*, arranged substantially as herein specified.

Fourth, also the arrangement of the lateral hinges *s s*, axis *r*, and its socket *t*, in combination with the foot H and inferior leg C, substantially as and for the purpose herein set forth.

No. 41,283.—William H. De Groot, New York, N. Y.—*Stone-gatherers.*—January 19, 1864.—This invention consists in the employment of a revolving cylinder mounted in a frame and provided with a flange, upon which are hung a series of pickers so arranged that their points will be thrown inwards towards the axle or outwards into a working position, as may be required when the machine is in motion. Extending from one to the other of the disks is a continuous sheet of wire cloth, which acts as a sieve to separate the dirt from the stones as they are raised by the pickers. The stones, after being taken up by the pickers, are deposited in a box, which is so arranged as to be capable of being tipped to drop the stones when desirable.

Claim.—First, the revolving cylinder driven by the main wheels of the machine provided with pickers *c* and sieves *d*, constructed and operating substantially as and for the purpose set forth.

Second, the construction of the revolving pickers *e*, as described in combination with the ring *l*, and flange *m*, for adjusting the parts simultaneously as and for the purpose set forth.

Third, the arrangement of the receiving box *e*, provided with the lifting back *j* and guiding hooks *i*, constructed and operating as and for the purposes set forth.

No. 41,284.—DRAKE W. DENTON, Ithaca, N. Y.—*Manufacture of Coffins and other Articles from Asphaltic Compositions.*—January 19, 1864.—The materials used in this composition consist of the pitch or dried residue of coal-tar mixed with plaster, to which may be added, when desirable to impart a degree of hardness or softness to the composition, a portion either of sand or of India-rubber. The coffin or other article to be made is formed in a mould made of sheet-steel or other sheet-metal.

Claim.—First, the use of the material or composition made as described in the manufacture of coffins and burial-cases and air-tight coffins.

Second, the herein-described mode of making materials for coffins and other useful articles from the several materials mentioned.

Third, the herein-described mode of moulding coffins and other articles by means of plates or patterns, or moulds made of sheet-steel or other metal that by its elasticity clears off of the coffin or other article made in the manner described; and the securing of a polished, glossy finish to the coffin or other article, without hand-polishing or finishing by means of polished elastic plates, as described.

No. 41,285.—JOHN DU BOIS, Williamsport, Penn.—*Building Flumes for Floating Logs.*—January 19, 1864.—The flume is designed to cross a stream at many points, and at each crossing small dams are made which serve to conduct the surplus water into the flume. On the lower side of the chute or under-channel is arranged a gate, extending up to the top of the sides of the chute and down to the bed of the same, by which means the current of the stream, over which the flume crosses, may be checked.

Claim.—First, providing for the passage of water under the flume A and into the flume A at the point where the flume crosses streams, substantially as and for the purpose described.

Second, a log-floating flume, constructed with an under and overflow channel and gate, arranged over a stream, substantially as and for the purpose set forth.

No. 41,286.—JAMES DUNKERLY and JOHN KNIGHT, Paterson, N. J.—*Composition for Pasting Cops.*—January 19, 1864.—This composition consists of a mixture of tallow, flour, castor oil, and soap and water, with or without a small quantity of sulphuric acid, being designed for fastening the lower ends of cops, so that they will not lose their shape or become tangled when removed from the spindle.

Claim.—A composition produced by mixing the within described ingredients together, substantially in the manner and about in the proportions herein specified.

No. 41,287.—J. H. FLANAGAN, Chicago, Ill., and WILLIAM LANING, Stoughton, Wis.—*Grubbing Machines.*—January 19, 1864.—To the inner side of the lower part of the main lever is secured a grooved plate, forming a series of teeth into which fits one end of the clevis, the other end being placed around the stump to be extracted. By adjusting the clevis in the plate, it may be fitted to stumps of different sizes. The lower end of the lever is secured in curved pieces of timber which form a shifting fulcrum.

Claim.—First, the employment of the grooved plate E, in combination with the clevis F and pin *c*, for the purpose of adjusting the machine to stumps of different sizes, substantially as herein described and shown.

Second, the combination and arrangement of the circular fulcrum A A, the lever B, clevis F, and grooved plate E, constructed and operating as and for the purposes herein shown and specified.

No. 41,288.—JOSEPH FRANCIS, New York, N. Y.—*Metallic Pontoon Wagon Boats.*—January 19, 1864.—The body or float of this pontoon is formed of iron or other suitable metal in two sections, which are secured to each other by means of staples and a stout iron bar extending from top to bottom of the sections. The pontoons are secured in position by means of ropes passing over cylinders journaled on each side of the sections, the ropes being tightened by a properly arranged windlass.

Claim.—Combining and arranging pontoons formed of two parts, substantially as described, with the staples and bars S and windlass apparatus, or its equivalent, for holding the banks by which the pontoons are united and formed into a bridge, which combination forms a light and portable pontoon bridge, easily laid down and taken up by a small body of men, and which can be transported with safety and rapidity, as herein fully made known.

No. 41,289.—JOHN S. FRENCH, Boston, Mass.—*Centring Heavy Articles in Lathes.*—January 19, 1864.—This invention consists in the employment of a spherical journal, which is fixed to or forms part of a chuck or collar, the latter being provided with adjusting and holding screws, by the manipulation of which the centre of the spherical journal is readily brought into the axial line of the gun or article to be turned.

Claim.—First, the hollow spherical journal for the purpose set forth.

Second, combining with the spherical journal a means for lateral adjustment of the same, with respect to the article to be turned or bored, substantially as described, for the purpose of bringing the centre of the journal into the axial line of the said article as specified.

No. 41,290.—JOHN G. GARRETSON, Salem, Iowa.—*Hand Looms.*—January 19, 1864.—This invention consists in communicating a positive up-and-down motion to one treadle by means of a connecting link from the body of the lay to the treadle, so that at the backward vibration of the lay the treadle will be sufficiently depressed, and at the forward vibration will be duly elevated for the purpose; the motion being then communicated to the harness shafts by the use of the pendants, which are operated on and made to change the shed, by means of a revolving roller connected with the treadle, and made to revolve, by its action, one-fourth of a revolution at each back and forward vibration of the lay, and which, at every fourth of a revolution, acts on a different pendant or pendants, so as to bring them in contact with the pawl, and by its action to elevate one or more pair of harness shafts, while those not so acted upon by the roller are drawn down by the downward motion of the treadle.

Claim.—In a loom operated by one treadle only, the connecting the lay and treadle together by a link in such a manner that the back and forward motion of the lay will impart to the treadle a positive up-and-down motion suited to the purpose of elevating and depressing the harness properly in making a shed in the web for the shuttle to pass through in weaving.

Also, the combined action of the roller and pendants as above described for the purpose of changing the shed in such a manner as to produce either plain or twilled goods, and to be used either in hand or power looms.

No. 41,291.—JOHN G. GARRETSON, Salem, Iowa.—*Pump.*—January 19, 1864.—The part of the tube which enters the cylinder and connects with the plunger is made double or divided into two equal parts, being separated by a partition; the single tube extending to the top of the well. At the junction of the single with the double tube is a joint which, when the handle is moved, is operated by means of a device resembling a parallel rule, in such a manner as to change the position of the end of the single pipe alternately from one of the upper ends of the double pipe to the other, so as to raise and force up the water through the main discharge pipe.

Claim.—The joint formed by the parts *f* and *g* with the links *i i*, figure 1, in the position shown in the drawings, when acted on by the handle H, figure 1, and made to move the pipe D alternately from side to side of the pipe C, and with the partition *e* forming a continuous tube for conducting the water from the bottom of the cylinder to the top of the well, making a double-acting force pump without valve or cut-off.

No. 41,292.—PHILIP WILLIAM GENGEMBRE, Boston, Mass.—*Button.*—January 19, 1864.—The button is secured to the cloth by means of a catch which passes through the button, the inner end of the catch terminating in a device, by turning which the button is fastened. The shank of the catch is surrounded by a tube of India-rubber which acts as a spring to tighten the locking device.

Claim.—The combination of the tubular spring D with the button body A, and a locking catch or mechanism made and applied to the button, substantially in manner and so as to operate as specified.

No. 41,293.—BENJAMIN F. GOSSIN, Cincinnati, Ohio.—*Railroad Supports.*—January 19, 1864.—This invention is designed as an improvement upon a device for which a patent was granted to the said Gossin on April 14, 1863. The "jaws" which hold the base plate and rail are constructed with an over-lapping portion and under-hanging shoulders which extend downwards and embrace a longitudinal supporting timber. The plate and rails are secured together by means of transverse keys at opposite ends of the base plate. Another key passes through the lower extremities of the jaws and the enclosed supporting timber.

Claim.—An improvement on my invention, patented April 14, 1863. The shoulder jaws D D, constructed with extensions in combination with the plate B and keys F F, support E and key F′, all arranged and operating substantially as and for the purpose described.

No. 41,294.—SOLOMON S. GRAY, Boston, Mass.—*Moulded Cloth and Paper Collars.*—January 19, 1864; antedated January 17, 1864.—This invention consists in making the collar with a curve or angle in its side, the upper part being somewhat flaring, for the purpose of fitting the same more nearly to the shape of the neck.

Claim.—As a new article of manufacture, a cloth and paper shirt collar, "struck up" or pressed from a flat piece into any desirable form, substantially as described and for the objects specified.

No. 41,295.—B. J. GREELEY, New York, N. Y.—*Suspenders.*—January 19, 1864.—This invention consists in the employment of a link of brass so formed as to enable the converging portions of the suspenders at the back to be squarely attached to the said link at their several ends.

Claim.—Braces formed by the connexion in the rear of the descending and ascending portions, substantially as herein shown and described.

No. 41,296.—Jacob Haege, Shiloh, Ill.—*Screw Power.*—January 19, 1864.—Secured to the sides of a bar placed longitudinally in a framing, and suspended therein at its ends upon pivots, is a series of bearings for the reception of journals of nuts, in which are fitted screw rods, the said rods passing through a slot made in the longitudinal bar, so that when an article to be raised is attached to either of the screws the latter will readily adjust themselves, when screwed upwards, in a direction at right angles to the axis of the longitudinal bar.

Claim.—The employment or use in a screw power, for elevating or lifting purposes, of journals *d*, applied to nuts C C′ C″, in which screw rods D D′ D″ are fitted and work in combination with the pivoted bar B and bearings *c*, all arranged to operate substantially as and for the purpose set forth.

No. 41,297.—David L. Hill, Lowell, Mass.—*Machine for Manufacturing Flyer Guides.*—January 19, 1864.—The nature of this invention will be understood from the claim. It does not admit of a brief description.

Claim.—The above-described machine or combination, consisting of the feed rollers A B, (or machinery by which the wire is fed along or delivered with an intermittent movement, and held firmly while its reduction is in the act of being effected,) the cutter mandrel M, and its cutter head *n*, and one or more cutters *o*, or machinery for turning down or tenoning the wire, substantially as described, the shear R and its plate S, or machinery for separating from the wire the part to constitute the guide blank, and finally the cam O, groove *p*, lever *n*, and spring P, or mechanism for producing the advance and retreat of the mechanism or cutters by which the tenoning of the wire or blank is effected; the whole being to operate substantially in the manner and for the purpose as hereinbefore described.

No. 41,298.—Hiram Hosick, Paris, Penn.—*Pumps.*—January 19, 1864.—The inner end of the lever or handle of the pump is of a semi-circular form, to each extremity of which is attached the end of a rope, the two ropes crossing each other and having their other ends attached to the piston for the purpose of imparting to the piston a longer stroke than with the ordinary lever or handle.

Claim.—Having the end of the pump lever made in the form of a semicircle G, when combined with the cords H H and piston rod E, in the manner herein shown and described.

No. 41,299.—Pierre Hugon, Paris, France.—*Gas Engines.*—January 19, 1864.—This invention consists in the employment of water, instead of compressed air, in obtaining the motive power for the engine, and in causing the explosive force of the gaseous mixture to act upon an intermediate column of water, and thus indirectly upon the piston. The cylinder in which the piston works is separated from the tubes wherein the explosion takes place, the power resulting from the dilatation of the gases being employed to expel a certain quantity of water from the explosion tube and to produce a vacuum, the effect of which is added to that due to the condensation of steam arising from the combination of the hydrogen and oxygen, and can be utilized in the cylinder.

Claim.—The improved machinery for obtaining and applying motive power, hereinbefore described, and illustrated in the accompanying drawings.

No. 41,300.—James G. Hunt, Cincinnati, Ohio.—*Coal Oil Lamps.*—January 19, 1864.—The wick tube is encompassed by a conically-shaped air tube, which is attached at its lower end to the upper part of the base A, the cone-shaped top of which is curved inwardly for the purpose of concentrating the heat which is imparted to the air in the upper chamber, the object being to enable the lamp to be burned with or without a glass chimney.

Claim.—The inner air passage C′ surrounding the flat wick tube C, in combination with an outer conical air conductor A G, extending from the flame of the lamp downwards around the bowl of the lamp, as specified, when these several parts are constructed, arranged, and operated as and for the purpose set forth.

No. 41,301.—George Jaques, Somerville, Daniel F. White and John Stowell, Charlestown, Mass.—*Concentrated Feed for Horses, &c.*—January 19, 1864.—This invention consists in the use of certain cereal grains, and other substances, which are deprived, as far as possible, of all unnutritious elements, and then subjected to heat and ground. The substances made use of are beans, potato starch, hay seed, oatmeal, salt, molasses and burnt bones. When duly prepared and mixed, the composition is put into a mould and subjected to a heavy pressure and afterwards made into cakes of any desired size, which may be covered by any suitable fibrous material made impervious to water.

Claim.—First, preparing a concentrated nutritive food for animals in the manner substantially as set forth.

Second, also, as a new manufacture, a package for feeding animals, composed of nutritive material such as herein described, compressed and enclosed in a water and air-tight covering, substantially as set forth and described.

No. 41,302.—Arthur J. Judge, Baltimore, Md.—*Lubricators.*—January 19, 1864; antedated January 17, 1864.—This invention consists in constructing a reservoir with an inner flange around the opening so that it cannot be entirely filled with oil, thus forming an air chamber. Into this reservoir is introduced a tube open at the top and closed at the bottom, and extending from the lowest point into the air chamber above the oil, so that heat communicated from the journal below will act upon the air in the chamber above, and as the air expands it creates a pressure upon the surface of the oil which forces it out of an opening left below for the purpose, directly over the journal.

Claim.—First, the combination of reservoir as described, figure 1, with air chamber and the inner tube as shown in figure 3, in the manner and for the purpose herein specified.

Second, the application of an inner tube or pipe passing up through centre of oil into the air chamber above, said tube to be open at top and closed at the bottom, with a passage on the side or through small pipe in the centre for the oil to come down without entering the air chamber, as fully shown at C, figures 2 and 3.

No. 41,303.—Jeremiah Keith, New Bedford, Mass.—*Eyeleting Machines.*—January 19, 1864.—This invention consists in the arrangement of one or more directing passages with the hopper and the chute of the eyeleting machine in such a manner as to cause the eyelets to enter the chute with their wider ends downward. The eyelet pin rests upon a spring and is applied to the anvil so as to be capable of playing vertically therein.

The eyelet stamp or upsetter plays vertically within the frame of the machine, and carries a punch which operates to punch the cloth for the reception of the eyelets, the cloth being placed on another anvil placed underneath the punch. The upsetter and punch are moved downward by means of a treadle attachment.

The mechanism for feeding the eyelets to the anvil consists of a chute or spout and a supplying reservoir or hopper, within which latter are two stationary brushes and a vibrating brush, the latter being attached to a lever that moves with the chute.

Claim.—The arrangement of one or more directing ports or passages, in manner substantially as described, with the hopper and chute of the eyeleting machine.

Also, a combination consisting of the following elements, viz., the eyelet pin, a mechanism for feeding the eyelet to the pin, a mechanism which will perform the functions of holding the eyelet pin down while an eyelet is being fed upon the pin anvil, and subsequently operating to elevate the eyelet pin or effect its elevation through the eyelet, as specified.

No. 41,304.—Michael Kelley, Philadelphia, Penn.—*Railroad Jack.*—January 19, 1864.—This device is composed of a cross-bar or nut, to which are secured four legs, the lower end of each two being secured severally to a plate to be placed on each side of the rail. A screw passes through the nut and is provided at its lower end with a swivel, to which is attached, by means of links, a pair of jaws that are made to seize the rails.

Claim.—The within described jack composed of the nut or plate *a*, the legs *b*, plates *c* secured to the same, the screw D, swivel *n* and jaws P, when the plates are arranged to rest on the ground between the cross-ties, one plate on each side of the rail, and when the whole is otherwise constructed, as and for the purpose herein set forth.

No. 41,305.—Oliver Lafrenier, New York, N. Y.—*Boots and Shoes.*—January 19, 1864; antedated January 7, 1864.—The heel of the boot or shoe is made of wood and is secured to the boot or shoe by means of a metallic plate which is riveted to the inner sole, and has its edges formed in a flange or a series of lugs pierced with holes through which are passed screws. The sole, which is also of wood, is secured to the inner sole by means of a flanged plate, to which is riveted a metallic tip H and protecting lugs. The sole is further secured by tapering nails that pass through plugs driven into the wood.

Claim.—A foot or shoe with a flanged heel plate D, wooden heel C, flanged sole plate G tip H, protecting lugs I I′, tapering nails *d*, plugs *e*, and wooden sole E, all combined in the manner and for the purpose herein shown and described.

Also, the employment or use, for the purpose of securing a wooden heel to boots and shoes, of the flanged plate D, with tacks or screws passing through holes in the flange and into the circumference of the heel, as specified.

Also, the employment or use, for the purpose of fastening and protecting a wooden sole E, of tip H and lugs I I′ secured to the inner sole of the boot or shoe, and provided with holes to admit of inserting tacks or screws into the edge of the wooden sole, as shown and described.

No. 41,306.—Bernard Lauth, Buchanan, Penn.—*Machine for Straightening Metal Bars, Rails, Tubes, &c.*—January 19, 1864.—The nature of this invention is explained by the claim.

Claim.—The employment of a double set of rollers, the centres of one set being placed between the centres of the other set, substantially in the manner and for the purpose herein set forth.

No. 41,307.—Bernard Lauth, Buchanan, Penn.—*Rolls for Rolling Metals.*—January 19, 1864.—This apparatus is composed of three rolls set in a housing and placed one above the other, the centre one of which is of a less diameter than the upper and lower ones.

Claim.—The combination of the three high rolls A B C, of which one, B, shall be of less diameter than the other, substantially as and for the purpose herein described and represented.

No. 41,308.—John Tilley Lowrey, Lafayette, Ind.—*Car Coupling.*—January 19 1864.—This invention consists in providing the bumper with a link chamber and a pivoted rod which is pushed back by the coupling link and by its own gravity, then falls within the link, which latter it thus secures. A rubber or spiral spring may be arranged to assist the link in failing into place.

Claim.—First, the combination of the pin A and pivot rod B in a railroad car bumper, as above described, by means whereof the coupling link of cars may be caught and cars coupled without personal intervention.

Second, the combination of said pin A and pivot rod B, and rubber or spiral spring D, in a railroad car bumper, and for the purpose of producing a self-coupling of cars, as above described.

No. 41,309.—Azel S. Lyman, New York, N. Y.—*Apparatus for Purifying and Cooling Air.*—January 19, 1864.—This apparatus consists of a box in which air is first dried by passing it through or over lime or other drying or disinfecting substance, and so caused to circulate upwards through an ascending conduit preparatory to being cooled by any proper agency, which causes it to pass down a descending conduit, whence it is delivered in a pure state; the object being to provide a constant supply of pure cool air to an invalid or other person.

Claim.—The combination of the ascending conduit D and cooling surface *n*, or its equivalent, with a chamber B, containing drying or disinfecting material, substantially as and for the purpose herein specified.

No. 41,310.—Philip W. Mackenzie, Jersey City, N. J.—*Auto-Propelling Horses and Vehicles.*—January 19, 1864.—The seat for the rider is made perfectly rigid, and has its forward part resting upon a crank-pin or shaft. The stirrups are attached to the opposite crank-pin or shaft, so that the weight of the rider may be transferred or alternated from the seat to the stirrups or foot-rests, and thus propel the horse. The bits are connected to the steering wheel in the rear by crossed rods, so that by pulling upon either rein the horse will be turned in the desired direction. A friction plate is arranged to press upon the hub of one wheel, and so adjusted as to compensate in turning short curves.

Claim.—First, the direct connexion of a rigid auto-propelling horse, or other seat for a rider, in combination with the cranked shaft, with two or more centres.

Second, the stirrups *b*, or foot-rest, arranged *direct* on the crank pin, or shaft opposite the one on which the body rests, in combination with the cranked axle and body.

Third, the direct connexion and arrangement, by means of the rods *g g*, of the bit *c* with the steering wheel or wheels behind, in combination with the cranked axle and body.

Fourth, the arrangement of the friction plate *j*, the elastic *i*, and the collar *h*, in combination with the cranked axle and body.

No. 41,311.—Jules François Mathias, Paris, France.—*Hats.*—January 19 1864.—This invention consists in the employment of a hat block, placed upon a suitable bed, in connexion with a block cover, consisting of a hollow dome of cast iron or other metal. Across the bottom of this cover is stretched a vulcanized sheet of India-rubber, forming a diaphragm and making a tight chamber within the cover. The cover is secured to a strong lever. Steam is introduced to the interior of the block cover, which presses the diaphragm closely around the block, the pressure being transmitted to all parts of the hat.

Claim.—First, the pressing of hats by steam or other fluid acting upon a flexible diaphragm, in the manner substantially as herein shown and described.

Second, the combination of the block C, block cover D, flexible diaphragm E, and lever G, substantially as and for the purpose herein specified.

No. 41,312.—Henry McGann, Cleveland, Ohio.—*Paper Reels for Telegraphs.*—January 19, 1864.—This invention consists in the employment of two reels, so arranged upon their axes as to admit of their being readily removed and interchanged. One of the reels is caused to revolve by means of gearing and a cord passing over pulleys and having a weight attached.

Claim.—The herein described arrangement of the mutually exchangeable reels D and F, in combination with the gears J J′, cord I′, pully L, and weight H, the several parts being constructed, arranged and operating as and for the purpose herein set forth.

No. 41,313.—Stephen C. Mendenhall, Richmond, Ind.—*Hand Looms.*—January 19, 1864.—This invention consists in arranging two shafts so as to operate at right angles to each other by means of a pair of bevelled gear wheels. One of the shafts is placed upon the top of the loom, in rear of and parallel with the batten, while the other shaft is arranged at the side of the frame in front of the loom, and is provided with a crank at its front end.

Claim.—The application of hand looms of shaft E, with its supports S S, crank W, and pinions X, or their equivalents, when the same are used in combination with shaft D, for the purpose of placing the operator in front of the loom.

No. 41,314.—Charles E. Miller, Amelia, Ohio.—*Cultivator and Seeder.*—January 19, 1864.—In front of the seed-distributing device are arranged two toothed rollers on a line with, but separated from, each other. In the rear of the said seed-distributing device is secured a beam H, provided with a series of curved blades, which may be arranged with their concave edges in front to clear away the trash and prevent clogging of the drill teeth; and by turning the convex cutting edges in front they serve to cut away the matting of fine roots. The teeth may also be so arranged as to cover the grain in the rear of the drill teeth. The central blade or tooth, and the central tiers of studs on the rollers, may be removed when both sides of a row of growing corn or grain are to be tilled. The clevis is so constructed as to cause a greater downward pressure to be exerted upon the front or rear parts of the machine, as may be desirable.

Claim.—First, the provision of separate clod-crushing rollers B B′, having their middle tiers of studs D′ adapted for removal when the implement is required for tilling young crops, as herein explained.

Second, the device or attachment H H′ H″, arranged and adapted as and for the several purposes set forth.

Third, in the described combination, the pair of armed rollers B B′, provided with removable studs D′, clearing teeth E, and sod cutter or rake H, having removable blades H″, for the purposes of cultivation, as set forth.

Fourth, the described combination of clod crushers B B′, clearing and cutting teeth E and H′ H″, and clevis N O, the whole being arranged and adapted to operate either with or without a seed-depositing apparatus, as set forth.

No. 41,315.—Samuel H. Miller and Edmund Grubb, Liberty, Ill.—*Wagon Brakes.*—January 19, 1864.—The rear end of the tongue is fitted to slide in a cross-bar extending across the rear end of the hounds, and at the end of the tongue is pivoted an "equalizer" *d′*. The tongue is connected by means of links with bars that slide in grooves on the upper surface of the axle, and to these sliding bars are connected the inner ends of brake beams, provided at their outer ends with shoes that bear upon the wheels. The brake beams are suspended by means of staples from fulcrum bars extending from the axle, and by the aid of nuts and screws the beams may be adjusted nearer to or further from the wheels.

Claim.—The combination of the equalizer *d′* and guide bar C with the rear end of the sliding tongue D, and with the brake beams F, and adjusting fulcrum bars H, as and for the purpose herein shown and described.

No. 41,316.—James Millholland, Reading, Penn.—*Boilers for Locomotives.*—January 19, 1864.—This invention consists in the arrangement of the fire box so that its grate shall be depressed at one or both ends in respect to the frame of a locomotive engine, for the purpose of increasing the grate surface and obtaining the desired depth of fire box without lengthening the same or elevating the boiler.

Claim.—The arrangement, substantially as described, of the fire box, with its grate depressed at one or both ends in respect to the frame B, of a locomotive engine, for the purpose specified.

No. 41,317.—Eli Odell, Winterset, Iowa.—*Planes.*—January 19, 1864.—This invention consists in constructing the plane with an adjustable face-plate extending from the throat to the front end. In the centre of the plane from the front end to the throat, on the under side, is cut a groove in which is fitted a separate piece. The throat of the plane is made concave instead of convex, as is usual, for the purpose of preventing it from choking.

Claim.—A plane with the adjustable face-plate B in combination with a concave throat, the whole constructed and operated substantially as described.

No. 41,318.—Anthony Peple, East Billerica, Mass.—*Compound for Scouring Wool.*—January 19, 1864.—This invention consists in the employment of blubber or gurry, being the refuse of cod livers or sediments of fish oils, or of other oils containing an excess of organic matters, either alone or mixed with alkali or common salt, for the purpose of scouring wool or other fibrous materials previous to spinning or weaving.

Claim.—First, the employment or use of blubber or gurry, or the refuse of such oils containing an excess of organic matters, mixed with alkalies and common salt, substantially in the manner and about in the proportion herein specified.

Second, the application of blubber or gurry, in combination with alkalies, when the same are mixed together or added singly to the scouring liquor, as set forth.

Third, the employment or use of common salt, in combination with blubber or gurry and alkalies, substantially in the manner and for the purpose described.

No. 41,319.—David Pollock, Lancaster, Penn.—*Feed-water Heater for Locomotives.*—January 19, 1864; antedated January 17, 1864.—This invention relates to a method of heating and circulating the water contained in the tank or cistern and conducting it through the heaters, and returning the water after being heated to the tank, or to a separate chamber provided for it, from which the heated water is drawn for supplying the steam boiler.

Claim.—First, one or more circulating chambers, in combination with the tank and heaters, substantially as and for the purpose set forth.

Second, the tubular bars or grates G G in the furnace or fire box, in combination with one or more circulating chambers for heating the feed-water, substantially as set forth.

Third, one or more pipes K K attached to the fire-grate heater and extending above the grate, as herein described. for the purpose set forth.

Fourth, the valve M with the float Q attached, in combination with the circulating chamber tank and heaters, substantially as and for the purpose herein described.

Fifth, the pipe V with the stop W, arranged, as shown. for the purpose specified.

Sixth, combining with the heater G G, in the fire box, the safety valve U, for the purpose herein set forth.

Seventh, the heater H H, in the smoke box, constructed with the circular pipes, substantially as shown and described.

Eighth, the reheating pipe N N, constructed as and for the purpose specified.

Ninth, the hose or pipes F and L, in combination with the tank heaters and circulating chambers, as and for the purpose described

No. 41,320.—Martin W. Pond and Lyman W. Darling, Elyria, Ohio.—*Harness Breast Strap Slide.*—January 19, 1864.—Secured to a curved leather loop through which the breast-plate strap passes is a concavo-convex metallic plate which is provided with two conically-formed projections, so shaped as to admit the ring of the neck-yoke and form a secure seat wherein the ring is held, thus preventing the shield from being turned over or upside down, and serving to protect the strap from wearing and chafing.

Claim.—The metallic shield, having its curved diverging projections, and being secured firmly to a suitable loop of leather for the purpose of protecting the breast strap of harnesses from the chafing and cutting of the rings of the neck-yoke, the whole being constructed and arranged in the manner substantially as set forth.

No. 41,321.—John R. Rogers, Berlin, Wis.—*Broadcast Seed-Sowers.*—January 19, 1864.—This invention is designed as an improvement upon a machine for which a patent was granted to the said Rogers on March 6, 1860, and it consists in dispensing with the greater part of the dishing bottom of the wheel, retaining only the inclined portion thereof immediately around the shaft, and also retaining only a narrow ledge at the bottom of each radial wing on each side. The slide-gate is operated by means of a latch lever and a coiled spring which presses the gate forward to close the throat of the hopper. An adjustable catch M serves to hold the lever back when the machine is in operation.

Claim —The construction of the bottom of the percussion wheel G so as to close only the inner portion of the same around the shaft, and have narrow ledges *u u* at the sides of the wings, the remainder of the radial distance to the periphery of the wheel, substantially as and for the purpose herein specified.

The construction, arrangement, and combination of the sliding gate D, spring E′, latch L, and adjustable graduated catch M, substantially in the manner and for the purposes herein specified.

No. 41,322.—Daniel K. Price, Ossian, N. Y.—*Churns.*—January 19, 1864.—This invention consists of a box provided with a central partition having an inclined dasher on each side, the dashers being connected to an operating lever made adjustable, higher or lower, in order to admit of a greater or less quantity of cream being acted upon.

Claim.—The arrangement of the reciprocating dashers D D, made inclined for the purpose of throwing the cream forward through the partition, and provided with holes *h h* in the rear, for throwing the cream backward when it is raised, the central perforated wire partition B for thoroughly breaking the cream, and the adjustable elbows H H for increasing the length of the stroke without increasing the relation of the lever when the said parts are combined with the box A, lever I, and standard K, substantially as herein set forth.

No. 41,323.—R. E. Rogers and James Black, Philadelphia, Pa.—*Steam Boilers.*—January 19, 1864.—This invention consists in attaching to the outside of a boiler a series of tubes arranged around and at a short distance from the same. The ends of the tubes are curved and secured respectively to near the upper and lower ends of the boiler. Between these tubes is also similarly arranged and attached to the boiler a series of shorter tubes. The boiler, with its tubes, is secured within a cylindrical casing which contains the grate and has a conical top terminating in the smoke-pipe.

Claim.—First, the body A of the boiler having tubes B and B′ so arranged that they will maintain a continuous circulation of water between the upper and lower portion of the boiler when the whole, or very nearly the whole, of the boiler is suspended within a casing containing the fire chamber, and is exposed to the direct action of the products of combustion, as set forth.

Second, two or more sets of tubes B and B′ arranged on and attached to the body A of the boiler, as set forth, for the purpose set forth.

No. 41,324.—Charles G. Sargent, Graniteville, Mass.—*Machine for Washing Wool.*—January 19, 1864.—At one side of the tub or box which contains the washing fluid is journaled a "lifting" cylinder, which is provided with teeth and arranged within a perforated shell, also hung on journals. The cylinder and casing are arranged to revolve eccentrically with each other so that the teeth on the cylinder will protrude through the perforations in the case when immersed in the liquid, and carry up the wool from the same, when the teeth will be withdrawn into the shell and the wool be delivered upon a series of carrying rolls, whence it is passed between two pressure rolls, and then taken up by the wings of a fan which throw it into any proper receptacle.

Claim.—In combination with the bowl or tub *b*, a lifting cylinder, composed of an inner and outer cylinder, or their equivalents, whose shafts or bearings are eccentric with each other, and arranged to operate substantially as herein represented.

Also, the lifting cylinders *j k*, in combination with the carrying rolls *l l l*, substantially as and for the purpose described.

Also, in combination with the squeezing rolls *m m*, the fan *q*, for taking, beating up, and throwing the washed wool to its place of deposit, substantially as described.

No. 41,325.—William Schmoele, Jr., Philadelphia, Penn —*Breech-loading Ordnance.*—January 19, 1864.—The box which constitutes the receiver C for the breech-pin when it is withdrawn from the gun is of cylindrical form, and of corresponding length with the breech-pin. This box is open at the front end, which fits against the flat surface of the breech of the gun, and is attached at one side by means of a pin to the breech of the gun in such a manner as to allow it to swing upon the pin to and from a position concentric with the bore of the gun. In the interior of the box are two longitudinal projections which serve as guides to the breech in its backward and forward movements. The stem or rod on the end of the breech-pin is provided with a projecting pin *l*, which, when the breech-pin is inserted in the gun, operates in conjunction with two fixed stops *m n* on the rear of the box C, to limit the turning movement of the breech and fix the relative positions of the projections.

Claim.—Having the receiver C arranged to oscillate in line with the barrel A, in combination with the guide projections *k k* upon the interior of the receiver and the projections on the breech-pin, all operating in the manner herein shown and described.

Also, the arrangement of the pins *l m n*, with the stem *q*, and near face of the receiver C, as herein shown and described, and for the purposes specified.

No. 41,326.—Dennis P. Sharp, Ithaca, N. Y.—*Horse Rakes.*—January 19, 1864.—This invention consists in the employment of a cam-shaped lever, in connexion with a bent or right-angular lever, by which the draught attachment is connected with the teeth frame, so that by a simple manipulation on the part of the driver the teeth can be elevated to discharge the load, and also be held down when at work, as the machine is drawn along.

Claim.—The cam-shaped lever H, constructed as described, and provided with the rod or handle I, and the bent lever G. connected by the chord or chain *e*, the lever G having its lower arm *b*, extending under the bar *c* of the teeth-elevating frame E, and the lower end of the cam-shaped lever H, connected by the chord or chain *l*, with the teeth-depressing frame F, when said parts are used in combination with the draught bar K, provided with the roller L, or without it. and all arranged to operate in the manner substantially as and for the purpose herein set forth.

No. 41,327.—J. Herbert Shedd and William Edson, Boston, Mass.—*Rotary Pumps.*—January 19, 1864.—This invention consists in the arrangement of two fans or buckets within a drum, each of which is alternately held stationary in position as a diaphragm, while the other revolves on its axis, forcing out the fluid before it, and receiving fluid behind it into the drum. It is designed to be used either as a pump for drawing and forcing fluids, as a motor, by transmitting power to the shaft, or as a meter for measuring any quantity of fluid discharged from the drum.

Claim.—The arrangement of two fans or buckets moving on the same centre within a drum, each of which is alternately held in position as a diaphragm, while the other revolves, forcing out the fluid before it, and receiving fluid behind it, substantially as herein described and for the purpose set forth.

No. 41,328.—W. Slaughter, Westerville, Ohio.—*Churns.*—January 19, 1864.—This invention consists in the employment of spiral beaters secured to an arm upon the shaft, in connexion with spiral ribs secured to the inner sides of the tub at the lower part thereof.

Claim.—The concave spiral beaters B and D upon a revolving shaft, in combination with the spiral ribs F, arranged and operated as and for the purpose set forth.

No. 41,329.—Ephraim Sofer, New York, N. Y.—*Whiffletree Attachment.*—January 19, 1864.—To the under surface of the centre of the whiffletree is secured a metal plate C′, provided with a circular opening to fit over the tubular projection of a plate C which is attached to the doubletree. At the rear of the plate C′ is a hook F, which fits over the rear circular edge of the plate C. A bolt passes through the centre of the whiffletree and through the tubular projection of the plate C, and is thus relieved from the usual strain under the draught of the animal, and the whiffletree allowed to turn freely to a position at right angles to the doubletree.

Claim.—A whiffletree attachment composed of plates C C′, hook F, extension edge *d*, and tube *a*, made and applied as herein shown and described.

No. 41,330.—Vincent Squarza, San Francisco, Cal.—*Faucet Measure and Indicators.*—January 19, 1864.—This invention consists in the application to faucets of a gauge tube, which consists of a cylinder of brass or other suitable material, having several longitudinal openings provided with scales, for the purpose of indicating the quantities of liquid in or to be taken from vessels of various sizes. This cylinder fits over a glass tube attached to the faucet and extending to the top of the vessel. A measurer D is also provided with a scale and surrounded by a jacket, in which may be placed any suitable material for regulating the temperature of the liquid within the measure. The faucet is provided with three exits, all controlled by one cut-off.

Claim.—The application to faucets of the gauge tube E, provided with a double scale to indicate both the quantity remaining in the vessel as well as the quantity drawn therefrom, substantially in the manner herein described.

Also, the measure D, in combination with the three way faucets, substantially in the manner and for the purposes herein described.

Also, in combination with the measure D of a measuring faucet, the regulator E, for regulating the temperature of the liquid to be drawn, substantially in the manner herein described.

No. 41,331.—Eugene Von Nordhausen, New York, N. Y.—*Artificial Manure.*—January 19, 1864.—This invention consists in the employment of the residuum of the distillation of petroleum, mixed with a corresponding weight of slacked lime. The mass is then sprinkled with water, and a quantity of urine is afterwards added.

Claim.—The production of artificial manure from the residuum of coal oil or petroleum, substantially as described.

No. 41,332.—Richard Washburn, Monsey, N. Y.—*Washing Machine.*—January 19, 1864.—The upper ends of the standards which support the tub are held in place by a double-notched bridge tree C in such a manner as to allow the bridge tree to rise and fall, while the standards are, at the same time, prevented from spreading. An oscillating convex rubber is pivoted to arms D, so as to accommodate itself to the inner surface of the tub, or to the clothes placed therein.

Claim.—The double-notched bridge tree C, in combination with the standard B, hinged oscillating concave E, and oscillating tub A, all constructed and operating in the manner and for the purpose set forth.

Also, hinging the concave E to the lower ends of the oscillating arms D, as described, so that the same will readily accommodate itself to the surface beneath, and also be free to rise and fall.

No. 41,333.—William Weild, Manchester, England.—*Spinning Rollers.*—January 19, 1864; patented in England September 20, 1859.—This invention consists in forming the rollers with curved or inclined flutings upon their surfaces, and also in making the flutes of one boss, so as to incline in a direction the reverse of those upon the adjacent boss.

Claim.—First, the use, in machines for preparing, spinning and doubling fibrous materials of rollers having their flutes arranged in a spiral form and at an angle to the axis of the roller, as hereinbefore described, and illustrated by the accompanying drawings.

Second, the system or mode of reversing the angle direction or curve of the flutes, as hereinbefore explained, and illustrated by drawings and the use of rollers having the angle direction or curve of the flutes so reversed.

No. 41,334.—F. M. Weller, Evanston, Ill.—*Trace Fastener.*—January 19, 1864.—This invention consists in forming the hook, to which the trace is attached, with a shoulder or projection in front extending backwards and downwards, and also with a projection or shoulder below, for the purpose of readily attaching and securing the trace to the whiffletree.

Claim.—The hook A, provided with the stationary anterior and posterior projections *a a'*, constructed and arranged substantially as and for the purposes herein set forth and described.

No. 41,335.—David M. Weston, Boston, Mass.—*Lubricators.*—January 19, 1864.—Upon the top of the bearing and opening into the same is a stationary cup which encompasses the shaft. Below the bearing is another cup, of cylindrical form, in which is placed one end of a pipe which extends upwards and curves over into the upper cup. The revolution of the lower cup will cause the oil contained therein to rise in the pipe and be carried into the upper cup, from which it will pass into and through the bearing back into the lower cup.

Claim.—The centrifugal oiling apparatus, composed of the cups B and C, and the pipe D, arranged with respect to the shaft A, and its bearing *b*, substantially in manner and so as to operate as described.

No. 41,336.—Jesse S. Wheat, South Wheeling, West Va.—*Machine for Handling Hides.*—January 19, 1864.—This invention consists in the employment of one or more paddles suspended by an adjustable arm from a spring bar over a vat containing hides or skins and tanning liquor or a lime bath, and connected to a crank shaft in such a manner as to impart to the paddle a reciprocating rotary motion, by which means the hides are turned over and over in the liquor.

Claim.—The employment or use for the purpose of handling hides or skins of one or more paddles C, secured to an arm D, which is suspended from a spring bar E, or its equivalent, and derives its motion from a crank shaft F, or its equivalent, substantially in the manner herein shown and described.

Also, the application of the hooks *d* to the paddle or paddles C, as and for the purpose set forth.

No. 41,337.—Jane Austin, New York, N. Y., administratrix of the estate of F. J. Austin, late of said city, deceased.—*Machine for Cutting Books.*—January 19, 1864.—This invention relates to a machine used for cutting the faces and ends of books, the parts being so arranged as to clamp two sets or layers of books at once, and that the faces and ends of both sets can be cut without unclamping either set; the parts being also capable of a ready adjustment to books of different sizes. The platform to which the books are secured is provided, on its under surface, with a pivot, so that it can be readily rotated, its position being determined by an elliptically-formed cam groove which catches over a roller pin *j*, and by stops *k*, which drop into holes in the under surface of the platform.

Claim.—First, the elliptical cam groove *i*, in the under surface of the platform F, in combination with the roller pin *j* and stops *k*, all arranged and operating substantially as and for the purpose set forth.

Second, the gauge *e*, in combination with the screw clamp G, platform F, adjustable carriage H, and knife E, constructed and operating substantially as and for the purpose described.

No. 41,338.—Thomas Godfrey, New York, N. Y., assignor to himself and Charles, Joseph and Henry Tucker.—*Cooking Utensils.*—January 19, 1864; antedated January 2, 1864.—This invention consists in a method of connecting the handle of a pan with a spoon or fork, so that they may serve as a detachable handle for the cooking pan when desirable, and also be used separately when the food is eaten.

Claim.—Uniting the detachable part N of a cooking utensil with a spoon M, or with a fork or the like, as an equivalent therefor, by a joint which may be adjusted so as to be rigid, or to fold or bend freely at pleasure, substantially as herein shown and described.

No 41,339.—Henry G. Guyon, Brooklyn, N. Y., assignor to James Edsall, Sing Sing, N. Y.—*Self-relieving Hook for Boats' Tackle.*—January 19, 1864.—This device consists of a divided or slotted hook to be attached to a boat, in connexion with a link so constructed that when the boat is lowered from a vessel in motion, and comes to a bearing upon the water, the inclination of the tackle will cause the hooks to be instantly disconnected from the links.

Claim.—A self-relieving boat tackle device, composed of a slotted hook A having cheeks *f*, and a flat link B provided with a transverse pin *e*, the several parts being constructed and operating in the manner herein shown and described.

No. 41,340.—Barnard Hackett, Pittsburg, Penn., assignor to William G. Warden, of same place.—*Barrels for Carbon Oils.*—January 19, 1864.—The nature of this invention is explained by the claim.

Claim.—Constructing barrels for holding carbon oils and other penetrating fluids, with a metallic body encased in wood, and head or end pieces composed of two or more layers of wood glued together, or having a metallic lining between the layers of wood, constructed substantially as hereinbefore described.

Also, making the heads or end pieces of barrels of two or more layers of wood, set so that the grain of the wood in any one layer shall cross the grain in the other, united with glue or other cement, substantially as hereinbefore described.

Also, making a corrugation or indentation around the metallic body of the barrel near each end, for the purpose of holding the heads in place and making a close joint, substantially as hereinbefore described.

Also, placing a metallic disk between two layers of wood, forming a barrel head, and uniting them together with screws or rivets, substantially as and for the purpose hereinbefore described.

No. 41,341.—F. J. B. Hubert and F. C. A. Derocquigny, New York, N. Y.—*Railroad Signals.*—January 19, 1864.—This invention consists in the employment of a signal disk, which is operated by means of a ratchet and chain in connexion with a pawl and arm, and a lever that extends under the track, and is actuated by an engine or train of cars passing over the rails. The disk is provided with a colored glass, which covers a lantern placed in an aperture in the upright that sustains the signal disk, when used as a night-signal.

Claim.—First, the pulley D, provided with the ratchet F, and chain C, in combination with the signal disk B, suspended on a horizontal axis or shaft, substantially as herein shown and described, and all used in connexion with the pawl I and arm *i* attached to the hub or collar *f*, the arm M attached to a shaft J, and the lever P connected to arm M, and provided with the upright plate R, all being arranged to operate substantially as set forth.

Second, the arm K attached to shaft J, in combination with the drop-catch N, arranged to operate as and for the purpose specified.

Third, the colored glass S in the signal disk B, in combination with the lamp or lantern in an aperture *b* in the upright A, when operated by the mechanism as above set forth, as and for the purposes specified.

No. 41,342.—S. H. LYON, New York, N. Y., assignor to himself and R. T. WILDE, Brooklyn, N. Y.—***Apparatus for Forming Hats and Bonnets.***—January 19, 1864.—This invention consists in the employment, in combination with the block or former and die of a hat-pressing machine, of a number of separate clamps to take hold of the felt or fabric at its corners, or at suitable intervals, so as to allow the fabric to be drawn inward, or be contracted from certain points as it is stretched from other points. The clamps are made adjustable, so as to suit hats of different sizes.

Claim.—First, the employment in a machine for pressing or forming hats of separate clamps arranged to take hold of the fabric at the corners or at suitable intervals, substantially as and for the purpose herein described.

Second, making such clamps adjustable to suit hats of various sizes, substantially as herein described.

Third, the attachment of the upper portions H of the clamps to levers I, carried by two rock shafts J, and operated by cam levers K, the whole arranged in connexion with the frame D, and operating substantially as herein described.

Fourth, the arrangement of the bearings *e* of the rock shafts J upon the lower clamp plates G, to serve as gauges by which to adjust the upper clamping pieces H relatively to the said plates G, substantially as herein described.

Fifth, supporting the clamps upon two-toothed rack bars E, or their equivalents, which are so jointed at their upper ends as to permit either end of the clamps to be raised or lowered at pleasure, substantially as and for the purpose herein described.

No. 41,343.—EUGENE M. MIX and HENRY B. HORTON, Ithaca, N. Y., assignors to themselves, JOHN GAUNTLETT and JOHN H. SELKREG, of same place.—***Breech-loading Fire-arms.***—January 19, 1864.—This invention consists in a method of cocking the hammer by the act of closing the breech after loading. It also relates to an improvement in the shell extractor or device, by which discharged metallic cartridge shells are withdrawn from the chamber of the gun, and thrown away after such withdrawal.

Claim.—First, the hammer E and trigger F, constructed and applied in combination with each other, and with the sliding breech-block D, substantially as herein described, whereby the cocking of the hammer is effected by the agency of the trigger in the closing movement of the breech-block, as herein set forth.

Second, the spring *q* and catch piece *r*, or its equivalent, applied in combination with each other, and with the extractor I I′, to operate substantially as and for the purpose herein set forth.

No. 41,344.—MILTON V. NOBLES, St. Anthony's Falls, Minn., assignor to himself and JOHN C. NOBLES, Newark, N. J.—***Reversible Plumb and Squares.***—January 19, 1864.—This invention consists in combining two pendulums or weighted rods with a square, so that a plumb line may be ascertained by it from above downward, as well as from below upward, or with either end of the square, up or down.

Claim.—The arranging of two pendulums or weighted rods in the body of the square, indicating in opposite directions a plumb line, so that the instrument may be used with the arm of the square up or down, as different circumstances may require, and as set forth.

No. 41,345.—JOSEPH OLMSTED, Knoxville, Ill., assignor to himself and JOHN H. LEWIS, of same place.—***Corn Planters.***—January 19, 1864.—Upon the inner side of one of the wheels is fixed a drum provided with an endless cord that encompasses a conical drum upon the shaft E, and upon the main axle D is also fixed a similar conical drum operated by an endless cord. The shaft or axle D is provided with two cams, which serve to operate the dropping apparatus. The cams alternately pressing upon the end of an arm *h*, the shaft E is oscillated, thereby throwing back the upper end of the lever I, which draws back the seed slide, so that the perforations therein shall coincide with the apertures in the seed box. The distance between the hills is regulated by means of a sliding bar S, having a screw and nut upon one end, which is operated by the foot of the driver.

Claim.—First, the combination and arrangement of the drive-wheel C *c*, the shaft E, provided with the pulley *e*, the cone pulleys *f g*, and shaft D, operating substantially as and for the purposes specified and described.

Second, the combination and arrangement of the slide L, spring valve J, and lever I, arranged and operating as herein shown and set forth.

Third, the combination of the shaft D, arranged as described, the cams *d d*, the shaft E provided with the arm *h*, the spring *s*, and lever I, operating as and for the purposes specified.

Fourth, the arrangement of the markers N and springs O with the axle D, for the purposes described and shown.

Fifth, the arrangement of the sliding bar S and nut S′ with the cone pulleys *f g* and belt *a*, as and for the purposes specified.

No. 41,346.—WINDSOR B. WAIT, Greenwood, Mass., assignor to himself and JOSEPH A. FAIRBANKS, Melrose, Mass.—***Feed Bags.***—January 19, 1864.—This invention consists in constructing a feed bag with ventilating openings in its head cap, and also with a series of openings in the sides of the bag below the head cap. The head cap with the bag and supporting annulus are designed to be made of a material which will admit of its being readily folded for transportation, and also possessing sufficient rigidity to keep the cap properly distended.

Claim.—An improved nose bag or horse feeder, as made with the ventilating openings *b b b b* in its head cap, and with a series of air-induction holes or openings *c c c c* arranged in its sides or body, and below the head-cap openings, as specified.

Also, the improved nose bag or horse feeder, as made with the head cap, the dependent bag, and the supporting annulus D, so constructed, or of such material or materials as to be capable of being folded as circumstances may require, and also, when unfolded, to possess sufficient rigidity to keep the cap properly distended for use on or about the head of a horse or other animal to which it may be applied.

No. 41,347.—HENRY A. ALDEN, Matteawan, N. Y., assignor to the NEW YORK RUBBER COMPANY.—***Moulds for Vulcanizing Rubber, &c.***—January 19, 1864.—The nature of this invention will be understood from the claim.

Claim.—First, the method of lining cast-iron moulds with type metal, or other comparatively soft and fusible metal, by the employment, in combination with a pattern and cast-iron mould, of a frame constructed to readily adjust and firmly hold the mould in place during the process of forming the lining, and at the same time confine the fusible metal, substantially as shown and described.

Second, the construction of the cast-iron mould so as to allow of the joining surfaces of the mould being cast of soft metal, substantially as set forth and shown.

No. 41,348.—STEPHEN M. ALLEN, Woburn, Mass., assignor to EDWARD RICHMOND, of same place.—***Drying Leather, Paper, &c.***—January 19, 1864.—This invention consists in securing the sheets of leather or paper board, as they are taken from the cylinder of the paper machine, in frames, which are placed edgewise within a heated chamber, and arranged so as to allow the hot air to act equally upon both surfaces of the board.

Claim.—The drying of leather board in heated chambers so arranged that the hot air may pass up through the same between and on both sides of the sheets, which are held in or attached to frames or supports set upon their edges at proper distances apart, substantially as herein described.

No. 41,349.—CHRISTIAN GUSTAVE CLEMM, Dresden, Germany, assignor to CHARLES CLEMM, Philadelphia, Penn.—***Employment of Magnesia Compound in Chemical Manufactures.***—January 19, 1864.—This invention consists in the manufacture of sulphur, sulphuric acid, sulphate of potash, sulphate of soda, soda, potash, chloride of potassium, chlorohydric acid, alumina, alum, sulphate of magnesia, and in purifying ores. The several products and manufactures are so connected that the waste matters from one or more are utilized in others. The operations and processes by which they are connected are—

1. The decomposition of sulphate of magnesia with carbon; 2. The decomposition of chloride of magnesium by the help of heat and steam; 3. The decomposition of sulphuret of hydrogen with sulphurous acid; 4. The production of sulphate of magnesia from gypsum and carbonate of magnesia; and 5. The separation of sulphate of soda with the help of Carré's apparatus, and the formation of sulphate of potash with the help of steam pressure through ten atmospheres.

Claim.—The practical introduction of these chemical processes in the chemical industry in the above-described communications.

No. 41,350.—ROBERT TENNENT SHAW, New York, N. Y.—***Mode of Separating the Fibres of Flax, Hemp, &c.***—January 19, 1864.—This invention consists in immersing the vegetable material containing the fibre to be separated in an alkaline solution, and afterwards exposing the same to the action of chlorine.

It also consists in saturating the fibre with coal oil, naphtha or similar products, which causes the fibres to adhere together, but to freely draw out lengthwise in the process of manufacture.

Claim.—The process of treating vegetable fibre for its separation by alkali and chlorine, substantially as specified.

Also, moistening vegetable fibre with coal oil or its products previous to the operations of carding, spinning, or otherwise manufacturing, for the purpose specified.

No. 41,351.—Benjamin Rhodes, Bow, England, assignor to James McGeary, Salem, Mass.—*Making and Coating Pipes, Joints, Bottles, Casks, and other Vessels.*—January 19, 1864.—This invention consists in the employment of an elastic or looped fabric of cotton, hemp, flax, or other similar material, circular in form, which is drawn over a core piece of the requisite pattern of the article to be made so as to conform to the same. It is then immersed in a mass of bituminous mastic or composition, when a second elastic covering is drawn over it and again immersed as before stated; the process to be repeated until the requisite thickness is obtained.

Claim.—First, the mode or method herein described of moulding and forming elbows, bends and other hollow vessels, articles and things, by the combination of elastic fabrics with bitumen, bituminous compounds or mastic, as herein set forth.

Second, the mode or method of forming hollow vessels and other articles by means of elastic fabrics in combination with strips of paper, canvass, or other materials, and bitumen, bituminous compounds or mastics, for the purpose of combining the layers together and rendering them impervious to water.

Third, the cement used for coating tubes for conveying gas and for other purposes, made substantially of the materials and in the manner set forth.

Fourth, the machinery or apparatus herein described for making long pipes or tubes.

Fifth, the use of sulphur or brimstone in combination with any of the materials before named, for the purpose set forth.

Sixth, the mode or method of constructing mandrels or cores for making tubes or pipes, as herein set forth and as illustrated by figures 22, 23 and 24.

Seventh, the application of wire netting, substantially as shown in figure 26, for the purpose of giving additional strength to the connexions or joints of pipes and vessels.

No. 41,352.—Robert Tennent Shaw, New York, N. Y.—*Retting and Disintegrating Flax, Hemp, &c.*—January 19, 1864.—In this process the vegetable material is boiled a certain length of time, and the same, with the water, is allowed to remain at a moderate temperature for about twelve hours. The vegetable material is then removed and dried, broken and cleaned. The liquid from which the said material is removed is allowed to remain four days at a temperature of about 80° Fahrenheit, in which time it will ferment, and form what the inventor calls "Shaw's extract de Vlas," which is used in subsequent boiling operations.

Claim.—The method herein specified of separating vegetable fibre by boiling in water mixed with my said extract, for the purpose set forth.

No. 41,353.—C. E. Amos, Southwark, and John Francis, North Wales, Great Britain.—*Machine for Dressing Slates.*—January 26, 1864; patented in England July 27, 1861.—This invention consists in the employment of a fixed knife within a suitable frame, in connexion with a lever or sword arm which carries a movable knife. The sword arm is suspended by a spring which sustains the movable knife above the fixed knife. The movable knife is actuated by means of a treadle attachment so as to operate in connexion with the fixed knife and effect a shear cut.

Claim.—A machine for dressing slates, constructed and operating substantially as herein shown and described.

No. 41,354.—Allen S. Ballard, Mount Pleasant, Iowa.—*Drum Stoves.*—January 26, 1864.—This invention consists in combining an annular drum with a base provided with a door and register, in such a manner that the drum can be used for warming a room with heat received from a stove in another apartment, or as a stove itself.

Claim.—The combination and arrangement of the base A, annular drum B, damper C, and pipes D and E, the whole forming a parlor-heating drum, constructed and operating substantially as herein set forth.

No. 41,355.—Amos C. Barstow, Providence, R. I.—*Cooking Ranges.*—January 26, 1864.—This invention consists in locating two ovens, one over the other, in the rear of and above the fire. Around the range is formed a mantle composed of jambs, and a rear plate supporting a top plate. A pendant door is hung upon hooks on either side of the oven in such a manner as to perfectly close the opening, while its removal may be effected and access had to the oven without interfering with the boiler.

Claim.—First, locating two ovens, one over the other, back of and above the fire, substantially in the manner hereinbefore shown and described.

Second, forming around the range a mantle composed of jaws, and a rear plate supporting a top plate, under the arrangement substantially as herein described.

Third, the employment of a pendant door hung upon hooks on either side of the oven in such manner that it shall perfectly close the opening thereof, while its removal may be effected by lifting without interfering with the boilers, substantially as set forth.

No. 41,356.—Alfred Benster, Detroit, Mich.—*Barrel-head Machine.*—January 26, 1864.—The object of this machine is to plane the upper surface of a barrel head to the desired oval shape, make the upper and lower chamfer, impart to the said head the desired elliptical shape, and also to revolve, clamp, and loosen the same automatically without the assistance of the operator, whose attention is only required to arrange the pieces for a head on a table in front of the machine and push the same forward, in doing which, the finished head is pushed out on the opposite side of the machine and deposited on a table placed conveniently to receive the same.

Claim.—First, the employment or use of the revolving planer C, as described, for the purpose of turning, planing, and chamfering barrel heads at one operation.

Second, the revolving toothed rings G G′, and rising and falling frames H H′, in combination with the planer C, constructed and operating in the manner and for the purpose substantially as described.

Third, the turn-table J, in combination with the toothed rings G G′ and cam L, constructed and operating substantially as and for the purpose specified.

Fourth, imparting to the rings G G′, turn-table J, and revolving cutter P a rising and falling motion by the action of the cam L, as and for the purpose set forth.

Fifth, the rising and falling standard I, hinged board K, and lever R, in combination with the cam L, frames H H′, and sash Q, all constructed and operating substantially as and for the purpose described.

Sixth, the eccentric shaft R, with cog-wheel S, in combination with the toothed ring G′, constructed and operating substantially as and for the purpose set forth.

Seventh, imparting to the head to be turned an eccentric motion under the planer, as and for the purposes specified.

No. 41,357.—Benjamin Best, Dayton, Ohio.—*Filters.*—January 26, 1864.—This device consists of a box constructed of brick, stone, or other suitable material; in which are fitted two removable, perforated division plates arranged so as to form two compartments for receiving the filtering materials. To the bottom of this box is attached a pipe B, which forms a communication between the box and the filter arranged within the cistern. This filter consists of a perforated cylinder enclosed by a casing so as to leave a space surrounding the interior cylinder; this space is closed at the top and opened at or near its bottom by a series of outlet pipes through which the filtered water escapes to the cistern.

Claim.—First, the construction of the box A, with removable perforated partitions *a b*, in combination with the perforated cylinders B′, space *e*, and jacket or casing C, substantially as and for the purpose described.

Second, the combination of an upper horizontal detachable filter A, with a lower permanent vertical filtering chamber B′, substantially as and for the purpose set forth.

Third, the combination of the horizontal filtering box A with the upright filtering chamber B′, passage *e*, and outlets *f f*, arranged and operating substantially as described.

No. 41,358.—George Bevis, Rochester, N. Y., assignor to John R. Graham, Jr., of same place.—*Spring Bed Bottom.*—January 26, 1864.—This invention is explained by the claim.

Claim.—As a new article of manufacture a continuous and elastic bed bottom, composed of the slender yielding rounds or slats *a a*, secured closely together in any manner by the cords *b b*, or equivalents, substantially as herein described.

No. 41,359.—Daniel Bowker, Boston, Mass.—*Blacking Brush and Holder.*—January 26, 1864.—This invention consists in applying to a shoe brush a box or case for the purpose of containing the blacking and to serve as a cover to the brush to prevent it from soiling clothing or other articles it may come in contact with.

Claim.—Improved combined brush and blacking holder, constructed substantially in the manner and for the purposes as above described.

No. 41,360.—W. W. Bowman, Graves county, Ky.—*Endless Chain Propeller.*—January 26, 1864; antedated January 20, 1864.—This invention consists in attaching to the stays of an endless chain a series of blades or paddles, one on each side, so as to project both above and below the endless chain. Between each stay is a curved connecting plate, and projecting from the outer ends of the stays are pins that are made to drop between the cogs of wheels at each end of the frame, by means of which, motion is imparted to the paddles.

Claim.—The arrangement and construction of the chain propeller, with inside and outside paddles operating upon open-toothed wheels, all in combination as herein described and for the purposes set forth.

No. 41,361.—Jacob Bradley, St. Mary's, Ohio.—*Slide valves for Steam Engines.*—January 26, 1864.—This invention relates to that class of steam engines in which steam of a high pressure is first used in a cylinder of small diameter, and afterwards at a lower pressure in a cylinder of larger diameter. In the valve seat are five ports, the central one of which communicates with the exhaust or eduction pipe, which leads to the atmosphere or to a condenser, and the others with the smaller and larger cylinders.

The slide valve is provided with two cavities in its face, which are so constructed and arranged as to cover two of the ports and their intervening spaces, and when the valve is at the middle of its stroke it will close three of the ports, and its cavities will each cover one of the ports d d', and the two spaces between the said ports and the ports e and c or c'.

Claim.—The slide valve E having two cavities, g g', in combination with the system of ports c c' d d' e, communicating with the high and low pressure cylinders, steam chest, and exhaust-pipe, substantially as herein specified.

No. 41,362.—Albert Bridges, Jersey City, N. J.—*Truss Pads.*—January 26, 1864.—This invention consists in the employment of an elastic hollow ball, which is securely attached by means of a headed pin and screw-nuts to the truss spring. A part of the ball is fitted within a metal cap so as to hold it in proper position upon the body. The elasticity of the hollow pad is regulated by admitting more or less air within the same, where it is confined by means of a screw.

Claim.—Attaching the hollow elastic ball to the truss spring by means of the headed pin d and screw-nuts e and f, the head of said pin being introduced within the ball, as specified, and, in combination with the elastic ball and pin d, the cap c, for the purpose of retaining the ball in its proper position as specified.

Also, regulating the elasticity of the hollow pad by the action of the air confined within it by the screw i or its equivalent, as set forth.

No. 41,363.—John G. Busfield, Feltonville, Mass.—*Leather-rolling Machine.*—January 26, 1864.—This invention consists in so arranging the lever frame in which the lower and adjustable roller is hung that the latter may be raised and lowered to regulate the pressure upon the leather as may be desired without affecting the gearing by which the lower roller is driven. Within the lever frame are arranged adjustable bearings to receive the journals of the lower roller so as to admit of an independent adjustment of the latter as may be required.

Claim.—The combination and arrangement of the levers c c and treadle N placed within the frame A, and connected by the adjustable rods Q Q, substantially as and for the purpose set forth.

Also, the adjustable bearings f f of the roller L, placed in the levers c c, when used in combination with the treadle N and the roller B, for the purpose herein specified.

No. 41,364.—Frederic Chandler, Charlestown, Mass.—*Sail-cringle and Clew.*—January 26, 1864.—This device is designed to supersede the common rope-cringle and clew in common use. It is formed of metal in two parts, each part being concave on the inside to accommodate the rope on the sail, and the two parts being screwed together are placed upon the edge of the sail, grasping the rope and the sail.

Claim.—A metallic cringle of two parts for grasping the rope and sail, these parts held together by screws or rivets, the whole constructed and the parts thereof arranged substantially as and for the purpose specified.

No. 41,365.—James Carver, Bellevue, Ohio.—*Submarine Boat.*—January 26, 1864.—This invention consists of a submarine boat provided with two vertically adjustable screw propellers to cause the boat to descend and ascend in the water as desired. It is also provided with an ordinary propeller at the stern and two hinged wings or fins at the bow, for the purpose of propelling the boat and of directing its course upward or downward. The interior of the boat is fitted with several tanks to contain water and some combustible liquid, the former to be used in causing the boat to ascend or descend, and the latter to be used in the destruction of docks, &c. The boat is also provided with a closet having doors leading to the interior and exterior of the boat, together with a diving dress and a communicating chamber containing torpedoes, which latter the operator may attach to the bottom of an enemy's vessel.

Claim.—First, the employment or use of the vertically swinging adjustable pins B at or near the bow of a boat A, constructed and operating in the manner and for the purpose substantially as herein shown and described.

Second, the tank D containing inflammable liquid in the hull of a submarine boat, in combination with a suitable pump W, and pipes 5, 6, 7, all constructed and operating in the manner and for the purpose substantially as set forth.

Third, the vertically adjustable propellers M′ in combination with the boat A, constructed and operating in the manner and for the purpose substantially as specified.

Fourth, the regenerator R in combination with the steam generator G and boat A, constructed and operating substantially as and for the purpose specified.

No. 41,366.—Peter Conover, Kingsessing, Penn.—*Hitching Strap.*—January 26, 1864.—This invention consists in attaching a ring D to the under side of the strap a short distance from the buckle. This ring is sufficiently large to allow the snap-hook on the end of the strap to pass through it, and is designed to hold the strap in position upon a tree or post, when secured to the same, so as to prevent it slipping down.

Claim.—As an improved article of manufacture a hitching strap, provided with a safety ring D near the buckle, and otherwise constructed as herein shown and described.

No. 41,367.—G. H. Denison, Suspension Bridge, N. Y.—*Machine for Cutting Slats for Window Blinds.*—January 26, 1864.—This invention relates to a machine for cutting the thin slats which are used for making inside rolling blinds for windows, and it consists in the employment of adjustable cutters and a stationary concave, together with a gauge iron or cap plate, all arranged in such a manner as to admit of the slats being cut from the bolt by moving the latter along over the cutters, the device being capable of cutting the slats both from straight and cross-grained wood.

Claim.—First, the concave bed D, in combination with the adjustable cutter E, arranged in connexion with the bed-piece A, substantially as and for the purpose herein set forth.

Second, the cutter H, provided with the grooved cap plate J, and fitted in the bed-piece A, substantially as and for the purpose specified.

Third, providing the bed-piece A with the longitudinal grooves a a', in combination with the two cutters E H, provided respectively with the concave bed D and cap plate J, substantially as and for the purpose specified.

No. 41,368.—Theophilus Derington, Du Quoin, Ill.—*Lathes for Turning Spokes.*—January 26, 1864.—This invention relates to a method of turning spokes for wheels, whereby the cutters can be fed backwards and forwards in a direction with the length of the spoke to be formed, and, at the same time, guided and controlled for giving the required shape to the spokes, all by one and the same pattern, which latter is so constructed and applied that it will perform the twofold offices of feeder and guide for the cutters.

Claim.—First, controlling the lateral motion of the cutters, and, at the same time, feeding them up to the work of making spokes by means of a single pattern, constructed and operating substantially as described.

Second, a spoke pattern constructed with a spiral or screw thread on its surface, substantially as and for the purposes described.

Third, the oscillating travelling carriage H J, in combination with the travelling weight I, tooth n, and a spoke pattern, operating substantially as described.

No. 41,369.—William M. Doty, New York, N. Y.—*Apparatus for Addressing Newspapers, &c.*—January 26, 1864.—At one end of a suitable case or frame is arranged a rising and falling gate. To this gate is secured a cutting blade, the edge of which overhangs the inclined cutting edge of a stationary blade, and is combined with a spring in such a manner as to gradually force back the movable cutter as it comes in contact with the stationary cutter, thus producing a shear cut.

To the sides of the case or frame are attached levers F, the inner ends of which form bearings for a rock shaft, from which pointed feeding dogs or fingers i extend towards the gate. These fingers are thrown down upon a curved bed by means of springs acting upon the rock shaft, and serve to seize the strip of paper and push it forward.

Claim.—The employment of the oscillating feed levers F, fingers i, and curved bed K, in combination with the gate B, in the manner and for the purpose herein shown and described.

Also, the combination of the spring d with the cutters D E and gate B, in the manner herein shown and described.

No. 41,370.—L. D. Flanders, Cleveland, Ohio.—*Spoke Socket and Felly Clamp.*—January 26, 1864.—This invention consists of a device for connecting the end of the spoke with the felloe of the wheel, formed of a single piece of metal and provided with a socket projecting from the lower side of a plate, with lugs that enter the felloes and project upwards from the plate, and with lips or flanges that rise on each side of the joined ends of the felloe.

Claim.—The plate C, socket A, lugs B B, and lips a a, all cast in one piece and secured to the felloe by means of the screw b b, substantially as and for the purpose specified.

No. 41,371.—D. D. Foley, Washington, D. C.—*Ploughing Machine.*—January 26, 1864.—This machine is composed of a frame provided with a share placed at its lower part near the centre and extending across the interior width of the same. At the rear of this share is a series of rollers inclining upwards, for the purpose of carrying the sod as it is cut to a platform in the rear of the frame. This platform is also composed of a series of friction rollers, at each end of which and secured to the frame are latch springs, which serve to prevent the platform from turning backwards when the sod bears upon it. This platform is designed to turn the sod bottom upwards as it falls upon the ground. Above the share is arranged a series of revolving cutters, and in front of the same, at each side of the frame, is attached a coulter. Motion is communicated to the rollers and platform from the shaft of the driving wheels, in connexion with a band and gear wheels.

Claim.—The share B, in combination with the rollers E E E′ and reversible platform F, substantially as described, for the purpose of ploughing up and inverting the surface of the earth with much less friction than is commonly experienced.

Also, the share B and rollers E, in combination with the revolving cutters C and coulters K 3, or their equivalents, for the purpose of more perfectly dividing sod ground.

Also, the platform F, in combination with latch springs G, the geared wheels H I and J, or their equivalents, for the purpose of rapidly inverting the sod, so that it will fall with certainty upside down, all substantially as described.

No. 41,372.—John W. Gay, Brooklyn, N. Y.—*Pepper Bottle.*—January 26, 1864.—This invention consists in contracting the neck of the pepper bottle so as to arrest the mass of pepper as it is thrown forward and admit of the passage of only a small quantity, for the purpose of preventing the pepper from packing at the top, and also preventing the contents of the bottle from being thrown out by the escape of the cap.

Claim.—A pepper box or bottle formed with a contraction in the neck, of the nature and for the purposes specified.

No. 41,373.—Francis Glass, Knightstown, Ind.—*Carrying Cranks over Dead Points.*—January 26, 1864.—Within a space in the cross-head, to which the piston is attached, is a diamond-shaped angular block or gate F, which is pivoted to a cross-piece G. At one end of the cross-head C is attached an elastic bar or spring, projecting inwards, for the purpose of holding the pivcted gate in proper position, to allow the passage of the wrist pin while the device is in operation, the said spring resting against a shoulder formed upon or attached to the gate. At each end of the gate is attached a pin, projecting toward the crank wheel, the said pins being moved by a cam, which serves, in connexion with the pins, to regulate the position of the gate when the motion of the device is reversed.

Claim.—The combination with a piston rod D and cross-head C of the angular block or gate F, controlled by a spring or cam, and employed to carry the wrist pin H beyond the dead points, in the manner explained.

No. 41,374.—A. M. Granger, St. Louis, Mo.—*Feed-water Heaters for Steam Boilers.*—January 26, 1864.—This invention consists in the employment of an upright cylindrical vessel D, connected at its lower part with the mud well or lower part of the boiler, its upper part extending above the level of the water in the boiler. The feed pipe enters the said vessel at or near the top and is turned downward within a basin, arranged for its reception. This basin is surrounded by a perforated basin, and below these is arranged a series of perforated basins, one below the other, the whole being surrounded by a casing, for the purpose of preventing an overflow of water from the basins into the interior of the vessel D. The feed-water, on its way from the feed-pump to the mud well, is thus exposed in the form of drops of spray to direct contact with steam taken from the boiler, which serves to effect a speedy separation of the mineral matters and other impurities.

Claim.—First, the basin d, in combination with the immersed mouth of the feed-pipe a and the heating vessel D, substantially as herein specified.

Second, the perforated basins e and $f f$, arranged within the heating vessels D, to deliver the water in the form of a shower or spray, substantially as herein described.

Third, the protecting casing h, applied in combination with the basins $d\ e\ f\ f$, as and for the purpose herein set forth.

No. 41,375.—Joshua Gray, Boston, Mass.—*Repeating Fire-arms.*—January 26, 1864.—This invention consists in moving the breech-pin both at right angles and parallel with the barrel, by means of a curved stationary rack engaging with a small pinion actuated by a sector pinion, the two latter of which are pivoted to the breech-pin. At the front end of the breech-pin is a sliding carrier block, which is actuated by means of a spring bar that carries up the cartridge to a point opposite the barrel, and a bent lever, to which latter motion is communicated at the proper time by means of a start g placed upon one end of the sector pinion, which latter is attached to the guard lever.

Claim.—First, the stationary curved rack N, constructed and operating as described.

Second, the spring bar O, for the purpose of carrying up the cartridge from the magazine to the barrel, substantially as described.

Third, the sliding carrier L, in combination with the lever J and spring O, or their equivalents, as and for the purpose described.

Fourth, the combination and arrangement of the rack N, pinion M, and sector G, or their equivalents.

Fifth, the bent lever J, arranged as set forth, and operating in combination with the sliding carrier L and start g, on the sector G, as and for the purpose described.

No. 41,376.—Clement B. Grubb, Lancaster, Penn.—*Furnace for Roasting Ores.*—January 26, 1864.—The roaster or kiln is constructed with a high stack built upon an elevated base, in which is an archway for the admission of a cart under the roaster. In the rear of the stack is a feeding door opening into the stack by an inclined plane.

Claim.—The application of an elevated kiln, provided with side furnaces, a cooler opening into an archway, constructed substantially in the manner described for the purpose of roasting ore, as specified.

No. 41,377.—Solomon T. Holly, Rockford, Ill.—*Machines for Binding Grain.*—January 26, 1864.—The object of this invention is to bind grain with cord and secure the ends of the band with facility and despatch. It does not admit of a brief description.

Claim.—The combination of a flexible compressing strap with mechanism for extending it round the gavel to be bound, and drawing it taut with a variable force, the combination as a whole operating substantially as set forth.

Also, the arrangement of the instrumentalities for applying the compressing strap in such manner that the latter is held out of the way of the grain while it is being moved to and from the place where it is bound, substantially as set forth.

Also, the combination of a reciprocating arm fitted with fingers for carrying the binding cord with a reciprocating bar for operating it, substantially as set forth.

Also, the combination of two reciprocating arms with fingers to operate upon the binding cord, and with the same reciprocating bar, so that the two arms are caused to embrace opposite sides of the gavel to be bound, and apply the binding cord by the movement of the same bar, substantially as set forth.

Also, the combination of a reciprocating arm with a hinged hand fitted with fingers to carry the binding cord, substantially as set forth.

Also, the combination of a hinged hand fitted with fingers, with an inclined plane or other instrumentality to turn the hand on its wrist-pin, substantially as set forth.

Also, the combination of two pairs of fingers (for holding the binding cord) and the mechanism for moving them in such manner that one pair will pass between the other pair when moving in one direction, (relatively thereto,) and outside the said other pair when moving in the opposite direction, (relatively thereto,) so as to deliver the cord held by the first pair to the second pair, the combination as a whole operating substantially as set forth.

Also, the combination of a gathering arm with the same reciprocating bar that operates the arm (or arms) which carries the binding cord or compressing strap in such manner that the said gathering arm completes its movement before the other arm does, substantially as set forth.

Also, the combination of two reciprocating arms fitted with fingers to carry the binding cord with a cord-twister for twisting the ends of the band together, substantially as set forth.

Also, the combination of fingers carrying the binding cord with a pin or stud across which the binding cord is strained, substantially as set forth.

Also, the combination of fingers holding the binding cord with an instrumentality for relaxing their hold on the cord, which is operated by the band-securing mechanism, substantially as set forth.

Also, the combination of the instrumentalities for applying the binding material, or the compressing strap, to the gavel, with a locking mechanism for holding them fast until the binding is completed, the combination as a whole operating substantially as set forth.

Also, the combination of the cord-twister (having jaws adapted to seize and hold the cord) with a knife for cutting the cord, substantially as set forth.

Also, the combination of a cord-twister with a fork, to operate upon the twisted ends of the band, the combination as a whole operating substantially as herein set forth.

Also, the operation of the mechanism for operating the cord-twister, with stop mechanism for stopping its motion when it is in proper position for receiving the ends of the band, the combination as a whole operating substantially as set forth.

No. 41,378.—Solomon T. Holly, Rockford, Ill.—*Machines for Binding Grain.*—January 26, 1864.—The nature and object of this invention will be understood by the claim.

Claim.—The combination of instrumentalities for compressing and binding grain with a funnel-mouthed cradle, substantially as set forth.

Also, the combination of a flexible compressing strap with a tension apparatus therefor and with a ring-carrier, the combination as a whole operating substantially as set forth.

Also, the combination of a flexible compressing strap and apparatus for withdrawing it from the sheaf, with a detachable strap-holder, the combination as a whole operating substantially as set forth.

Also, the combination of fingers or other instrumentality to hold the binding material with a ring carrier to carry it around the position of the gavel to be bound, substantially as set forth.

Also, the combination of cord-feeding fingers with an oscillating finger stock, substantially as set forth.

Also, the combination of travelling cord fingers and mechanism to carry them around the position of the gavel to be bound, with a stop, by means of which they are opened to release the cord at the proper time, the combination as a whole operating substantially as set forth.

Also, the combination of a knife blade with the oscillating finger stock, substantially as set forth.

Also, the combination of a carrier, arranged to turn in one direction around the position of the gavel, with a locking mechanism, the combination as a whole operating substantially as set forth.

Also, the combination of instrumentalities for surrounding the gavel with cord, with a cord-twister and shield, the combination as a whole operating substantially as set forth.

Also, the combination of the stop which stops the movement of the ring-carrier for encircling the gavel with cord, with detent mechanism that permits the operation of the cord-securing devices when the gavel is encircled with cord, the combination as a whole operating substantially as herein set forth.

Also, the combination of a detachable holder for the compressing strap with the mechanism for securing the ends of the band so that the strap is released when the band is secured, the combination as a whole operating substantially as herein set forth.

No. 41,379.—BENJAMIN G. HOSMER, Nashua, N. H.—*Reversible Latch Bolt.*—January 26, 1864.—This invention consists in connecting the latch bolt to the tumbler fork by means of a hook, which is pivoted to the tumbler fork and catches over a lug or ear on the bolt, so that the latter can be readily removed, and by slipping it in again and placing the lower side up, the lock may be adapted to a door opening to the right or left.

Claim.—First, connecting the latch bolt D to the tumbler fork C by means of the hinged or swinging hook E, substantially as and for the purposes set forth.

Second, the combination of the peculiarly constructed tumbler fork C and peculiarly constructed latch bolt C with the parts connected therewith, as and for the purposes set forth.

No. 41,380.—JAMES HOWELL and DAVID BIRDSALL, Jersey City, N. J.—*Securing Tubes in Steam Boilers.*—January 26, 1864.—The object of this invention is to apply the tubes in the two tube sheets of a boiler, heater, condenser, or other similar apparatus, in such a manner as to secure tight joints and provide for their ready removal when necessary for repairs or renewal. The tubes are screwed into tapped holes in the two tube sheets, the holes in one sheet being larger than those in the other, and the corresponding ends of the tubes are enlarged to fill the larger holes by means of taper thimbles, which screw upon the tubes and into the larger holes.

Claim.—First, the combination of the enlargements at one end of the tubes, and corresponding enlarged holes in one tube sheet, substantially as herein specified.

Second, the internally and externally tapered screwed thimbles D, applied in combination with the taper screw-threads *e* on the tubes and taper-tapped holes *g* in the tube sheet B, substantially as herein described.

No. 41,381.—LUKE KAVANAUGH, Waterford, N. Y.—*Knitting Machinery.*—January 26, 1864.—This invention relates to the rotary burrs used in knitting machines, both as sinkers and for landing and casting off the loops, and it consists in securing the hub or stock of the burr to the stud and fitting the latter to a socket-bearing, lubricated from below by a fountain or other receptacle for the oil.

Claim.—The combination of the stud or spindle B, secured in the stock or hub of the burr, and the socket-bearing C, supplied with oil from the bottom of a reservoir E, or other means, substantially as herein described.

No. 41,382.—RUFUS LEAVITT, Melrose, Mass.—*Ladies' Skirt Lifter.*—January 26, 1864.—This invention consists in the employment of two series or rows of eyelets placed one above the other and attached to the inner side of a skirt near the waist. Through these eyelets is passed a cord, by drawing the ends of which the skirt may be shortened as desired.

Claim.—Making the skirt with a series of eyes attached at or near the belt, and another series at a suitable distance below the same, and interlacing them by a cord, substantially in the manner and for the purpose described.

No. 41,383.—J. B. MCCORMICK, St. Louis, Mo.—*Reaping Machine.*—January 26, 1864.—This invention consists in the employment of an automatic rake arranged so as to pass over the platform as the machine is drawn along, and discharge the grain at one side of the rear of the platform upon a table attached to the framing at the rear of the platform. Below this table is suspended the binder's stand.

Claim.—The automatic rake G, arranged to operate so as to discharge the grain at one side of the rear of the platform B, in combination with the table I and binder's platform or stand J, all arranged substantially as herein set forth.

No. 41,384.—JOHN C. MCDOUGAL, Black Rock, N. Y.—*Harvester.*—January 26, 1864: antedated January 11, 1864.—When this machine is used as a mower, the rear platform is detached and a shoe C′ is secured to the outer end of the finger bar. To this shoe is attached a small wheel, and in the shoe is a vertical oblong slot through which a screw passes into a finger at the outer end of the finger bar. On the inner side of the shoe is a series of notches which catch into projections at the outer side of the finger, the front end of the latter fitting into a recess at the front part of the shoe, by which means the shoe may be adjusted higher or lower as desired.

Claim.—The shoe C′, provided with the series of vertical notches *v*, and the vertical oblong slot *s*, in combination with the projections *w*, at the outer side of the finger *u*, all the parts being arranged as shown, to admit of the adjustment of the shoe C′, as set forth.

No. 41,385.—JOSEPH P. MIERS and JOHN GROENDYKE, Lebanon, N. J.—*Cork Extractor.*—January 26, 1864.—This device consists of a corkscrew attached to a vertically sliding rotary shaft, which is acted upon by a spring to force the corkscrew against and into the cork as the shaft is rotated. To the stationary frame is pivoted a lever by which the sliding frame is raised and the cork extracted. Upon the stem of the corkscrew are arranged two or more cutting blades which serve to cut or split open the corks as the latter are forced up against them through the agency of the succeeding cork, into which the corkscrew enters, the split corks dropping off after being so cut.

Claim.—First, the hand lever F, in combination with the corkscrew D, attached to the vertically sliding rotary spring shaft C, in the manner and for the purpose substantially as shown and described.

Second, the vertically sliding carriage B, in combination with the shaft C, corkscrew D, and hand lever F, constructed and operating in the manner and for the purpose substantially as set forth.

Third, the cutting blades E, applied in combination with the corkscrew D, substantially as and for the purpose specified.

No. 41,386.—JOSE AUGUSTUS MILLER, New York, N. Y.—*Street Car.*—January 26, 1864.—This invention consists in combining a momentum-saving friction brake, with the hand wheel and shaft which serve to operate the ordinary brake, and with a treadle and sliding clutch, in such a manner that by the act of turning the ordinary brake hand-wheel the momentum-saving brake is also brought into operation, and by stepping on the treadle the ordinary brake is released and the momentum-saving brake assists in starting the car.

Claim.—First, the combined arrangement of a momentum-saving friction brake, substantially such as herein described, with the hand wheel and shaft, which serves to operate the ordinary brake, and with a treadle *d*, sliding clutch *c*, and drum *b*, or their equivalents, all constructed and operating in the manner and for the purpose substantially as set forth.

Second, the arrangement of the ring H, with springs I, in combination with the sliding disk G, and axle C′, of a street car, constructed and operating in the manner and for the purpose substantially as herein shown and described.

No. 41,387.—WILLIAM A. MORSE, Boston, Mass.—*Calipers.*—January 26, 1864.—This invention consists in extending the curved upper ends of the device over each part and marking a scale upon one side of each, so that by setting the upper points upon the scale, the degree of opening between the lower points or legs can be readily indicated.

Claim.—The projecting ends or arms F F′, passing each other as specified, in combination with the double scale A A′, for the purpose herein shown and described.

No. 41,388.—LUCILIUS H. MOSELEY, Poughkeepsie, N. Y.—*Ice Crusher.*—January 26, 1864.—This apparatus is composed of a box of metal or wood provided with an opening at the top and bottom. Through the centre of this box passes a shaft which carries a segmental cutter having serrated edges and provided on its side with projections. These projections pass between corresponding projections or studs secured to the inner sides of the box, by which the ice is crushed.

Claim.—First, the bisecting cutter F, and crushers H, for the purposes set forth, in combination with the axis E.

Second, the use of the pins or studs I, arranged as hereinbefore described, on the cheeks or sides of the box A, in combination with the bisecting cutter F, and crushers H, substantially as set forth.

Third, the use of an ice-crusher case or box A, when it has a mouth B in the top of it for the reception of the lump of ice, and a vent *c* in the bottom of it for the discharge of the crushed ice, in combination with the bisecting cutter F, and crushers H, for the purposes hereinbefore set forth.

No. 41,389.—WILLIAM H. OLDER, Packwaukee, Wis.—*Cultivator.*—January 26, 1864; antedated January 20, 1864.—This invention consists in connecting the plough standards to treadles by means of cords, in such a manner that the driver, by pressing his feet upon one treadle, will cause the said standards to be adjusted laterally, and by pressing the other treadles will cause the standards to be raised and lowered at will.

Claim.—The arrangement of the standards F F, and treadles K K′ M, as shown and described, to wit: the standards being fitted in the bar E, with the bolts *d* passing through longitudinal oblong slats *c*, therein, and the treadles connected to the standards by means of the cords, belts or chains *f f′ f″*, all arranged to operate as set forth.

No. 41,390.—ISAAC H. PALMER, Lodi, Wis.—*Band-cutting and Feeding Attachment to Threshers.*—January 26, 1864.—This invention consists in the employment of a cylinder mounted in a box, to be connected with the hopper of a threshing machine, upon the centre of which cylinder and concentric with the same, are secured segmental knives or cutters for severing the bands of the sheaves. Upon the cylinder are also wings attached in pairs at their respective inner ends to the ends of the segmental blades, their other ends being deflected outward or towards the ends of the cylinder for the purpose of spreading or distributing the grain upon the endless belt, when the machine is in operation.

Claim.—A band cutter and feeder for threshing machines, constructed and operating substantially as herein described.

No. 41,391.—JAMES M. PATTON, Indianapolis, Ind.—*Calendar.*—January 26, 1864.—This device consists of a box having numbers indicating the days of the month arranged in columns of seven for the days of the week. Upon a card in front, at one side of the box, are placed seven cards with the days of the week printed upon them, each card beginning with a different day, and to be changed for every month, and only one card exposed at a time. At the right hand of the case are four cards having numbers adapted for leap year and for the months of varying length.

Claim.—As a new article of manufacture, the calendar herein described, when arranged and operated substantially as and for the purposes set forth.

No. 41,392.—SAMUEL J. PARKER, Ithaca, N. Y.—*Preserving Fruit in Jars, &c.*—January 26, 1864 —The object of this invention is to fill the space formed in the jar, as the contents become cool, with some fluid or gas which will prevent the said contents from moulding. The mouth of the jar is formed with an oval opening, in which is fitted an oval-shaped stopper.

Claim.—The prevention of mould in fruit jars by any apparatus by which a liquid or fluid is let in, and to fill completely the inside of the jar as it cools.

Second, a total or partial filling of the cavity always formed by the cooling of the contents of a fruit jar by gases or vapors of easily volatile and expansive fluids, when the said gases or liquids are contained in any suitable cavity or apparatus as described.

Third, as a new device in fruit jars, the special oval opening of the lip above the mouth or neck of the jar and the side crescent-shaped inverted edges of the same, in combination with an oval-shaped stopper.

No. 41,393.—ALEXANDER PILBEAM, South Kensington, England.—*Sewing Machine Cases.*—January 26, 1864.—This invention consists in constructing the tables or stands of sewing machines so that all the parts thereof can be readily folded when not in use, and assume the form of a case or trunk for transportation.

Claim.—The arrangement and construction of the stands or supports of sewing machines so as to fold or collapse into the form of a chest or case, small and compact in compass, enclosing all parts of the machinery within it, suitable for the purpose of transit and travelling, substantially as hereinbefore described, or any mere modification thereof.

No. 41,394.—JAMES PURINTON, Jr., Lynn, Mass.—*Finishing the Soles of Boots and Shoes.*—January 26, 1864.—This invention consists in providing the surface of the sole and heel, either wholly or partially, with a covering of paper or other suitable material for the purpose of giving a finish to the shoe, and obviating the necessity of the several processes now in use for effecting the same object.

Claim.—A boot or shoe having the stitching, pegging, or nailing in the sole or heel concealed by the use of paper or other material attached, and covering, partially or entirely, the outer surface, as herein described and specified.

No. 41,395.—GEORGE H. REAY, New York, N. Y.—*Apparatus for Feeding Paper to Envelope Machines.*—January 26, 1864.—This invention consists in the employment of a hook or finger which is rigidly attached to the table, in combination with the ordinary lifters or pickers of an envelope machine, serving to raise or deliver the blanks or sheets of paper so that the portion of the sheet between the lifters is slightly turned down as the latter ascend, and the feeding of the blanks or sheets singly is insured.

Claim.—The employment of the hook C, or its equivalent, in combination with the pickers B, or their equivalent, substantially as and for the purpose shown and described.

No. 41,396.—JOHN RICHARDS, Columbus, Ohio.—*Trying Squares.*—January 26, 1864.—This device consists of a stock or head made of wood or metal, and provided with a pointed finger rigidly attached to one corner. To the same part of the stock is pivoted a similar and corresponding finger, which forms a part of, or is attached to, a blade projecting at right angles to the said finger and to the stock. A spring is attached to the stock, which is so arranged as to press down the blade upon the stuff which is operated upon. The difference or variation between the two pointed fingers indicates the extent of variation from a right angle between the square and the stuff.

Claim.—First, a trying square constructed with a movable blade, or its equivalent, substantially as and for the purposes described.

Second, applying a spring, or its equivalent, to the movable-blade trying square, for the purpose of keeping said blade in a proper position for use, substantially as described.

Third, registering or indicating angles by means of the blade and head, or some portion thereof, of a trying square, substantially as described.

No. 41,397.—F. J. RICHMOND, Ashford, Conn.—*Sawing Machines.*—January 26, 1864.—In this machine two reciprocating saws are arranged to move simultaneously in opposite directions, and cut with an inclined stroke when drawn backwards. The saw slides are attached to swinging bars having their front ends fitted in segments which are secured to the sides of the framing for the purpose of enabling the saws to feed themselves to their work. The swinging bars are connected to a shaft by means of rods and arms, the said shaft being provided with a lever for the purpose of raising when necessary the swinging bars, and consequently the saws. The said lever is provided with a curved bar or jaw and a notched bar which catches against a plate in the framing and serves to hold the lever. Two inclined bars *e e*, secured to the frame, form a buck to hold the log to be sawed.

Claim.—The arrangement of the swinging bars L L, slides I I, crank shaft D, shaft N, arms O O, segments M, and saws J, in combination with the curved jaw S, attached lever R, buck *e e*, pivoted notched bar T, and plate U, all as herein shown and described.

No. 41,398.—JOHN FINDLEY RIGGS, Fremont, Nebraska.—*Manufacture of Sugar and Sirup from Sorghum, &c.*—January 26, 1864.—The nature of this invention will be understood from the claim.

Claim.—First, applying soda or other suitable alkali to the sirup, while the latter is at a temperature of 100° Fahr., or thereabouts, for the purpose of rectifying the same, as explained.

Second, refining sorghum or other sugar by the applying of water or other suitable liquid thereto, and quickly pressing out, substantially as and for the purposes explained.

No. 41,399.—GEORGE PHILIP SCHIFFLIN, New York, N. Y.—*Skate Fastening.*—January 26, 1864.—This invention consists in the employment of cam-shaped buttons pivoted to the sides of the runners and made to act upon the ends of the straps, so that when the latter have been drawn up tightly the ends are firmly clamped between the edge of a slot in the runner through which the strap passes and the point of the button, the object being to dispense with buckles or other similar fastenings.

Claim.—The employment or use of the cam buttons *c* attached to the runner B of a skate, and acting on the straps C, in the manner and for the purpose substantially as herein shown and described.

No. 41,400.—SAMUEL A. SEALY, Brooklyn, N. Y.—*Manufacture of Soap.*—January 26, 1864.—This invention consists of a composition of grease, flour, sal soda, borax, salt tartar, and alkali, which are mixed together in suitable proportions, and in such a manner that by the combination of the flour with the grease the latter is enabled to combine with a larger quantity of alkali than without the flour, or when the flour is first mixed with the alkali.

Claim.—Mixing the grease used in the manufacture of soap with a quantity of vegetable flour, about in the proportion herein specified, previous to adding the alkali, as described, so that by the flour the grease is spread or opened, and all its particles are caused to come in immediate contact with the alkali. Also the within-described composition of the ingredients above specified and mixed together in the proportion and in the manner set forth.

No. 41,401.—WILLIAM A. SHAW and GARDNER WILLARD, New York, N. Y.—*Manufacture of Tinned Lead Pipe.*—January 26, 1864.—This invention consists in casting the ingot of tin or other metal with a taper at one end and an enlargement at the other end, the said ingot being introduced into the pipe press with an ingot of lead surrounding it, and the two being forced out of the cylinder through a die by hydraulic pressure, to produce tinned lead pipe.

Claim.—Forming an ingot of metal for lining lead pipe, with a taper at one end or an enlargement at the other, or both, for the purposes and as specified.

No. 41,402.—JOSEPH NOTTINGHAM SMITH, New York, N. Y.—*Submarine Gun.*—January 26, 1864; antedated January 4, 1864.—The breech piece is secured to the barrel by trunnions having their axes somewhat above the centre of the bore of the gun, so as to cause a tight joint when the breech piece is closed upon the barrel. In the front of the breech piece is a cylindrical cavity for the reception of a packing block which fits concentrically in the same, and is made self-adjusting by being pivoted in the breech piece. By removing their connecting pivot the breech block is inoperative and the gun consequently disabled. In the sides of the gun are apertures which open into a chamber surrounding the barrel, so as to receive the gases as the gun is discharged. In one of these apertures is a cut-off, the heel of which is pivoted above the bore of the gun, its head fitting into a seat in the muzzle, for the purpose of preventing the ingress of water through the muzzle of the gun.

Claim.—The breech piece B, when pivoted above the central line of the bore of the gun, and provided with a packing block centred below the said central line of the bore, substantially as and for the purpose herein specified.

Also, the self-adjusting packing block C, pivoted transversely in the breech piece, in combination with said breech piece, substantially as and for the purpose set forth.

Also, disabling the gun by means of the removable pivot pin *b*, which pivots the packing block to the breech piece, as specified.

Also, a cut-off H, for closing the muzzle of the gun against the influx of water into the barrel after the discharge of the projectile therefrom.

No. 41,403.—N. C. STILES, West Meriden, Conn.—*Punching Press.*—January 26, 1864.—This invention consists in the combination with the rod or pitman which connects the main shaft of the press with the slide carrying the punch or cutter of an adjustable eccentric and clamp in such a manner that, by rotating the said eccentric, the position of the punch or cutter in relation to the work can be readily and accurately adjusted. A slide is also arranged with triangular guides, to operate in two jaws which are cast solid with the stock of the press, and held in place by a triangular gib or gibs, in such a manner that all the bearing points or surfaces of the jaws and of the carriage can be planed off by one operation and without changing the position of the pieces to be planed on the bed of the machine. A loose clutch pin is also employed, the position of which is controlled by the direct action of the cam, and in connexion with the clutch pin and cam is a yielding coupling pin, so arranged that if the clutch pin is pushed out when opposite to the coupling pin, the latter will yield and thus prevent injury to the working parts of the press.

Claim.—First, the compound eccentric D, consisting of an eccentric wrist pin *a*, adjustable disk *b*, and clamp *d*, or its equivalent, in combination with the pitman F, constructed and operating in the manner and for the purpose substantially as set forth.

Second, the V-shaped faces *g* on the slide E, in combination with the jaws G, cast solid with a stock A, and with the triangular gib *h*, all as and for the purpose specified.

Third, the touch-off device *k* H arranged in combination with the clutch pin *m*, substantially as shown and described, so that said clutch pin is thrown in either direction by the direct action of the cam.

Fourth, the loose clutch pin *m*, applied in combination with the band wheel C and shaft B, in the manner and for the purpose substantially as specified.

Fifth, the button *l′* on the shaft B, in combination with the spring catch *k′*, clutch pin *m* and *n*, and cam H, arranged substantially as described, so that the cam is released automatically after the punch or cutter has completed its stroke.

Sixth, the yielding coupling pin *n*, in combination with the clutch pin *m* and touch-off device *k* H, constructed and operating in the manner and for the purpose substantially as specified.

Seventh, the yielding fulcrum pin J, arranged in combination with the cam H, clutch pin *m*, and band wheel C, substantially as and for the purpose set forth.

No. 41,404.—JOHN E. TABER, Fall River, Mass.—*Springs for Wheel Vehicles.*—January 26, 1864.—This invention consists in the employment of spiral springs fitted upon rods, the inner ends of the said springs being attached to collars F, which are secured to the rods by screws. Each collar has a tube connected with it, and on the said tubes the inner parts of the springs are placed, the outer parts of the latter being fitted on tubes H, which have a collar I at their outer ends, and the said tubes and collars being placed loosely upon the rods. The collars I have each a radial projection at their peripheries, and to each of these projections is attached a bar J, which is connected by a joint to the frame.

Claim.—The springs E fitted on the rods D, and connected thereto, and the frame B, in connexion with the tubes G H, collars F I, all arranged substantially as and for the purpose herein set forth.

Further, the connecting of the springs E to the frame B by means of the bars J, collars I, and joints *e d*, when used for the purpose herein specified.

No. 41,405.—HENRY TAYLOR, Trenton, N. J.—*Machine Belting.*—January 26, 1864.—This invention consists of a belt woven of some fibrous or textile material, and saturated with a composition consisting of the following ingredients: boiled linseed oil, white wine, whitening, lampblack, Japan drying, Ohio mineral, and gelatine or glue.

Claim.—The new article of manufactured belting, constructed substantially as above described and set forth.

No. 41,406.—JOSE TOLL, Locust Grove, Ohio.—*Motive Power.*—January 26, 1864; antedated January 24, 1864.—This invention consists in the employment of a large master wheel provided with cogs upon the exterior of the periphery, and also on the inner side of the same, which are made to mesh upon the exterior with the pinions attached to the shafts of two of the rolls; and on the interior with the pinion of a third roll, so that each roll is driven directly from the master wheel.

Claim.—The arrangement of the double-cogged master wheel E, meshing with the disconnected pinions I, I I, and I I I, coincident with the lines of contact of a series of crushing or other rods 1 2 3, the whole number being combined and operating together in the manner and for the objects stated.

No. 41,407.—JAMES TOMLINSON, Racine, Wis.—*Ploughs.*—January 26, 1864.—This invention consists in constructing the mould-board, share, and coulter all in one piece and of scoop or hollow-screw form, with a point nearly in the centre of the cutting part or share. The land-side is of curved form in its transverse section, the convex side facing outwards, and corresponding in curvature to the share of the mould-board.

Claim.—A plough having its mould-board, share, and coulter in the form of a scoop or spiral shell, and provided with a curved land-side P, substantially as set forth.

No. 41,408.—GEORGE I. WASHBURN, Worcester, Mass.—*Boiler-feeder.*—January 26, 1864.—This apparatus consists essentially of two or more closed chambers, each of which is alternately thrown into communication with the boiler and with a condensing chamber, to which the supply pipe has constant access through a port which may, if preferred, be provided with a check valve to prevent any reflux of water which might occur immediately before or at the instant of condensation.

The opening and closing of the ports to place the respective chambers alternately in communication with the boiler and the condensing chamber may be effected by a suitable valve operated automatically by the weight of water within spheres mounted upon arms projecting from a rock shaft, all of which are made hollow and communicate with the first-named chambers.

Claim.—First, condensing a body of steam within an apparatus having no external outlet by forcing it from one chamber to another by the gravity of water, and causing it to pass beneath the surface of and in contact with the water in the chamber into which it is forced, substantially as herein described.

Second, in a condensing or pumping apparatus operating substantially on the principle specified, the use of a check valve *o* operating as described, to prevent the reflux of water into or down the supply pipe.

Third, the combination of the hollow divided shaft D, chambers A1 A2 E1 E2, and valve G, operating substantially as and for the purposes set forth.

Fourth, the combination of the rod H with the oscillating shaft D and valve G, for imparting motion to the said valve, as explained.

Fifth, the chambers A1 A2 and C, and troughs B1 B2, operating together in manner substantially as and for the purposes set forth.

No. 41,409.—JAMES WITHYCOMBE and CHARLES REIBLEIN, Cleveland, Ohio.—*Railroad Cars.*—January 26, 1864.—This invention consists in supporting the bolsters upon beams having their ends bolted to the under side of the sills, at a short distance apart and at equal distances forward and back of the position of the king bolt. A cross-piece E may also be bolted to the under side of short beams G at their centre or midway between sills.

Claim.—Supporting the bolsters F F′ of railroad cars by the beams C C C′ C′ and E E′, arranged and operating as and for the purpose set forth.

No. 41,410.—JAMES C. BARRETT, Stamford, Conn., assignor to JOSEPH R. VAN MARTER, Lyons, N. Y.—*Water-elevators.*—January 26, 1864.—The shaft to which the drum is attached extends beyond the end of the same, and has a pulley firmly keyed upon it, the said pulley having a grooved periphery to receive two semicircular clamps, which are connected at one end by a pivot, and are fitted near the pivot on a pin, which is attached to a circular disk I fitted loosely on the shaft, a crank being made to work upon a pin attached to the disk, so that the bucket will descend by its own gravity, without the necessity of the crank turning with the drum, the bucket, when filled, being held at any desired point when the crank is free from the hand of the operator.

Claim.—The pulley G attached to the shaft B of the windlass, in connexion with the disk I placed loosely on the shaft B, the clamps H H′ and crank J, all arranged to operate substantially as and for the purpose specified.

Also, the eccentric *h* and the friction roller *g*, or an equivalent bearing, when used in combination with the disk I, and applied to a windlass to operate as and for the purpose set forth.

No. 41,411.—HENRY FISHER, Alliance, Ohio, assignor to himself, WILLIAM M. WHITELY, JEROME FASSLER and OLIVER S. KELLY, Springfield, Ohio.—*Harvesters.*—January 26, 1864.—This invention consists in connecting the rake or rakes which sweep the grain to the cutters, and rake it from the platform to a revolving vertical shaft, so as to vibrate independently of each other, the rakes being vibrated as they are revolved by a stationary grooved cam-way acting on the rear end of the rake heads behind the fulcra on which they vibrate. To the side of the rake head is secured a curved arm for the purpose of sweeping down the grain in advance of the rake and insure its being cut before the rake moves it upon the platform.

Claim.—In combination with the stationary bowl or cam M, arranged as described, extending the rake head back behind its fulcrum so as to raise and control the rotating rake by the action of the cam-way on its heel or rear end, substantially as described.

Also, in combination with the rake, the curved arm on the side of the rake to push the grain down in advance of the rake and insure its being cut before the rake shall move it on the platform.

No. 41,412.—MORTON PENNOCK, Kennett's Square, Penn., assignor to himself and SAMUEL PENNOCK, of same place.—*Cast-iron Pavements and Gutters.*—January 26, 1864.—This invention consists in arranging a hollow space or channel under the metal plates which constitute the pavement, so that by admitting steam or heated air into the said channel the pavement can be kept free from snow and ice. A metal gutter is also combined with the said pavement in such a manner as to admit steam or heated air under the same for the same purpose as above. A metal gutter may also be employed, having a chamber underneath independently of the metal pavement.

Claim.—First, the channel B, under the metal plates A, substantially as and for the purpose described.

Second, the combination with the plates A of a gutter C of metal with a channel D, substantially in the manner and for the purpose set forth.

Third, the gutter C, made of metal or other good conductor of heat, and provided with a channel D, substantially as and for the purpose specified.

No. 41,413.—Richard C. Robbins, New York, N. Y., assignor to himself, Henry L. Case, Jesse M. Keen and John W. Mason.—*Casting Packing Rings in Gas and Water Pipes.*—January 26, 1864.—The inventor says: The object of this invention is to carry out in practical operation the design of the invention described in letters patent granted to me on the 13th of January, 1863. The invention consists in the employment of a forming ring adapted to fit into the larger end of the pipes, to be made so as to form the inner portion of the mould for casting the said rings. The former is kept in place by means of three set screws, which pass through the same and press against the pipe. Combined with the forming ring is an India-rubber ring made to fit in the pipe and to meet the inner end of the forming ring, so as to prevent the escape of metal into the interior of the pipe.

Claim.—First, the forming ring B, constructed as described, for the purpose set forth.

Second, the combination therewith of set screws, arranged as described, to secure it in place.

Third, the combination with the said forming ring B of the India-rubber ring G, substantially as described and for the purpose set forth.

No. 41,414.—Zachariah Walsh, Newark, N. J., assignor to Cornelius Walsh, of same place.—*Frames for Travelling Bags.*—January 26, 1864.—The frame of the bag is composed of two parts or sides, the ends of which are connected by joints. Each side of the frame is formed of two pieces, and one side is provided with a lip or flange *d* at its upper edge to admit of the other side fitting under the lip and thus preventing all access to the interior of the bag.

Claim.—The combination of the divided lip *d d* and jointed frame B, constructed and arranged as and for the purpose herein shown and described.

No. 41,415.—Samuel Ward, Amsterdam, N. Y., assignor to George Campbell and John Clute, of Cohoes, N. Y.—*Take-up for Circular Knitting Machines.*—January 26, 1864.—This invention relates to the take-up of that class of circular knitting machines in which the needle plate or needle ring has a rotary motion about its axis; and it consists in the arrangement of certain devices for controlling the operation of such a take-up by the tension of the knitted goods, whereby all parts of a piece of goods are made uniformly of any desired texture or tightness.

Claim.—First, the arrangement of the take-up rolls in a frame C *c*, which is arranged to swing within the rotating frame A *a*, under the control of spring *g* and levers I, or their equivalents, substantially as and for the purpose herein specified.

Second, the pawl *k* and stop lever *g*, applied in combination with each other and with the ratchet wheel *f*, frames C *c* and A *a*, and stationary cam E, to operate substantially as and for the purpose herein set forth.

No. 41,416.—Orson Waste and Charles Waste, Cameron, Ill., assignors to Charles Waste aforesaid.—*Machine for Cutting Hay for Pressing.*—January 26, 1864.—This invention consists of a machine for pressing and cutting hay, or similar material, by rolling it between two rollers preparatory to pressing it into bales, in such a manner that the rolling and cutting are done at regular intervals, and the hay or other substance deposited in successive and regular quantities upon the same heap or bale.

Claim.—First, the combination of the rollers A A with a knife working periodically, so connected and geared to the rollers as to cut the hay in proper lengths for packing, substantially as set forth.

Second, the combination and arrangement of the catch F with the weight E and knife C substantially as and for the purpose specified.

Third, also the combination of the knife C with a grooved projection M, substantially as set forth.

No. 41,417.—Joseph B. Wilson, Fislerville, N. J., assignor to David W. Moore, of same place.—*Fruit Can.*—January 26, 1864.—The stopper of the can is formed with a guiding portion on the lower part that fits snugly within the can; above this part is a flange, and over that a projecting piece of such a size as to allow of a space between the edges of these parts and the sides of the mouth of the can, which space is designed for the reception of cement, by which the can is hermetically sealed.

Claim.—The stopper D, composed of the guiding portion *f*, flange *e*, and projection *d*, when combined with and arranged in respect to the mouth of a vessel having two shoulders, *a* and *b*, in the manner set forth.

No. 41,418.—Granville Abbott, United States army.—*Knapsack Hammock.*—February 2, 1864.—This device consists of a back formed of a water-proof material, lined with canvas cloth, and provided with an extension piece at each end, so as to turn over and cover the head and feet of the occupant when used as a hammock. Attached to the sides of the back are cords by which the hammock is suspended to any convenient supports, and extending longitudinally over the same is a line for supporting a blanket, which forms the shelter.

Claim.—The back B, formed of water-proof material lined with canvas cloth A, with an extension M at each end to form hoods or covers for the head and feet of the occupant when used as a hammock, in combination with a water-proof blanket E, suspension cords I I, and line F, the former passing through hems in the sides of the back B, when the whole is constructed and arranged so as to form a convertible knapsack hammock and litter, in the manner described.

No. 41,419.—John G. Baker, Washington, D. C.—*Grinding Saws.*—February 2, 1864; antedated January 22, 1864.—This invention consists in grinding saws thinner at the back than at the front edge between two grindstones set at an angle to each other, and which simultaneously traverse faces of the saw, so as to thereby impart to the saw blade the desired wedge shape and grind both sides at once. The saw blades are fed continuously down through the feed frame between the feed rollers and between the stones. The axles or shafts of the grinding stones have their bearings in sliding blocks, which are operated by means of four right and left hand screws, to bring them to the proper angle. The necks of the axles of the stones are secured by means of collars in a slotted traverse bar, which is pivoted to the arms of extension cranks placed upon the upper ends of vertical shafts, whose bracket journal boxes extend from the frame-work.

Claim.—First, grinding saws by means of two traversing grindstones set at an angle with each other.

Second, feeding saws to be ground between two revolving grindstones by means of the frame I and feed rollers J.

Third, the expansion cranks G, in combination with the slotted traverse bar F.

Fourth, the frame I, in combination with the rollers J and spring *g*.

No. 41,420.—J. S. Brown, Washington, D. C.—*Book-holding Stand.*—February 2, 1864.—This invention consists in the employment of a stool having a standard or arm projecting from one side, and branching upward and over the stool, to support a reading stand, and so arranged as to admit of the table or desk on the stand being brought directly over the chair, sofa, or bed, which may be occupied by a person, the base of the stand going under the said articles as far as desired.

Claim.—Supporting the table or desk by an indirect or side standard or support extending from the base, in order that the space between the base and table or desk may be clear, and, at the same time, the table or desk be centrally or properly sustained by the base, substantially as and for the purpose herein specified.

No. 41,421.—R. E. Brown, St. Louis, Mo.—*Hot-blast Ovens.*—February 2, 1864.—This invention consists in the employment of fire-clay, or other suitable earthen material, in the construction of the pipes, chambers, or vessels, used as air passages within hot-blast ovens. In the spaces between the inner and outer cylinders are arranged a series of annular rings or stops provided each with a small opening for the passage of air. To the outer ends of the clay cylinder are secured metallic connexions *h*, so arranged as to admit the cold air to the inner pipes, and also permitting the escape of the hot air from the outer cylinders, the communicating pipes being arranged outside of the furnace.

Claim.—First, the employment or use of fire-clay, or other equivalent earthen material, in the construction of the heating pipes, chambers, or vessels, used as air passages within hot-blast ovens, substantially as herein described, for the purposes set forth.

Second, the employment of the annular rings or stops *e*, in combination with the cylinders *b c*, substantially as and for the purpose specified.

Third, in combination with the pipes *g* and *k*, and also with the cylinders *b c*, the connexions *h*, constructed and arranged to operate substantially as represented.

Fourth, the arrangement of the connexions *h*, pipes *g* and *k*, and their necessary joints, with reference to their heating cylinders, when the same are arranged outside the oven, and constructed in such manner as to be removable from the said cylinders, as and for the purposes set forth.

No. 41,422.—William Burnett, New York, N. Y.—*Brush for Mucilage Bottles.*—February 2, 1864.—Upon the handle of the brush is a spiral groove, in which is fitted a coiled spring, secured at its lower end to the cap of the bottle, so as to admit of the brush being readily turned down into the mucilage, and only slightly immersed when not in use.

Claim.—The combination of the brush-handle C with the screw D, the spring E, and the cover A, when arranged and operating substantially as and for the purposes described.

No. 41,423.—Jarvis Case, Lafayette, Ind.—*Cultivators.*—February 2, 1864.—This invention consists in providing a metallic clasp for attaching the plough stocks to the beams, and so pivoting the said clasp at its rear end where attached as to allow of a vertical movement of the plough stocks when the latter are raised by a lever. The two front inner stocks and shares are secured to a transverse rock shaft attached forward of the driver's seat, and provided with a treadle or lever extending backward, so as to be operated by the feet of the driver, to raise the shares from the ground. The front share stocks are provided with stirrups and a detachable hand lever, so that they may be moved laterally by the foot or hand of the operator at pleasure.

Claim.—First, the combination of the pivoted stocks D D′ with the arms O and pivoted bar N, operated by the stirrups K and lever M, or by either of the same, substantially as set forth.

Second, placing the treadle P Q and stocks D D′ forward of the driver's seat, the same being arranged and operated substantially in the manner and for the purposes specified.

Third, the hinged stock-holder H, for holding the stocks E, and allowing the latter to rise in relation to the frame, substantially as described.

No. 41,424.—OTIS N. CHASE, Boston, Mass.—*Potato Diggers.*—February 2, 1864; antedated January 27, 1864.—Attached to the axle of the machine are two frames, placed one above the other, and connected at their front ends by a toggle lever *d*, which serves to elevate or depress the diggers *e* and *f*. These diggers are attached to the front end of the lower frame, and are placed one above the other, the upper one being designed to cut or turn aside weeds and potato tops, while the lower one serves to cut below and on the side of the potato row. Attached to the axle, and rotating with it, are a series of pickers composed of curved parallel bars, so arranged as to pass between the bars of a screen attached to the rear end of the lower digger. Connected with the axle is also a conical screen and hub, so formed and arranged as to receive the earth taken up by the revolving pickers and conduct it, as it is separated from the potatoes, to one side of the machine.

Claim.—First, the diggers *e* and *f*, constructed and operating substantially as described, when combined with the frame A and C and toggle lever *d*, for the purposes set forth.

Second, the frames A and C, with the toggle lever *d*, constructed and operating substantially as described.

Third, the combination of the pickers *g g* with the conical screen and hub, substantially as described, for the purposes set forth.

Fourth, the combination of the pickers *g g*, conical hub and screen, (conical or otherwise,) with the inclined screen *i*, all substantially as described.

No. 41,425.—TIMOTHY EARLE, Valley Falls, R. I.—*Closing Preserve Cans.*—February 2, 1864.—This device consists of a yoke, the ends of which are curved so as to fit under a lip or projection on the neck. The yoke turns upon a spindle, and the latter is provided with a coiled spring, which serves to press the cover upon the jar; the object being to dispense with the inclined lips on the lip or projection of the neck of the jar.

Claim.—The combination of a spring *b* with a yoke A, for the purpose of securing the cover of a preserve jar, applied in the manner substantially as described.

No. 41,426.—CHARLES H. EDWARDS, Quincy, Mass.—*Marine Railways.*—February 2, 1864.—The ways of the railway are so constructed that the upper surface, upon which the rolls traverse, shall form a vertical curve, and so arranged that that part of the ways which is under water shall be the most inclined to the horizon, the inclination gradually lessening as the ways approach the shore, and so that, when the vessel or other body has been drawn entirely out of water, the cradle shall stand upon an inclination no greater than upon a marine railway constructed in the ordinary manner.

Claim.—The construction of the ways of a marine railway so that the upper surface, upon which the rolls traverse, shall form a vertical curve, substantially as described and for the purpose as set forth.

No. 41,427.—GEORGE ELBREG, Cincinnati, Ohio.—*Chimney Tops.*—February 2, 1864.—Upon the inner sides of the chimney top are a series of curved deflectors placed above openings in the cap. The upper edges of the deflectors are provided with reverted lips for the purpose of deflecting any downward currents outward at the nearest ventage, while the currents entering at either ventage will pass directly upward and assist in promoting the draught of the chimney.

Claim —The chimney top A A′, having the described lip deflectors B E, recesses C, and ventages D, substantially as and for the purposes set forth.

No. 41,428.—LOUIS HARPER, Brooklyn, N. Y.—*Restoring Phosphatic Guano.*—February 2, 1864.—The object of this invention is to restore to the phosphatic guano those necessary elements of fertility which may have been washed and leached out of it by exposure to tropical rains, and to render a part of the earthy phosphates again soluble in water, which is sought to be effected by a series of processes, such as first nitrogenizing, renewing or refreshing a portion of the phosphatic guano; second, preparing an adequate quantity of nitrogenous animal matter by a chemical digestion for reimpregnating the phosphatic guano with ammonia and carbonized animal matter; third, converting a portion of the earthy or bone phosphate of the phosphatic guano into a soluble or super-phosphate; the above preparations are then intimately mixed in the desired proportions.

Claim.—The process above described of improving Pacific or phosphatic guano in its quality as a fertilizer.

No. 41,429.—SAMUEL GISSINGER, Manchester, Penn.—*Churns.*—February 2, 1864.—This invention consists in an arrangement of wings, disks, breakers and dashers, in such a manner that the dashers *l* and *o* will have an up and down motion, throwing the cream against the revolving disk and out upon the sides of the churn, and the wings *q* in sweeping round will strike the cream as it is thus thrown against the breakers *t*, thus thoroughly agitating and breaking the particles of cream.

Claim.—The combination and arrangement of the wings *q*, disk *m*, breakers *t*, and dashers *l* and *o*, constructed, arranged, and operating in the manner and by the means herein described and for the purpose set forth.

No. 41,430.—WILLIAM H. GOEWEY, Albany, N. Y.—*Coal Stoves.*—February 2, 1864.—From the enlarged portion of the fire pot a number of pipes extend for the passage of the products of combustion, the upper ends of the said pipes opening through a horizontal partition on a line with the top of the fire pot and into an outer gas or smoke chamber surrounding the magazine. An annular air passage around the magazine connects the inner air chamber with the open space around the fire pot below. At the top of an intermediate cylinder is a horizontal diaphragm, and above this is a space, a series of pipes passing from one diaphragm to the other, by which means a base burning stove is adapted to heat a large volume of air.

Claim.—The chambers G and H, separated by the intermediate cylinder I, the diaphragm K, provided with the pipes *g* and openings *h*, and the space L, communicating with the exit pipe, in combination with the fire pot C, having pipes *d d*, and the magazine D of a base burning stove, the whole arranged and operating substantially as herein set forth.

No. 41,431.—WILLIAM ELMER, New York, N. Y.—*Manufacturing Illuminating Gas.*—February 2, 1864; patented in France, August 29, 1863.—The object of this invention is to utilize the waste and practically valueless liquid, gaseous and solid products of the manufacture of illuminating gas in the usual process, by transmuting them into illuminating gas, so that the carbon and hydrogen contained in them are rendered practically valuable to the manufacturer, by means stated in the claim.

Claims—First, the process of transmuting into illuminating gas the liquid products obtained in the gas manufacture by decomposing them by heat in the presence of the light carbides of hydrogen, or hydrogen given off by the gas stock during the latter part of its distillation, the said process being conducted substantially as above set forth.

Second, the process of transmuting liquid hydrocarbons into acetylene by decomposing them at a high temperature in the presence of heated hydrogen produced by the decomposition of water, the process being conducted substantially as above set forth.

Third, the process of transmuting deposited carbon into acetylene, by subjecting it to a high temperature in the presence of heated hydrogen, produced by the decomposition of water, the process being conducted substantially as above set forth.

No. 41,432.—WILLIAM HODGINS, Albany, N. Y.—*Catoptric Lighting Apparatus.*—February 2, 1864.—Secured to a casing or chamber placed over an opening in the ceiling of a room or building is an ornamental perforated frame, having attached to its lower part a hemispherical ground glass shade and a reflector. Within the casing is arranged centrally an Argand burner provided with a chimney having an outer casing. To the upper part of the casing are secured hinged covers or valves for the purpose of regulating the draught of air through the same.

Claim.—First, the perforated ornamental frame A, secured to the opening or chamber B, and provided with the hemispherical glass shade or basin C and reflectors H, enclosing the burner E, and forming a combined lighting and ventilating apparatus, substantially as set forth.

Second, the independent smoke-pipe I, provided with the outer casing J and opening K K, when used in combination with the opening or chamber B and valves or covers M N, substantially as and for the purpose specified.

No. 41,433.—JAMES HOLLINGSWORTH, Chicago, Ill.—*Horse Rakes.*—February 2, 1864.—In this machine each one of the rake teeth is provided with an extension on its forward end, which forms an obtuse angle with the rear portion. The bent portion of each tooth is confined by means of a set screw in a rocking block supported in bearing plates that are rigidly bolted to the top of the axletree, and the extended end of the tooth is supported in a forked bearing which is applied to the forward bar of the rocking frame and projects up from this frame a suitable distance, to cause the curved portion of the tooth to rest upon the rear bar of the rocking frame, where it passes through a staple to prevent any lateral movement, by which means each tooth has an independent movement, allowing it to yield to obstructions and admitting of being easily removed and replaced when necessary.

Claim.—First, the combination of a rocking frame and jointed bearings for the rake teeth, substantially as and for the purpose set forth.

Second, sustaining the forward extensions of the rake teeth upon bearings, substantially in the manner and for the purposes specified.

Third, the adjustable forked bearings *n*, or their equivalents, substantially as and for the purpose specified.

Fourth, the combination with a rocking frame and adjustable brackets D D of the extended rake teeth *h h′*, and intermediate jointed bearings for said teeth, substantially as and for the purposes described.

Fifth, making the forward portion of each rake tooth serve as a spring for keeping the rear or raking portion down in place, substantially as described.

No. 41,434.—JOHN S. HULL, Cincinnati, Ohio.—***Burner for Vapor Lamps.***—February 2, 1864.—To the upper part of the central vapor tube is attached a chamber of the form shown in the engraving, and having a perforated bottom through which the gases and air pass down into another chamber D below, for the purpose of causing the same to be thoroughly mixed. From the chamber D the mixed gases and air pass down around the lower edge of an annular apron or screen extending below the jet apertures in chamber D. Extending outward and upward around the said jet apertures is a flange plate G, for the purpose of furnishing additional heat conducting surface.

Claim.—The perforated plate C, forming the bottom of a chamber B, which first receives the mingled gases and air, and transmitting the same to another chamber D below, substantially as and for the purposes herein specified.

Also, the apron or screen *f*, arranged and operating substantially as and for the purposes herein set forth.

Also, the flange plate G, constructed and operating substantially in the manner and for the purposes specified.

No. 41,435.—MARTIN H. HULLINGER, Granville, Ill.—***Cultivators.***—February 2, 1864.—This machine is designed more especially for the cultivation of corn and other crops which have attained the height of five feet or more, or too great a height to be successfully treated with cultivators of the ordinary construction. The shanks by which the movements of the ploughs are controlled are connected by a double-jointed hinge or brace, so that the driver, by the action of his foot upon a stirrup and lever, can move both shanks to the right or left at pleasure. At the upper end of the shanks are arranged two rollers, which ride in a slot, so as to move freely to the right or left, and in front of the driver's seat is a windlass for elevating the shovels. The driver's seat is supported by a rocking shaft, carried by arms which are pivoted at their forward ends, whilst the rear ends are capable of being raised or lowered at pleasure.

Claim.—First, the peculiar arrangement of the shanks G, united by the double-jointed brace M, and provided with rollers T working in the slot *x*, substantially in the manner and for the purposes set forth.

Second, the double-jointed brace M for connecting the shanks G, thereby enabling the driver to keep the ploughs in place when the shanks G are five feet or more in length, substantially as set forth.

Third, the combination of the rollers T and windlass D, the former operated by the driver's feet and the latter by his hands, substantially in the manner and for the purposes set forth.

Fourth, the arms L and shaft S, for making the driver's seat adjustable, as specified.

No. 41,436.—EDWARD J. HYDE, Philadelphia, Pa.—***Coffee Roaster.***—February 2, 1864.—This invention consists of a hollow cylindrical vessel provided with suitable perforations throughout its surface, and made convex at each end, the same being hinged in a suitable frame adapted to an opening in a range or stove. The journal, at one side of the vessel, is made hollow for the reception of a metal plug, to which is fitted a piece of wood or other non-conducting material, so that the plug can be withdrawn without injury to the attendant. To the interior of the vessel are secured two flanges or vanes, arranged so as to incline in opposite directions, and as the vessel is rotated the coffee is directed from one to the other side of the vessel. During the rotation the plug may at any time be withdrawn, when the coffee berries will fall out and the condition of the coffee be observed.

Claim.—First, the rotating vessel D, of suitable form, hinged to a frame, substantially in the manner and for the purpose herein set forth.

Second, the rotating vessel, with its hollow journal *b*, in combination with the plug H and its semi-tubular continuation, or their equivalents, for the purpose specified.

No. 41,437.—R. H. LAMBORN, Altoona, Pa.—***Joints for Railroad Rails.***—February 2, 1864.—This invention consists in the employment of a channel bar or trough of sufficient length and strength to support and keep in line the abutting ends of railroad rails without the addition of splints, blocks, or other strengthening devices, in combination with two yokes or clevises passing through the said rails and the bottom of the said channel bar, near the ends of the rails, and fastened in any suitable manner beneath the channel bar. Through the legs of the yokes or clevises are passed wedge keys, so as to pass directly across the under side of the channel bar for the purpose of fastening the rails down firmly in the said bar, the latter being secured to the cross-ties by means of the usual spikes or bolts.

Claim.—The use of the channel bar C, in combination with the yokes or clevises B B, fastened under the said channel bar in any suitable manner, (for the purpose of securing the ends of the track rails, as described,) the same being constructed and arranged together substantially as described and set forth.

Also, in combination with the track rails, channel bar, and yokes or clevises, arranged together as described, the employment of the wedge keys D D, for the purpose of fastening the said parts together, as described and set forth.

No. 41,438.—BENJAMIN I. LANE, South Framingham, Mass.—***Washing Machine.***—February 2, 1864.—This invention consists of a series of parallel rollers, made wholly or in part of India-rubber or other suitable material, journalled within a rectangular box, and used in connexion with a fluted washboard, over which latter the rollers are passed, the clothes to be washed being placed between the two.

Claim.—The said hand washing implement, the same consisting of a series of rollers, made in whole or in part of India-rubber or gutta-percha or their compounds, and arranged within a frame in the manner and for operation substantially as specified.

No. 41,439.—JOHN A. LECHLER, Philadelphia, Penn.—***Grinding Mills.***—February 2, 1864; antedated January 20, 1864.—This invention is designed more especially for grinding bones and other tough substances, and it consists in forming in the shells and burrs of the mill inclined dovetailed grooves, and fitting into the same certain detachable dovetailed strips of properly tempered steel, which are rounded or bevelled on one side, so as to present a cutting edge on the other.

Claim.—Forming in the shells and burrs of grinding mills inclined dovetailed grooves, and fitting into the same the detachable dovetailed strips *e*, of steel, the said strips having cutting edges, all as described for the purpose specified.

No. 41,440.—JOHN MATTHEWS, Jr., New York, N. Y.—***Bottling Machine.***—February 2, 1864.—This invention relates to machines for filling bottles which are closed with an internal valve or stopper, with liquids under pressure, and it consists in the employment of a plunger, which passes through the centre of the filling head, and is provided, at its lower part, with prongs or fingers made of slender rods of metal, so set or formed as to expand when the plunger is lowered, and drawn together when the plunger is raised up, thus seizing the stopper as it rises with the contents of the filled bottle, and forcing it to its seat in the neck of the same, the prongs being then withdrawn from the bottle.

Claim.—The combination of a plunger, having fingers or prongs, which enter the bottle and seize the stopper with the filling head of a bottling machine, the whole operating substantially in the manner described and for the purpose set forth.

No. 41,441.—J. T. MCKENNEY, Baltimore, Md.—***Plaiting Machines.***—February 2, 1864.—The object of this invention is to produce continuous plaits or tucks of any desired number and width in linen or other material for shirt bosoms, skirts, &c., and it consists in the combination of a pair of feed rollers with a series of folding and guiding plates of peculiar construction; the said rollers being hollow or solid, and designed to be used hot or cold, with surfaces either plane, grooved, or embossed. A scroll guide is employed to turn the edge of the material, and is adapted for use in connexion with an internal guide for laying cords within the plait.

Claim.—A machine constructed with folding plates G G H H, scroll guide I, and feeding and pressing rollers C C′, adapted to operate substantially as herein described.

No. 41,442.—JOHN H. MORSE, Peoria, Ill.—***Windmills.***—February 2, 1864.—This device consists of a circular track placed under a horizontally-armed mill, provided with pivoted horizontal fans, which are connected together by a bar extending across the same. Half of this circular track is movable, and the other half stationary; the two halves being connected by aprons or bridges, forming inclined planes, so that as the mill revolves the wheels that carry the connecting bars run down the inclined apron and close the fans, which again open as the wheels ascend to the stationary half of the track. To the rear of the mill is placed a regulating fan, which is connected by levers to the movable half of the circular track, and is used in connexion with a governor, similar to that of a steam-engine, and which is geared to the main shaft, and serves to raise the movable half of the circular track to assist the regulator in keeping up a regular motion.

Claim.—The regulator *b*, and governor R, or their equivalent, acting upon the movable half of circular track H, by means of levers P P P or their equivalents, in the manner and for the purpose herein specified.

No. 41,443.—M. D. MYERS, Ilion, N. Y.—***Extension Ladders.***—February 2, 1864.—This invention consists in constructing a ladder of two longitudinal sections, held together by bands, in the lower ones of which are arranged pawls that engage with recesses in the sliding section of the ladder, so as to hold the same at any desired height, the pawls being kept in position by means of springs.

Claim.—The construction and combination of an extension ladder, composed of two or more sections, with the bands B to connect the same together, and the pawls J to hold them in position when raised to the proper height; said pawls being operated by means of the springs and catches in the manner and for the purpose herein described.

No. 41,444.—Heinrich Pollack and Edwin Schmidt, Hamburg, Germany.—*Sewing Machines.*—February 2, 1864.—This invention consists in combining with the rotating arbor and the feed bar of a sewing machine an inclined face wheel, so connected by a hinge joint with the rotating arbor and with an adjustable slide that, by shifting the slide, the inclination of the said face wheel, relatively to the axis of rotation, shall be increased or diminished, so as to increase or decrease the range of motion of the feed bar which derives motion therefrom; the object being to prevent the disagreeable rattling noise caused by the striking of the feed bar against the stop when it is liberated by the cam and drawn back by the spring in the usual construction.

Claim.—The hinged face wheel and sliding collar for varying the inclination of the face wheel, substantially as described, in combination with the rotating arbor and reciprocating feed bar, substantially as and for the purpose specified.

No. 41,445.—William Ortwine, Baltimore, Md.—*Construction of Houses.*—February 2, 1864.—This invention consists in combining with a perpendicular open court, extending from the basement up between the front and rear rooms of the house, a peculiar arrangement of passage from the parlor to the dining-room, with pantry, back stairs, and closet for the first floor or principal story of the house; also, in the peculiar arrangement of the bathroom, passage, back stairs, and closet for the second story of the house.

Claim.—First, in combination with the open perpendicular court, extending from the basement up between the front and rear rooms of the house, also the arrangement of the passage from the parlor to the dining-room, with the pantry S′, back stairs U1 U2, and closet R2, for the first floor or principal story of the house.

Second, the arrangement of the bath-room V2, passage X, back stairs Z Z′, and closet V, for the second story of the house.

No. 41,446.—John S. Neal, Madison, Ind.—*Steam Hoisting Apparatus.*—February 2, 1864.—This apparatus consists of a cylinder, secured in the deck of a vessel or floor of a building, and provided with a piston or working rod, to the lower end of which latter is attached a platform to hold the articles to be raised or lowered. Steam is conveyed from a boiler to the interior of the cylinder by means of a pipe, which is pressed upward by a spiral spring confined within a cylinder at the upper end of the pipe E, and bearing against a collar or disk upon the sliding pipe E′. A bent tube communicates at each end with the interior of the cylinder at different points, with respect to the height thereof, and adapts the steam to retain the platform in an elevated position. Attached to the upper side of the piston is a hollow rod, having a series of perforations at its side and near its upper end, through which air may be expelled by the piston when rising, and which allows the escape of steam when existing in excess above the said piston.

Claim.—First, a steam hoisting apparatus, arrested automatically at either termination of its stroke, substantially in the manner explained.

Second, the combination with the cylinder B and piston C, of the sliding pipe E′ and spring F′, operating substantially as and for the purposes explained.

Third, the conducting pipe G, operating in connexion with the piston C and cylinder B, substantially as and for the purposes set forth.

Fourth, the hollow rod H, operating in the manner explained to regulate and control the escape of air or steam from the upper end of the cylinder B.

No. 41,447.—D. W. S. Rawson, Peru, Ill.—*Beer Pitcher.*—February 2, 1864.—The object of this invention is to produce a pitcher or vessel for holding beer, cider, or other liquids, which will be made air-tight by a portion of the liquid filling the ventilating and delivery passage, and flowing out so as to open the said passage when the vessel is tipped for pouring out the liquid, which is effected by constructing the spout or delivery pipe in two sections, connecting with the pitcher at some point near the top and in front of an outer rim at the top of the vessel, which rim is of an elliptical form, whence it passes downward, at an acute angle, to a point below the connexion of the spout with the vessel, and thence upward, at a similar angle, to a point above the level of the top of the pitcher.

Claim.—First, the closing of the vessel at the mouth, substantially as herein described.

Second, a ventilator closed by the liquid and opened by changing the position of the vessel so that the liquid may run out of the air passage, substantially as herein described.

Third, a spout so arranged as to retain, when in its usual upright position, a sufficient quantity of liquid to prevent a passage of air or gas to or from the liquid contained inside.

Fourth, the arrangements for closing the mouth ventilator and spout, substantially as herein described, when used for the purposes herein described.

No. 41,448.—J. A. Safford, Boston, Mass.—*Leather Splitting Machine.*—February 2, 1864.—This invention relates to an improvement upon a machine for which a patent was granted to the said Safford on March 19, 1861, and it consists in substituting for the spiral spring used in the said machine a series of alternate layers of rubber or other suitable material, and iron plates placed within a chamber formed of iron. In this machine the knife is formed with the upper bevel shorter than the lower one, so that the cutting edge is nearest

to its upper surface, the bevel on the under side being concave, so as to correspond in part with the convex surface of the lower or feed roll.

Claim.—First, the spring C, constructed and operating substantially as set forth.

Second, the spring C, in combination with the lower or feed roll B, the whole constructed and operated as described and for the purposes as herein set forth.

Third, the knife constructed, as herein described, in combination with the lower or feed roll B, for the purposes herein set forth.

No. 41,449.—Marshall Satley, Taylorsville, Ill.—*Gang Ploughs.*—February 2, 1864.—This invention consists in a method of raising the beam which carries the ploughs, consisting of a crank moved by a lever within a loop and held in any position by means of a segment rack. Attached to braces in the rear of the machine are chains connected at their forward ends with the axle in such a manner that they will be slack when the beam is elevated, but be drawn tight when the ploughs are lowered to their working position.

Claim.—First, attaching the beam K to the frame by means of cranks S V, operated by a lever T, in the manner explained.

Second, the draft chains R R, attached adjustably to the axle B, and adapted to be drawn tight by lowering the ploughs to their working position.

No. 41,450.—Samuel Selleck, Rosendale, N. Y.—*Breast-Strap Slides.*—February 2, 1864.—This device consists of a frame composed of two side parts of cast iron or other suitable material, and connected by rods, in which frame are arranged three friction rollers with bearings in the side pieces in which they are allowed to revolve, the object being to obviate the jerking motion upon the shoulders of the animal at each step caused by the alternate advancement of the animal's shoulders, and also to relieve the breast strap of the destructive effects of the friction upon it.

Claim.—A breast-strap slide, in which friction rollers so located as to bear upon the strap and relieve it from friction, are combined with a frame, substantially as and for the purpose set forth.

No. 41,451.—Leander R. Streeter, Chelsea, Mass.—*Fastening Hinged, Sliding, or other Bodies.*—February 2, 1864.—In the edge of a door or window is made a hole of sufficient size to admit of a spring, a socket, and ball, the latter being allowed to protrude a sufficient distance to enter a plate or socket secured to the frame of the door or window in which the ball is held by means of the spring, in order to fasten the door or window; when the window or door is to be opened, the spring is compressed and the ball withdrawn into the socket.

Claim.—The fastening of hinged, sliding, or other bodies, by means of a ball confined in a socket and operated by a spring, substantially as described.

No. 41,452.—William Talbert, Washington, D. C.—*Marine Railways.*—February 2, 1864.—This invention consists in making a railway or track on the cradle for about one-half its length at the upper end, and providing one, two, three, or a series of movable blocks or cars to run on the said track, which blocks or cars are so constructed and connected by chains fastened to each side, that they may be placed together on the lower end of the railway track when the cradle is placed at the foot of the said track; the fore foot of the vessel is then placed on the upper movable block or car, which is drawn up, taking the vessel with it upon the cradle, and when the first block has moved a proper distance, the chains start the second movable block, and so on in succession until all the movable blocks are properly placed and arranged under the keel of the vessel and she has been drawn upon the cradle.

Claim.—In combination with the cradle of a marine railway a rail track on the cradle with one, two, three, or more movable blocks or cars for the purpose of taking the fore foot of a vessel, with the vessel itself, on to the cradle, substantially as described.

Also, in combination with the above mentioned movable blocks or cars, the chains which connect the cars and place them at proper distances apart under the vessel as she is drawn on to the cradle, substantially as described.

No. 41,453.—Frederick R. Taylor, New York, N. Y.—*Flocking India-rubber Goods.*—February 2, 1864.—This invention consists in immersing the article to be flocked in a cement formed of India-rubber or gutta-percha in any of the known solvents; the article is then flocked, and when the first coat has become set, it is subjected to a second process of immersion and flocking. The article may then be subjected to alternate immersions in nitric acid and a solution of chloride of lime for the purpose of curing it, though the latter process is not deemed essential by the inventor.

Claim.—First, the application of the dissolved glutinous cement and flock to the rubber, or other substances, after it or they have been vulcanized or cured, substantially in the manner described.

Second, the vulcanizing or curing of the gum after it is applied to the vulcanized cured or finished rubber or other substance, substantially in the manner described.

No. 41,454.—E. W. Vangundy, Galesburg, Ill.—*Cultivators.*—February 2, 1864.—This invention consists in connecting the two parts of a cultivator by means of curved metallic bars or stays joined together at their upper ends, which terminate in a shank, the latter being retained and allowed to vibrate against an upper transverse bar by means of an elongated loop bar, for the purpose of steadying the independent movements of the two parts of the cultivator and preserving their uniformity of action.

Claim.—My improved manner of connecting the same by means of the peculiar arrangement of the pivoted yoked connecting bars E with shank *f*, working in and through the slotted or open straight bar F, in combination with the draught beams A A, the whole operating substantially in the manner and for the purpose herein set forth.

No. 41,455.—Edward Vorster, Brooklyn, N. Y.—*Skates.*—February 2, 1864.—This invention consists in forming the heel bolt with a shoulder at the upper portion and a mortise at the lower part. The runner is provided with a tongue which is made to fit in the said mortise, so that when the heel-bolt is inserted from the top of the stock and the forward end of the runner is pressed into the groove, the rear end of the runner and the heel bolt are at once fixed to the stock.

Claim.—Providing the upper end of the heel bolt C with a fixed shoulder *c*, and forming a lock with the runner B at its lower end, so that by attaching the fore end of the runner in the usual way, the heel bolt and back end of the said runner are at once firmly secured to the stock of the skate.

No. 41,456.—James W. Weston, New York, N. Y.—*Artificial Limbs.*—February 2, 1864.—This invention consists in the employment of an air cushion surrounding the stump of the limb, so as to press uniformly upon the sides of the stump, the artificial limb being thus kept from immediate contact with the stump. At the upper end of the socket is a metallic ring, around the upper edge of which is placed a cylindrical strip or band of India-rubber, the same being cut in longitudinally or moulded with a groove so as to fit over the edge of the said ring. The ring is attached by screws to the socket and admits of being adjusted so as to conform to the shape of the thigh at the groin.

Claim.—First, an air cushion between the stump and socket, substantially as and for the purposes specified.

Second, the cylindrical band or pipe *d* of India-rubber applied at the end of the artificial limb to form a cushion for the weight to rest upon, as set forth.

Third, the adjustable ring *c*, fitted substantially as specified, to form a thigh-conformer, as set forth.

No. 41,457.—N. W. Wheeler, Ripon, Wis.—*Dampers.*—February 2, 1864.—This invention consists of two metal plates made corrugated and slightly concave. Each plate is flattened near the centre so as to bear against wheels placed between them. The plates and wheels are secured together by a bolt passing through their centre, one of the wheels and plates being made to turn on the bolt while the other plate and wheel are stationary. Between the wheels is a small space in which is a pivot that supports one edge of the damper, and on this pivot is a series of cogs or teeth which gear into corresponding teeth formed on the under side of one of the wheels, so that by turning the pivot the space between the openings in the dampers may be regulated for the passage of the smoke.

Claim.—The wheels B and C, the plates A, and the pivot F, the whole constructed and arranged substantially as herein set forth.

No. 41,458.—C. T. Woodman, Boston, Mass.—*Leather Dresser's Table.*—February 2, 1864.—This invention consists in constructing a leather-dresser's table of glass, porcelain, pottery, or other plastic substance, in one piece for the purpose of preventing leakage in the change from dry to wet work. Under the table is arranged a metallic gutter; the frame which supports the table is made of iron, and to the lower end of each leg is attached an elevating screw for the purpose of adjusting the table to different heights.

Claim.—The use of a glass, porcelain, or potters' ware plate for the surface of a leather-dresser's table, in combination with a gutter and the elevating screws, for the purpose set forth.

No. 41,459.—Alva Worden, Ypsilanti, Mich.—*Machine for Cutting Leather Fly Nets.*—February 2, 1864.—This invention consists in arranging upon a cylinder or shaft a series of knives with spaces or breaks between them so arranged that the space or break in each alternate knife will form direct rows or lines, and when the cylinder is revolved uniform slits or incisions will be made in a piece of leather in the form of net-work.

Claim.—The arrangement of circular knives upon a revolving cylinder so that on passing a strip of leather under the cutting cylinder uniform incisions will be made in the leather with uniform breaks in each alternate row of incisions, so that the leather when cut by the machine forms a diamond net-work.

No. 41,460.—Rufus Dutton, Brooklyn, N. Y., assignor to himself and Anthony B. Allen, of New York, N. Y.—*Mowing Machines.*—February 2, 1864.—This invention consists in making the bearings of the several shafts in the gear casing on either side of a single piece of metal, and also in the arrangement of a double-armed rock shaft for elevating the finger bar so as to pass over obstructions, the same being vibrated on its shaft within a sleeve which acts as a substitute for journal bearings. The sleeve has its outer end attached by a link to the short lever on the inner shoe, while to the inner end crank or segment there is a chain attached passing over the lifter shive.

Claim.—The arrangement and combination of the gearing with the side plates of the casing enclosing the said gearing, and constituting journal bearings therefor, when such plates are made in a single piece of metal, substantially as set forth.

Also, the arrangement and combination of the double-armed rock shaft, operating in a sleeve, with the short lever 10, and the intervening link, for lifting the finger bar, substantially in the manner and for the purpose herein set forth.

No. 41,461.—Charles W. Fogg, Waltham, Mass., assignor to American Watch Company, of same place.—*Watches.*—February 2, 1864.—This invention consists in permanently attaching one end of the balance spring of a watch to a vibrating lever, the vibrations of which are regulated by a screw or other device, whereby the ordinary regulator is dispensed with, and the length of the spring is not changed in regulating.

Claim.—Attaching one end of the balance spring *c* to a vibrating lever, the vibrations of which are controlled by an adjustable stop or stops, substantially as described, for the purpose specified.

No. 41,462.—D. T. Gage, Philadelphia, Penn., assignor to himself and M. A. Furbush, of same place.—*Carding Engines.*—February 2, 1864.—This invention consists in the employment of a sleeve which serves as a bearing for a shaft K, the latter being connected by a system of gearing with the feed rolls. The said sleeve is supported in a bracket and made eccentric with the shaft, and is provided with a handle, so as to be readily turned by the attendant, which act of turning serves to disengage the gearing and stop the motion of the feed rolls when desirable, and thus arrest the progress of the lap towards the licker-in.

Claim.—The eccentric sleeve *h*, with its handle *i*, and the shaft K, the whole being arranged and operating substantially as set forth, in conjunction with the system of gearing herein described, or any equivalent to the same, for stopping and starting the feed rolls of carding engines.

No. 41,463.—John D. Marshbank, Lancaster, Penn., assignor to himself and William McConky.—*Canal Wickets.*—February 2, 1864; antedated December 21, 1863.—This invention consists in the employment of a cast-iron plate or wicket, upon the upper and lower parts of which are raised ledges that form sockets to receive the lips of the journal. Each journal is provided with two lips, fitting closely over the sides of the plate, within the ledges on the same, so as to prevent any lateral movement. The journals being cast separately from the wickets, can thus be easily removed when worn out, and new ones substituted.

Claim.—First, the construction of the movable journals to be fitted on securely to the ends of a wicket, so as to be easily replaced by new ones, when worn, substantially as herein described.

Second, the combination of the journals D with the sockets C and ledges B, as herein described and for the purposes set forth.

No. 41,464.—F. F. Smith, Collinsville, Conn., assignor to himself and Samuel W. Collins, president of the Collins Company, of same place.—*Cooling and Tempering Cast-steel Plough Plates.*—February 2, 1864.—In this process the castings are heated in a suitable furnace to the ordinary degree for tempering cast steel, and their margins are then cooled by dipping them into cold water, the entire plates being subsequently immersed in water; they are then subjected to heating in the furnace for a few seconds; the object being to give the strength of soft steel at the points where strength is more particularly required.

Claim.—The cooling and tempering of cast-steel plough plates, substantially in the manner and for the purpose herein described.

No. 41,465.—David M. Smyth, New York, N. Y., assignor to himself and S. N. Lewis, of same place.—*Ladies' Head Nets.*—February 2, 1864.—This invention consists in providing a lady's head net with metallic clasps at the intersection of the strips of material of which it is made, for the purpose of strengthening the same and giving it an ornamental appearance.

Claim.—A lady's head net united at the points of intersection of the strips of material by metallic clasps, for the purposes and as specified.

No. 41,466.—Phineas Leeson Slayton, New York, N. Y., assignor to C. S. Mitchell, of same place.—*Circular Loom for Weaving Hats.*—February 2, 1864.—This invention consists principally in the employment, in a circular loom, of two separate and distinct sets of weaving mechanism, one set being arranged for weaving flat, or nearly flat work, such as the top of the crown and brim of a hat, and the other set for weaving in a cylindrical form, or one approximating thereto, as for the side of the crown of a hat, and the two sets being so arranged relatively to each other that the warp in a partly woven piece of work can be transferred from one set to the other, to change the form of the work at pleasure without disturbing or moving the portion already woven. The set of weaving mechanism by which the weaving of the flat portions of a piece of work, as the top of the crown and brim of a hat, is performed, is made movable in a direction relatively to the other set parallel with the axis of the machine about which the weaving is performed, instead of radially thereto, whereby it is enabled to be brought to the most favorable position for weaving each of those portions, and the necessity of shifting the woven part of the hat or other article in place while transferring the warp from one set of weaving mechanism to the other.

Claim.—First, the employment, in a circular loom, of two separate and distinct sets of weaving mechanism, one suitable for weaving in a flat or nearly flat form, as required for the top of the crown and brim of a hat, and the other suitable for weaving in a cylindrical or hollow form, as required for the side of the crown of the hat, and the two so constructed and arranged that the warp may be transferred from one set to the other, to change the form of the weaving, substantially as herein specified.

Second, in a circular loom having two separate and distinct sets of weaving mechanism, such as above specified, making one set movable or adjustable relatively to the other in a direction parallel with the axis of the loom, substantially as and for the purpose herein specified.

Third, the combination of the plate R, and forming shuttle $J^{\circ}\ y^{\circ}$, applied and operating in a circular loom, substantially as and for the purpose herein specified.

Fourth, the ring U, employed in combination with a plate R, or its equivalent, to hold and secure the vertical part of the crown after the latter has been formed by the shuttle $J^{\circ}\ y^{\circ}$, substantially as and for the purpose herein set forth.

Fifth, the combination in a circular loom of a series of revolving rings, $m\ n\ p$ or $m^{\circ}\ n^{\circ}\ p^{\circ}$, or their equivalents, and an attached toothed or notched wheel H, or pair of toothed or notched wheels $H^{\circ}\ H^{\circ *}$, to separate a series of warp-carriers, the whole operating substantially as and for the purpose herein specified.

Sixth, the shuttle $J^{\circ}\ y^{\circ}$, constructed substantially as herein described, in the form of a nearly complete ring, whereby it is made to serve the two purposes of depositing the filling in the warp in weaving the side of the crown of the hat and of gathering in the warp and regulating the size of the side of the crown of the hat, substantially as herein set forth.

Seventh, the employment, in a circular loom, of wheels or rollers, so applied as to press up the filling in the warp by means of rolling friction, when used in combination with a presser bar I, substantially as herein specified.

No. 41,467. **ORRIN ABBOTT**, New York, N. Y.—*Heaters.*—February 9, 1864.—This invention consists in arranging and combining with one or more stoves or heaters a foul-air and a hot-air conveying pipe, the latter being provided with certain means to charge the warm or heated air with moisture, and the former arranged in such a manner as to serve as a means to regulate the draught of the stove or heater to which it is attached. The claim designates the several devices employed in carrying out the objects of the invention.

Claim.—First, the combination of the water drip compartment *j*, hot-air conducting pipe O, and foul-air pipe E, with one or more stoves or heaters arranged substantially as shown, in connexion with the apartment to be heated, so that the foul air will be drawn from the compartment by the rarifying of the air in E, or the chamber with which it communicates, and a circulation of pure warm air be kept up in the compartments.

Second, regulating the supply of water to the compartment *j* by means of the hinged disk or reservoir *n*, arranged substantially as described.

Third, the indicator formed of the cloth *p*, attached to a frame L, enclosed within a box K, and suspended from a scalebeam M, in connexion with the water supply apparatus composed of the rotary buckets *s*, working within the reservoir P, substantially as set forth.

Fourth, the box G, provided with the damper H, and communicating with the foul-air pipe E, and arranged relatively with the feed opening *f* in the stove or heater, for the purpose specified.

No. 41,468.—**MICHAEL J. ADAMS**, Bedford, Penn.—*Track Clearers for Railroads.*—February 9, 1864.—This apparatus is designed to be used as a snow-plough and excavator, to be applied to a single or double track, and is formed of several parts denominated by the inventor a receiver, an expeller, and an unloader. The receiver serves to take up the snow, while the expeller throws the same from the track. The receiver is so constructed as to be readily removed, when the device constitutes an "excavator" for removing obstructions too heavy for the plough. Underneath the floor of the excavator is the "unloader," consisting of a frame which can be made to turn to a position at a right angle with the track, so as to raise the floor and cause the snow to fall from the unloader.

Claim.—The application of this combined snow-plough and excavator to snow obstructions on railroads for their removal, using for that purpose the aforesaid combined snow-plough and excavator, or any other substantially the same, and which will produce the same effect.

No. 41,469.—**SYLVESTER E. AMENT**, Oswego, Ill.—*Revolving Rakes.*—February 9, 1864.—This invention relates to that class of rakes which slide upon the ground, the teeth bearing very nearly a horizontal position in relation thereto, and adapted to discharge the hay at the will of the operator by a partial rotation of the revolving parts, and the invention consists in the employment of several devices indicated in the claim for the purpose of attaining strength, firmness, and a slight degree of friction in the connexion of the handle with the shaft, together with ease of operation and economy in construction.

Claim.—First, the cast-bearing box D, with stops thereon, and arranged relatively to one or more stops I J, and to the operative parts of a revolving rake, substantially in the manner and for the purpose herein set forth.

Second, in revolving rakes the duplicate sliding bolts I and J arranged relatively to one or more pairs of reversed stops W Y, and to the eccentric sectional flanges 1 and 2, substantially in the manner and for the purpose herein set forth.

Third, the cast bush F formed with side-cheeks $F'\ F''$, and with notches or holes, $f'\ f'$, arranged to serve in connexion with the handle E, and with sliding stops I J, substantially in the manner and for the purpose herein set forth.

Fourth, raising the entire series of teeth by the employment of the series of braces P P, arranged to form an additional direct connexion from the rigid shaft A to the teeth *a*, substantially in the manner and for the purpose herein set forth.

No. 41,470.—**AVERY BARRETT**, Auburn, N. Y.—*Machine for Making Loops.*—February 9, 1864.—This invention relates to the manufacture of loops, chiefly such as are used in securing the leather straps to skates, and it consists in the employment of dies and punches in combination with certain slides, levers, and cams, so arranged and operating in one machine as to produce in consecutive order, from a rod of metal of suitable width and thickness, the loops complete.

Claim.—The dies F' and G', and the punches I' and J', in combination with the slides E' and A', levers Y' and D', and cams W' and B', or their equivalents, when used in the manner and for the purpose above specified.

No. 41,471.—**THOMAS H. BAILEY**, Troy, N. Y.—*Relief Valves for Water Cylinders.*—February 9, 1864.—This invention is more especially designed for application to steam fire-engines, and it consists of a valve of peculiar construction, controlled by a spring in such a manner that it shall open automatically to relieve the cylinder and hose, or other pipes of extra pressure, whenever it is necessary or desirable to shut off one or more of the streams, thus obviating the liability of bursting the said pipes.

Claim.—The combination of the valve C, stem *d*, spring E, adjustable cap D, and pinhole d', whereby the valve may be either held upon its seat with a variable yielding pressure, or may be elevated therefrom or held immovably thereon as an ordinary screw-plug.

No. 41,472.—**JOHN BIRKENHEAD**, of Ilion, N. Y.—*Trigger Cover for Fire-arms.*—February 9, 1864.—This device consists of a metallic cover hinged to a plate under the piece, and arranged to close over the trigger when the latter is at half-cock; the cover is thrown open by pressing upon a spring, which releases it at the free end.

Claim.—A trigger-cover guard, applied substantially as shown and described.

No. 41,473.—**E. S. BLAKE**, Pittsburg, Pa.—*Lamp Chimneys.*—February 9, 1864.—This invention relates only to chimneys which are composed in part of flat plates of glass, and it consists in the use of narrow strips of the same for the purpose of obviating the liability to fracture from unequal expansion caused by the heat.

Claim.—In a lamp chimney composed in part of plates of flat glass the erection of any two or more of said plates in the same plane to form a part of the shaft of the chimney, as and for the purpose set forth.

No. 41,474.—**JAMES BUCKNELL**, Decorah, Iowa.—*Grain Drill.*—February 9, 1864.—This invention consists in the arrangement of a series of revolving disks provided with two or more scoops in the interior of the hopper in combination with an opening in the side of said hopper, and with a regulating slide and lever, in such a manner that by means of said scoops the seed contained in the hopper is taken up and discharged out of such of the openings as may be left exposed, and when it is desired to discontinue the discharge of seed, by raising the lever the shaft which carries the disks can be thrown out of gear with the driving wheel and its motion arrested.

Claim.—The particular construction of conducting tubes H, adapted to replace the scatterers G, covering the apertures *d*, and employed in combination with the seed box D, slide J, shaft E, and scoop disks F, to convert the machine from a broad-cast sower to a drill.

No. 41,475.—**E. C. BREWSTER**, Bristol, Conn.—*Gridiron.*—February 9, 1864.—This invention consists of making the gridiron of wrought and cast iron combined, the same being united in the process of casting. The circular rim is made of cast iron and the bars of wrought iron or wires; the object being to combine strength with lightness.

Claim.—As an improved article of manufacture, the gridiron constructed substantially as described.

No. 41,476.—LORENZO D. BROWN, Layfayette, Ind.—*Wheel Vehicle.*—February 9, 1864.—This invention consists in the employment of swivel bars or stirrups, to which the axles of the front wheels are rigidly attached, in combination with the ends of the front bolster and with the draught pole, in such a manner that the troublesome jerking or throwing of the pole is obviated, and the wagon, in turning, preserves its original base. In connexion with the above is a spliced bolster, placed behind, with a suitable aperture in the centre in such a manner that the reach passes through the middle of the bolster, in line with the axles, a piece of wood being on the under as well as the upper side of each axle for the purpose of strengthening the same, as well as rendering them lighter and more elastic.

Claim.—First, the stirrups D, hinged to the bolster E, in combination with the axles C′ of the front wheels B′, and with the draught pole F, all constructed and operating in the manner and for the purpose substantially as shown and described.

Second, the spliced bolster K, to operate in combination with the axles C and with the reach G, substantially in the manner and for the purpose set forth.

No. 41,477.—ROBERT D. BROWN, Covington, Ind.—*Harvester.*—February 9, 1864.—In this machine the grain is removed from the platform by a continuously revolving rake which is carried around by means of belts or chains upon pulleys running on shafts at the inner and outer ends of the platform, a jog in the near edge of the finger beam enabling one of the pulleys to be placed so far forward as to bring the rake close behind the sickle; prolongations of the inner end of the platform carry the shaft of the intermittent cradle. The claim designates particular devices for carrying out the design of the inventor.

Claim.—First, the mode, substantially as described, of connecting the platform to the main frame by the swivelled coupling rod E, sleeves *e e′*, and shafts J and J′, whereby motion can be communicated to the rake on a perfectly floating platform without affecting the continuity of the rocking motion or straining the parts.

Second, in the described combination with a floating platform, endless rake and swivelled coupling, the chain R and pulleys O and S, or equivalent flexible device for transmitting motion to the raking mechanism, as set forth.

Third, in the described combination with a swivelled coupling E *e e′* J J′, the device for varying the pitch of the cutting apparatus, consisting of the drag bar F *f*, bracket H, arm G, and pin I, or their equivalents.

Fourth, the arrangement of the outer and forward endless-rake pulley *u*, with a lever *d* in the rear edge of the finger bar, so as to bring the front edge of the endless rake within working distance of the sickle.

Fifth, the arrangement of shafts K and J, gear wheels M and N, sliding pulley O, clutch P, and treadles Q Q′, as and for the purpose specified.

No. 41,478.—AMOS A. BURR. Rockdale, N. Y.—*Tool for Turning Lathes.*—February 9, 1864.—This invention relates to a tool for cutting spiral beads on wooden articles, such as furniture legs, &c., turned in a lathe, and while being centred and rotated in the same; and it consists in the employment of two jaws attached either to an elastic bar or to shanks connected by a joint to admit of the jaws being opened and closed, said jaws having curved or semicircular recesses made in them, in which screw threads are cut, and one of the jaws having a cutter and a guard attached to it, the parts being used in connexion with a spring, and arranged in such a manner that, when the tool is applied to the article in the lathe and the article rotated, the tool will feed itself along on the same and cut a spiral bead thereon.

Claim.—The two yielding jaws A A, provided with recesses *a a*, having screw threads *b* formed or cut on them, one of said jaws being provided with a cutter D, and used either with or without the segment rod C and guard or gauge E to form a new and useful tool for the purpose specified.

No. 41,479.—STILLMAN P. CAMPBELL, Rochester, Minn.—*Harrow.*—February 9, 1864.—This harrow is composed of two square frames connected together by means of a universal joint and swivel and to a cross bar attached to the tongue in such a manner as to allow each section of the harrow to pass over obstacles without disturbing the action of the other section, and also to admit of the whole to be drawn with either end forward alternately in order to preserve an even wear on the teeth.

Claim.—First, a sectional harrow provided with a universal-joint coupling composed of a hook B on one side and a swivel B′ on the other, or their equivalents, substantially as described.

Second, in combination with a harrow, constructed and united as described, the tongue D, when the whole is arranged in the manner and for the purpose set forth.

Third, a sectional harrow, the sections of which are united by means of a universal joint, and each section being drawn from its own centre, substantially as and for the purpose set forth.

No. 41,480.—CHARLES H. CAREY, Detroit, Mich.—*Water Indicators for Steam Boilers.*—February 9, 1864.—This invention consists in the employment of a double lever of the form shown in the engraving, and a float attached to a rack, which latter, in connexion with a pinion, is made to impart motion to a hand upon a dial plate, all arranged in such a manner as to indicate the amount of water in the boiler and to sound a whistle should the water become too high or too low in the boiler. One end of the double lever is made longer than the other, and the float in rising or falling touches one or the other end, which causes a valve to open and sound the alarm.

Claim.—The combination of the double lever J I M, float A, rack B, pinion D, index C, and whistle K L, constructed, arranged, and operating substantially in the manner and for the purposes set forth.

No. 41,481.—PETER FRANCIS CARR, Wyalusing, Penn.—*Implement for Cleaning the Bores of Gun Barrels.*—February 9, 1864.—This device consists of a cylindrical plunger the periphery of which is composed of India-rubber or other soft elastic material, coated with emery or other scouring or polishing material. and which is fitted with a screw and nut by which it may be expanded circumferentially to make it fit tightly into the bore of the gun, and is furnished with a screwed socket by which it is screwed to the ramrod when the gun requires to be cleaned.

Claim.—A device for cleaning and polishing the bores of fire-arms, composed of a plunger-like body A, of India-rubber or other elastic material, coated with or having incorporated into it emery or other scouring or polishing material, a screw B, nut C, and socket D, the whole combined substantially as herein specified.

No. 41,482.—RICHARD D. CHATTERTON, Bath, England.—*Elevators for Loading Cars.*—February 9, 1864.—This invention consists in the employment of a rising and falling tray operated by means of pulleys and ropes, the latter being attached to a grooved wheel or pulley at the bottom of the movable platform, so that when the box containing the articles required to be transferred to the cars reaches the proper height, it can be tilted in such a manner as to deliver the articles upon the car—a movable side upon the box being provided. The tray or box may be divided by a partition fitting in grooves vertically, so that the amount of wheat, grain, or other substance can be measured.

Claim.—First, the rising and falling platform B, formed of two separate parts 1 and 2, in connexion with the pulley D, provided with a groove *i*″, having cuts or recesses *j j* made in it, the platform being connected to the pulley D by ropes C C C′ C′, and all arranged to operate either with or without the tray F, in the manner substantially as and for the purpose herein set forth.

Second, the division or partition board H, suspended and counterpoised, substantially as shown, when used in connexion with the tray F, for the purpose specified.

Third, the swinging door or side G, in combination with the catch H′, arranged to operate in connexion with the platform B, substantially as and for the purpose set forth.

No. 41,483.—RICHARD D. CHATTERTON, Bath, England.—*Buffers for Railroad Cars.*—February 9, 1864.—On each side of a sliding coupling bar are formed a series of wedge-shaped projections, the bar passing through central guides and the projections coming in contact with a series of levers arranged for the purpose. These levers are connected with springs that tend to resist the end thrust as the cars come together, and break the force of the concussion. In case two trains of cars, provided with this device, come in contact, the momentum will be absorbed by the resistance of the springs. A series of supplemental levers are also used in connexion with the springs so as to form a draw buffer in case of recoil, and still to admit of the coupling bar being drawn out when required.

Claim.—First, the employment or use, in a buffer for railroad cars, of springs G, levers F, and wedge-shaped projections E, on a sliding coupling bar D, arranged to operate in the manner substantially as and for the purpose herein set forth.

Second, in combination with the levers F, the supplemental levers H, and springs I, arranged to operate in connexion with the coupling bar D, substantially as and for the purpose specified.

No. 41,484.—D. B. CLEMENT, Brooklyn, N. Y.—*Horse Hay Fork.*—February 9, 1864.—In this device the head of the fork is constructed of wood and is of a polygonal form, to which the curved tines are secured. On the centre of the head is fitted the eye of a bent rod or bar, the upper part of which is elastic so as to form a spring, and passes through an eye in the bail, the latter being connected with the ends of the head so as to turn freely on the same. By pulling downward the spring rod, the same having a rope attached to it. the front end of the head is liberated from a shoulder formed in the elastic part of the rod, when the tines will fall and the load be discharged.

Claim.—The bent rod or bar D, provided with an elastic part *e*, and attached to the head A of the fork, in combination with the bail C, and rod E, all arranged to operate substantially as and for the purpose set forth.

No. 41,485.—Selah B. Collins, Lyndon, Mich.—*Revolving Vegetable Steamer.*—February 9, 1864; Antedated January 27, 1864.—This invention consists of a rotating box for cooking feed for stock, and is so arranged as to be revolved at intervals, or continually if desired, during the process, while steam is being forced into it from a steam cauldron or other steam generator. To the inside of the box are secured a series of longitudinal bars so arranged as to carry portions of the contents up at each revolution, when they are discharged gradually, thus exposing the whole to the direct action of the inflowing steam.

Claim.—The wings or elevating bars W, which are made adjustable and detachable, substantially in the manner and for the purposes specified, in combination with the rotary steaming box C, as set forth.

No. 41,486.—E. F. Cook, Omaha, Nebraska.—*Bath Tub.*—February 9, 1864.—This invention consists in constructing the high backs of what are called "hip baths" with double walls, so that the space between them may, previous to bathing, be filled with warm water, and the back thereby rendered warm, so as not to be uncomfortable.

Claim.—A bath tub having its back constructed with double walls to form a hot-water chamber, substantially as and for the purpose set forth.

No. 41,487.—Thomas C. Craven, Greenbush, N. Y.—*Cotton Gins.*—February 9, 1864; antedated January 27, 1864.—This invention consists in the employment of two cylinders, one within and eccentric to the other, and revolved in unison by gearing of such a character that the revolution of the two cylinders is in no particular dependent on the ginning teeth, thus avoiding wear and friction on the said teeth. The teeth are formed of pointed wires secured in a peculiar manner, but allowed to vibrate as the eccentricity of the inner cylinder causes their projection or retraction. Guards are also employed, made of sheet metal braced at their upper ends, so that the roll of cotton will be easily taken by the teeth of the ginning cylinder, and the teeth will not require to project from the cylinder as much as in the use of the ordinary cast guards. The cotton as delivered from the ginning cylinder is taken by a current of air upon a condensing cylinder, and from that delivered by a pair of rollers that prevent the escape of any cotton in a state of ignition from the ginning operation.

Claim.—First, a series of teeth connected at one end to a cylinder within and eccentric to an outer cylinder, so that said teeth will be alternately projected and retracted in the revolution of such cylinder when said cylinders are connected together substantially as described, so that they revolve in unison upon a non-revolving shaft without strain or friction on the teeth, as and for the purpose set forth.

Second, the plates 12, constructed and adjusted as specified, in combination with the cylinders *e* and *f* and teeth 8, whereby the teeth can be adjusted and projected more or less, as specified.

Third, constructing the teeth of the cotton-ginning cylinder of pointed wires having L-shaped bends, by means of which they are secured to the cylinder *e* by bands 9, as set forth.

Fourth, rotating the cylinder *f* in unison with the cylinder *e*, by means of the pins 11 entering into the openings in the plates 12, at the end of the cylinder *f*, as specified.

Fifth, the sheet-metal guards *g* and braces 14, in combination with the cylinder *f* and teeth 8, as specified, whereby the said teeth 8 do not require to be as long as heretofore for catching the cotton, as set forth.

Sixth, conveying the cotton from the ginning cylinder up the incline *l* to the condensing cylinder by a current of air induced by the suction blower *o* entering the opening 19, as specified.

Seventh, the arrangement of the roller *t*, brush *v*, and adjustable guard *w*, whereby the action of said brush in separating the motes can be regulated, as specified.

Eighth, the condensing cylinder *m*, supported and driven by the rollers *t* and *y*, as specified, whereby the said condensing cylinder can be formed without any central axis, and with its ends open for the air to be exhausted, as specified.

Ninth, the exhausted condensing cylinder *o* fitted and acting as specified, in combination with the rollers *y* and *z*, for removing the cotton from such cylinder, as specified.

No. 41,488.—A. C. Crondal, New York, N. Y.—*Spring-bed Bottom.*—February 9, 1864.—In this invention the slats are formed of an oval shape in their cross sections, and their ends are fitted in sleeves, to which hooks are attached that catch over the end rails of the bedstead, by means of which they may be readily adjusted or removed, as occasion requires. Underneath the slats is secured a "stop rail," for the purpose of preventing the slats from bending beyond the extent of their elasticity in case a heavy weight be placed upon them.

Claim.—The sleeves *c* and hooks *d* applied to the ends of the egg-shaped slats C, and operating in combination with the end rails *a* and stop rail *f* of the bedstead, in the manner substantially as herein shown and described.

No. 41,489.—Frederick Curtis, of Newton Lower Falls, Mass.—*Gas Check for Breech-loading Fire-arms.*—February 9, 1864; antedated January 29, 1864.—This invention is designed to obviate certain objections which are found to exist in certain breech-loading fire-arms, for which patents have been granted, numbered 35,354 and 33,317, and it consists of an expanding cup or gas check, made in its exterior form slightly tapering, while in its interior it is made thin and elastic, or flexible at its front end for a short distance, and its rear part is made much thicker or non-elastic, so that only its front end shall spread or expand under the force of the explosion of the powder. The chamber is made of a shorter taper, and is longer than the gas check which enters it, so that the explosive gas shall take a direction above the joint at the front end of the gas check.

Claim.—The combination or arrangement of the gas check with the barrel, as above described, with said gas check bearing within the chamber of the barrel on its outer periphery only at its front end, and with the chamber of the barrel made of the form and extending beyond the gas check, essentially in the manner and for the purposes as above described.

No. 41,490.—D. A. Danforth, Elkhart, Ind.—*Stump Extractor.*—February 9, 1864.—This machine consists of a series of devices, indicated in the claim and shown in the engraving, for the purpose of enabling the machine to take firm hold of the stump and exert an additional leverage in extracting the same.

Claim.—First, the combination of the lever A and F, hook *c*, pulley block U, and stirrup B, for the purpose and in the manner described.

Second, the combination of the saddle J, chain W, and lever F, in the manner and for the purpose herein described.

Third, the combination of the hook or guide O and brace N, with a flange on the inner side of ratchet K and lever F, for the purpose herein described.

Fourth, the combination of the flange Q Q and ribs R S, in combination with the axle M and lever F, for the purpose herein described.

No. 41,491.—F. S. Davenport, Jerseyville, Ill.—*Gang Plough.*—February 9, 1864.—This invention consists in a method of gauging the depth of penetration of the ploughs into the earth, and for raising them out of the earth when designed to be inoperative; also in a method of guiding the machine and turning it at the ends of the furrows.

Claim.—First, the hinged or swinging axletree D attached to the frame A, as shown in connexion with the adjustable stops *e e*, as and for the purpose herein set forth.

Second, the caster wheel H attached to the shaft G, which is connected to the sliding bar F, having a lever J attached, when said parts are used in combination with the swinging axletree D, as and for the purpose specified.

No. 41,492.—William C. Davis, Cincinnati, Ohio.—*Teakettles.*—February 9, 1864.—This kettle, in its horizontal section, is of oval form, the breast of the same being somewhat flattened at its lower portion, so as to present a straight salient angle or edge, so that the centre of gravity of the kettle being near its front end, and its front lower portion having a broad straight bearing, the operation of pouring may be performed by simply tipping without lifting it.

Claim.—First, the provision of a straight edge or bearing A at the bottom of the breast, as and for the purposes explained.

Second, the combination of the straight edge or bearing A' with a body A, of elliptical form, substantially as described.

Third, the combination of the elliptical body A, longitudinal bail C, and side-hinged cover D, all as herein shown and described.

No. 41,493.—A. J. Detrick, Dryden, N. Y.—*Horse Power.*—February 9, 1864.—The object of this invention is to limit the action of the device either in a forward or backward direction in case the "team" falls back and neglects to draw, or when it draws too much, which is effected by means of a hook or ring coming in contact with a stopper in one or the other direction.

Claim.—In constructing a horse-power equalizer the chain *c* and pulley *e*, when placed directly upon the equalizing circuit *i*, and combined with the rings *l* and *g*, and stoppers *d* and *f*, as described and arranged for the purposes specified.

No. 41,494.—Andrew Dougherty, Brooklyn, N. Y.—*Fishing Line Reel.*—February 9, 1864.—This invention consists in the combination of the spool for the fishing line with mechanism at one end of it for winding up the line by a crank and with a friction brake arranged at the end of the spool opposite the winding mechanism to control the unwinding of the line as it is drawn out by a fish, so that the controlling and winding mechanism do not interfere with each other. The friction brake is combined with a lever handle or thumb plate placed between the heads of the reel frame in a position to be acted upon by the thumb of the hand which holds the fishing rod when the reel is applied to it. The reel frame is composed of two hollow heads, one of which contains the winding machinery and the other the controlling mechanism.

Claim.—The combination and arrangement of the spool for the fishing line with a winding mechanism at one end of it, and with a friction brake at the other end of it, and opposite the winding mechanism, the whole operating substantially as set forth.

Also, the combination of the friction brake that controls the unwinding of the line with a thumb plate or lever handle placed between the heads of the reel frame, substantially as set forth.

Also, the combination of the lever handle that operates the controlling mechanism of the spool with one of the cross-bars of the frame, substantially as set forth.

Also, a double-headed frame for an angler's reel, constructed substantially as set forth.

No. 41,495.—H. G. Eastman, Poughkeepsie, N. Y.—*Penman's Assistant.*—February 9, 1864.—This invention consists in the combination of a fountain pen or pen-holder with a palm or hand support, which latter is made of metal or hard rubber to conform to the shape of the palm of the hand when in the act of writing.

Claim.—The combination of the fountain pen or pen-holder case B with the palm or hand support A, whether made of metal, hard rubber, or other substance, for the purposes hereinbefore set forth.

No. 41,496.—Willard Tracy Eddy, West Hoboken, N. J.—*Petroleum Stove.*—February 9, 1864.—This invention consists of a stove in which petroleum is used as fuel, and having the bottom plate provided with holes adapted to receive burners, and a deflector for the purpose of concentrating the heat in the stove.

Claim.—A new article of manufacture, the petroleum stove constructed as above described, with a bottom plate B, (adapted to receive one or more lamp burners,) a top plate C, window *c*, chimney D, and deflector G.

No. 41,497.—Charles Fisher, Waukon, Iowa.—*Horse Collar.*—February 9, 1864.—This invention relates to an improvement in a horse collar for which a patent was granted to the said Fisher on July 17, 1860: and it consists in constructing two parts of the collar each with a joint or hinge arranged in such a manner that the said parts will be capable of being adjusted so that the collar may be made to suit horses of different sizes. In the present invention the pivoted hames are made shorter than those of the original patent, their front ends being connected by a curved plate and strap.

Claim.—First, dividing the side pieces A A of the collar transversely into two parts and connecting said parts by a hinge or joint *b*, in connexion with the plates B and screw *c*, or an equivalent fastening, all arranged substantially as and for the purpose herein set forth.

Second, the combination of the pivoted hames C C, plate D and strap E, arranged and applied substantially in the manner as and for the purpose herein set forth.

No. 41,498.—William J. Fryer, Jr., Albany, N. Y.—*Chimney Flues.*—February 9, 1864; antedated February 3, 1864.—This invention consists in the employment of cylindrical, polygonal or oval tubes of fire-clay, or other suitable material, which tubes are built up in the square holes formed in the chimney in the ordinary manner and size. The tubes are provided with lips or projections at their upper ends, so that each length is independently supported and held firm in its place. The stove-pipe hole is formed by a large hollow clay brick or crock made in halves and built in the chimney breast so as to form a complete connexion and obviates the necessity of flue collars.

Claim.—The employment and use in chimney flues, &c., of the tubes B, made of clay or other suitable material, with lips and projections *b* at the supporting points on the upper ends thereof, in combination with the crock *c*, all made and applied in the manner and for the purpose as herein described.

No. 41,499.—John S. Gage, Dowagiac, Mich.—*Horse Hay Rake.*—February 9, 1864.—This invention consists in a method of constructing the fork whereby the ordinary head for the tines is avoided and the bail connected directly to the tines. To the central rod of the bail is permanently attached a spring brace, having a recess in its upper edge to receive a circular pin or rod in the outer part of the opening in the arm E, which serves to hold the fork in proper position to retain the load while being elevated. The said rod is allowed to turn in the arm, and to one end of the rod is attached a lever provided with a rope, by pulling which latter the fork is tripped and the load discharged.

Claim.—First, the attaching of the bail C directly to the tines A of the fork, in connexion with cross-bars B B′, one or more, for securing the tines in proper position, substantially in the manner as and for the purpose herein set forth.

Second, the spring brace F connected to the bail C and provided at its lower end with a recess *l*, in connexion with the rod *m* in the arm E, provided with the spur *q* and the lever G, all arranged as and for the purpose specified.

No. 41,500.—Paul Gifford, Paris, France.—*Air Gun.*—February 9, 1864.—In this device a valve seat is formed on the end of the reservoir tube. The barrel of the arm is in communication with the inside of the trigger box, in the interior of which is a valve piston, consisting of a steel rod carrying a ring fitted with a caoutchouc disk for closing communication. Air enters the barrel by a bell-shaped chamber. The caoutchouc disk is united to the piston valve, which is free to move from top to bottom of the trigger box. By pressing strongly on the extremity of the rod the said disk is compressed and exactly closes the reservoir orifice. If the piston valve is then suddenly released the elasticity of the canotchouc, combined with the pressure of the compressed air, causes the sudden opening of the reservoir orifice and allows the compressed air free action on the projectile.

Claim.—The construction of air guns in which all the compressed air is utilized, and the action thereof on the projectile rendered instantaneous, and with the air reservoir and air pump, arranged substantially as herein described.

No. 41,501.—William C. Gould, New York, N. Y.—*Lock Joint for Street Railways.*—February 9, 1864.—The ends of the rails are formed with lapped joints so as to fit one upon or within the other, and below the rail is a projecting tongue having an eye, in which is inserted a wedge, by means of which the adjoining ends of the rails are held in position and prevented from springing as the cars pass over them.

Claim.—The method of connecting the ends of rails for city railroads so as to secure a continuous track, by causing one rail to lap upon and enter within another, substantially as described.

Also, the use and application of the key E, in combination with such laps, substantially as and for the purpose set forth.

No. 41,502.—James M. Gow, Rock Island, Ill.—*Car Coupling.*—February 9, 1864.—This invention consists of a slotted draw-pin, supported by a pivot in the upper part of the draw-head and projecting through a slot on the under side of the same, in combination with the ordinary coupling link, in such a manner that the link, on entering the draw-head, will push back the draw-pin and allow it to catch between said link and shoulder in the under side of said draw-head. By raising the draw-pin in its slot high enough to release the link the cars are readily uncoupled.

Claim.—The combination of the draw-pin B, when slotted and otherwise constructed, as herein shown and described, with the slotted draw-head A, all the parts operating together, as set forth.

No. 41,503.—John S. Hall, West Manchester, Penn.—*Construction of Hoes, Rakes, &c.*—February 9, 1864.—The hoe is secured to a socket by means of a collar and button near the end of a socket, forming between them a groove, which corresponds in breadth with the thickness of the hoe blade. A segment of the button is removed and a hole of corresponding shape made in the hoe. The hoe is attached by first passing the button through the irregularly shaped hole, then turning the socket partly around and securing all together by means of a sliding key.

Claim.—Fastening a hoe or rake to a socket or pang by means of the collars and groove on the latter, and an oval or oblong opening in the former, in connexion with a key to hold them together, substantially in the manner herein described and represented.

No. 41,504.—A. Hammond, Jacksonville, Ill.—*Boiler Feeder.*—February 9, 1864.—This boiler feeder consists of a steam-tight water reservoir or tank arranged above the boiler and having its top and bottom connected therewith by two suitable pipes, in which there are stop-cocks, which are connected with a float in the boiler in such a manner that, when the water in the boiler gets below a certain level, the weight of the said float opens both cocks, and so places the water in equilibrium, and allows it to descend by gravitation into the boiler. As the water in the boiler rises it raises the float and gradually closes the cocks, shutting off the water when the water has been supplied to a proper level.

Claim.—The arrangement of the reservoir B and pipes *a b*, with the boiler A, cock *c*, float and rod *f g*, all in the manner herein shown and described.

No. 41,505.—Emanuel Harmon, Washington, D. C.—*Postage and Revenue Stamps.*—February 9, 1864.—The nature of this invention will be understood from the claim.

Claim.—First, the employment of the same ink to cancel a letter or revenue stamp which has been previously used to impress lines *a* upon the face of the stamp, substantially as and for the purpose described.

Second, in cancelling a letter or revenue stamp, I claim the use of the same ink or coloring matter as that employed in printing the same or any essential part thereof, in the manner and for the purpose above described.

No. 41,506.—Peter Hayden, of Pittsburg, Penn.—*Machines for Cutting Bungs and Corks.*—February 9, 1864.—This invention consists of a combination of devices for feeding to the machine the bolts from which the bungs or corks are cut, for holding the bolt while being cut, in connexion with the cutting device, consisting of automatic cutters, so arranged that through the feeding device and mandrel containing a slide and spring the cutters expand and contract radially and thus impart a tapering form to the cork or bung, the object being to render the machine automatic in its operation throughout.

Claim.—First, the combination of two cutters G G′, bent bars H H, groove *e*, head I, and yoke or cross-bar M, with the hollow mandrel F, slide J L, and spring K, arranged and operating substantially as and for the purposes specified.

Second, the plate U, with adjustable sockets *y* and clamp bar V attached in connexion with the stop X, arranged substantially as and for the purpose set forth.

Third, the bolt-sustaining plate Z when used in connexion with the plate U, clamp bar V, and stop X, as and for the purpose specified.

Fourth, the combination of the rotary cutters G G′, plate U, with the socket Y and clamp bar V attached, the stop X, cam R, and slide T, all arranged substantially as and for the purpose herein set forth.

No. 41,507.—C. H. Helmkamp, Reading, Ohio.—*Self-rocking Cradle.*—February 9, 1864.—This invention consists in the combination of clock-work movements, with a lever and two arms or legs attached to a cradle, in such a manner that a rocking motion will be given to the cradle when the clock is wound up.

Claim.—The combination of the spring-box A, gearing *a* B C D, crank L, pitman E, rocking beam G G′, and rods H H′, constructed, arranged, and operating substantially as and for the purposes set forth.

No. 41,508.—Birdsill Holly, Lockport, N. Y.—*Water-Wheels.*—February 9, 1864.—This invention is more particularly applicable to turbine wheels, and it consists in the arrangement of parts whereby the step or lower bearing of the wheel is kept constantly lubricated and cooled by the admission of water from the induction, for the purpose of obviating the necessity of oiling and the danger of heating.

Claim.—The reservoir *c*, bearing *d f*, and conduit *g*, in connexion with the induction B beneath, substantially as and for the purpose herein set forth.

No. 41,509.—James Howell and David Birdsall, Jersey City, N. J.—*Screw Tap.*—February 9, 1864.—The object of this invention is to provide for the tapping simultaneously of two opposite holes in the two tube sheets of a boiler, or in any other two pieces of metal or other material, at any distance apart, in such a manner that the threads in said holes shall be true to a common axis, so that a pipe may be screwed simultaneously into both; and the invention consists in the employment of a tap with two heads, one or both of which are made adjustable lengthwise of the shaft of the tap to bring them to the requisite distance apart; also in an arrangement of portions of the tap for the reception of two wrenches, in such a manner that, in the tapping of the two holes simultaneously, the shaft may not be subject to torsion.

Claim.—First, a screw tap, having two heads, one or both of which are adjustable lengthwise of the shaft, to bring the two at any required distance apart, to tap simultaneously two opposites holes in two tube sheets or other pieces at any distance apart, true to a common axis, substantially as herein specified.

Second, making such a double-headed tap with two squares or flattened portions for the reception of wrenches, one of said portions being upon the shaft, and the other upon the more distant movable head, substantially as herein described, to prevent the torsion of the shaft.

No. 41,510.—R. J. Howland and W. H. Elliot, Ilion, N. Y.—*Adjustable Hammer for Many-barrelled Fire-arms.*—February 9, 1864.—This invention consists in the employment of a movable piece attached to the hammer, which may be moved by the thumb for the purpose of giving motion to a firing point to fire several stationary barrels, and also in the employment of two revolving firing points for firing a series of barrels arranged around a common centre, the said points being so arranged as to strike the cartridges alternately; while one strikes a cartridge the other strikes between the cartridges.

Claim.—First, the employment of a movable piece *b* for giving motion to one or more revolving firing points, when said movable piece and points are attached to and swing back and forth with the hammer, and operating in the manner herein described.

Second, the employment of two revolving firing points for firing a series of barrels arranged around a common centre, as herein described.

No. 41,511.—James Hunnewell, Charlestown, Mass.—*Window Guard.*—February 9, 1864.—This invention consists in the employment of two vertical strips, the lower ends of which rest upon a base that lies upon the window-sill, and the upper ends are guarded by a cap that is fitted to the lower side of the upper sash, and the parts are all secured in the frame without the use of screws or nails.

Claim.—The combination of the two vertical strips placed on opposite sides of the window, with the cap and sill; the four pieces being arranged with reference to each other, in the manner and for the purpose herein described.

No. 41,512.—Joseph L. Joyce, New Haven, Conn.—*Machine for Finishing the Heels of Boots and Shoes.*—February 9, 1864.—This invention consists of a combination of devices named in the claim for the purpose of superseding hand-work in the finishing of the heels of boots and shoes, and giving the same a greater degree of uniformity of finish.

Claim.—First, the combination of the cutter-head F, and revolving, adjustable guide *i*, substantially as and for the purpose specified

Second, the combination of the cutter-head F, former *d*, and adjustable guide *f*, in the manner and for the purposes described.

Third, the combination of the yoke H with the cutter-head F, and adjustable revolving guide *i*, substantially as set forth.

Fourth, the combination of the yoke H, cutter-head F, former *d*, and adjustable guide *f*, substantially as specified.

Fifth, the combination of the polisher P with revolving guide *i*, in the manner and for the purpose specified.

Sixth, the combination of the polisher P, former *d*, and adjustable guide *f*, for the purpose and in the manner described.

Seventh, the combination of the yoke H, polisher P, and adjustable revolving guide *i*, in the manner and for the purpose set forth.

Eighth, the combination of the yoke H, polisher P, former *d*, and adjustable guide *f*, in the manner and for the purposes substantially as herein specified.

No. 41,513.—Leonard Kennedy, Hartford, Conn.—*Beehives.*—February 9, 1864.—This invention relates to an arrangement of the comb-frames of the hive, whereby the least possible surface of said frames are brought in contact with the hive, and the frames rendered capable of being removed from the hive, when necessary, without annoyance to the bees; the frames being also easily adjusted at a greater or less distance apart, by means of screws on the sides of the comb-frames, and securely held in the desired position when adjusted.

Claim.—The arrangement of the adjusting screws *g* upon the sides of the comb-frames, as herein shown and described, so as to regulate the space between the frames at pleasure.

Also, the arrangement of the entrance strips F with the hive front, in the manner herein shown and described.

No. 41,514.—Tobias J. Kindleberger, Springfield, Ohio,—*Cider Mill.*—February 9, 1864.—In this machine the bearings of one of the rollers are attached to slides fitted in boxes secured to the framing. Each slide has a screw connected with them, which screws pass through the boxes, by which means the said roller may be adjusted to a greater or less distance from the other rollers, as required. Passing through cross-bars in the upper framing is a screw provided with a nut having a gear wheel M, which engages with a pinion upon a shaft N, having a crank, and at the centre of the wheel M are placed a series of balls enclosed by an annular concentric flange, for the purpose of reducing the friction and facilitating the operation of the screw.

Claim.—First, the manner of arranging the bearings R of the roller E, to wit, by having the same in slides S fitted in boxes T, adjusted through the medium of screws V, and retained in position by set screws a^*, all arranged substantially as set forth.

Second, the screw J, provided with the nut L, having the wheel M attached in combination with the pinion *i* on the crank shaft N and the anti-friction balls *k*, all arranged to operate substantially as and for the purpose specified.

No. 41,515.—Peter and George King, Greenfield, Mass.—*Process for Finishing Woollen Fabrics.*—February 9, 1864.—This invention relates to the process of finishing what is termed "face goods" made of wool, or a mixture of wool and cotton, and it consists in a series of operations designated in the claim, the object being to obtain an increase in the length of the finished piece, with an improved lustre and a fuller nap.

Claim.—The within-described combined process for finishing goods, which consists in successively fulling and scouring the piece, then rolling and stretching the same, then subjecting it to a single gigging operation to raise the nap, then steaming, then scouring, tentering, shearing, brushing, and pressing, all substantially as herein set forth.

No. 41,516.—Isaac S. Lauback, New York, N. Y.—*Machine for Drilling Iron.*—February 9, 1864.—The object of this invention is to provide a portable drilling machine for the use of mechanics, which may be used as a hand machine, and to which steam or other power may be applied either on a line with the axis of the driving shaft, or at an angle with it, through the agency of universal joints on a self-adjusting connecting rod.

Claim.—First, the combination of the drill spindle E, screw C, socket *d*, adjustable head A, and set screws *f f*, or their equivalents, the whole constructed substantially as described.

Second, the combination of the adjustable arm D with the adjustable head A, and set screws *f f*, substantially as described.

No. 41,517.—G. W. Low, Chillicothe, Ohio.—*Auger for Boring Wood.*—February 9, 1864.—This invention consists in providing the bit or auger with knives or cutters constructed and applied in such a manner that they may be readily detached when necessary for the purpose of sharpening the same and putting them in cutting order.

Claim.—The combination of the cutters D, rectangular projecting arms *c*, and grooves *h* in the head A, when the said parts are constructed and arranged as herein specified, so that the action of boring will press the arms *c* into their grooves, and thus retain the cutters securely in position without the aid of screws or keys.

No. 41,518.—F. McCollum, Rockville, Conn.—*Lock.*—February 9, 1864.—This invention relates to an improvement in burglar-proof locks of that class in which the tumblers are adjusted in proper position to admit of the moving of the bolt through the medium of letters, figures, or other marks on the outer side of the lock case, to serve as a guide or indices. The object of the invention is to admit of the tumblers being adjusted in different positions to effect the "changes," so that the lock cannot be opened at all times by one and the same movement and adjustment of the bolt arbor.

Claim.—First, the arrangement and combination of the tumblers N, provided with the pins p, plates $m\ m$, perforated and provided with the pins p', annular plates k, provided with the studs l and the collars i, having perforations j' made in them and fitted within the tumblers N, all arranged in connexion with the shaft L′ and perforated wheel O, provided with the pin w, to operate as and for the purpose specified.

Second, the sliding arbor I, having a plate K attached to it, provided with projections $h\ h$, in connexion with the disk L, provided with recesses g, and having the wheel P attached to it, all arranged as shown in connexion with the wheel O. for communicating motion to the tumblers N and plates $m\ m$.

Third, the bar C provided with the pendent projections $v\ v\ v$, and attached to the arm E, on shaft F, in connexion with the spring G and plate K, on the arbor I, provided with the bevelled edge e', substantially as and for the purpose specified.

Fourth, the bar H provided with the projection e and fitted on the pin or stud d', and connected with the bolt B, as shown, in combination with the perforated plate K, on the sliding arbor I, all arranged as shown for admitting of the arbor being connected with and disconnected from the bolt, as set forth.

No. 41,519.—Emanuel Mantz, Frederick, Md.—*Grain Cleaner.*—February 9, 1864.—This invention consists in a method of separating the loose dust from the wheat or grain at the commencement of the cleaning process by the action of the fan by means of devices named in the claim. A rubbing apparatus is employed, consisting of a series of disks secured upon a revolving shaft and studded with sharp-edged projections of hard wood or other suitable material, and in the edges of these disks are a number of radial metallic scrapers. Upon the upper end of the shaft is an eccentric, which at each revolution of the fan forces outward an arm which works through an aperture in the side of the box over the fan casing, and communicates with the interior of the said casing through an opening in the top of the same.

Claim.—First, in combination with the fan C the box E, provided with the door U, chamber S, troughs Q and Q2, conducting table Q′, and air passage O, all constructed and arranged in the manner described, to separate the loose refuse from the grain previous to being submitted to the action of the rubbers.

Second, in combination with the above parts the rubbing apparatus H H′ I I i, constructed and operated as described and employed in connexion with the perforated plates K and m, and passage O, to carry off the dust as fast as rubbed from the grain.

Third, in a machine constructed as specified the mouth-piece L, arranged as described, for limiting the discharge of grain from the rubbers I, and causing it to enter the passage-way O, in a quantity equally distributed therein.

Fourth, the combination of the eccentric c, arm F, lever F′, and spring g, all arranged as described, to operate the screen G, as set forth.

No. 41,520.—Charles S. Martin, Mackford, Wis.—*Wagon Spring.*—February 9, 1864.—This invention consists in the combination of a spring bar with bolts which pass through the bolster and axle and rest upon a washer placed on a rubber spring. Attached to the bolster and axle is a clasp or hanger which serves to hold the spring rubber, and in the said hanger is placed a cup for retaining the rubber in its place, the washer being placed inside the clasp and resting upon the rubber so as to receive the ends of the bolts. The forward spring is placed in a coupling formed of two separate pieces, one being attached to the centre of the axle and the other to the centre of the bolster; a bolt passes through the bolster, couplings, spring, and axle, and is confined in place below the axle.

Claim.—First, the combination of the spring A, bolts B B, clasp or hanger C, cup D, and washer E, in the manner and for the purpose herein described.

Second, in combination with the foregoing, the coupling H and G, in the manner and for the purpose herein described.

No. 41,521.—Walter K. Marvin, New York, N. Y.—*Fire-proof Safes, &c.*—February 9, 1864.—Alum, in lumps of one grain to half an ounce in weight, is slightly moistened and then coated with calcined plaster in powder, in a manner similar to the coating of almonds, &c., in sugar. The coated alum so prepared is combined with dried clay and used as a filling material for fire-proof structures.

Claim.—First, as a new composition of matter for the fire-proof lining or filling of safes and other like fire-proof structures, alum, gypsum, and clay, combined in the manner hereinbefore set forth.

Second, the coating of lumps of alum with calcined and powdered gypsum, as described, in combination with incorporating such coated lumps in dry or calcined clay, substantially in the manner and for the purpose set forth.

Third, as a new article of manufacture, safes or other fire-proof structures, the filling of which is composed of alum, gypsum, and clay, under the arrangement or combination hereinbefore set forth.

No. 41,522.—Albert E McGaughey, Red Wing, Minn.—*Raking Attachment for Harvesters.*—February 9, 1864.—This invention consists in so arranging an automatic rake for harvesters that, at the commencement of its working or raking movement, it will set in or commence at the side of the platform which is next to or adjoins the standing grain, and sweep over the platform in the path of a circle and discharge the grain in a gavel at the rear of the platform, and then, in moving back to its original position, revolving so as to clear the grain as it falls upon the platform, adjusts itself in a proper working position as it reaches the point where its working movement again commences.

Claim.—The means employed for moving the rake in the arc of a circle forward and back over the platform, and rotating the rake during said movement, to wit, the rock shaft H, provided with a toothed segment I, the rack M on the platform, wheel J on shaft, with the pinion N, bosses $c\ c'$ on rake head L, slide rods $d\ d'$, and notched plates $f\ f'$, all arranged to operate substantially as and for the purpose specified.

No. 41,523.—Patrick McGlew, Des Moines, Iowa.—*Cultivator.*—February 9, 1864.—This invention relates to cultivators of that class designed for ploughing crops at each side of a row simultaneously, and it consists in an arrangement of devices for elevating the front part of the machine and operating the ploughs and scrapers.

Claim.—First, the two plough standards H H fitted in the metal plates G and connected to the front part of the frame A by bars K, in connexion with the handle I attached to the bars n J, which are fitted to the standards H, as shown, to operate as described.

Second, the plough standards L L, connected to the front part of the frame A by the bars N, and fitted between the guides s and secured between them by the plates u and bars $u'\ t$, in connexion with the bar o attached to the bars N by the rods u, and connected to the levers by the rod R, all arranged to operate as set forth.

No. 41,524.—Samuel S. Meiley, Lebanon, Pa.—*Thill Fastening.*—February 9, 1864.—This invention relates to a method of connecting the thills of vehicles to the clip-straps which are secured to the axles in such a manner as to dispense with the use of nut fastenings and still preserve a firm hold upon each end of the pivot bolt while effectually preventing a casual displacement of the bolt, and at the same time admitting of the thills being readily detached.

Claim.—First, the application of a looped fastening D to the removable coupling bolt C, substantially as described.

Second, a pivoted spring-looped fastening D, constructed with a forked end, in combination with a bolt C, constructed with an enlarged shoulder on one end, adapted to enter eye a' and a tenon d, on the opposite end, adapted to receive and to form a lateral support for the free end of the loop, substantially as described.

Third, the combination of clip eyes $a\ a'$, bolt C, thill eye b, and loop fastening D, constructed and operating substantially as described.

No. 41,525.—S. H. Merredith, Oxford, Ohio.—*Churn.*—February 9, 1864.—This invention consists in the employment of a tubular shaft through which the milk is supplied between a circular dasher and a bed piece, where it is subjected to the action of radial elevators, upon the under surface of the circular dasher and the upper surface of the bed piece, the latter being secured to a platform below the same.

Claim.—The shaft K, the circular dasher M, and the bed piece N, the whole constructed and arranged in the manner and for the purpose substantially as herein set forth.

No. 41,526.—Daniel Merrill, Worcester, Mass.—*Invalid Bedstead.*—February 9, 1864.—This invention consists of a jointed frame composed of three parts or sections united by hinges and resting upon sills attached to the bed rails, so arranged in connexion with cords and pulleys that the parts for holding the head and those for sustaining the legs may be elevated to any desired inclination by means of a crank and windlass which operate the ropes or cords.

Claim.—First, the combination for regulating the upper or head section of the jointed frame, the same consisting in one or more struts b, the belt or cord x, and windlass with pulley p, arranged and combined with the bedstead and jointed frame, in manner specified.

Second, the combination by which the simultaneous elevation and depression of the two lower sections of the jointed frame is effected, the same consisting in the windlass and pulleys $p2$, the two cords or belts y and z, and the struts $l2$, arranged and applied at the lower or knee joint of the jointed frame, substantially as specified.

Third, also the combination for distending tacking, or its equivalent, the same consisting in the struts $l2$, which act as levers, the fulcrum bar g, and the rod r, provided with nuts and screws v, the whole being arranged and combined to operate in the manner set forth.

No. 41,527.—Warren Millar, Chicago, Ill.—*Sewing Machine.*—February 9, 1864; antedated February 3, 1864.—This invention relates to a method of supporting the bobbin containing the interlocking thread, and of checking or controlling the loop of needle thread in a rotating hook sewing machine; and it consists in the employment of a strap of thin steel, which is fastened to the slide ring, so as to form a socket, in which the heel of the bobbin is made to fit loosely, being sustained on the ring by a shelf and strap, the front edge only of the bobbin resting lightly against the back of the excavation in the hook disk, by which friction is diminished and the upper thread has less tension.

Claim.—First, turning the heel of the bobbin away from the rotating hook and supporting it on the slide ring, in the manner and for the purpose substantially as described.

Second, in combination with an eye-pointed needle and the rotating hook of a sewing machine, the strap *a* and the bobbin *m*, or its equivalent, when made to check or control the loop or thread, in the manner substantially as described.

No. 41,528.—Agatha Montleart, Mildmay Park, and Wliliam Tent, London, England.—*Means for Attaching Hooks to Furniture.*—February 9, 1864; patented in England July 16, 1863.—This invention consists of a wire bent in such a manner as to be self-locking, one end being pointed, while the other end is attached to furniture or curtain rods; the latter portion may be formed of a separate piece of metal, in the side of which is a shield for securing the hook.

Claim.—The combination of a hook *a* or eye *d* with the spring fastening *b c c'*, as and for the purpose herein set forth.

No. 41,529.—Francis B. Morse, New Haven, Conn.—*Shaft Coupling for Carriages.*—February 9, 1864.—In this device the head or movable part of the joint is made with a cuniform or wedge-shaped cavity opening towards the jack or stationary part of the joint, into which cavity is inserted a piece of India-rubber in such a manner that its elasticity will prevent the standing part of the joint from rattling. The India-rubber is capped with a piece of raw-hide secured by a rivet. The parts are made to work on curved bearings, so as to admit of equal pressure in all positions.

Claim.—First, coupling for carriage shafts, in which the movable part of the joint has the eyes forged thereon, and a cavity in its rear end to receive an elastic presser to prevent rattling, as herein described.

Second, the combination of the head or movable part of the joint, as described, with the stationary jack and elastic presser, substantially as herein described.

No. 41,530.—Isaac Newton, New York, N. Y.—*Means for the Protection of Anchor Cables of Iron-clad Vessels.*—February 9, 1861.—This invention consists in placing the hawse-hole within the armor or behind the armor, and within its wooden backing. A covering hood is also provided for the protection of the cable where it passes through the deck to and from the hoisting apparatus below the deck.

Claim.—First, constructing or arranging the hawse-hole of an iron-clad vessel within the armor shelf, or behind the armor and within the wooden backing thereof, in such a manner that it emerges below the water line, substantially as herein specified.

Second, the iron hood F, for protecting the cable where it passes over the deck between the upper end of the hawse-hole, the place where it passes through the deck to and from a hoisting apparatus below the deck, substantially as herein specified.

No. 41,531.—Edward Painter, East Hampton, Mass.—*Lubricator.*—February 9, 1864.—This invention consists in attaching a small chamber to the upper part of the can, and having the same perforated on its inner side at its upper lower end for the admission of air, and to allow the oil to escape freely from the can.

Claim.—An oil can provided at its upper part with a chamber D, perforated at its top and bottom with holes *a b*, substantially as and for the purpose herein set forth.

No. 41,532.—Samuel J. Parker, Ithaca, N. Y.—*Fruit Jar.*—February 9, 1864.—This invention consists in forming a groove in the neck of the jar, so that the packing of the cover will slip into the groove and the cover be held on. The neck of the can and also the sides of the cap are roughened or corrugated, so as to prevent the cap from easily slipping off. The lower part of the stopper is made tapering or bevelled, so that by placing one side of the stopper on the jar and then bringing the other side down like a hinged cover the air will be excluded when the can is sufficiently filled with fruit or sirup.

Claim.—First, so shaping the neck of the jar by a construction above the ring that the stopper shall snap or automatically close, and be retained by the constriction as the jar is closed, as described.

Second, the special device of a capsule of vulcanized rubber cloth clamped over the cork core, substantially as described.

Third, corrugating or otherwise roughening the inside surface of the jar cover cap, and also of the outside of the neck of the jar, so the corrugations shall retain the cover in place as described, and the same mutual corrugation of the same relative surfaces in all sorts of jars, as described.

Fourth, the flat cam inclination *j j a* of the lower surface of the stopper, as described.

No. 41,533.—Lyman E. Payne, Disco, Mich.—*Spring-bed Bottom*—February 9, 1864.—This invention consists in combining a series of elastic slats and rubber springs with separate cross-pieces detached from the head and foot rests of the bedstead in such a manner that the head and post rails are prevented from being sprung out of shape by persons lying on the bed.

Claim.—The employment and use of straps E, in combination with the springs C, slats D, and bedstead A, all constructed and operating in the manner and for the purpose substantially as shown and described.

No. 41,534.—Joseph Reid, Fort Wayne, Ind.—*Fountain Pen.*—February 9, 1864.—This invention relates to a fountain pen which is provided with an ink reservoir within a case, and arranged in such a manner as to be self-supplying; and the invention consists in the application to the ink fountain of a capillary tube provided with a valve and ink conductor.

Claim.—The arrangement of the ring valve *e* with the capillary tube *b*, the pen B, and fountain A, in the manner herein shown and described.

No. 41,535.—H. D. Rheinhardt, Baltimore, Md.—*Artificial Leg.*—February 9, 1864.—This invention consists in providing artificial legs with India-rubber, which will act as springs to give a natural motion to the parts desired, so as to avoid the rattling sound incident to the use of metal springs. The hinge is constructed with a projection from the upper part of the joint or barrel, having a thread cut upon it with a nut fitting on the same, and a flange at the lower part for the India-rubber springs to rest upon. Under the flange is arranged a screw, for the purpose of connecting the foot and leg together, and on each side of the flange is attached a pin for keeping the hinge in place.

Claim.—First, the peculiar shape of the hinge, Fig. 6, with a thread cut on the pin projecting from the upper part of the hinge, and a nut to suit the thread; also a bolt or screw, Fig. 11, cut to fit the thread in the flanch, for the purpose of connecting the foot and leg together.

Second, the arrangement of the India-rubber C under the projection letter G, Fig. 7, in a recess cut out for the purpose in the line of the metatarsal joints, and to act as a spring to keep the toes in their proper place and give to them their natural motion.

Third, the arrangement of the blocks of India-rubber A and B, as seen in Fig. 1, side sectional elevation, and used as springs to give the ankle joint a natural motion, in combination with the peculiar shape hinge, Fig. 6, and fitted in a recess above and near the ankle joint, resting below on the flanch of the hinge, one block on each side, as seen in Fig. 1, side sectional elevation in the cavity of the foot, constructed, arranged, and operated substantially as herein set forth.

No. 41,536.—W. B. Rice, Feltonville, Mass.—*Puzzle for Children.*—February 9, 1864.—A series of blocks are marked on one side with parts of a picture, and on the other side with a consecutive series of letters or figures, in such a manner that the letters or figures on one side form the key for the picture on the opposite side, so that the blocks can be readily arranged in proper order to exhibit the picture from the figures.

Claim.—The employment or use of a series of blocks A, marked on one side with a series of letters or figures, and on the opposite side with parts of a picture, said letters to form the key for the picture, substantially as and for the purpose shown and described.

Also, as a new article of manufacture, the alphabet blocks, puzzle, and cottage, combined as herein specified.

No. 41,537.—Eliphalet S. Scripture, Brooklyn, N. Y.—*Oil Can.*—February 9, 1864.—The can is formed with a screw-seat cup inserted in the top of the same, to which the spout is attached, the object being to enable the can to be readily filled and to prevent the oil from overflowing its sides.

Claim.—The use or employment of the screw-seat cup B, in combination with the body A and spout C, constructed, as shown, for the purposes fully set forth.

No. 41,538.—George Escoll Sellers, Sellers' Landing, Ill.—*Disintegrating and Separating Vegetable Fibres.*—February 9, 1864.—This invention consists in heating fibrous vegetable substances, when in a green state or full of sap, by boiling under pressure, combined with the volatilization due to the steam space in the boiler, and the escape of the steam previous to or at the time of discharging the material from the boiler, so as to soften and prepare the non-fibrous portions for separation from the fibres, and the fibres from each other, by mechanical pressure.

Claim.—First, the maceration of green vegetable substances under pressure from heat, combined with the incidental volatilization, to prepare them for the separation of the fibres from each other and from the non-fibrous portions of the plant.

Second, the loosening or disintegration, by mechanical pressure, of the fibres and of the non-fibrous matter, so that, by washing, a complete separation may be effected, and both the fibrous and the non-fibrous portions may be preserved in their greatest integrity.

Third, the arundine or lignin, when separated from the cellulin, without other chemical agencies than heat and moisture, as a new article of commerce.

No. 41,539.—Henry F. Shaw, West Roxbury, Mass.—*Gig Saw.*—February 9, 1864.—This invention consists in revolving the gate or sash, by which the saw is strained or carried up and down, on a fixed axis around the saw, so that articles to be sawed, however long, may be turned without coming in contact with any stationary post or upright. Combined with the said revolving sash or gate is a spring, by means of which its weight is supported and nearly balanced, so as to relieve the bearing point of unnecessary friction.

Claim.—First, revolving the sash or gate, by which the saw is strained and carried up and down on a fixed axis around the saw, so that the stock, however long, may be turned, substantially as described.

Second, in combination with the said revolving gate or sash the employment of a spring N, substantially as set forth and for the purpose described.

No. 41,540.—Edward Shore, Conshohocken, Penn.—*Knitting Machine.*—February 9, 1864.—This invention consists in the employment of a block, having a projecting edge arranged in relation to the needles and lifting wheel of a rotary knitting machine in such a manner as to prevent the contraction of the circular fabric from bending the needles and interfering with the proper action of the said lifting wheel.

Claim.—The block D, with its projecting ledge *b*, or their equivalents, when arranged in respect to the needles and lifting wheel of a rotary knitting machine, substantially as and for the purpose herein set forth.

No. 41,541.—Charles R. Smith, Haverhill, N. H.—*Fence Post.*—February 9, 1864.—The foundation for the posts consists of slabs of tile, two or more, put together in a V-form and connected together by a metal rod passing longitudinally through them. To this foundation is secured the post, which is composed of an upright supported by braces, and all connected together by wires at their upper and lower ends.

Claim.—First, the foundation E, formed of slabs *c** of tiles, factitious stone, or any baked earthy cement, placed together in V-form, substantially as shown and described.

Second, the combination of the foundation E with the posts A, braces D D, bars C, and the wires *d*, or their equivalents, as and for the purpose herein specified.

No. 41,542.—George W. Smith, Springfield, N. J.—*Drain.*—February 9, 1864.—This invention consists in the employment of a bottom plate or slab laid flat upon the ground and provided with grooves at the sides. Into these grooves are fitted similar plates or slabs, which rest against each other at their upper sides, forming a triangle in section.

Claim.—As a new article of manufacture the combination of the bottom drain plates or slabs A with the grooves C C and the two inclined plates or slabs B D, constructed and put together substantially as described.

No. 41,543.—Nathan Stedman, Aurora, Indiana.—*Pump Valve.*—February 9, 1864.—This invention relates to that class of pumps in which a hollow piston rod is used as the exit pipe. The hollow piston is provided with a valve aperture in its top and bottom, and also in its side, which latter enables the insertion of a disk of India-rubber that serves as a double acting valve for the upper and lower apertures in the piston, the said disk being confined to the proper vertical motion by means of a rod passing through its centre.

Claim.—The arrangement of the hollow piston E, having the side perforation G and double acting disk valve I *i*, seating alternately on apertures F and F′ at the top and bottom of the piston, and confined to a motion in the line of its axis by a stationary rod J.

No. 41,544.—R. L. Stewart, Owasso, Mich.—*Method of Hanging Saws.*—February 9, 1864.—The object of this invention is to avoid the use of slides and other appliances commonly used for the purpose designed by reducing friction and dispensing with complexity, and it consists in the application of a horizontal pitman to a reciprocating saw in such a manner that the saw, during its upward movement, will be moved back in the kerf to admit of the free escape of the sawdust, and during its downward movement be kept in proper contact with the stuff or work at the front of the kerf, so as to operate effectually.

Claim.—The pitman I and pitman G, when constructed to operate together in relation to the saw in combination with the cam J, projection *e*, convex plates *g* and *h*, and cross-bar *f*, substantially as described and for the purposes set forth.

No. 41,545.—Alban C. Stimers, New York, N. Y.—*Surface Condenser.*—February 9, 1864.—The object of this invention is to provide for the expansion and contraction of the tubes in the tube plate of a surface condenser without the use of independent stuffing boxes, or similar devices, which is alleged to be effected by making the tube plate so thick that a water-tight slip joint can be made around the tubes by the expansion of the latter in the plate.

Claim.—Making the tube plate of a surface condenser so thick that a water-tight slip joint can be made around the tubes by a simple parallel expansion of them in the plate, and without the aid of stuffing boxes or other similar devices, substantially as described.

No. 41,546.—William Stivers, New York, N. Y.—*Drill.*—February 9, 1864.—This invention relates to that class of boring or drilling machines which are provided with a vertically adjusted carriage furnished with arms to form the bearings for the bore spindle; and the invention consists in giving a more extended movement to the drill than is usual by means of a rack, pinion, and movable lever, and in making the stationary frame and the sliding frame, comprising the rack and the arms to which the drill stock is attached, each in one single casting.

Claim.—As a new article of manufacture, the hand drilling machine, constructed substantially as hereinbefore described.

No. 41,547.—James Stratton, Brooklyn, N. Y.—*Reflector for Gas Lights, Lamps, &c.*—February 9, 1864.—This invention consists in constructing the reflector of cast or wrought metal, and having the surface covered with a white or light material.

Claim.—As an improved article of manufacture, a reflector for gas lights, lamps, &c., having a body of cast or wrought metal with an enamelled inner or reflecting surface, substantially as herein set forth.

No. 41,548.—Charles F. Taylor, New York, N. Y.—*Machine for Treating Curved Spines.*—Issued February 9, 1864; antedated February 3, 1864.—This invention consists in the employment of two oscillating or vibrating bars, one of which is adjustable and the other provided with an adjustable plate having adjustable pads attached to it; the two said bars being connected by a jointed frame, and the lower bar connected by a hinge or joint to the base of the machine, an arm and a counterpoise, all being arranged in connexion with a cord and pulley by which the device is operated.

Claim.—The two bars C I, connected together by the bars G H, so as to form a joint, the bar C being fitted in a plate B, or arranged in any other suitable manner so as to be adjustable, and the bar I, provided with an adjustable plate J, having the padded projection L and the adjustable padded slide K fitted to it, the above parts being used in connexion with the cord M and the arm D and counterpoise E, all arranged substantially as and for the purpose set forth.

No. 41,549.—John Thomson, Wayne, Ill.—*Barometer.*—February 9, 1864.—This invention consists in the use of a small globule of mercury confined in a glass tube of small bore and floating therein so as to form a barometer. The tube is made somewhat longer than that of a thermometer, and is open at the top, and the mercury is made to confine a given quantity of air in the bulb and lower portion of the tube.

Claim.—The application of a small globule of mercury, to form a movable stopper or partition within a tube of small bore, and therein acting as a barometer either by itself or in combination with the well-known mercurial barometer, and thereby forming a weather glass.

41,550.—P. W. Thomson, Truro, Ill.—*Cultivator.*—February 9, 1864.—This invention consists in an arrangement of devices named in the claim, so that the part of the frame to which the plough standards are attached can be thrown either vertically or laterally, or in any direction, by means of a lever under control of the operator.

Claim.—The combination and arrangement of the plough beams E E, pivoted at *x x*, the standards N N, the cross bar F, provided with the bands *a a*, and the lever L, all constructed and operating substantially as and in the manner set forth.

No. 41,551.—A. R. Treadway and S. R. Warner, New Haven, Conn.—*Connecting Tin Tubing.*—February 9, 1864.—This invention relates to the use of tin tubing in the place of cast iron for steam heating, and is designed as an improvement upon a method of connecting the tubes for which a patent was granted to S. R. Warner March 17, 1863. In this invention the couplings are soldered together previously to being connected as in the aforesaid patent.

Claim.—The application of tin tubing to the purpose of heating by steam, when the different sections of the same are united by soldering to the parts of the couplings, substantially as herein specified.

No. 41,552.—William H. Walker, Fond du Lac, Wis.—*Shingle Sawing Machine.*—February 9, 1864.—This invention relates to machines of that class in which saws are employed for cutting the shingles from the bolt. The invention consists in an arrangement of devices for feeding the bolt to the saw and also for adjusting the bolts, whereby the same may be presented to the saw so that the shingles will be cut in taper form, and the feeding device be capable of being operated either automatically or by hand, as may be desired.

Claim.—First, the arrangement of a circular saw, in horizontal position, between two stationary bolt holders or rectangular frames R R, between which it is driven to and fro in the sliding frame F, to cut a shingle at each reverse movement, in the manner herein explained.

Second, the wheels C C′, provided with friction rollers *h h*, in combination with plate I, and operating in the concaves G G, when arranged substantially as and for the purpose set forth.

Third, the movable bar D, provided with recesses *l l*, and arranged substantially as shown, in relation with the shafts *c c′*, for the purpose of raising and lowering the same to render the frame F automatically operative, as may be desired.

Fourth, the tilting frames M, arranged as shown on the frame F, and provided with the plates N, having pawls O′ attached in connexion with the bars O, provided with the triangular cams Q′ and ratchets Q, all arranged to operate as shown, for the purpose of inclining the bolts, so that the shingles may be sawed in taper form, and drop from their place.

Fifth, the arms T attached to the sliding frame F, in combination with the weight U, or its equivalent, for the purpose of operating the sliding dogs S, when used in connexion with a circular saw mounted in a reciprocating carriage as set forth.

Sixth, the double wedge A′, placed on the upper part of the framing A, and arranged to operate by the movement of the saw frame F, substantially as and for the purpose specified.

No. 41,553.—**Henry Warren**, Goshen, Ind.—*Washing Soap.*—February 9, 1865.—The ingredients of which this soap are composed are Brown's opodeldoc, sal soda, borax, alcohol, turpentine and ammonia, with a quantity of water, which is boiled until the contents are dissolved.

Claim.—The new article of manufacture, a soap made of the ingredients above described, in the manner and in the proportions substantially as set forth.

No. 41,554.—**William Webster**, Morrisania, N. Y.—*Wrench.*—February 9, 1864.—This invention consists in providing the movable jaw of an ordinary wrench with an aperture for the reception of the shank of a distinct and separate bit for cutting or clasping, so that the same may be adjusted or changed at pleasure.

Claim.—First, the employment of an ordinary wrench with an aperture in the movable jaw thereof, in combination with a distinct and separate bit for cutting or clasping, which may be adjusted to said jaw and changed at pleasure by means of said aperture, substantially as described.

Second, the manufacture and use of the clasp C, and the cutter B, when constructed as described.

Third, the use of the cutter B or clasp C, when made separate from the wrench and combined therewith substantially as set forth.

Fourth, in combination with a wrench constructed substantially as described, a clasp knife, or cutter upon the face of a movable jaw thereof, whether said clasp knife or cutter be in one piece with, or made separate from, said jaw, for the purpose set forth.

No. 41,555.—**Samuel G. Welch**, Athens, Ill.—*Cultivator.*—February 9, 1864.—To the rear of the draught pole is attached a bar which is supported upon caster wheels, and the draught pole is connected at its rear with the main frame by means of a bar and hooks. The front end of the frame is connected by hooks or joints to levers D, the rear ends of which are connected by pivots to a bar E, so that the operator, by means of a lever under his control, may elevate the ploughs or adjust them to the right or left at will.

Claim.—The bar F, having the draught pole G attached, supported by the caster wheels I I. and connected to the frame A by levers D D, the back ends of which are connected to the bar E, having a lever H secured to it, and all arranged so as to admit of the raising and lowering of the ploughs and the lateral adjustment of the draught pole relatively with the body or main portion of the machine as set forth.

No. 41,556.—**Cyrenus Wheeler**, Jr., Poplar Ridge, N. Y.—*Harvesting Machine*, (*A.*)—February 9, 1864.—The nature and object of this invention will be understood generally from the claim; it does not admit of a brief description.

Claim.—The gear block, carrying a gear wheel, constructed in the form and operating in the manner substantially as described.

Also, making the main frame when constructed in one piece with three bearings for the main axle, substantially as and for the purpose described.

Also, the combination of the sleeves of the gear block with the journal boxes of the main frame when the gear block and sleeves are constructed in one piece, substantially as described.

Also, the segment rib on the sleeve of the gear block, in combination with the lip on the main frame, for preventing lateral play to the gear block, substantially as described.

Also, connecting the tongue to the gear block constructed in one piece by a recess formed in the gear block on its under side, for the purpose of lowering the draught, substantially as described.

Also, the combination of the standard and brace-rod for additional support to the main frame, substantially as described.

Also, the two ears on the lower side of the rear corners of the main frame, in combination with the long bolt, for the purpose of connecting the hinge piece, and as an additional support to the rear part of the main frame, substantially as described.

Also, the combination of the lifting devices mounted on the standard of the gear block, and the standard on the main frame, united by a flexible connexion, substantially as described.

Also, the combination of the weighted dog with the lifting device, so as to hold the lifting device in a fixed position when the main frame is raised, and so that the operator can with his foot release the dog from the lifting device, at pleasure, for the purpose of lowering the main frame, substantially as described.

Also, mounting two driving wheels, the main gear wheel, and the bevel wheel on the main axle, substantially as described.

Also, mounting the main gear wheel, bevel wheel, and pinion locking with it, on the main axle, substantially as described.

Also, communicating motion from the main gear wheel to the bevel wheel on the main axle by a shaft mounted in bearings on the gear block carrying a pinion gearing with the main gear wheel, and a spur wheel gearing with the pinion on the main axle, substantially as described.

Also, the combination of gearing whereby the bevel wheel and its pinion mounted on the same axle with the main gear wheel shall revolve in the same direction as the main gear wheel, substantially as described.

Also, mounting the bevel wheel having a sleeve provided with a clutch, and the pinion having a sleeve and clutch both on the main axle, and so arranging and combining them with the main frame and gear block as that the pinion may be moved longitudinally on the main axle for the purpose of clutching the pinion with, and unclutching it from the bevel wheel, substantially as described.

Also, mounting the bevel wheel on a sleeve on the main axle, in combination with the main frame vibrating independent of the gear block and carrying a counter shaft having a pinion gearing with said bevel wheel, substantially as described.

Also, the arrangement of the lever, slide, and spring, by which the clutching and unclutching of the pinion with the bevel wheel is performed, substantially as described.

Also, in combination with a main frame vibrating independently of the gear block, mounting the foot-board and seat on the gear block, and fastening the tongue to the under side thereof, substantially as described.

Also, the longitudinal lever fastened to the gear block in combination with the transverse lever pivoted to the shoe for the purpose of raising the outer end of the cutting apparatus, substantially as described.

Also, the combination and arrangement of the longitudinal and transverse lever with the gear block, main frame, and cutting apparatus, so that the cutting apparatus can be folded up and fastened without detaching any part of the machine, substantially as described.

Also, the combination and arrangement of the lifting devices with the gear block and main frame, and the longitudinal and transverse levers with the cutting apparatus, so that the cutting apparatus may be raised from the ground at pleasure by the operator from his seat, substantially as described.

No. 41,557.—**Cyrenus Wheeler**, Jr., Poplar Ridge, N. Y.—*Harvesting Machine*, (*B.*)—February 9, 1864.—The nature and object of this invention will be understood from the claim.

Claim.—The combination of the triangular frame with the main frame, substantially as set forth, with a seat and lifting device mounted thereon, so that, by the arrangement of the transverse lever with the triangular frame and cutting apparatus, the driver can, when in his seat, raise the cutting apparatus from the ground at pleasure, substantially as described.

Also, the combination and arrangement of the triangular frame with the main frame, transverse lever, and cutting apparatus, so that the cutting apparatus, when divested of the reel and platform, may be folded up and fastened without removing any part of the machine, substantially as described.

Also, the combination and arrangement of the two seats, and the two lifting devices, with the other parts of the mechanism with which they act, so that the operator can, when occupying either seat on the machine, raise the cutting apparatus at pleasure, substantially as described.

Also, the triangular frame carrying the seat and lifting devices so arranged and connected to the main frame that it, with the seat and lifting devices mounted thereon, can be detached from the main frame at pleasure, without interfering with the organism of the machine or its effectiveness as a mower, substantially as described.

No. 41,558.—**Cyrenus Wheeler**, Jr., Poplar Ridge, N. Y.—*Harvesting Machine*, (*C.*)—February 9, 1864.—The nature and object of this invention will be understood from the claim.

Claim.—The construction of the outside shoe with a flange for connecting it to the outer end of the supporting bar, in combination with an ear or flange for connecting the other end of the bar firmly to the inner shoe, substantially as described.

Also, driving a reel that has its support on a hinged cutting apparatus or table, by an endless band passing from the driving pulley over the sheaves or pulleys arranged near the foot of the inner reel support, so that the variation of the reel pulley relatively to the driving pulley, caused by the varying positions of the cutting apparatus and platform in passing over uneven ground, shall not change the tightness of the band or cause it to be thrown from the driving or driven pulley, substantially as described.

Also, the arrangement of the cutting apparatus and platform in combination with the reel band arranged over the pulleys at the foot of the inner reel support, so that the cutting apparatus pivoted to the main frame can be rotated on its axis at the pleasure of the operator without changing the length of the band or interfering with the operations of the reel supported on the cutting apparatus, substantially as described.

Also, the arrangement of the reel bands, the pulleys, and the reel, having its support on the hinged cutting apparatus in relation to the driving pulley and the main frame, so that the cutting apparatus can be raised for cutting any desired height, and the points of the cutters elevated or depressed at pleasure without varying the tightness of the band or interfering with the motions of the reel, substantially as described.

Also, sustaining the inside reel support by both the table bar and the shoe, substantially as described.

Also, supporting the reel shaft by three bearings, said reel shaft and bearings being all arranged on the hinged portion of the machine, substantially as described.

Also, making the outer bearing on the outer reel post, and the outer reel post itself for supporting the reel shaft, self-adjusting in relation to the other reel-shaft supports, substantially as described and represented.

No. 41,559.—CYRENUS WHEELER, Jr., Poplar Ridge, N. Y.—*Harvesting Machine, (D.)*—February 9, 1864.—This invention consists in providing a standard upon the tongue of the machine for supporting and holding the cutting apparatus when folded up for transportation. A ledger plate is combined with the shoe, having a support both above and below the cutter, for the grass or grain. The invention also consists in a guard finger having a support for the grass or grain both above and below the cutter, and a ledger plate locking with it in connexion with a cutter, the bar of which is on its under side and placed over the finger bar. The invention further consists in the combination and arrangement in connexion with the cutting apparatus of the several parts composing the swivel connexions of the pitman and crank that operate the cutters.

Claim.—In combination with the track-board, the standard on the tongue, as a fastening for the cutting apparatus when folded up, substantially as described.

Also, in combination with a shoe which has a support for the grass or grain both above and below the cutter, the ledger plate connected with it and held firmly in place by the finger bar, substantially as described.

Also, in combination with a guard finger having a support for the grass or grain both above and below the cutter, the ledger plate locking with it as described, (said ledger plate having a shank so arranged that it will lock under the edge of the finger bar, when the guard finger is in place, and the bolt fastening it to the finger bar holds both the guard and the ledger plate in position,) a cutter, the bar of which is on its under side, and is placed over the finger bar, substantially as described.

Also, in combination with the cutting apparatus the arrangement of the several parts composing the swivel connexions of the pitman and crank for operating said cutting apparatus, substantially as described.

No. 41,560.—ENOCH WHITTEMORE, North Paris, Me.—*Folding Saw-horse.*—February 9, 1864.—This device consists of two jaw frames, each of which is composed of two bars united together by cross-bars at or near their lower ends. One of the frames is arranged within the other, and both have a horizontal shaft upon which they turn freely. The two jaw frames are placed within a brace frame composed of two bars connected at their lower ends to a cross-bar which has a foot-board or platform extending forward from it, and projecting from the platform is a spring which serves to move the outer jaw bars and release their hold upon a stick of wood.

Claim.—The portable folding saw-horse as made of the two jaw frames A B, and the brace frame D, arranged and combined together in manner and so as to operate substantially as specified.

Also, the improved folding saw-horse, as made not only of the two jaw frames A B and the brace frame D, but with the folding platform F, the whole being substantially as specified.

Also, the portable folding saw-horse as made, not only of the two jaw frames A B, the brace frame D, and the folding platform F, but as having a spring G, or its equivalent, applied to the platform and so as to operate one of the jaw frames, in manner as specified.

No. 41,561.—G. O. WICKERS, Lawrence, Mass.—*Box or Case for Oil-stones.*—February 9, 1864.—This invention consists in constructing a box or case for oil-stones in two parts and of cast metal, one of which is provided on its inner surface with projections and a set screw for holding the stone in position and admitting of an oil passage around it, while the other part serves as a cover; the latter, as well as the part first mentioned, being provided with knife-edge projections to prevent them from slipping when in use.

Claim.—A box or case for oil-stones composed of two cast-metal parts A B, one of which, A, is provided internally with projections *a b* and a set screw C, or its equivalent, for holding the stone in position and admitting of an oil passage all around it, and the other, B, made to serve as a cover, substantially as set forth.

Also, the knife-edge projections *c d*, when used in combination with and formed on or cast with the parts A B, for the purpose specified.

No. 41,562.—JOSEPH WILHELM, Muscatine, Iowa.—*Cultivator.*—February 9, 1864.—This invention relates to that class of cultivators which are constructed with two wings hinged together and designed to cultivate both sides of a row at one and the same time, and the improvement consists in an arrangement of devices by which the distance between the wings can be readily increased or diminished according to the width of the furrows.

Claim.—Having the arms *a a* jointed at the centre, and combined with the clevis *c*, in the manner and for the purpose herein shown and described.

Also, the arrangement of the spring latch *g*, with the beam A and arms D D, in the manner and for the purpose herein shown and described.

No. 41,563.—CHRISTOPHER WILLIAMS, Adrian, Mich.—*Bearing for Car Axles and Shafting.*—February 9, 1864.—This invention consists in constructing the bearing of two parts, one of which is provided with a projection in the form of a portion of a sphere, and the other part is provided with a corresponding cavity to receive said projection, so that the bearing is allowed to adjust itself to the shaft in case the latter assumes an inclined or oblique position, consequent upon frequent straining, which induces an uneven wear and a liability to heat.

Claim.—A bearing for car axles, and the shafting of machinery generally, composed of two parts A C, one of which is provided with a projection B, in the form of a section of a sphere, and the other provided with a corresponding recess D to receive the projection B, substantially as and for the purpose herein set forth.

No. 41,564.—GARRET E. WINENTS, New York, N. Y.—*Mode of Discharging Vessels.*—February 9, 1864.—This invention consists in the construction, upon a dock or pier, of a platform raised sufficiently high upon the land side to be above and over any cart or wagon for receiving the article unloaded from the vessel. To this platform are hinged one or more strips or ways, upon which wheelbarrows can be run from the vessel to the platform.

Claim.—The raised platform *f* extending over the space occupied by the car or cart, in combination with the hinged plank *g* extending to the vessel containing the earth, manure, or similar material, for the purpose and as specified.

No. 41,565.—S. W. WOOD, Cornwall, N. Y.—*Separating and Collecting Gold and Silver Amalgams.*—February 9, 1864.—This invention consists in separating the amalgam from the pulverized rock by means of centrifugal force imparted to the vessel in which it is contained. The cylindrical vessel is mounted on a shaft so as to admit of its being readily revolved, and the pulp or mass, mixed with water containing the finely divided amalgam, is fed through a tube or spout to the bottom of the vessel so that the particles of amalgam are thrown out against the sides of the vessel and separated from the lighter substances. To assist in aggregating these particles, movable or fixed ledges or troughs are secured to the inner periphery of the revolving vessel.

Claim.—Separating the amalgam from the pulverized rock by centrifugal force imparted to the vessel in which it is contained, the same acting in conjunction with gravity, to gather and collect in a mass the amalgam at the periphery of the vessel, substantially as herein specified.

Also, introducing the material through the spout D, or its equivalent, so as to bring it to the bottom of the vessel before being subjected to the centrifugal action thereof.

Also, discharging the refuse rock and the water by overflowing at the upper edge of the vessel, the said overflowing being produced by the centrifugal force acting against that of gravity, substantially as herein set forth.

Also, the annular troughs, ledges, or plates, on the inner periphery of the revolving vessel, substantially as and for the purpose herein set forth.

No. 41,566.—ALDEN B. BRIGGS, assignor to Himself and DEXTER CHILDS, South Deerfield, Mass.—*Harvester.*—February 9, 1864.—The nature of this invention will be understood from the claim.

Claim.—In a harvesting machine having two driving wheels a compound frame consisting of an outside frame and an inside frame, and both frames connected to the axle of the driving wheels, the finger bar being attached to the outside frame, and located forward of the driving wheels, and the draught pole being attached to the inside frame, so that when the finger bar is folded it will cross the draught pole and hold the two frames together as set forth.

No. 41,567.—ROSWELL R. BROOKS, assignor to Himself and G. H. HORTON, Weedsport, N. Y.—*Water-Wheel.*—February 9, 1864.—This invention relates to that class of water-wheels in which the wheel is placed on a vertical shaft enclosed within a scroll and the water discharged at the outer part of the wheel. Within the scroll is placed a partition plate of curved form so as to divide the scroll into two compartments communicating with the wheel at two opposite sides. At the mouth of the scroll is a gate hung upon a vertical shaft, so that when open it will form a continuation of the partition and admit the water to the wheel at two opposite sides.

Claim.—The combination of the gate E with the extremity of the partition plate C, in the manner herein shown and described, so that when said gate is open it will form a continuation of the plate C, and will at other times simultaneously regulate the flow of the water through both of the compartments *c c'*, all as set forth.

No. 41,568.—**James A. Busher**, assignor to Himself and **George R. Eager**, East Boston, Mass.—*Neck Scarf and Collar Supporter.*—February 9, 1864.—This invention consists in the employment of a piece of card or a thin metallic plate suspended from the button of the collar by means of an elastic cord or spring. The upper part of the scarf is folded over or bent around the lower edge of the supporter, after which the said edge and the part so lapped are turned upward and passed underneath the collar.

Claim.—A collar and scarf supporter, made substantially as described and combined with a collar and scarf, in manner and for the purpose as explained.

No. 41,569.—**Arion M. Clark**, assignor to Himself, **Artemas B. Vant**, and **Horace Cook**, Chicago, Ill.—*Cultivator.*—February 9, 1864.—This invention relates to that class of cultivators which are supported upon wheels and stride the rows, and it consists in an arrangement of levers and connecting rods with the draught pole and axle by which the draught is regulated and equalized, and also in an arrangement of parts for raising the lower frame from the ground and adjusting the inside ploughs from one side to the other, to adapt them to the irregularities of the rows.

Claim.—First, the combination and arrangement of the evener B, the bent levers *a a*, and the draught rods *c c*, with draught pole A and axle H, all arranged and operating substantially as and for the purposes herein delineated and set forth.

Second, the combination and arrangement of the U-shaped strap *d*, the anti-friction roller *f*, and the staple *e*, with the adjustable bars F and the levers I, constructed with a curved end, substantially as and for the purposes herein shown and specified.

No. 41,570.—**Jesse A. Crandall**, assignor to **Mary Crandall**, New York, N. Y.—*Spring Rocking-horse.*—February 9, 1864.—This invention consists in mounting the horse on a rocking shaft which is journailed in a base frame, and arranging springs before and behind the rock shaft so that when the front part of the horse is forced down the spring or springs in front of the rock shaft shall yield to such impulse and gradually arrest and then force it back for the reverse impulse, which will be in turn met in like manner by the spring or springs behind the rock shaft. One end of the horse is connected with one end of the rock shaft by a hinge or turning joint, and the other end thereof with an opposite arm of the said rock shaft by a shifting notched sector, so that the inclination of the horse relative to the base frame may be readily changed.

Claim.—Mounting the horse, or equivalent riding frame, on a rocking shaft mounted substantially as herein described, in combination with the springs placed in front and behind the rocking shaft, substantially as herein described, the spring or springs on one side of the rocking shaft yielding to and resisting the impulse given in one direction, and the spring or springs on the opposite side yielding to and resisting the impulse given in the opposite direction, substantially as specified.

Also, connecting the horse, or equivalent rocking frame, with the arms of the rock shaft, or equivalent thereof, at one end, by a hinged or turning joint, and by a notched sector, or equivalent thereof, substantially as described, by means of which the inclination of the horse or riding frame relatively to the base frame can be readily increased or decreased, as set forth.

No. 41,571.—**A. F. Cushman**, Hartford, Conn., assignor to **Horace B. Langdon**, New York, N. Y., and **Rollin J. Ives**, Bristol, Conn.—*Box Plane or Scraper.*—February 9, 1864.—This device consists of a plane or scraper with a cast iron curved stock and slotted grooved head to which the knife is secured by a screw clamp in such a manner that the same can be adjusted to take fine or coarse chips as may be desired. The knife is made with four cutting edges, each of which can in turn be brought in a working position.

Claim.—A box plane or scraper constructed with a cast iron stock A, adjustable knife D, and screw clamp E, all as herein shown and described.

No. 41,572.—**Albert Eames** and **Clark Marsh**, Bridgeport, Conn., assignors to the **Wheeler and Wilson Manufacturing Company**.—*Sewing Machine.*—February 9, 1864.—This invention consists in the combination of an eye-pointed needle and a bobbin, such as is used in the "Wheeler and Wilson" machines, with a hook of such a shape and construction as to dispense with the pad of leather or bristles used in the said machines, or other stationary contrivance which acts in connexion with the hook to detain a loop that has just surrounded a bobbin until a new loop is seized by the hook, thus preventing entanglement and breaking of the thread.

Claim.—The combination of an eye-pointed needle, and a bobbin with a rotating hook so shaped, substantially as described, as to have the mode of operation substantially as herein set forth, whereby a pad is dispensed with in making a lock or shuttle stitch.

No. 41,573.—**Henry H. Elwell**, South Norwalk, Conn., assignor to the **Norwalk Lock Company**.—*Lock.*—February 9, 1864.—This invention relates to a means for actuating the latch bolt for the purpose of obtaining a better leverage power than by the usual plan, and admitting the use of a more uniform spring. The arrangement is shown in the engraving.

Claim.—The peculiarly-shaped lever E, pivoted to the lock case as described, in combination with the hub D, spring F, and latch bolt C.

No. 41,574.—**Philip Groel**, Meadville, Penn., assignor to **L. E. Holden**, of Cleveland, Ohio.—*Hand-car Crank.*—February 9, 1864.—This invention consists in constructing the crank with a double ratchet fitting into a notched flange, the ratchet being kept in position by means of a piston in connexion with a spring, so that in case the arm of the crank should come in contact with the person on the car, the ratchet will not operate in a reverse direction, but remain at rest while the car moves on by its own momentum.

Claim.—First, the reversible ratchet B B, made in the manner and for the purpose substantially as specified.

Second, the piston C C, made in the manner and for the purpose substantially as specified.

Third, a reversible hand-car crank composed of the following devices: the notched flange A A, the reversible ratchet B B, the piston C C, in combination with a spring either elastic or metallic, a lever arm or common crank connected with a shaft to which power is to be communicated, substantially as specified.

No. 41,575.—**Elbridge Harris**, Boston, Mass., assignor by mesne assignments to **William W. Lyman**, of West Meriden, Conn.—*Fruit Jar.*—February 9, 1864.—The neck of the jar is formed of metal or other material secured to or forming part of the bottle, and is provided with projections at its edges which form a groove or depression for the reception of an elastic band over which the cover, having tapering sides, is forced.

Claim.—First, forming a groove or depression in or around the neck of a vessel, for the retention of an elastic ring or band, impervious to air, substantially as and for the purpose described.

Second, the employment of an elastic ring or band, when used between the rim of a cover and the neck of a vessel, substantially as and for the purpose described.

Third, as a new article of manufacture, fruit jars composed of the rim cap G G′, elastic ring or band B, and jar or vessel D, substantially as and for the purpose described.

No. 41,576.—**Edward Harrison**, assignor to **R. W. W. Simpson**, New York, N. Y.—*Composition for Gunpowder, &c.*—February 9, 1864.—This invention consists in the addition of amorphous phosphorus to ordinary gunpowder for the purpose of obtaining a quicker ignition and more forcible explosion.

Claim.—The gunpowder or explosive compound herein described, composed of ordinary gunpowder and amorphous phosphorus.

No. 41,577.—**Edward Harrison**, assignor to **R. W. W. Simpson**, New York, N. Y.—*Inflammable Composition for Filling Projectiles.*—February 9, 1864.—The nature of this invention is explained by the claim. The compound is designed for incendiary shells and can be made to burn more or less slowly by varying the proportions of its component parts.

Claim.—The within described inflammable or incendiary compound composed of gunpowder, amorphous phosphorus, and bi-sulphide of carbon.

No. 41,578.—**Edward Harrison**, assignor to **R. W. W. Simpson**, New York, N. Y.—*Explosive Composition.*—February 9, 1864.—This invention is explained by the claim. It is alleged that the absence of sulphur in this composition will obviate the danger resulting from the use of chlorate of potash in gunpowder.

Claim.—An explosive compound composed of chlorate of potash, charcoal, prussiate of potash, and starch of flour, with or without cyanuret of zinc, substantially as herein specified.

No. 41,579.—**Zebulon Hunt**, Hudson, N. Y., assignor to Himself and **William J. Miller**, of Greenpoint, N. Y.—*Cooking Stove.*—February 9, 1864.—This invention consists in forming a vertical pipe flue in the centre of the space between the inner and outer back walls of an elevated oven for cooking stoves by means of a trough-shaped piece of cast iron, with flaring or flanged edges screwed on vertically to the inside of the outer back wall of the oven, in combination with a corresponding vertical recess in the back wall or plate. A damper is located in the flue of the oven so as to make a direct or reversible flue as desired.

Claim.—In the back flues of elevated ovens, the trough-shaped flue-piece A, combined with the projection C to complete the flue, and with the damper B, situated at the bottom of the flue, as above described.

No. 41,580.—**William S. Huntington**, Andrusville, N. Y., assignor to Himself and **James Robertson**, of Alexandria, Va.—*Safety Valve Arrangement.*—February 9, 1864.—The object of this invention is to provide an automatic device for relieving the pressure in a steam boiler when an excess of pressure occurs from the stoppage of the engine or from any other cause. The device consists of the usual lever, to the end of which is attached a spring balance, having its lower end held in position by a toothed rack which gears into a sector forming a part of a lever I′, and which is held in position by a pawl fitting in slots in the circular guides H H. An additional rod is attached to the lever at a point near the spring balance, and at its lower end this lever is attached to a cam N in such a manner that when the pressure in the boiler is greater than is desired, the cam is made to act upon the pawl and raise it from the slots which allows the rack to rise from its position, when the valve rises from its seat and effects the desired object.

Claim.—First, the combination of the levers $C\ I'$, rods E L M, spring pawl K and cam N, operating in the described connexion with the circular guide H.

Second, the combination with the spring balance D, of the lever I', spring pawl K, and notches *h*, for the purpose explained.

No. 41,581.—HENRY JAMES, Norwalk, Conn., assignor to Himself, N. S. SEELY, Stanford, Conn., and WILLIAM H. SEELY, Brooklyn, N. Y.—*Machinery for Finishing Cloth.*—February 9, 1864.—This invention consists in the employment of two brush cylinders in connexion with guide rollers arranged for guiding the cloth in contact with the brushes. Between the brush cylinder are interposed three calendering rollers.

Claim.—The combination of the two brush cylinders E F, the system of guide rollers *a a b b*, and the three interposed calendering rollers, the whole arranged and operating substantially as herein specified.

No. 41,582.—EDMUND LORD, assignor to Himself and SIDNEY BUCKLEY, Taunton, Mass.—*Yarn Guide for Spinning Machines.*—February 9, 1864.—This invention consists in providing the eye of the yarn guide with a notched arm projecting downwardly and having a notch or recess upon one side of it for the purpose of catching a yarn after it may have become broken between the guide and the draw rollers, and break it at or near the bobbin in order that it may not be thrown by the latter so as to become entangled with other yarns in its vicinity, or become wound upon adjacent parts of the spinning machinery.

Claim.—The improved yarn guide as made with or having combined with its eye a notched projection *a*, arranged relatively thereto, substantially in manner and for the purpose hereinbefore specified.

Also, the guide as made with the notched projection *a*, and with its eye formed with the auxiliary bend *f*, and in other respects substantially as represented in the accompanying drawings.

No. 41,583.—CALEB S. STEARNS, assignor to Himself and THOMAS COREY, Marlborough, Mass.—*Machine for Splitting and Stripping Leather.*—February 9, 1864.—This machine is composed of a drum provided with a recess for the reception of the jaws of the grasping mechanism. Over the drum is arranged a long knife supported by the frame and provided with a spring presser at its rear. In advance of the drum are two grooved rollers, between which and the drum is arranged an auxiliary knife or guide shear; and secured to a cross-bar in front of the rollers is a series of knives, which pass into the grooves of the rollers and direct the leather to be cut by them toward the rollers, and also assist in supporting the same.

Claim.—The combination and arrangement of the drum B and its grasping mechanism, the spring presser D, and the splitting knife C.

Also, the combination and arrangement of the drum B and its grasping mechanism, the spring presser D, the knife C, the auxiliary knife or guide shear G, the two rollers E F, and the series of knives H H, the whole being substantially as described.

Also, the arrangement of the knives H H with respect to the rollers E F, so as not only to extend between the rollers, but into grooves in each, in manner substantially as specified, whereby the knives, besides being supported by the rollers, have their cutting edges brought close up to the bite of the rollers.

No. 41,584.—LUTHER F. THAYER, Randolph, Mass., assignor to WILLIAM FAXON, North Bridgewater, Mass.—*Lasting Tack.*—February 9, 1864.—This invention consists in making the head of the tack with two flat and parallel, or nearly parallel, sides and a curved upper surface, so as to enable it to be readily seized by the pincers and avoid being caught by the threads in the process of sewing the leather held by the tack.

Claim.—The improved lasting tack, as made with its head round or curved, and having flat sides arranged with respect to the same, in manner substantially as described.

No. 41,485.—JAMES B. WAYNE, assignor to Himself and HENRY M ROBINSON, Detroit, Mich.—*Rock-breaking Machine.*—February 9, 1864.—Placed upon the operating shaft is a lifting and a lowering cam, the latter presenting itself under the roller *k*, so as to allow the sleeve to descend easily upon its rod and be ready for the lifting cam. The motion of the lifting cam acts upon a roller E on the end of a link d', and imparts a horizontal motion to a corrugated die against the corrugated part of a rod pressing firmly against it and causing a pin d'' to rest against yielding cushions until the corrugations are firmly locked together. When the cam A has lifted the stem and sleeve, the link d' becomes free to drop, and the corrugated die is forced back by the weight of the descending rod, so as to be ready for the succeeding lift of the cam A.

Claim.—First, the use of a separate lowering-down cam *b*, Fig. I, substantially as described, for lowering down the clutch C.

Second, the link d', Fig. 1, or its equivalent, in connexion with the sleeve C', one end pressing against the die *h* in an upward direction, and the other end fitted with a pin d'', resting on cushions $g'\ g'$ of India-rubber, or their equivalent, and pulling against the sleeve C', thereby avoiding any outward or breaking strain on sleeve C', but produing an inward pressure at each end of link d', substantially as described.

Third, the use of roller E, Fig. 1, in connexion with link d' and lowering-down cam *b*, thereby destroying the tendency to friction, as is the case in working against a flat surface, as in use now.

Fourth, the use of an inclined guide *f*, Fig. 5, thereby allowing the rod or stem *i*, Fig. 1, to move on its axis at every upward motion of the same by action of cam A, substantially as described.

Fifth, the use of a corrugated die *h*, Fig. 6, in connexion with sleeve C' and link *d*, Fig. 1, substantially as described.

No. 41,586.—ROBERT D. WRIGHT, assignor to Himself and L. B. HOLLAND, of St. Louis, Mo.—*Steam-Engine.*—February 9, 1864.—This invention consists in a combination and arrangement of devices, by means of which the cylinders of engines are made to reciprocate, and thereby perform the functions of piston rods. The water cylinder, together with the working parts of the water engine, are made to operate conjointly with the steam cylinder by means of suitable connexions, so that the steam-engine may be employed as a feed pump for the boilers used, or as a force pump for other purposes.

Claim.—First, the combination and arrangement of the cylinder A, piston head *l*, pipes $g\ g'\ h\ h'\ k\ k'$, and valve *e*, all being constructed and adjusted to operate substantially as herein described for the purposes set forth.

Second, operating pumps constructed as herein described, by means of reciprocating steam cylinders, having direct attachments to the water cylinders, and being thereby arranged to operate as and for the purposes set forth.

No. 41,587.—CYRUS W. SALADEE, Paducah, Ky.—*Game Cards.*—February 9, 1864.—This invention consists in combining a number or letter with an emblem, such as a heart, spade, &c., so that upon seeing the emblem, which may be in a corner, the denomination of the card is at once understood.

Claim.—First, the combination of a number or letter with an emblem of the designation of the various denominations of playing cards, substantially as herein specified.

Second, placing the device for designating the card in a corner or margin of the card, for the purposes herein specified.

No. 41,588.—HENRY W. ADAMS, New York, N. Y., and W. S. WORTHINGTON, Newton, N. Y.—*Amalgamating and Collecting Gold and Silver.*—Issued February 16, 1864; antedated February 12, 1864.—This invention consists in pulverizing the quartz or metalliferous substances containing precious metals to an impalpable powder, and precipitating and discharging this dust either in a calcined or otherwise prepared condition, in order to isolate the metallic particles from their sulphurous or other foreign combinations into an atmosphere of hot vapor of quicksilver. On the upper end of a vertical stationary cylinder is fitted a short cylinder, which is made to turn therein, the same being provided with a screen or hopper. Below the stationary cylinder is a pan in which stirrers are made to operate. Communicating with the main cylinder, by means of a tube placed a little below the screen in the upper cylinder, is a furnace or still for boiling or distilling the quicksilver which falls with the calcined particles of ore through the stationary cylinder.

Claim.—First, the precipitating or discharging of the pulverized quartz in a shower into an atmosphere of hot vapor of quicksilver, substantially in the manner herein shown and described.

Second, the cylinder C, provided with a screen D, and arrranged and operated as shown for the purpose specified.

Third, the stirrers N and pan M, either or both, having a rotary motion, in combination with the cylinder B, rotary screen cylinder C, and furnace or still J, as and for the purpose specified.

Fourth, operating the stirrers N or the pan M from the shaft I, when the said shaft is arranged, as shown and provided, with a wiper-wheel A to operate the screen cylinder C.

Fifth, the means employed for preventing the escape of the vapor of the quicksilver from the cylinder B, to wit, the annular water chamber *a*, into which the lower end of the screen cylinder C is fitted, and the funnel L at the lower end of the cylinder B extending into the pan M and below the surface of the water contained therein, substantially as set forth.

No. 41,589.—HENRY A. ALDEN, Matteawan, N. Y.—*Stuffing for Mattresses, &c.*—February 16, 1864.—This invention consists in the use of sponge, from which all calcareous substances are removed by means of muriatic acid. It is then subjected to the action of a picker or stuff engine, by which it is cut into small particles and afterwards baked or heated in a suitable oven.

Claim.—As a new manufacture the production of mattresses, chair-seatings, and other articles of furniture, bedding, &c., in which the stuffing is composed of sponge prepared in the manner substantially as herein set forth.

No. 41,590.—ENOS G. ALLEN, Boston, Mass.—*Metallic Cartridge.*—February 16, 1864.—The nature of this invention is explained by the claim.

Claim.—Forming a metallic flanged cartridge case, imperforate and charged with the fulminate at its flanged end, and at its outer end swayed over the equator of the ball or head cap, so as to hold it close, and tapering so as to give certainty to the entry of this end into the barrel without obstruction, and secure a close fit to the chamber to prevent the escape of the gases therein; the said cartridge case containing buck or other shot in its anterior portion, and powder in its posterior, the two to be separated by a wad of sufficient capacity and fitting with sufficient accuracy to prevent the escape of the explosive gas among the shot; all arranged precisely and specifically as described in the specification and drawing.

No. 41,591.—Samuel F. Allen, Chicago, Ill.—*Feed-water Heater for Locomotives.*—February 16, 1864.—This invention consists in certain devices by which the boilers of locomotives can be supplied with hot water for the purpose of facilitating the production of steam. The heater is connected with the exhaust pipes by the compound pipes R, which are designed to convey a sufficient quantity of steam into the heater to raise the water to the desired temperature. The said pipes are provided with a valve for regulating the supply of the exhaust steam, and are secured together by means of a yoke and set screws, so that one pipe can be removed without disturbing the other.

Claim.—The combination of the compound pipes R, the exhaust pipes T, the regulating valve A2, the deflecting tongues *e*, the yokes X, and the heater *g*, substantially as herein set forth.

No. 41,592.—Thomas K. Anderson, Hornellsville, N. Y.—*Stove-pipe Thimble.*—February 16, 1864.—This invention consists in covering the inner face of the wall of the thimble with protuberances which support the pipe and thus preserve the brightness of the metal of which it is composed.

Claim.—The tin or zinc cylinder D, having a bright surface, and indented throughout its surface with protuberances, in the manner as and for the purposes herein described.

No. 41,593.—Samuel Augsburger, Trenton, Ohio.—*Harvester.*—February 16, 1864.—This invention consists in the employment of a detachable elevating device of the form shown in the illustration, which may be attached to the points of the ordinary fingers of a harvesting machine for the purpose of more effectually elevating the fallen and tangled grain, so as to properly present it to the cutters.

Claim.—A detachable elevating device for lodged or tangled grain, mounted rigidly upon and supported by the fingers C, and consisting of a horizontal arm D and inclined arm F, occupying the same vertical plane, the latter being attached by its intermediate part to the front of the horizontal arm D, and projecting in front, below and beyond the same, all as herein shown and described and for the purposes specified.

No. 41,594.—James J. Beard, Columbus, Ohio.—*Iron Bridge.*—February 16, 1864.—This invention consists in the construction of arched bridges made in segments of cast iron, each segment having a socket in one end to receive the ends of adjoining segments that fit into the said sockets. Upon the sides of the segments, and cast therewith, are knobs or ears upon which the stringers are secured, and through which iron rods can be passed to aid in supporting the structure.

Claim.—The arrangement and combination of the segments A A, having bosses *a a a* on both sides with which to connect the bolts *c c* and the pillars *d d* for securing the beams or string pieces D D, and supporting the structure in the manner as and for the purposes specified.

No. 41,595.—Erasmus Bennett, Clarksville, N. Y.—*Wagon Brake.*—February 16, 1864.—This invention consists in applying to the ordinary pole of a wagon two hounds, situated one on each side of the same, and sliding with the pole backwards and forwards between two other hounds which are secured to the forward axletree of the wagon. The sliding hounds and pole are provided with an elongated slot in each, through which a bolt passes, which is firmly secured to the outer or fixed hounds. An eye bolt or pin is inserted behind the draught pin through the pole when it is desired to prevent the rubbers from acting.

Claim.—The sliding hounds and pole, when used in connexion with the arms M N and rods Q R, connected with the rubbers T U and eye bolt or pin Z, all arranged and combined as set forth and for the purposes specified.

No. 41,596.—William Bickel, Pottsville, Pa.—*Stove*—February 16, 1864.—The object of this invention is to enable coal dust to be used as fuel in stoves. The grate is composed of a series of upper and lower bars, connected together by vertical bars, the lower set or series being arranged to slide out through the front plate of the stove. Above the grate, and extending through the sides of the stove, is arranged a series of pipes provided with apertures, and open at each end for the admission of air which passes through the perforations to the burning fuel. The ends of the pipes are provided with registers, so that the supply of air may be shut off when desired.

Claim.—First, a barred or perforated grate consisting of upper horizontal plates *a a a*, vertical plates *b b b*, lower horizontal plates *c c*, sliding in and out through apertures *c′*, all as herein shown and described and for the purposes specified.

Second, the pipes C C C extending completely through the fire above the grate B, open at both ends, and provided with a series of apertures *a**, to provide a more free and full supply of air to the fuel when used in combination with registers to open or close either end of all the pipes, simultaneously as explained.

No. 41,597.—Matthew C. Borgia, Philadelphia, Penn.—*Handle for Stamps.*—February 16, 1864.—This invention consists in making the entire handle of a stamp of gum-elastic, instead of making a portion only of the same material, as usual heretofore, for the purpose of preventing the jar, &c.

Claim.—The gum-elastic tube or block B, fitted to the die as set forth, when the said tube or block is of such a size and shape as to form the entire handle of the stamp for the purpose specified.

No. 41,598.—John Briggs, Roxbury, Mass.—*Draught Regulator for Stoves and Furnaces.*—February 16, 1864.—This invention relates to that class of damper regulators which are designed to be automatic in their operation. The damper is actuated by a lever which rests upon the apex of an expansible cone-shaped drum upon the top of the stove, and the extent of movement of the damper may be regulated by an adjustable stop in connexion with a spring.

Claim.—The improved draught regulator, consisting of the expansion drum F, its lever H, the valve M, and the adjustable stop *i* and spring *e*, the whole being applied to a furnace or heating apparatus, and constructed in manner and so as to operate substantially as described.

No. 41,599.—F. W. Brocksieper, Bridgeport, Conn.—*Gas Regulator.*—February 16, 1864.—This invention consists in the arrangement and adaptation of an adjustable regulating slotted screw inserted in the conical valve which is attached to the flexible diaphragm of gas regulators for the purpose of regulating the supply of gas from the feed pipe to the chamber and burner.

Claim.—The arrangement and application of the slotted adjusting screw A, or its equivalent, to the aperture in the valve D, or in the valve seat alongside of the same, in the manner and for the purpose substantially as herein set forth and described.

No. 41,600.—Robert D. Brown, Covington, Ind.—*Hames.*—February 16, 1864.—The object of this invention is to construct the hames in such a manner as to enable a single pair to be readily fitted to the necks of horses of different sizes. Upon the top of the bow is fitted a sliding metallic cap, constituting an adjustable tube or socket; through one side of this cap is screwed a rim ring, which serves to retain the cap in any desired position upon the bow. A metal plate may be inserted on the inner side of the bow to receive the point of the rim ring.

Claim.—The cap C, provided with the screw D, in combination with the bow A, provided with the plate E, substantially as desibed.

No. 41,601.—Stillman P. Campbell, Rochester, Minn.—*Neck Yoke.*—February 16, 1864.—Upon the end of the yoke is a metallic ferrule, provided with projections on their under sides. The coupling D is formed of a metallic ring permanently attached to the breast-straps, and has a plate *d* near the upper end through which the breast strap rings are inserted. The martingale strap is attached by means of a ring *e* inserted through a hole in the inner side of the coupling, below the plate *d*.

Claim.—First, the ferrule C, provided with the projections *c c*, in combination with a ring D, provided with a cross plate and breast strap rings as at *d*, substantially as described.

Second, the martingale ring *e* in combination with the ring D and ferrule *c*, substantially as described.

No. 41,602.—William Campbell, Waterloo, Penn.—*Combination of a Wash-Stand and Water-Closet.*—February 16, 1864.—This invention consists of an article of furniture combining a wash-stand, towel rack, chair, and water-closet, and so arranged as to be readily convertible into a table or desk, at the will of the occupant.

Claim.—First, a wash-stand constructed with a movable or sliding top G, a seat *c*, and chamber compartment A, arranged substantially as described.

Second, so applying the movable top G to the body of the cabinet that it can be made to serve as a support or desk for a person sitting in the seat, substantially as described.

Third, a combined convertible wash-stand and privy chair, constructed substantially as described.

No. 41,603.—Orman Coe, Port Washington, Wis.—*Plough.*—February 16, 1864.—This invention consists in the employment of a revolving pulverizer, provided with flattened and curved teeth, and arranged and supported in the rear of the plough beam, in a plane obliquely to the line of draught, in combination with a plate which forms a wide channel in the ground to allow the tines to enter therein freely.

Claim.—First, the curved tined pulverizer, arranged and supported in rear of the plough beam A, in a plane obliquely to the line of draught, in combination with the plate *b*, which forms a wide channel in the ground to allow the tines to enter freely, substantially as and for the purposes described.

Second, although I do not claim broadly a revolving pulverizer having teeth on its edge, I do claim such having flattened and curved teeth, substantially as shown and described.

Third, arranging in rear of the colter standard of a subsoil plough the revolving curved toothed pulverizer, substantially as described.

No. 41,604.—Isaiah B. Conklin, Pemberton, N. J.—*Dumping Cart.*—February 16, 1864.—This invention consists in the employment of a pivoted bar, which is held in its normal position by means of springs in connexion with suitable catches attached to the cart body and adapted to automatically secure the latter when restored to its working position after dumping the load.

Claim.—The bar F, pivoted to the shafts C, and controlled by springs f' and staples G, when used in combination with the hooks H H, rigidly attached to the cart body A, all as herein shown and described and for the purposes specified.

No. 41,605.—D. E. Crosby, Brooklyn, N. Y.—*Pocket Calendar.*—February 16, 1864.—This device consists of a disk of metal, of convenient size for the pocket, having a smaller disk pivoted to it centrally, and bearing a spring upon its axis which presses against the larger disk with sufficient friction to prevent its being too freely turned. The days of the week, or their initials, are stamped upon the smaller disk, and the numerals for the days of the month are stamped upon the larger disk in seven radial columns corresponding with the days of the week.

Claim.—The employment or use of a spring *c*, or its equivalent, in combination with the dial B and disk A, as and for the purposes specified.

No. 41,606.—John Cundy, Philadelphia, Penn.—*Soap Dish.*—February 16, 1864.—This invention consists in providing a wooden soap dish with an inclined ledge and two compartments separated from each other by a movable perforated plate of metal for the purpose of allowing the water from the soap to pass from the same into one of the compartments, whence it can be emptied.

Claim.—The wooden bowl A having an inclined ledge *d*, and two compartments separated from each other by a movable or detachable perforated plate B of metal, all as set forth.

No. 41,607.—D. M. Dake and S. L. Hockert, Pittsburg, Penn.—*Uterine Supporter.*—February 16, 1864.—This device is composed of two curved wires provided with braces and set screws in such a manner that pads for adaptation to the various abdominal complaints can be readily adjusted to the body without interfering with the action of the abdominal muscles and viscera.

Claim.—The arrangement of the curved wires A A passing through vertical holes in the front brace B, and held in position by means of set screws P P when used in combination with the inguinal or pubic pads N N, having a lateral or adjusting motion in the long slots *n n*, and with the central hole L and tightening screw *m*, for holding different instruments in the manner and for the purposes herein set forth.

No. 41,608.—William F. Davidson, Cincinnati, Ohio.—*Bottle-filling Machine.*—February 16, 1864.—The liquid to be bottled is drawn from the barrel through a suction pipe by a piston, a valve being arranged so as to prevent the return of the liquid. The liquid is let into the bottle from the pump cylinder, a valve C being operated by means of levers and rods. This valve is caused to close by a spring bar acting automatically, and the plunger D is raised as soon as pressure is removed from the treadle.

Claim.—First, the provision of the valve-guarded inlet K L and flexible or other suction pipe M in the described combination with a bottle-filling syringe, substantially as set forth.

Second, the provision of a stopper or valve C at the ventage of a bottle-filling syringe, said valve being made to close and open automatically in conjunction with the action of the piston, substantially as set forth.

No. 41,609.—William S. Deisher, Hamburg, Penn.—*Grain Cleaner.*—February 16, 1864.—Extending over the curb which encompasses the stones is a suction blast spout of inverted V-form, in one of the sides of which is an opening having at its lower edge a series of teeth which serve to spread the grain as it falls through the opening. In the upper part of the blast spout are two adjustable valves or sides of V-form, for the purpose of regulating the discharge of light grain and cockle or chess in the inner tubes. To the lower end of the shorter side of the blast spout is attached a fan box having two eduction passages, between which is placed a valve of curved or segmental form, and so arranged as to admit of the fan being rotated in either direction and to regulate the blast of air.

Claim.—The employment of the scattering teeth *i i i i* within the blast spout and at the edge of the curb opening *g*, in the manner and for the purpose herein shown and described.

Also, the employment of the adjustable angular guiding slides G when arranged to operate in conjunction with the blast spout F and tubes I, in the manner herein shown and described.

Also, the combination of the circular double-acting valve L with the discharge spouts $k\ k'$, all arranged in the manner herein shown and described so that the fan may be rotated in either direction, and so that the blast of air through the spout F may be always readily controlled, as set forth.

No. 41,610.—Robert Durning, Lawrenceville, Penn.—*Tool for Making Buckles.*—February 16, 1864.—This invention relates to a method of manufacturing buckles, such as are made with wrought-iron tongues and provided with friction rollers, and the invention consists in the employment of certain tools which may be used separately by hand, or so arranged as to be operated by mechanical means with any suitable power, and so constructed as to respectively open the eye of the tongue and close the same on the bar of the buckle to form the tubular friction roller, and to adjust the same on the roller bar of the buckle.

Claim.—The employment or use in the manufacture of harness and other similar buckles of a series of tools constructed, substantially as shown, for the purpose of opening the eyes of the tongues of the buckles, and closing the same in the buckles, and for forming the tubular friction rollers, and also adjusting them on the buckles, as herein set forth.

No. 41,611.—James B. Eads, St. Louis, Mo.—*Operating Ordnance.*—February 16, 1864.—This invention consists in raising and directing heavy guns by means of suitable mechanism operating upon the chassis or slide upon which the gun carriage recoils, so that while the muzzle of the gun is kept at or nearly at the same point, the proper aim is given, and the gun and its slide maintained in constant parallelism with each other. The pintle of the supporting frame is made hollow or tubular for the purpose of admitting and discharging the steam, air, water, or other element, for operating the mechanism that moves the gun.

Claim.—First, the raising or lowering of the gun slides or frame on which the gun carriage moves in a line so as to keep the axis of the gun in a line parallel therewith, and in such manner that the breech and trunnions of the gun are moved up or down while the muzzle of the gun is kept at nearly a fixed point, for the purpose of giving the necessary vertical range or aim of the gun, and thus obviating the use of a porthole larger than the muzzle of the gun, substantially as described.

Second, also the pivoting of the platform A that carries the gun or guns, and the mechanism for operating it or them on a hollow pin or pivot, for the purpose of admitting or of admitting and discharging the steam, air, water, or other element for operating the mechanism that raises or lowers or moves the gun to or from the port, substantially as described.

No. 41,612.—John Ericsson, New York, N. Y.—*Steam Engine.*—February 16, 1864.—This invention consists in the employment of a reciprocating weight attached to the cross-head of a steam-engine in such a manner as to have a motion directly the opposite of that in which the piston is moving, the said weight to be equal to that of the piston of the engine with its cross-head and connecting rod; the object being to so counterbalance the moving parts of an engine running at a high rate of speed as to prevent any tendency of the cylinder to become displaced and the shaking or vibrating motion usual in such engines.

Claim.—The employment of a reciprocating weight so connected with the piston of a steam or other engine as to move always in the opposite direction to the motion of the piston, and so proportioned as to operate substantially as herein specified.

No. 41,613.—Levi W. Fredrick, Ray, Ind.—*Horse-Rake.*—February 16, 1864.—This invention consists in an arrangement of curved bars and plates in combination with the thills for the purpose of connecting the thills at their forward ends to the hames of the horse-collar, thus forming the only attachment of the rake to the horse, and leaving the rear ends of the thills free to rise and fall as the rake revolves to discharge its load.

Claim.—The thills constructed of the parts D D F F, arranged as shown, when used in combination with and applied to the revolving rake, substantially as herein described.

No. 41,614.—Wilkenson Furnas, Ononwa, Iowa.—*Cultivator.*—February 16, 1864.—This invention consists in an arrangement of devices, designated in the claim, for the purpose of adjusting the ploughs to the width of different rows, giving them a lateral motion while in operation, and throwing them out of the ground while turning or passing an obstruction.

Claim.—The arrangement of the treadles I I, frame *b*, beams D, and guards G, with the frame A, levers H, and serrated bars *m*, all constructed and operating together in the manner herein shown and described.

No. 41,615.—George P. Ganster and Isaac S. Schuyler, New York, N. Y.—*Hand Grenades.*—February 16, 1864.—This invention consists of a fuze chamber communicating with the main explosion chamber through stoppered apertures; the said fuze chamber being closed on the exterior by a screw plug and adapted to contain a small quantity of gunpowder or other explosive material, which, being ignited by a percussion pellet or bulb placed in the fuze chamber just before the grenade is to be used, and broken by the fall of the latter, opens communication between the chambers and ignites the exploding charge.

Claim.—The combination of the chamber A B, cap C, plug *b*, frangible fuze D, and balls E, all constructed, arranged, and operating in manner as and for the purpose set forth.

No. 41,616.—WARNER GROAT, Green Island, N. Y.—*Railroad Journal Box.*—February 16, 1864.—This invention consists in the employment of a packing composed of wooden strips covered on their inner sides with leather or other suitable material, and fitted together within a chamber at the rear of the box, and secured by a wooden key in such a manner as to be readily adjusted to the axle as the bearing wears away, and also be capable of being readily removed when necessary. At the front end of the box is a removable plate or door so arranged as to be readily adjusted in position and removed for the insertion of the lubricating material and the removal of the bearing.

Claim.—First, the packing, composed of the wooden strips C C′, covered at their inner side with leather a^*, or other suitable material, and fitted together as shown, or in an equivalent way, within a chamber *a* at the rear of the box A, and secured by a wooden key D, substantially as herein set forth.

Second, the wooden plate or door G, fitted within the inclined front end of the box A, as and for the purpose specified.

Third, the metal plate H, fitted to the front end of the box A, in combination with the wooden plate or door G, arranged substantially as and for the purpose set forth.

No. 41,617.—ALEXANDER W. HALL, New York, N. Y.—*Timepiece.*—February 16, 1864.—This invention consists in the employment, in place of the ordinary hands of a clock or watch, of dials, containing the names of different localities, arranged in such relative position towards each other that, by the motion of disk-shaped hands on the dial of the clock or watch, the local time of all the places marked on the disks can be observed at any moment. Two or more sets of hands marked with the names of different localities, and moving on one and the same arbor, are combined with the dial of a clock or watch in such a manner that the local time of each of the places marked on the hands and the difference of time between the said places can be observed at a glance.

Claim.—First, the employment or use of disks B C in place of the ordinary hour and minute hands of a clock or watch, either one or both combined, said disks being marked with radial lines *c d*, and with the names of different localities or places, substantially as herein shown and described, so that by the motion of said disk or disks on the dial of the timepiece the local time and also the difference of time for the different localities can be determined.

Second, the use of two or more sets of hands *c d*, marked with the names of different localities and moving on one and the same central arbor *a* of a timepiece A, in the manner and for the purposes substantially as set forth.

Third, the adjustable indexes or local hands D E, in combination with the hour and minute disks B C of the timepiece A, constructed and operating in the manner and for the purpose substantially as specified.

No. 41,618.—LYDIA S. HALL, Washington, D. C.—*Vessel for Cooking by Steam.*—February 16, 1864.—This invention consists in the combination of a series of pans or kettles and compartments so arranged and constructed as to admit of various articles of different natures, both solid and fluid, being cooked by steam at one and the same time.

Claim.—First, the caster steamer, in combination with the boiler, constructed and operating substantially as described.

Second, the double steamer, in combination with the caster steamer, constructed and operating as above described.

Third, the combination of the double steamer, the caster steamer, and the boiler, constructed and operating as above described.

No. 41,619.—AUSTIN S. HART, Buffalo, N. Y.—*Steam Radiator.*—February, 16, 1864.—This invention consists in casting the pipes with a projection near the end of each on opposite sides and at right angles thereto; each alternate projection is "stopped off" or made solid, while the others have an opening through them, so that a continuous current of water may pass through the pipes of each tier. One projection is made to fit into the other, with a rubber packing between them, to make a water-tight joint.

Claim.—The cast pipes C, having a projection C′ near each end and on opposite sides, each alternate projection being "stopped off" or made solid, so that when the pipes are laid up in a stack there will be a good joint connexion formed at these projections, and a continuous current of water or steam caused to flow from the boiler through each tier of pipes, for the purposes and substantially as described.

No. 41,620.—ALONZO HICKS, Flushing, N. Y.—*Liquid Measure.*—February 16, 1864.—This invention consists in the employment of a twisted rotating rod fitted within a can or measure, and provided with a float which is made to move up and down upon the said rod as the contained liquid becomes increased or diminished, at the same time turning the rod. The upper part of the rod is provided with a hand that moves upon a dial, which latter is so marked as to indicate, in connexion with the hand, the amount of liquid remaining in the can or measure.

Claim.—The twisted rod *d* and float *e*, fitted as specified, in combination with a dial or index and vessel to contain the fluid to be measured, as set forth.

No. 41,621.—GEORGE HOPSON, Bridgeport, Conn.—*Safe.*—February 16, 1861.—This invention consists in forming the body of the safe of thin plates of steel alternating with similar plates of iron or other soft metal, placed edgewise, and united to each other so as to form one solid plate, either by welding or brazing.

Claim.—The compound burglar-proof construction, composed of annular rings or plates of hard material alternating with soft material, and welded or soldered together, substantially in the manner and for the purpose herein set forth.

No. 41,622.—JOHN F. HOSTETTER, Penn Township, Pa.—*Stump Machine.*—February 16, 1864.—This invention consists in the method of arranging a series of gear wheels fixed upon a block and made to operate a vertical screw shaft provided with claws at its lower end.

Claim.—The arrangement of the gearing C D X E F and K, in combination with the block A and long screw-shaft H, with its claws *h*, constructed and used in the manner set forth for the purpose specified.

No. 41,623.—CHARLES H. HUDSON, Ogdensburg, N. Y.—*Washing Machine.*—February 16, 1864.—This invention consists in the employment of rollers and a rubber placed within a suitable box attached to a swinging frame connected to the wash-board in such a manner that the rollers and rubber may be moved over the wash-board for the purpose of facilitating the washing of clothes by hand.

Claim.—The swinging and yielding posts C C, attached to a rock-shaft B, connected with the wash-board A, substantially as shown, in combination with the box F, provided with the rollers G G and elastic rubber I, the box being attached to the posts C C, and all arranged to operate as and for the purpose set forth.

No. 41,624.—W. H. HURLBUT and J. W. SHARP, Elgin, Ill.—*Door Weather-strip.*—February 16, 1864.—This invention consists in the employment of a semi-cylindrical rod or strip placed on pivots and fitted in the upper part of a water passage in the sill, and arranged in such a manner as to fit into a groove in the lower edge of the door when the latter is closed.

Claim.—The strip C in combination with the opening or passage *b* in the door sill B, and the slot *a* in the lower edge of the door A. all arranged substantially as and for the purpose set forth.

No. 41,625.—IRA JAMES, Mattoon, Ill.—*Hay and Cotton Press.*—February 16, 1864.—In this machine the shaft of the capstan is provided with a sleeve, to which the chain or cord is attached, the latter passing over pulleys in the toggles, whose lower extremities are fulcrumed to a cross rail of the frame, their upper ends being hinged to the follower. To the said sleeve is pivoted a pawl, which engages, when desired, with a ratchet on the capstan and causes the sleeve to rotate with the same. The sleeve is held stationary, when desired, by means of a brake consisting of a pressure band, lever, and yoke. The substance pressed is placed between two grooved battens confined by bars each slotted at one end and provided with a chain at the other end, which terminates in a head having a square shank, by which the operation of hooping is accomplished.

Claim.—First, the provision in a vertically acting beater hay press of sleeve P, ratchet and brake movements W and W X, and pulley and toggle movements Q S T, the whole being combined and operating substantially as set forth.

Second, the combination of the slotted bars J J J J, cams Z Z, catches 1, 2, and grooved battens C *c* G *e*, all constructed, arranged, and operating as herein shown and described, to enable the removal of the bale for hooping or binding outside of the press, in the manner set forth.

No. 41,626.—GEORGE W. LABAW, Jersey City, N. J.—*Bier.*—February 16, 1864.—This invention consists in providing the bier with folding legs, so that it may be placed in the hearse; and when at the burying ground be placed over the grave and form a frame-work, from which the coffin is lowered into the grave by means of a windlass, ropes, and pulleys suitably arranged for the purpose.

Claim.—First, the frame *b*, fitted as specified with the folding legs *c*, and sliding handles *d*, to form a bier adapted to the hearse, or to being carried by hand, as set forth.

Second, the pulleys *i i*, fitted as specified, with separate divisions for each rope, in combination with the cross shaft *e* and gears *g* and *h*, whereby all four ropes passing to the coffin will be let off or wound up with uniformity, as set forth.

Third, the pins *m*, introduced through the loops at the ends of the ropes, for disconnecting them as specified.

No. 41,627.—PHILIP LICHTENSTADT, New York, N. Y.—*Preparing Fibre from the Bamboo.*—February 16, 1864.—In preparing the fibre from the bamboo, the joints of the bamboo are cut out and the pieces are split into slivers, which are first treated with a solution of quicklime, nitrate of soda, and oxalic acid. They are then boiled in a solution of soda ash and afterwards bleached.

Claim.—The process of separating and disintegrating the fibre contained in bamboo, by treating it with a solution of lime, nitrate of soda, and oxalic acid, and preparing the textile material for manufacturing purposes, substantially as described.

No. 41,628.—Josiah Lohr, New York, N. Y.—*Fire Escape.*—February 16, 1864.—This invention consists of a mast or pole, provided with suitable platforms and rigging, and connected to an oscillating shaft which has its bearings in lugs rising from a revolving table or platform, in combination with a truck supporting said revolving platform, and with a suitable hoisting mechanism, in such a manner that the mast can be turned down to a horizontal position and at right angles with the axles of the truck, so as to be drawn through the streets, and can be raised to any desired angle and revolved with the platform in either direction to a position to facilitate the escape of persons or the removal of articles from a burning building.

Claim.—The combination of the revolving table E, oscillating shaft F, mast G, and windlass i, all constructed and operating in the manner and for the purpose substantially as herein shown and described.

No. 41,629.—Walter K. Marvin, New York, N.Y.—*Plates for Constructing Burglar-proof Safes.*—February 16, 1864.—This invention consists in preparing a sheet of metal, such as boiler plate, by rolling, so that it will be plain on one side and grooved or corrugated on the other. The grooves or corrugations are then filled with powdered emery, and over this is placed a plain sheet of boiler plate. The two plates are then clamped together, placed in a reverberatory furnace and heated to a welding heat, when they are passed between the rollers of an ordinary rolling mill. When heavy plates are to be prepared, both sheets of metal may be corrugated and the emery filled into the tubular spaces formed by bringing the two corrugated surfaces together. Bars for constructing the cells and gates of prisons may be formed in a similar manner.

Claim.—First, as a new composition of matter, iron or steel combined with emery, substantially in the manner and for the purposes set forth.

Second, combining emery with malleable iron or steel by rolling process, as set forth.

Third, the manufacture of plates or sheets of iron or steel by welding together two or more plates or sheets, having emery interposed, substantially as herein set forth.

Fourth, the method of making iron or steel plates having an emery core, or emery confined in cells throughout the interior, as described, by forming the same of two or more plates, either or all of which are corrugated, grooved, or having depressions or recesses formed therein for containing and holding the emery during the welding and rolling operations, as set forth.

Fifth, the manufacture of burglar-proof safes, prison bars, and other objects calculated to resist the action of cutting or piercing instruments of iron and steel, made in the manner hereinbefore described.

No. 41,630.—Charles McBurney, Roxbury, Mass.—*Mode of Fastening Hose to Couplings.*—February 16, 1864.—This invention consists in the employment of a clamp or strap, one of the ends or laps of which is provided with a projecting nib that slips into a hole made in the other end, the nib being kept in place by one or more screws passing through the laps.

Claim.—The within-described clamp, with its nib c and hole b secured in place by one or more screws d, substantially in the manner and for the purpose specified.

No. 41,631.—Richard L. Mills, Columbus, Ohio.—*Breech-loading Ordnance.*—February 16, 1864.—This invention consists in constructing the cannon with a steel-lined opening passing completely through the breech and provided with an oblong, round-cornered block fitted to slide therein, and operated by a yoke and lever. The yoke is constructed with hinged wings for the purpose of communicating motion to the block, and also to indicate its correct position for firing and permitting its ready removal. Between the block and rear of the opening in which it slides is interposed a wedge operated by a lever, for the purpose of pressing the block against the rear of the barrel when the piece is to be discharged. Over the elevating screw is arranged a ball head provided with a shank, by which it is secured to the screw, the head being received and held in a socket secured over the head of the screw by which it is attached to the gun. Within the breech is inserted a steel bushing for the block to work in, and in the bushing is a recess for the purpose of preventing fouling and reducing friction.

Claim.—First, a breech-loading cannon constructed with a steel-lined opening passing completely through its breech, and provided with an oblong, round-cornered block B fitted to slide therein, and operated by a yoke and lever, substantially as herein described.

Second, the yoke C constructed with hinged wings $c\ c'$, serving the combined purposes of communicating motion to the block, indicating its correct position for firing, and permitting its ready removal, all as hereinbefore explained.

Third, the wedge F applied and operated by the lever S, in the manner described, for closing the joint between the breech piece and the rear of the barrel.

Fourth, the combination of the screw G, movable ball G1, socket G2, and jointed nut I, all constructed and operating in the manner and for the purposes set forth.

Fifth, the recess R in the bushing Q, employed in the manner and for the purpose set forth.

No. 41,632.—George Mitchell, London, England.—*Floating Bag.*—February 16, 1864.—This invention consists of a bag of water-proof flexible material, provided with jaws secured to the bag by metal rivets, through which are passed screw bolts terminating at one end in eye-holes for the introduction of a chain or strap, the object being to render the bag water-tight for carrying letters or papers of value.

Claim.—The jaws B, when the same are provided with a recess f, and secured to the mouth of the bag A by rivets c, which do not extend to the ends of the jaws, in combination with the screw-bolts C or their equivalents, applied and operating as and for the purpose set forth.

No. 41,633.—John O. Montignani, Albany, N. Y.—*Securing Railway Bars.*—February 16, 1864.—This invention consists in the employment of a screw with an elongated or T-shaped head, made convex on its under side, so that when turned to the proper position one or other of the ends passes over and binds upon the lower flange of the rail.

Claim.—The combination of a double-hooked head with a wood screw, as described, for the purpose of securing railway bars to their wooden substructures, or any analogous use.

No. 41,634.—Hiram C. and Chauncey L. Moore, Springfield, Mass.—*Photographic Camera.*—February 16, 1864.—This invention consists in placing one or more lens tubes on a rotating disk in front of the camera, which is divided by partitions provided for each picture, in order to enable the operator to obtain an increased number of pictures on one sensitive plate with each lens.

Claim.—First, the combination of one or more lens tubes F F and rotary disk G when applied to and forming part of a camera box, substantially in the manner and for the purpose herein set forth.

Second, the combination of the handle H, stops $c\ c'$, and disk G, substantially as set forth, whereby the operator has complete control over the movement of the lenses.

Third, one or more lenses F F′ rotating about an axis eccentric to the axis or axes of said tubes, in combination with the partitions $a\ a'\ a''\ a'''$, when applied to and forming a part of a photographic camera, for the purpose substantially as herein set forth.

No. 41,635.—O. F. Morrill, Chelsea, Mass.—*Vapor Heater.*—February 16, 1864.—Within the elbow joint that connects the vertical with the horizontal conduit is a valve seat and valve formed upon a rod which at its rear end screws into and through a thin, flexible metallic plate or diaphragm, which is secured to a concavo-convex disk applied to and opening into the elbow joint, the connexion between the plate and the valve rod being such as to enable the latter to be drawn through and out of the plate in order that ready access may be had to the valve seat for cleaning it, and also to admit of the removal of the valve.

Claim.—The flexible or elastic plate l and its concavo-convex disk H, or the equivalent thereof, in combination with the pressure screw m or its equivalent, and the valve g and its seat f, the aerovapor burner B, its conduit D, or conduits D D′, and the reservoir C thereof.

Also, the arrangement of the valve g and its seat f, and the flexible diaphragm i, the concavo-convex disk H, and the conduit D, substantially as above described, so that the pressure of the fluid of the reservoir shall operate to open or aid in opening the valve, or moving it away from its seat, the closing of the valve being effected by a screw m or its equivalent, arranged with respect to and so as to act on or move the diaphragm, substantially as specified.

Also, the application of the valve rod h to the plate i, so as to enable the valve to be moved and access to be had to the valve seat through the plate i, substantially in the manner and for the purposes as specified.

No. 41,636.—Sylvester Munson, Joliet, Ill.—*Damper.*—February 16, 1864.—This invention consists in the employment of two semicircular or nearly semicircular slotted plates, arranged to slide one upon the other for the purpose of enlarging or diminishing the opening for the draught, or so that it may be turned in the pipe as usual.

Claim.—The damper or valve herein described and represented, composed of two plates $a\ a'$, arranged in relation to each other so as to operate in the manner and for the purpose set forth.

No. 41,637.—W. H. Pease, Dayton, Ohio.—*Tobacco Cutter.*—February 16, 1864.—This invention relates to a machine for manufacturing fine-cut tobacco, constructed in such a manner that the tobacco shall be fed by and between a pair of chain belts so arranged as to form a gradually contracting throat formed of two metallic platforms for feeding and compressing the tobacco for the operation of the cutters. Other devices are claimed, which do not admit of a brief description.

Claim.—First, the combination of the belts R and S and platforms V and W, composing a gradually contracting throat for compressing and feeding the tobacco, constructed and operating substantially as herein described.

Second, the belts R and S, when constructed as described, and in combination with a cutting device for cutting tobacco.

Third, the swinging frame B g, composed of bar B and plate g, constructed and operating substantially as described and for the purpose set forth.

Fourth, the rock shaft B2, in combination with brake *d*, sleeve D2. and lever *a*, for the purposes specified.

Fifth, the sliding journals *f*, wedges *s s*, and shoulders *s*2 *s*2, in combination with rollers *q* and T, constructed and operating substantially as described.

No. 41,638.—Samuel A. Porter, Prescott, Wis.—*Ash Leach.*—February 16, 1864.—This device is of a triangular shape in section, and supported upon uprights or standards by beams or shafts so as to allow it to tilt. The device is held in position by means of a hook and staples in the leach and upright.

Claim.—The manner in which the leach is suspended in a revolving condition, as herein described, and the hook and staples used to connect the leach with the frame or upright post to prevent its revolving, as herein described; the bearers or shafts with which the leach is suspended, and the manner of applying at or near the centre of gravity, as herein described, using for that purpose, the aforesaid wood and iron, or any other suitable material substantially the same, and which will produce the intended effect.

No. 41,639.—W. E. Pratt, Iowa City, Iowa.—*Water Elevator.*—February 16, 1864.—This device consists of a movable roller or barrel upon a shaft and provided with a bevel head for detaching the roller from the shaft to allow the bucket to descend, its velocity being regulated by the pressure of a lever upon the fixed portion of the roller head. At one end of the roller is a spiral spring which serves to move the barrel into gear with the hoisting apparatus. The bucket is provided with valves in its bottom that open for the reception of water, and a flat chain to draw it up without turning.

Claim.—First, the combination and arrangement of the movable roller or barrel E, the bevel head Q, the cylindrical portion *x*, and the spring T, with the ratchet wheel S, the pawl W, the shaft D, the crank I, and the lever K, substantially as and for the purpose set forth.

Second, the combination and arrangement of the movable roller or barrel E, the bevel head Q, the cylindrical portion *x*, and the spring T, with the rope F, the flat chain G, the bucket H, the rods M M, the valves L L, and the conductors P P, substantially as and for the purpose set forth.

No. 41,640.—G. W. Prout, Ashland, N. Y.—*Apparatus for Elevating Hay.*—February 16, 1864.—This apparatus consists of a tilting platform in combination with a frame or box placed under the load to be elevated, and with a suitable hoisting rope and tackle in such a manner that by drawing the rope under the frame and load, connecting it with the tilting platform and attaching it to a suitable capstan or windlass, the load can be lifted off from the wagon and dumped in a loft or other elevated place.

Claim.—The tilting platform G, applied in combination with a frame or box F, and with a suitable hoisting rope and tackle, substantially in the manner and for the purpose shown and described.

No. 41,641.—Adam R. Reese, Phillipsburg, N. J.—*Rake for Harvesters.*—February 16, 1864.—In this machine the raking mechanism is mounted in a bracket supported by an arm, the lower end of which is bolted to the finger beam, so that it may be readily detached when necessary. The rake shaft is rotated by means of an endless belt or chain encircling a pulley on the driving axle and a corresponding pulley on the rake shaft. The rake is prevented from descending too low by a stop upon the frame. The operation of the machine is such that as it advances through the field the rake arms are caused to enter the standing grain and press it back against the cutting apparatus which severs it. The continued backward movement of the arms then deposits the grain upon the platform, whence it is swept by the rake and discharged in gavels upon the ground.

Claim.—First, the combination of the yielding finger beam, the raking mechanism, and the main or gearing frame, when the several parts are constructed and arranged and operated substantially in the manner described, for the purposes specified.

Second, the combination of the bracket H upon the finger beam, in which the raking mechanism is mounted, with the stop S upon the main frame, when arranged and operating substantially as described for the purpose set forth.

Third, the combination of the rake shaft K with the driving shaft O by means of the endless chain M, when arranged and operating substantially in the manner described, for the purpose of driving the rake in any position of its shaft without the intervention of gearing, as set forth.

Fouth, the combination of the spindle K, ring *j*, and cam ring L, with the rake arms, substantially as described, for the purpose set forth.

No. 41,642.—J. A. Roth, Philadelphia, Pa.—*Fibrous Material from Corn-stalks.*—February 16, 1864.—The stalks are cut into small pieces, which are then passed between fluted rollers. The material is then boiled in water for a given time until all the soluble matter is washed out, and subsequently treated with a solution of caustic soda and washed, and a small quantity of sulphuric acid is added, after which it is bleached in the usual manner.

Claim.—First, the solving and abstracting of the components of the stalks of Indian corn by the application of one or more water baths, in a boiling state, over 212 degrees Fahr., as described.

Second, the use of the chemical agent after the water bath or the boiling of the material under treatment has been completed, in the manner and for the purpose as described.

Third, the combination of treatment or process of the fibres of the stalks of Indian corn, as described, and also the neutralizing of substance still adhering to the fibres after being washed by the application of sulphuric acid, or its equivalent, in the manner and for the purpose specified.

No. 41,643.—J. L. Runk, Nashville, Ill.—*Gang Plough.*—February 16, 1864.—This invention relates to that class of ploughs which have their beams supported by the axle of carriage wheels and require to be raised from the ground at every turn in the field and during transportation from place to place, and the improvement consists in a method of applying leverage to the plough frame so that the driver can readily, from his seat, raise or depress the ploughs; also in so constructing and applying the frame to an extensible axletree that the ploughs can be adjusted laterally with respect to the furrow-wheel for running into the "land" at any required distance.

Claim.—First, the combination of the pulleys *p p*, endless chain *i*, and adjusting lever G, with pivoted plough beams D D′ attached to the tongue C′ in front of the axletree, all operating substantially as described.

Second, the manner herein described of uniting the two parts of the axle and the hounds, so that when the axle is extended in length or shortened, the hounds will be adjusted to operate therewith, as set forth.

Third, the laterally-adjustable pulley standard E, in combination with the laterally-adjustable hounds C, plough beams D D′, and extensible axletree B, substantially as described.

Fourth, the combination of the pivoted plough beams D, extensible axletree B, and laterally-adjustable hounds C, in the manner and for the purpose specified.

Fifth, the specified construction of standard boxes N, so that they afford two bearings or supports *n n′* while made in one piece N, and otherwise operate, with wedges or set-screws, for the purpose set forth.

No. 41,644.—Charles A. Shaw, Biddeford, Me.—*Gas Fixture.*—February 16, 1864.—This invention consists in attaching to the neck of the plug of the stop-cock two collars, which are adjusted by means of set screws, each collar having on its periphery a stud, so adjusted in reference to each other and to a stop-pin on the pipe as to regulate the opening of the cock.

Claim.—An adjustable ring or rings, or an equivalent, in combination with the plug A and connector B, substantially in the manner and for the purposes set forth and specified, whether the said plug has a pin arranged in the manner described or not.

No. 41,645.—Joseph Sholl, Burlington, N. J.—*Cooking Stove.*—February 16, 1864.—This invention consists in the combination of a fire chamber, a hot-air chamber placed in the rear of the former, and an oven in connexion with a system of flues, in such a manner that the top of the oven will be heated by the products of combustion only, while the requisite heat is imparted to the front, bottom and rear of the oven by hot air.

Claim.—The fire chamber, hot-air chamber I and oven X, arranged as set forth, in combination with the system of flues herein described, whereby the top of the oven is heated by the products of combustion only, while the necessary heat is imparted to the front, bottom and rear of the oven by the air heated in the chamber I, as set forth for the purpose specified.

No. 41,646.—Dwight Slate, Hartford, Conn.—*Apparatus for Grinding Cutter-bits for Rifling Machines.*—February 16, 1864.—This invention consists in the employment of a sleeve or equivalent guide, so constructed that it may be applied to the rifling rod and rotated about the axis of the same, in combination with a slab of oil-stone or other similar abrading substance, which is so attached to the said sleeve that the rotation of the latter will cause the edges of the rifling cutters to be ground until they are of even height and perfectly concentric with the axis of the rod.

Claim.—The oil-stone slab *c* in combination with the sleeve *a*, or their respective equivalents, constructed, arranged and operating substantially in the manner hereinbefore set forth.

No. 41,647.—John Smith and John R. Savage, Philadelphia, Penn.—*Manufacture of Sulphuric Acid.*—February 16, 1864.—This invention consists in the employment of leaden pans heated by means of steam coils for the first concentration; the finished commercial acid being made by concentrating in leaden stills heated by steam pipes with a pressure of steam of about sixty pounds to the inch.

Claim.—First, concentrating sulphuric acid by subjecting it to the action of steam-heated worms in leaden pans, as described.

Second, concentrating the acid to a greater density by introducing it to a still containing a steam-heated worm, as specified.

No. 41,648.—Isaac Stratton, Swanzey, N. H.—*Mode of Manufacturing Wadding.*—February 16, 1864.—This invention consists in placing a brush cylinder having a very rapid velocity in contact with the sizing roller having a very slow velocity, and sprinkling a fine spray of sizing upon two sheets of batting formed of waste fibre, ground rags or shoddy, and uniting the bats under pressure whilst in the moist state.

Claim.—The mode of operation herein described of manufacturing a batting or wadding, the same consisting in the throwing the sizing in the form of a mist, simultaneously, upon the inner surfaces of two independent bats, and thus uniting these bats under pressure whilst in the moist state.

No. 41,649.—Alonzo L. Sweet, Norwich, Conn.—*Chimney Cap.*—February 16, 1864.—This invention consists in constructing the chimney cap of baked clay, glazed so as to present a hard surface to air and moisture. The upper part of the cap is made separate from the base or lower part, so that both parts may be rendered capable of being secured firmly in contact with the chimney, and either or both be used as desired.

Claim.—A chimney cap composed of a base B and pot C, constructed of clay moulded in the desired form and baked and glazed, substantially as herein set forth.

No. 41,650.—Asa F. Tarr, Rockport, Mass.—*Mosquito Bars for Windows.*—February 16, 1864.—This invention consists of a frame, corresponding in size to one of the sashes of a window, over which frame is stretched a netting. The frame is attached to the sash by means of hooks, and the height of the sash can be regulated at pleasure.

Claim.—The combination and arrangement of the sash *d* with the frame *c*, the net *f*, the hooks *a*, the bar *b*, and plate *c*, substantially as and for the purpose specified.

No. 41,651.—Simeon N. Taylor, Burnet, Wis.—*Knuckle-joint for Shafting.*—February 16, 1864.—This invention consists in a method of constructing coupling for connecting together the tumbling rods of threshing machines and the shafting of other machinery which is required to be placed in an oblique position relatively with each other.

Claim.—The socket A, provided with the internal longitudinal shoulders *a*, in combination with the head C, having the curved projections *c* on its periphery; all constructed and arranged substantially as and for the purpose herein set forth.

No. 41,652.—William Terneson, Philadelphia, Penn.—*Combined Plate and Frying Pan.*—February 16, 1864.—The handle of the pan or plate is composed of two pieces of metal so hinged and connected as to fold upon each other, one of the pieces being also hinged to the inside of the pan so that the handle can be folded within the sides of the pan without being detached therefrom.

Claim.—The pan or plate A with its rim *a*, and the strips B and B′, when the latter are of such a length and are so hinged to each other and to the pan that they can be folded down and occupy a space within the limits of the rim *a*, as set forth, for the purpose specified.

No. 41,653.—F. J. Underwood, South Hardwick, Vt.—*Station Indicator.*—February 16, 1864.—This invention consists in the arrangement of a system of rollers and springs with a wheel and lever actuated by a cord and pawl, to be placed within a railroad car, by means of which the person having charge of the car is enabled, by simply pulling the cord, to bring the name of the station which the car approaches or passes, at any moment, before the eyes of the passengers.

Claim.—The rollers B C C′, with springs I I′, wheel E, lever F, and pawl *f*, cord G and spring H, all arranged and operating, in combination with the case A, in the manner and for the purpose substantially as specified.

No. 41,654.—Jean B. Verdier, Paris, France.—*Marine Life-preserver.*—February 16, 1864.—This invention consists in the employment of two pads containing buoyant material, in combination with an arrangement of cords, an adjustable strap and neck yoke by which the device can be adapted for attachment to the body so as to effectually buoy the wearer and admit of free use of the arms.

Claim.—The pads A and B, containing buoyant material, in combination with the cords *d d*, adjustable strap *e*, and neck band *g*, the whole constructed and arranged for application to the body, as set forth.

No. 41,655.—J. T. Warren, Stafford, N. Y.—*Percussion-cap Holder.*—February 16, 1864.—This invention consists in providing a spirally revolving disk within a suitable case operated by a small lever, which by a ratchet movement brings the percussion-caps in succession opposite an opening, where, by means of a spring, a cap is thrown out into a cup-shaped mouth so as to enable it to be readily seized by the hand of the operator.

Claim.—The arrangement and combination of the case A, with its devices B C E L and N, and with the perforated travelling box G, with its spiral rack K, as incased in a leather pouch, and arranged, combined, and operated as herein described.

No. 41,656.—Augustus Watson, Washington, D. C.—*Flag.*—February 16, 1864.—This invention consists in shaping the edges of a sheet of metal and painting the sides thereof in such a manner that it will resemble a flag when the latter is waving in the wind, the same to be secured to a rod or pole so as to enable it to turn in any direction.

Claim.—A metallic flag, constructed, ornamented, and to be used substantially as above set forth, as a new article of manufacture.

No. 41,657.—William Webster, Middletown, Ohio.—*Closing Fruit Cans.*—February 16, 1864.—The jar cover is secured to the jar by means of a spring-bar passed through eyes or loops on the side of the jar, the degree of pressure being increased by moving the bar from the position of one loop to the other. A guide groove is formed on the top of the cover.

Claim.—The spring-wedge rod A, having one or more angles or curves, and operating in the manner and for the purpose substantially as described.

Also, the combination of the rod A with a traverse or strengthening bar upon the can cover, applied as described for the purpose specified.

No. 41,658.—Jonathan White, Antrim, N. H.—*Apple-parer.*—February 16, 1864.—This invention consists in giving to the paring knife and its stock, when such parts have no motion upon each other, such a rotary and progressive movement, that the knife will, as the apple is revolved, pass from one end to the other of the apple and adapt itself to the varying form and inequalities of the fruit being pared.

Claim.—The application and arrangement of the cam in connexion with the spur *g*, or their substantial equivalents, for operating the arm H, and paring knife, substantially as and for the purposes set forth.

Also, the application of the bent lever M, when acted upon by the plate L, substantially as described, for moving the knife from the fruit after it has been pared, and then again releasing the arm H, and knife *f*, so as to be brought in proper position to pare another fruit.

No. 41,659.—C. T. Woodman, Boston, Mass.—*Faucet.*—February 16, 1864.—This invention consists in the employment of a loosely fitting elastic ball valve fitted within a pipe or tube and held to its seat by a follower, in connexion with a lateral outlet which may be turned downward to serve as an eduction port, or upward to serve as a vent.

Claim.—First, the employment of the loosely-fitting elastic globular body F, in the pipe or tube B, in combination with the seat *c*, and follower F, substantially as set forth and for the purpose described.

Second, the lateral outlet G, in combination with the seat *c*, elastic ball F, and follower E, substantially as and for the purpose described.

No. 41,660.—Sanford Adams, assignor to Joel Nourse, Boston, Mass.—*Grain Separator.*—February 16, 1864.—This invention consists in the employment of an adjustable vibrating feeder attached to the hopper of a separator so that it can be elevated more or less for the purpose of causing a regular feed and prevent clogging. At the rear of the vibratory or swinging sieve is arranged a separator constructed with adjustable slats and a frame, over the surface of which the grain will pass while the current of air from the fan is operating upon it, by which means the different grades of grains are separated and deposited in a receptacle by themselves.

Claim.—First, the feeding hopper *g*, constructed substantially in the manner described and for the purposes set forth.

Second, the pivoted arms or levers *q q*, in combination with the slide track *h*, for the purposes described.

Third, the separator *m*, constructed and arranged substantially as set forth.

Fourth, the receiver and conductor *j*, in combination with the sieve *s*, and the slat *n*, for the purposes described.

No. 41,661.—Jacob Behel, Earleville, Ill.—*Grain-binder.*—February 16, 1864.—This invention consists in the employment of a turning cord-holder which seizes the cord by turning on its axis in connexion with a turning belay wheel, the arms of which operate to assist the cord-holding device. Secured crosswise to the shaft is a revolving tying bill of peculiar constructiod, which, in combination with certain devices, receives a reciprocating motion in a direction crosswise to its shaft, whereby the bill is made to seize the portions of the cord which are to form the knot and looping the same to move back past a stationary knife which severs the cord at the desired point, leaving the end of the cord from the reel firmly held by the turning cord-holder and belay wheel.

Claim.—A turning cord-holder, constructed substantially as herein set forth, so as to seize the binding cord by turning on an axis.

Also, the combination of a turning cord-holder with a turning belay wheel, substantially as set forth.

Also, the combination of a cord-carrying arm and its appurtenances with a turning cord-holder, substantially as set forth.

Also, the revolving tying bill, composed substantially as herein set forth, of jaws secured crosswise to a shaft, so that the cord to be tied is wound into a loop crosswise to the jaws.

Also, the combination of a revolving tying bill, with mechanism to carry it to and fro in directions crosswise to its shaft, substantially as set forth.

Also, the combination of a revolving tying bill with a slotted plate and a movable shield, the whole operating substantially as herein set forth.

Also, the combination of a revolving tying bill and the mechanism for moving it to and fro crosswise to its shaft, with a detent, the whole operating substantially as set forth.

Also, the combination of a reciprocating toothed rack with a pinion having an enlarged tooth, the two operating substantially as and for the purpose herein set forth.

Also, the combination of a swinging frame, for moving the cord-tying bill to and fro, with a segmental rack that is eccentric thereto, the whole operating substantially as herein set forth.

Also, the combination of a reciprocating cord-tying device with a stationary knife in such a manner that the cord is cut by being drawn across the edge of the knife by the movement of the cord-tying device, substantially as herein set forth.

No. 41,662.—T. A. Blakely, London, England.—*Ordnance.*—February 16, 1864.—Patented in England May 22, 1863.—This invention consists in forming the gun of concentric tubes, the inner tube being of a material that is most extensible within the elastic limit, the next tube less extensible within the elastic limit, and so on to the outside, each successive layer being put on with so much initial tension that the whole shall be worked by pressure from within to about the same degree, so that all the tubes shall contribute equally of their strength to resist pressure from within.

Claim.—The manufacture of cannon composed of two or more tubes having successively-decreasing amounts of extensibility within the extensible limit (the inner tube having the greatest amount) when these tubes are put together with initial tension, substantially in the manner and for the purpose described.

No. 41,663.—Augustus A. Hayes, assignor to William T. Glidden, Boston, Mass.—*Restoring De-ammoniated Guano.*—February 16, 1864.—The bone phosphates in phosphatic guano are treated with sulphuric acid so as to change them into either mono-basic or bi-basic phosphates. Putrefactive animal matter is added to the mass of phosphates, and also a quantity of common salt and dilute sulphuric acid. The sulphuric acid will gradually set free hydrochloric acid, which will combine with and fix the ammonia from the decomposing animal matter. The result will be a manure containing soluble phosphates and ammoniacal salts.

Claim.—The application to de-ammoniated guano of sulphuric acid and common salt, or the equivalents thereof, and the combination of the mixture with putrefactive animal matter, or its equivalent, productive of ammonia, the whole being substantially as hereinbefore described.

No. 41,664.—Robert Hoadley, assignor to himself and Henry A. Shipman, New Haven, Conn.—*Butt Hinge.*—February 16, 1864.—This invention relates to butt hinges which are designed to open only to a given extent, as for box covers, &c.; and it consists in forming a stop upon the hinge in such a manner that the opening may be adjusted to any desired extent.

Claim.—Constructing and adjusting the stop *c* in the manner described, so that the butt may be opened or set at any required angle.

No. 41,665.—Joseph H. Springer, assignor to himself and Milton Foreman, Philadelphia, Penn.—*Steam Boiler.*—February 16, 1864.—This invention consists in the employment of any desired number of tubes, each of which is provided with an internal or air tube, and a series of openings, the said tubes being bent and arranged in the boiler so as to insure the ignition of the unconsumed products of combustion without injury to the tubes.

Claim.—The tubes D, internal tubes E, and air openings *i*, when the said tubes are formed and arranged within the boiler, as and for the purpose described.

No. 41,666.—Jeremiah Wonder, Trucksville, Penn., assignor to himself and Loring A. Robertson, Dunning, Penn.—*Tanning.*—February 16, 1864.—This invention consists in the employment of wheat bran, crushed oats, and wheat or similar matter in connexion with hemlock bark, for the purpose of preventing the dark red color caused by the hemlock bark. Crushed potatoes may also be used in the combination.

Claim.—The employment of the substances herein specified in connexion with hemlock tan for the purposes and as specified.

No. 41,667.—Jarvis Case, Lafayette, Ind.—*Machine for Sawing Wood.*—February 16, 1864.—In this machine the crank wheel by which motion is imparted to the pitman is placed in a horizontal position, so that the motion of the pitman will also be horizontal, and thus enable the horses to pass over the same upon a floor laid upon the sills of the machine. The pitman is connected with a vibrating upright arm fixed at the upper end to a rocking shaft, and to the said pitman is coupled another pitman attached to the saw, and to another rocking shaft is attached an arm to guide the saw. At the end of the said arm is another rocking shaft, which, by means of a lever at its end, causes the saw arm and guide to be raised out of the way when not in operation.

Claim.—First, the arrangement and combination of the horizontal crank wheel B with the two pitmen H and I, and swinging arm K, attached to the rocking shaft for operating the cross-cut saw and allowing the horses to pass between the wheel B and the saw, substantially as set forth.

Second, also the auxiliary saw guide U, with its fingers *w* in combination with the fingers *m*, substantially as described.

No. 41,668.—John Absterdam, New York, N. Y.—*Packing Projectiles for Rifled Cannon.*—February 23, 1864.—This invention consists in applying to an elongated projectile one or more bands of a composition of metal similar to "type metal," for the purpose of securing a more accurate and uniform gauge of calibre. The expanding cup attached to the rear of the shot is provided with a series of longitudinal cuts arranged obliquely so as to facilitate the expansion and at the same time provide a lap at the several joints.

Claim.—First, constructing a projectile for rifled cannon with one or more bands or bearings of an anti-friction metal that expands in cooling or that does not shrink in cooling, for the purpose herein described.

Second, sawing the end of the expanding cup in several cuts diagonally to the axis of the projectile, substantially as described.

No. 41,669.—Walter Baker, Ilion, N. Y.—*Manufacture of Gun Barrels.*—February 23, 1864.—In carrying out this invention a drop hammer is employed. The anvil die is made in two sections, one of which, containing a recess into which the metal for the cone seat is to be swaged, is located in a permanent portion of the anvil, while the other is attached to a hinged portion thereof. The male die affixed to the lower surface of the drop hammer has projecting vertically from its face a cylindrical pin; and a lateral projection from the same made so as to fit into the recess of the anvil die has depending from its face a curved lip. The end of the barrel is first cut off diagonally and then placed upright in the anvil die, its longest side being next to the recess and tightly clamped; the hammer is then allowed to fall, the cylindrical pin enters the bore of the barrel at the same time that the salient portion of the scarfed barrel is forced into the recess and swaged into the proper form by the lateral projection and depending lip.

Claim.—As a new article of manufacture, the forming of a solid cone seat upon a hollow gun barrel, from the metal at the but of the same, without welding, in the manner substantially as shown and described.

No. 41,670.—Joseph Becher and William Tustin, Philadelphia, Penn.—*Feed Bag.*—February 23, 1864.—This invention consists in providing the bottom of the feed bag with a sieve to permit of the escape of seed, dust, &c., and serve as a ventilator. The bag is secured over the animal's nose by means of a throat latch attached on each side of the strap passing over the head and through a loop on the top and rear side of the bag underneath the animal's throat.

Claim.—First, the strap A′ running obliquely under the throat of the animal and fastened by a loop upon the rear top side of the bag, substantially as and for the purpose described.

Second, the sieve or ventilator F, Fig. 2, or its equivalent, at the bottom of the bag, as herein described, substantially as and for the purpose set forth.

No. 41,671.—Henry Bennett, Wombridge, England.—*Machinery to Aid in Puddling Iron and Steel.*—February 23, 1864; patented in England May 18, 1863.—This invention consists of an apparatus or mechanism to be worked by steam or other power to assist the workman in the process of puddling, by which he is relieved of the more laborious part of the work, while larger charges can be employed and the quality of metal improved at a reduced cost.

Claim.—Improved apparatus or mechanism to be used in the process of puddling iron, steel-iron, or steel, and constructed substantially as herein more fully set forth and specified.

No. 41,672.—B. B. Bignall, Owego, N. Y.—*Water Elevator.*—February 23, 1864.—In this device the reel is fitted with spurs made nearly of the same thickness their whole length, instead of wedge-shaped, as is usual; the rim of the wheel is also made of greater thickness transversely, so as to leave on each side of the spurs a plane space or bearing of sufficient width to receive and support the links, and thus prevent their slipping. The bucket is raised by the single main chain until it has nearly reached the point of discharge of the bucket, when the links of an auxiliary chain also catch on the spurs and wind up, in doing which it presses on the main chain and prevents its turning.

Claim.—The reel B, having the spurs *k k* of nearly the same transverse thickness at the base and top, and the bearings *l l*, respectively, on each side of the spurs for the support of the chain, substantially as herein set forth.

Also, the toothed reel B, constructed as described, with the main chain C, auxiliary chain C′, and bucket D, all arranged and operating substantially as and for the purpose herein specified.

Also, the combination of a revolving tying bill, with mechanism to carry it to and fro in directions crosswise to its shaft, substantially as set forth.

Also, the combination of a revolving tying bill with a slotted plate and a movable shield, the whole operating substantially as herein set forth.

Also, the combination of a revolving tying bill and the mechanism for moving it to and fro crosswise to its shaft, with a detent, the whole operating substantially as set forth.

Also, the combination of a reciprocating toothed rack with a pinion having an enlarged tooth, the two operating substantially as and for the purpose herein set forth.

Also, the combination of a swinging frame, for moving the cord-tying bill to and fro, with a segmental rack that is eccentric thereto, the whole operating substantially as herein set forth.

Also, the combination of a reciprocating cord-tying device with a stationary knife in such a manner that the cord is cut by being drawn across the edge of the knife by the movement of the cord-tying device, substantially as herein set forth.

No. 41,662.—**T. A. Blakely**, London, England.—*Ordnance.*—February 16, 1864.—Patented in England May 22, 1863.—This invention consists in forming the gun of concentric tubes, the inner tube being of a material that is most extensible within the elastic limit, the next tube less extensible within the elastic limit, and so on to the outside, each successive layer being put on with so much initial tension that the whole shall be worked by pressure from within to about the same degree, so that all the tubes shall contribute equally of their strength to resist pressure from within.

Claim.—The manufacture of cannon composed of two or more tubes having successively-decreasing amounts of extensibility within the extensible limit (the inner tube having the greatest amount) when these tubes are put together with initial tension, substantially in the manner and for the purpose described.

No. 41,663.—**Augustus A. Hayes**, assignor to **William T. Glidden**, Boston, Mass.—*Restoring De-ammoniated Guano.*—February 16, 1864.—The bone phosphates in phosphatic guano are treated with sulphuric acid so as to change them into either mono-basic or bi-basic phosphates. Putrefactive animal matter is added to the mass of phosphates, and also a quantity of common salt and dilute sulphuric acid. The sulphuric acid will gradually set free hydrochloric acid, which will combine with and fix the ammonia from the decomposing animal matter. The result will be a manure containing soluble phosphates and ammoniacal salts.

Claim.—The application to de-ammoniated guano of sulphuric acid and common salt, or the equivalents thereof, and the combination of the mixture with putrefactive animal matter, or its equivalent, productive of ammonia, the whole being substantially as hereinbefore described.

No. 41,664.—**Robert Hoadley**, assignor to himself and **Henry A. Shipman**, New Haven, Conn.—*Butt Hinge.*—February 16, 1864.—This invention relates to butt hinges which are designed to open only to a given extent, as for box covers, &c.: and it consists in forming a stop upon the hinge in such a manner that the opening may be adjusted to any desired extent.

Claim.—Constructing and adjusting the stop *c* in the manner described, so that the butt may be opened or set at any required angle.

No. 41,665.—**Joseph H. Springer**, assignor to himself and **Milton Foreman**, Philadelphia, Penn.—*Steam Boiler.*—February 16, 1864.—This invention consists in the employment of any desired number of tubes, each of which is provided with an internal or air tube, and a series of openings, the said tubes being bent and arranged in the boiler so as to insure the ignition of the unconsumed products of combustion without injury to the tubes.

Claim.—The tubes D, internal tubes E, and air openings *i*, when the said tubes are formed and arranged within the boiler, as and for the purpose described.

No. 41,666. **Jeremiah Wonder**, Trucksville, Penn., assignor to himself and **Loring A. Robertson**, Dunning, Penn.—*Tanning.*—February 16, 1864.—This invention consists in the employment of wheat bran, crushed oats, and wheat or similar matter in connexion with hemlock bark, for the purpose of preventing the dark red color caused by the hemlock bark. Crushed potatoes may also be used in the combination.

Claim.—The employment of the substances herein specified in connexion with hemlock tan for the purposes and as specified.

No. 41,667.—**Jarvis Case**, Lafayette, Ind.—*Machine for Sawing Wood.*—February 16, 1864.—In this machine the crank wheel by which motion is imparted to the pitman is placed in a horizontal position, so that the motion of the pitman will also be horizontal, and thus enable the horses to pass over the same upon a floor laid upon the sills of the machine. The pitman is connected with a vibrating upright arm fixed at the upper end to a rocking shaft, and to the said pitman is coupled another pitman attached to the saw, and to another rocking shaft is attached an arm to guide the saw. At the end of the said arm is another rocking shaft, which, by means of a lever at its end, causes the saw arm and guide to be raised out of the way when not in operation.

Claim.—First, the arrangement and combination of the horizontal crank wheel B with the two pitmen H and I, and swinging arm K, attached to the rocking shaft for operating the cross-cut saw and allowing the horses to pass between the wheel B and the saw, substantially as set forth.

Second, also the auxiliary saw guide U, with its fingers *w* in combination with the fingers *m*, substantially as described.

No. 41,668.—**John Amsterdam**, New York, N. Y.—*Packing Projectiles for Rifled Cannon.*—February 23, 1864.—This invention consists in applying to an elongated projectile one or more bands of a composition of metal similar to "type metal," for the purpose of securing a more accurate and uniform gauge of calibre. The expanding cup attached to the rear of the shot is provided with a series of longitudinal cuts arranged obliquely so as to facilitate the expansion and at the same time provide a lap at the several joints.

Claim.—First, constructing a projectile for rifled cannon with one or more bands or bearings of an anti-friction metal that expands in cooling or that does not shrink in cooling, for the purpose herein described.

Second, sawing the end of the expanding cup in several cuts diagonally to the axis of the projectile, substantially as described.

No. 41,669.—**Walter Baker**, Ilion, N. Y.—*Manufacture of Gun Barrels.*—February 23, 1864.—In carrying out this invention a drop hammer is employed. The anvil die is made in two sections, one of which, containing a recess into which the metal for the cone seat is to be swaged, is located in a permanent portion of the anvil, while the other is attached to a hinged portion thereof. The male die affixed to the lower surface of the drop hammer has projecting vertically from its face a cylindrical pin; and a lateral projection from the same made so as to fit into the recess of the anvil die has depending from its face a curved lip. The end of the barrel is first cut off diagonally and then placed upright in the anvil die, its longest side being next to the recess and tightly clamped; the hammer is then allowed to fall, the cylindrical pin enters the bore of the barrel at the same time that the salient portion of the scarfed barrel is forced into the recess and swaged into the proper form by the lateral projection and depending lip.

Claim.—As a new article of manufacture, the forming of a solid cone seat upon a hollow gun barrel, from the metal at the but of the same, without welding, in the manner substantially as shown and described.

No. 41,670.—**Joseph Becher** and **William Tustin**, Philadelphia, Penn.—*Feed Bag.*—February 23, 1864.—This invention consists in providing the bottom of the feed bag with a sieve to permit of the escape of seed, dust, &c., and serve as a ventilator. The bag is secured over the animal's nose by means of a throat latch attached on each side of the strap passing over the head and through a loop on the top and rear side of the bag underneath the animal's throat.

Claim.—First, the strap A′ running obliquely under the throat of the animal and fastened by a loop upon the rear top side of the bag, substantially as and for the purpose described.

Second, the sieve or ventilator F, Fig. 2, or its equivalent, at the bottom of the bag, as herein described, substantially as and for the purpose set forth.

No. 41,671.—**Henry Bennett**, Wombridge, England.—*Machinery to Aid in Puddling Iron and Steel.*—February 23, 1864; patented in England May 18, 1863.—This invention consists of an apparatus or mechanism to be worked by steam or other power to assist the workman in the process of puddling, by which he is relieved of the more laborious part of the work, while larger charges can be employed and the quality of metal improved at a reduced cost.

Claim.—Improved apparatus or mechanism to be used in the process of puddling iron, steel-iron, or steel, and constructed substantially as herein more fully set forth and specified.

No. 41,672.—**B. B. Bignall**, Owego, N. Y.—*Water Elevator.*—February 23, 1864.—In this device the reel is fitted with spurs made nearly of the same thickness their whole length, instead of wedge-shaped, as is usual: the rim of the wheel is also made of greater thickness transversely, so as to leave on each side of the spurs a plane space or bearing of sufficient width to receive and support the links, and thus prevent their slipping. The bucket is raised by the single main chain until it has nearly reached the point of discharge of the bucket, when the links of an auxiliary chain also catch on the spurs and wind up, in doing which it presses on the main chain and prevents its turning.

Claim.—The reel B, having the spurs *k k* of nearly the same transverse thickness at the base and top, and the bearings *l l*, respectively, on each side of the spurs for the support of the chain, substantially as herein set forth.

Also, the toothed reel B, constructed as described, with the main chain C, auxiliary chain C′, and bucket D, all arranged and operating substantially as and for the purpose herein specified.

No. 41,673.—H. S. Blood, New Orleans, La.—*Street-sweeping Machine.*—February 23, 1864.—This invention consists in the employment of a rotary brush placed in an oblique position in a mounted frame, and used in connexion with a curved inclined dirt plate and a dirt receptacle, provided with a dirt-discharging apron, all arranged to operate in such a manner that the dirt will be swept up from the pavement of the street and discharged at suitable intervals in piles or heaps.

Claim.—First, the rotating brush J in combination with the dirt plate K, provided at its lower end with the elastic strip M, arranged to operate in the manner substantially as and for the purpose specified.

Second, the endless apron N placed in the box or dirt receiver L, for the purpose of discharging the dirt therefrom when used in combination with the brush J, for the purpose set forth.

Third, the operating of the endless apron N from the driving wheel F′, by means of the shaft O S, gearing G′ P Q R, and endless belt V, as described.

Fourth, the operating of the door W from the lever A′, simultaneously with the throwing in and out of gear of the pinion P with the wheel G′, substantially as described.

Fifth, the combination of the rotating brush J, endless apron N, and dirt plate K, all constructed and arranged to operate in the manner substantially as and for the purpose herein set forth.

No. 41,674.—Luke W. Bodwell, Ann Arbor, Mich.—*Working and Using Sugar Evaporators.*—February 23, 1864.—This invention consists in constructing a brick arch for a sugar evaporator, in such a manner that the whole may be readily oscillated without disconnecting the smoke flue from a stationary chimney.

Claim.—The combination and arrangement of the eccentric shaft and cam A *a*, the fulcrum or centre of motion E, the flue R, sliding plate *f*, opening T, enlargement S, in connexion with the arch J, combined and arranged as and for the uses and purposes set forth in the foregoing specification.

No. 41,675.—Leopold Brandeis, Brooklyn, N. Y.—*Protecting Lead Pipe against the action of Water.*—February 23, 1864.—This invention consists in passing through new lead pipes which are to be used for conveying water a stream of sulphuretted hydrogen gas, so as to form an inside coating of sulphide of lead.

Claim.—The application of hydrogen or any other gas in combination with sulphur for the purpose of producing a sulphate of lead on which water cannot act, and thereby do away with any danger of lead-poisoning, even if water should be kept standing in such pipe or vessel.

No. 41,676.—William H. Brown, Worcester, Mass.—*Opening and Closing Iron Blinds or Shutters.*—February 23, 1864.—This invention consists in the employment of a series of devices by means of which the blind may be opened and closed from the inside without opening the window, and at the same time be securely fastened.

Claim.—First, the combination with a sliding blind of the slats *b*, connecting rod *c*, lever G, rack bar *u*, and sliding shaft *n*, with its gear *m*, arranged and operating together, substantially as and for the purposes set forth.

Second, the combination with a sliding blind of the lip *e*, spring *j*, ratchet wheel *o*, and pawl *t*, for the purposes stated.

No. 41,677.—C. J. Buckner, Paxton, Ill.—*Cultivator.*—February 23, 1864.—This invention consists in an arrangement of devices by which the outer shares are prevented from moving laterally, while the inner ones are so pivoted as to be operated laterally to conform to the irregularity of the rows, and by a single movement the operator is enabled to raise all the shares from the ground simultaneously. The parts are also so arranged that the inner shares can be adjusted to or from each other at pleasure.

Claim.—The combination of the horizontal connecting plate *a*, pendent slotted plates *b b* and *f f*, beams *g g*, rods *i i*, bracing foot bars G G, and transverse bars K K, all as herein shown and described.

No. 41,678.—Gaspard Buhler, Newark, N. J.—*Fastening for Breastpins.*—February 23, 1864.—This device is formed of a piece of metal having one or two folds to receive the edge of the cloth to which it is to be fastened. The fastening is made by a lever having a pin in the centre, which passes through holes in the metal folds, and penetrates and thus secures the cloth.

Claim.—First, the single or double U-shaped clasp B hinged to the under or inner surface of a breastpin, button, stud, or other similar article, and operating in combination with the point *f* projecting from the inner surface of said breastpin or other article, substantially as and for the purpose herein shown and described.

Second, the application of the secondary clasp C, in combination with the main clasp B, points *f f′*, and button or other similar article A, arranged and operating in the manner and for the purpose substantially as set forth.

No. 41,679.—John P. Burnham, Chicago, Ill.—*Governor.*—February 23, 1864.—This device consists of a slotted link secured to a lever which is suspended from a rock shaft in combination with an ordinary ball governor, and with a friction wheel which works within the slotted link in such a manner that when the balls of the governor fly out the slotted link is pressed up against one side of the friction wheel, and the steam valve is closed or the effective surface of the sails of the wind wheel decreased; and when the balls sink down the link is pressed up against the opposite side of said friction wheel, and the steam valve is opened, or the effective surface of the sails increased, and by this means the speed of an engine and wind wheel can be rendered self-regulating.

Claim.—The lever E, with the slotted link *h* and friction wheel G, in combination with the rocking shaft C and sleeve *g* of the governor A, all constructed and operating in the manner and for the purpose substantially as herein shown and described.

No. 41,680.—William H. Clark, Cincinnati, Ohio, and Walter E. Edgerton, Spiceland, Ind.—*Sugar-cane Mill.*—February 23, 1864.—In this machine the main roll is twice the diameter of the minor rolls, and the face of the main gear wheel or the length of the cogs is twice that of the cogs of the minor wheels, the latter being so arranged on their respective shafts as to work, one in gear with the upper part of large gear wheel, while the other gears with its lower part, by which means the minor rolls are brought very closely together. The lower ends of the roll shafts are supported in oil-tight cup boxes made adjustable vertically. Upon the bottom or bed rests a false plate, one edge of which is formed to fit the circumference of the flange of the large roll, the other part of the said plate extending under the smaller rolls and held in contact with one or more screws.

Claim.—First, so arranging the connecting gearing of three-roll cane mills that the minor rolls may be placed and worked with their faces nearly in contact, for the purpose herein described.

Second, supporting the lower ends of the roll shafts in oil-tight cup boxes adjustable vertically, substantially as described.

Third, arranging the stay rods or bolts *c c*, &c., obliquely in opposite directions, as and for the purpose specified.

Fourth, the construction and arrangement of the scrapers *h h* in reference to the rolls A and C, for the purpose described.

Fifth, the false plate E, adjustable to the lower ends of the unflanged rolls B C, and resting against the circumference of the flange of the roll A, in combination with the adjustable rolls A B C, substantially as described.

No. 41,681.—William H. Clark, Cincinnati, Ohio, and R. R. James, Rising Sun, Ind.—*Sugar-cane Mill.*—February 23, 1864.—This machine is composed of a main pressure roll, a delivery roll, and a fluted feed roll, the latter being designed to rupture the woody fibre of the cane at short intervals for the more ready expression of the juice. In the top plate is a hand-hole, provided with a metal cap, for affording access to the triangular space between the rolls. In connexion with the feed roll is used a conductor consisting of a self-adjusting plate, which is supported in pivots at its ends, and so arranged that the dividing edge adapts itself to the face of the roll. Extending across the triangular space between the rolls is a juice channel, connected with which is a bridge piece or plate to prevent the arrest and entanglement of the cane in its passage.

Claim.—First, in combination with the regular main pressure roll D and delivery roll F, the use of the fluted feed roll E, when arranged and operating in connexion with the former in the manner and for the purposes herein described.

Second, the hand-hole *i* in the end plate and cap *h*, when the latter is so constructed and adapted to the plate as to form in connexion therewith a plain face on the inner side, as and for the purpose specified.

Third, the vibrating or self-adapting conductor G, in combination with either a plain or fluted feed roll, for the purpose described.

Fourth, in combination with the juice channel *j*, extending into the triangular space between the rolls, the bridge plate *k*, for the purpose specified.

Fifth, the grooves *m* in the end plates and the grooves *n* in the ends of the rolls, either separately or in combination, for the purpose described.

No. 41,682.—Francis Cotton, Brooklyn, N. Y.—*Sofa Bedstead.*—February 23, 1864.—In this invention, when used as a sofa, the side rails, which are formed of hinged levers, are removed, the sacking folded up and placed beneath the seat, and a secondary frame attached; and, when used as a bedstead, the secondary frame is detached, the sacking taken out and the hinged levers inserted at their ends in the openings in the legs of the sofa and the secondary frame. The sacking is attached to rubber springs at each end, which may be tightened by means of bolts.

Claim.—First, tightening the sacking B, substantially as described for the purpose specified.

Second, the use of the hinged levers E, constructed as shown, in combination with the sofa A, sacking B, secondary frame C, and rubber springs *h h*, in the manner and for the purpose or purposes specified.

No. 41,683.—Nathan F. Cone, La Crosse, Wis.—*Door Bell.*—February 23, 1864.—This invention belongs to that class of door bells in which the striking mechanism is operated by rotating the knob. The gong-shaped bell is placed inside the door and secured to a shaft passing through the door. By turning the knob, which is attached to the shaft, a cam is moved, and, in connexion with a spring and hammer, the bell is struck.

Claim.—First, in combination with the bridge or bar B the screw-threaded stem A′, formed or cast in one piece with the bell A, so as to avoid or permanently close any aperture in the said bell, substantially as described.

Second, in combination with the bell A, rotating shaft *f*, cam E, frog G, and one or more hammers D D′, the bar B, enclosed within the bell, and employed for the attachment of the latter, in the manner herein explained.

No. 41,684.—George Conover, Middletown, Conn.—*Fixed Ammunition for Fire-arms.*—February 23, 1864.—This invention relates to the use in fixed ammunition cartridges for loading in front of the chamber or chambers of or at the muzzle of a fire-arm of a second charge of powder, for the purpose of expelling the case or shell of the cartridge through the barrel and out at the muzzle of the fire-arm in which the cartridge is used. The invention consists in the combination with the shell of a chamber and a disk and nipple, in connexion with a cap, by which such second discharge is ignited.

Claim.—The combination with the shell A of the chamber B, disk *d*, nipple *a*, and percussion cap *i*, substantially as and for the purpose herein specified.

No. 41,685.—Eugene A. Cotelle, Paris, France.—*Mode of manufacturing Alcohol from Olefiant Gas.*—February 23, 1864.—This invention consists in the manufacture of alcohol from olefiant gas by means of dilute acids and steam. Several different forms of apparatus are shown, but the common object is to bring the gas, mixed with steam, in contact with a descending shower of warm, dilute, sulphuric acid. In the figure, B represents the pump which forces the olefiant gas into the apparatus, and D the steam-pipe. The presence of acid causes the gas to assimilate two equivalents of water and become alcohol.

Claim.—Forming alcohol from olefiant gas and water by means of diluted acids acting only by their presence, without reconcentration or revivification, substantially as herein described.

No. 41,686.—F. R. Crothers, Sparta, Ill.—*Gang Plough.*—February 23, 1864.—This invention consists in hanging the axletree of the carriage wheels to the plough-beams by means of arms which will allow the axle to move forwards and upwards, and in operating the axletree by means of a windlass and a stiff connecting rod, so applied that the ploughman, while sitting on the machine, can depress the axle and thus elevate the ploughs above the surface of the ground. The draught-pole is attached to the forward ends of the plough-beams by means of screw rods set at right angles to each other in such a manner that by the use of nuts, applied to the said rods, the draught-pole can be readily adjusted and also rigidly secured in any desired position.

Claim.—First, hinging the axletree to the frame of the machine so that the former will swing forward of its hinge-connexion, in combination with the thrusting connecting rod N, cord or chain *m*, and windlass *p*, all applied and operating substantially as described.

Second, the use of a stiff rod N, in combination with a windlass *p*, and a hinged axle D, operating substantially as and for the purposes described.

Third, the manner of attaching the draught-pole P to the plough-beams, substantially as and for the purposes described.

No. 41,687.—John W. Dodge, New York, N. Y.—*Preparation for destroying Vermin.*—February 23, 1864; antedated February 21, 1864.—This preparation is composed of alcohol, distilled or rain-water, and *coculus indicus*, properly mixed together.

Claim.—The within described composition, mixed together, of the ingredients herein specified, substantially in the manner and about in the proportion set forth.

No. 41,688.—John B. Dougherty, Rochester, N. Y.—*Machine for making Splints for Barrel Hoops.*—February 23, 1864.—The object of this invention is to produce a splint from plank or boards cut in shape ready for bending into a hoop at a single operation, and it consists in placing a sliding gate within a frame to which are attached three knives, one of the said knives being of the same length with the splint, and the other two of the length of the taper at each end; the latter are fastened to the lower cross-head of the frame, so that in its downward stroke the taper of the splint at the ends will be cut, which is followed by the long knife that cuts and completes the splint.

Claim.—The within described machine for preparing, at one operation, hoop splints ready for market, said machine being constructed and operating substantially as set forth.

No. 41,689.—Isaac Edge, Jersey City, N. J.—*Rocket.*—February 23, 1864.—The nature of this invention is explained by the claim.

Claim.—A telescope tail to guide and rotate a rocket in its flight, by means of wings fixed to rods held at each end by rings made to slide or close on the rocket and be partly withdrawn and fastened to the end of the rocket when in use, the wings being then expanded and secured from spreading by means of ties or straps, substantially as described.

No. 41,690.—John N. Ehrsam, Hoboken, N. J.—*Refrigerator.*—February 23, 1864; antedated February 12, 1864.—This invention consists in the application to a refrigerator of a salt-water reservoir in combination with the ice-chamber and with a serpentine metal pipe conducting the ice-water through the salt-water reservoir in such a manner that the temperature of the salt water is brought down to and kept at a low point by the action of the ice-water, for the purpose of obtaining an additional refrigerating agent.

Claim.—The arrangement of the water-chamber F, covering the whole area of the bottom of the refrigerator, in combination with the ice-chamber B and the serpentine pipe E, connected with and receiving the discharge from said ice-chamber, all as herein shown and described.

No. 41,691.—Edward B. English, Philadelphia, Penn.—*Lime-kiln.*—February 23, 1864.—This invention relates to an improvement in lime-kilns, for which a patent was granted to R. Donaldson on the 19th of February, 1860. In the interior of the kiln are two chambers, the lower one being square and the upper one narrow and oblong vertically. Above the upper chamber is arranged a sliding damper, below which is an opening through which the lime is fed to the kiln; the said opening being provided with a door. Communicating with the lower chamber are the furnaces, which gradually increase in width from their mouths to the chamber.

Claim.—First, the arrangement, at or near the base of the chimney, of the damper *a*, or its equivalent, as and for the purpose set forth.

Second, the chambers W and X, when formed and arranged in respect to each other, as and for the purpose specified.

Third, the fireplaces F F′ with their diverging sides when combined with the chamber W, as and for the purpose described.

No. 41,692.—Nathaniel Evans, jr., Boston, Mass.—*Turn-over Shirt Collar.*—February 23, 1864.—This invention is explained by the claim and engraving.

Claim.—A turn-over shirt collar with a concave bottom and turned over on a line parallel with said bottom, substantially as set forth and for the purposes described.

No. 41,693.—S. D. Frazier, Tekonsha, Mich.—*Churn.*—February 23, 1864.—This invention consists in suspending the dasher shafts in such a manner that the necessity of a step for the central shaft is avoided. The central shaft is provided with a horizontal dasher near the bottom of the churn, and the outer dasher consists of curved arms provided with angular wings, and are so arranged as to work in opposite directions, and the motion of the central dasher may be stopped and lowered to the floor, while the outer dasher gathers the butter after it is churned.

Claim.—The combination and arrangement of the central dasher G and outer dasher H provided with the arms *i i* and angular wings K K, when the same revolve in opposite directions and are suspended from the top of the churn, substantially as herein set forth.

Also, the slotted plate I, in combination with the central dasher shaft *a* and the adjustable pinion E, whereby the same device answers the double purpose of suspending the shaft and holding the pinion either in or out of gear, substantially as herein described.

No. 41,694.—Henry Getty, Brooklyn, N. Y.—*Skate.*—February 23, 1864.—This invention consists in the employment of two runners attached to a cross-piece or support in such a manner as to admit of their being separated laterally a short distance from one another for the use of beginners, and can be brought together and used as a single runner when desired.

Claim.—The means of adjusting the parts E and E′, as herein fully described.

No. 41,695.—Joel E. Giles, Marshall, Mich.—*Tool for clipping and clinching Horseshoe Nails.*—February 23, 1864.—This invention consists in prolonging the jaws of a pair of tongs, the lower one being straight and the upper about three-fourths of the length of the same and at nearly a right angle thereto. Both jaws are serrated, and at the portion nearest the fulcrum are supplied with cutters at the side in the usual manner.

Claim.—The combined arrangement of the clinching jaws *a b* and cutting lips D D, arranged relatively with each other and with the levers A and B (to which they are respectively connected) and with the fulcrum pin C, substantially in the manner and for the purposes herein specified.

No. 41,696.—Prosper Gillett, Hannibal, Mo.—*Railroad Track Raiser.*—February 23, 1864.—This invention consists in a combination of levers with a toothed rack provided with a suitable toe to be applied to the track, the said levers being so arranged in relation to each other and to the toothed rack that by the action of one lever the toothed rack can be released and dropped to its original position.

Claim.—The lever G and pawl F, in combination with the plates *b* and pin *a* and with the rack *c* and lever E, all constructed and operating in the manner and for the purpose substantially as shown and described.

No. 41,697.—JAMES S. GRAY, New York, N. Y.—*Gas Stove.*—February 23, 1864.—The object of this invention is to adapt a vapor stove to the use of the heavier grades of naphtha, which require a considerable amount of oxygen to insure their proper combustion and to prevent them from smoking and tainting the articles to be cooked; and the invention consists in a combination of devices named in the claim for securing the proper heating and vaporization of the fluid and the due admixture of oxygen.

Claim.—First, the combination of the wick tube, the vapor tube, the valves, the wire-gauze screw, and the heater cap, with the central air tube, substantially in the manner described, for the purposes set forth.

Second, the central tube K, combined with the outer tube J, as set forth.

No. 41,698.—JOHN GREEK, Evansville, Ind.—*Clothes Frame.*—February 23, 1864.—This device consists of an upright post surmounted by a revolving hub, to which are pivoted arms united to corresponding arms pivoted to a sliding hub on the said post. Cords are passed through the arms upon which the clothes are hung.

Claim.—The combination of the post A, the hubs C C, the arms *b b'*, jointed together at or near their extremities, and the cord D, passed through or around both the upper or lower members of the arms, all as hereinbefore described and for the purposes specified.

No. 41,699.—W. R. GREENLEAF, Silver Creek, N. Y.—*Rotating Valve for Steam Engines.*—February 23, 1864.—This invention consists in the construction of a steam chest and its valves in such a manner that the steam entering in at one side of the steam chest will be alternately admitted through one end of each valve into the steam cylinder, and alternately allowed to escape through the opposite ends of the said valves into the exhaust chamber as the valves are oscillated. The steam chambers are so constructed that the valves and their surrounding walls will be caused to expand equally and prevented from becoming tight in consequence of unequal exposure to the steam. A mode of adjusting all the valves simultaneously is provided, whether the engine be in motion or at rest.

Claim.—First, constructing an oscillating valve with induction and eduction passages so arranged around its periphery that the steam will enter at one end and exhaust at the opposite end of each valve, substantially as described.

Second, a tapering or conical valve having induction and eduction passages arranged around its periphery, which are alternately opened at opposite ends of the valve, substantially as described.

Third, the combination of end-receiving and end-discharging valves, with their shells B B', constructed with circular induction and eduction passages *a a a b b b*, substantially as and the purposes described.

Fourth, the arrangement consisting of the valves F F', screws G G, arms *i i*, connecting rod K, and handle or lever L, substantially as and for the purpose set forth.

No. 41,700.—GIDEON HAMILTON and JOHN POST, New York, N. Y.—*Self-feeding Blacking Brush.*—February 23, 1864.—The handle of the brush is made hollow and serves as a fountain for the blacking, and is provided with a valve, stem, and handle, by which the liquid blacking may be fed to the brush when in use.

Claim.—First, the fountain handle B of a blacking brush, so constructed as to be filled with liquid blacking, and to discharge it at pleasure through the tubes *m*, substantially as shown and described.

Second, the valve *h*, the valve stem *i*, the thumb handle *k*, the combined spring and stuffer *a*, when used substantially as and for the purpose described.

No. 41,701.—EDWARD HEATON, New Haven, Conn.—***Metallic Shank for Boots and Shoes.***—February 23, 1864.—This invention relates to an improvement in shanks for which a patent was granted to Heaton & Joyce on the 8th of October, 1861, and it consists in attaching an auxiliary spring made from a piece of tempered steel to the untempered shank to serve as the principal spring for the shank.

Claim.—The combination with a metallic shank of an auxiliary spring, substantially in the manner and for the purpose specified.

No. 41,702.—JAMES HIGGINS, Cambridge, Mass.—*Lamp.*—February 23, 1864.—This invention consists in the use of an oval instead of an annular wick, with a circular chimney; the object being to extend the flame to any desired width.

Claim.—The combination of the two concentric elliptical tubes *f g*, the circular cup D, provided with an elliptical flange *d*, and the circular removable plate A, provided with an elliptical guard *k*, all the said parts being constructed, arranged, and employed in the manner and for the purposes herein specified.

No. 41,703.—SIMEON HOWES and A. BABCOCK, Silver Creek, N. Y.—*Smut Mill.*—February 23, 1864.—The nature of this invention will be understood from the claim.

Claim.—So constructing a smut mill, having two stationary cylinders, that a central draught of air from the bottom thereof shall be forced or drawn upwards through the casing of the scouring beaters, and also a draught between said casing and the outer casing of the mill, both draughts uniting in a fan chamber directly at the top of the scouring apparatus, and centrally thereof, substantially as described, for the purpose set forth.

No. 41,704.—JOHN HUMPHREYS, Millbury, Mass.—***Turning Bayonet Sockets.***—February 23, 1864.—This invention consists in providing a lathe with a sliding rest, on which, in place of the ordinary tool carrier, is an upright standard carrying a three-armed cutter-holder which rotates vertically and at right angles to the mandrel of the lathe. To each arm is secured a cutter which is suited to the particular shape required for different parts of the article which is being turned, and brought to the work successively as required.

Claim.—The combination and arrangement of the rotary cutter head or stock G, and the slide rest F, with the tool carriage D, and the mandrel C, the whole being to operate substantially in manner and for the purpose as specified.

No. 41,705.—JAS. HUNTER, North Adams, Mass.—***Machine for Washing Wool.***—February 23, 1864.—This invention consists in the employment of a cylinder provided with floats or blades, and fitted within a box or tank containing scouring liquid or water, and having a perforated concave placed below the cylinder. At one side of the machine is arranged an endless feed apron, and on the opposite side are two discharge pressure rollers, which express the moisture as the wool is discharged from the machine.

Claim.—The cylinder C, provided with floats D, having an oblique position in combination with the concave B and the box or tank A, for the purpose set forth.

Second, the combination of the feed apron F, cylinder C, provided with floats D, and the discharge pressure rollers G G, all arranged for joint operation, substantially as herein described.

No. 41,706.—TISDIL B. JONES, Paterson, N. J.—***Machine for Coping Sash.***—February 23, 1864.—This invention consists of a gouge or cutter worked by means of a slide and lever, the cutting edge of the gouge being so formed as to strike the bar in an oblique or angular direction to the centre of the gouge, the object being to prevent the splitting of the bar when cutting directly through and across the fibre of the wood.

Claim.—The combination of gouge F, slide D, and lever C, when constructed and operating substantially as described.

No. 41,707.—JOHN L. KNOWLTON, Bordentown, N. J.—***Saw-mill.***—February 23, 1864.—This invention consists in arranging a feed roller in a platform in such a manner that it will rise or fall, or be turned in an oblique direction, either to the right or left from the line of the saw by means of levers. Above the timber is arranged a pressure roller, which is swivelled to an upright rod having around it a spiral spring, and placed in a frame which is attached to a sliding bar, so as to be adjusted to the size of the timber to be sawed, and at the same time hold the timber firmly in its place while being sawed.

Claim.—The employment or use, in a sawing machine for sawing ship and other timber in curved and bevelled form, of a feed roller E, arranged substantially as herein shown and described, so as to admit of a vertical adjustment and also of an oblique adjustment relatively with the saw, for the purpose specified.

Second, in combination with the feed roller E, thus arranged, a swivel pressure roller M, as and for the purpose set forth.

No. 41,708.—WILLIAM KYLE, New York, N. Y.—***Washing Machine.***—February 23, 1864. This invention consists in mounting an annular box or case upon horizontal trunnions at each end of the same and in line with each other, so that it may be made to revolve readily, the axial line of such trunnions being diagonal or eccentric to the horizontal axis of the box or case.

Claim.—The relative arrangement of the axles and body or case, and combining the bars as described, the whole operating in the manner and for the purposes set forth.

No. 41,709.—JOHN LACEY, Chicago, Ill.—***Cultivator.***—February 23, 1864.—This invention consists in arranging the frame and operative parts of a cultivator of that class designed for cultivating both sides of a row of corn so as to dispense with the usual lower or double frame, and at the same time preserve the necessary height above the ground. The parts are also so constructed as to increase or diminish the space between the ploughs, and to adjust the line of the front and rear ploughs.

Claim.—First, the arrangement of the pivotal bolts or pins *c* and *d*, and the holes *a* and *b*, the movable beams A', and G, stirrup I, and bars H, for regulating and adjusting the draught of the ploughs.

Second, the combination of the lever R, the rest or stop *e*, connecting bar S, bow T, pivotal bolts *c* and *d*, with the movable beams A', and G.

Third, the combination of the bars H, stirrup I, and chain M, with the movable beams A′, and G.

Fourth, hinging the rear ends of the movable beams A′ between the front and rear ploughs by the pin *c*, so as to move such front and rear ploughs in opposite directions, all being constructed and operating substantially as set forth and specified.

No. 41,710.—Edward Lawson, Island Pond, Vt.—*Separating and Sorting Ores, &c.*—February 23, 1864.—This invention consists in sorting and separating ores and other matter through the agencies of hydrostatic pressure and specific gravity. In carrying out the invention, a cylindrical or other suitably shaped vessel of proper dimensions is employed, the lower end of which communicates with an elevated reservoir, the induction pipe being provided with a valve, and the vessel provided with a perforated plunger.

Claim.—First, the sorting or separating of ores and other matter by placing the same within a cylindrical or other suitably shaped vessel of such diameter that the ore or other matter will be kept in a mass while it is elevated by an upward pressure of a column of water, and, by reducing or stopping the pressure of said column of water, the ore or other matter be allowed to separate and dispose itself in layers according to their specific gravity, substantially as set forth.

Second, the elevating of the sorted or separated ore or other matter, within the vessel aforesaid, by means of a piston interposed between the ore or other matter, and the ascending column of water under pressure, for the purpose of preserving the relative position of the layers or parts of the separated ore or other matter while the same are being discharged from the vessel, as herein described.

No. 41,711.—Horace Markham, Henderson, Ill.—*Bee-Hive.*—February 23, 1864.—This invention consists in providing the entrance slide with hooks in combination with notches in the front of the hive in such a manner as to increase or diminish the area of the entrance as circumstances may require.

Claim.—Having the entrance slide provided with hooks *m*, in combination with notches *n*, in the hive front, so as to regulate the size of the entrance aperture, as here shown and described.

No. 41,712.—W. C. Marshall, New York, N. Y.—*Mode of Preserving Chopped Meats.*—February 23, 1864.—This invention consists in the employment of cylindrical tubes made of cotton or other textile fabrics, and tied at the ends similar to sausages, so that such tubes may take the place of the intestines generally used in the manufacture of sausages. Bands of India-rubber or other elastic material may be applied to the said tubes so as to embrace them at short intervals, and so that the tube may be drawn up tightly to the meat, and no retying of the bands be required as the filling shrinks.

Claim.—The use of cylindrical tubes A, of cotton or other textile material, substantially such as herein described, for the purpose of preserving animal flesh or meat.

Second, the application of elastic bands B, to the bags A, after the same have been filled and tied, substantially as and for the purpose set forth.

No. 41,713.—Anton Maschka, Chicago, Ill.—*Grain Drill.*—February 23, 1864.—This invention consists, in combination with double oblique seed boxes, secured respectively in front and in the rear of the seed coverers, of two levers connected at their longer arms with a ring, to which is attached a rope, the said rope being operated by a crank shaft to raise and lower the seed boxes and ploughs so that grain may be planted at various depths according to its quality.

Claim.—In combination with the double oblique seed boxes P T, arranged respectively in front and in the rear of the seed coverers, the levers A A′, rope *r*, and crank shaft *s*′, for the purpose of planting the grain at various depths and for adjusting the depths of the seed coverers P″, substantially in the manner herein described.

No. 41,714.—Calvin E. Myers, Bristol, Vt.—*Self-acting Sled Brake.*—February 23, 1864.—This invention consists in the employment of a sliding frame placed upon the cross-bars of the runners and provided with spurs or dogs at their sides, the sliding frame being connected with the tongue of the sled, so that the dogs or spurs will be forced down into the snow by the momentum of the forward movement of the sled when the team is checked, and raised again when the draught pole is drawn forward.

Claim.—First, the combination of the sliding frame E, draught pole F, and dogs H H, all constructed, arranged, and operating in the manner and for the purpose set forth.

Second, in combination with the above, the hook I, and eye *h* for preventing the movement of the frame E, as explained.

No. 41,715.—D. F. Neikirk, Republic, Ohio.—*Hay Elevating Fork.*—February 23, 1864.—The fork is pivoted to a rod which passes transversely through its teeth near their centres, and the rod is secured to the end of the fork handle by means of a metal strap passing around the rod at the middle of its length, so that it can be readily upset by pulling a cord which releases the fork from a catch and discharges the hay.

Claim.—First, a hay elevating fork constructed substantially as herein described, and hinged to its handle at a point about midway of the length of its tines, and controlled by means of devices *g k i m*, all for the purposes set forth.

Second, a pivotal connexion *d*, when passed through the fork at a point about midway of the length of the tines, and supported by devices *e f*, in the manner and for the purpose described.

No. 41,716.—J. E. North, Candor, N. Y.—*Washing Machine.*—February 23, 1864.—In this machine two rubbers are employed, one of which is caused to slide towards the other by means of levers, in connexion with a roller acting upon a horizontal rod attached to the back of the said rubber. Beneath the sliding rod is placed a trough communicating with the interior of the tub through an aperture near its bottom, by which the water passing out at the bearing in the tub will be returned to the same.

Claim.—First, in combination with the tub B, the rubbers C C′, provided with cavities *c*, operating in the manner described and employed in connexion with the rod D, roller F, and levers G H, substantially as and for the purposes specified.

Second, the trough J, employed in combination with shaft D, and aperture *b*, in the manner and for the purposes described.

Third, the combination with the shaft F and rod D, of the segment S, and rack D′, as and for the purpose specified.

No. 41,717.—R. W. Park, Allegheny City, Penn.—*Connexion for Barrel Rafts.*—February 23, 1864.—This invention relates to a method of rafting barrels as a means of transportation, and it consists in providing each barrel with an adjustable clamp so as to fit different sizes and support an eye or ring over the chine of each barrel large enough to admit of a rope being passed through for holding them together side by side; in addition to which is an adjustable "crab" fitting against the head of each barrel for holding them together end-ways.

Claim.—Combining the bars forming the can hook by means of the thumb-screws P P, operating in the slots M M, when said bars are provided with eyes H H, at or near their ends, in the manner as herein shown and set forth.

Also, the adjustable crab (Fig. 3,) having several bearings against the chine of the barrels, for holding them end-ways while in the water, and preventing abrasion by means of the crab and swivel bolts, substantially in the manner as hereinbefore stated.

No. 41,718.—Obed Peck, Windsor, Vt.—*Securing Bits in Braces.*—February 23, 1864.—This invention consists in passing a screw transversely through the socket of the brace or bit-stock, the said screw being provided with a head which projects laterally from it, and has a notch made in it to form a projection, which, by means of a nut on the screw, is drawn into a recess in the shank of the bit, so as to secure the bit firmly to the brace or bit-stock.

Claim.—The screw C, passing transversely through the socket B, and provided with the nut *c* and head *d*, the latter being notched to form a projection *f*, to fit in a recess *g* in the shank *b* of the bit, substantially as and for the purpose herein set forth.

No. 41,719.—Edward L. Perry, New York, N. Y.—*Boat and Pontoon.*—February 23, 1864; antedated February 7, 1864.—This device is composed of three air-chambers constructed of some suitable air-tight and water-proof material, and of any desired length, and connected together by flexible joints so as to admit of their being folded together. In the spaces between the chambers are arranged longitudinal bars, to which a netting is secured over the central chamber. To the under side of the central chamber is attached longitudinally a metal keel, which is secured by a rope between pendent elastic flaps projecting from the bottom of the said chamber. A rope extends transversely underneath the chambers to support and strengthen the same when in use.

Claim.—The combination of the chambers A A′, bars *b*, swinging keel D, and rope E, all constructed and arranged substantially as and for the purpose specified.

No. 41,720.—William H. Richardson, Philadelphia, Penn.—*Hook for Fastening Umbrellas.*—February 23, 1864.—This device consists of an oblong piece of sheet metal having a loop at each end. In one of these loops is secured the cord or band that encircles the umbrella, the other end being provided with a tag tassel. An oblique slot is formed in one side of the said piece of metal which receives the neck of the button shank. The hook is drawn by the tag past the button, so as to cause it to embrace the button shank to which the fixed end of the band is also secured.

Claim.—The hook-fastening for umbrellas and other articles of wearing apparel, constructed and operating substantially as and for the purposes specified.

No. 41,721.—F. W. Riterhoff and C. A. Colquitt, New York, N. Y.—*Machine for Cutting Tobacco.*—February 23, 1864.—This invention relates to a method of feeding the tobacco forward to the cutting device. To the end of the screw rod which forces the tobacco forward in the box is attached a ratchet wheel having an arm provided with a spring pawl, which is pivoted to the screw rod, by which the arm is intermittently operated, and also the ratchet wheel and screw rod, by means of one or more levers pivoted to the side of the machine, the said levers being actuated by cams on the shaft of the cutter wheel. By changing the point of attachment of the levers the amount of stroke may be lengthened or diminished, and thus the feed may be regulated. The nut through which the screw rod passes is arranged in a frame in such a manner that it may be moved to one side with the rod, so as to leave the box entirely open at its rear end for the purpose of removing the follower.

Claim.—First, the application of one or more oscillating adjustable levers H, in combination with cams G, tappets J, lever-spring catch L, ratchet wheel N, screw spindle M, follower O, box F, and cutter wheel D, all constructed and operating in the manner and for the purpose substantially as herein shown and described.

Second, the laterally-sliding nut P, in combination with the screw spindle M, and box F, constructed and operating in the manner and for the purpose substantially as set forth.

No. 41,722.—Benjamin Roberts, Clintondale, N. Y.—*Baling Press.*—February 23, 1864.—This invention consists in the employment of a series of devices, named in the claim, by which it is designed to apply the power which acts upon the follower in the pressing operation in such a manner that while the necessary amount of vertical traverse is attained, the height of the press may be very much diminished. The toggle levers are combined with an endless rope and windlass, so that in case the levers on one side of the machine should cease to operate, in consequence of the rope becoming slack on that side, the slack will be taken up by the windlass and bring the levers into action, thus keeping the follower in proper position.

Claim.—The combination of the levers G G, links F′ F′, props H H, pulleys *k k*, endless rope *n*, drum J, gearing L L′, and large driving wheel M, all arranged and operating substantially as described.

No. 41,723.—George S. Rust, Chester, Ill.—*Apple Mill.*—February 23, 1864.—This invention consists in attaching the concaves of a fruit mill to the ends of pivoted arms at an intermediate point between the ends of the concaves, so that a greater vibration or swinging motion can be given their rear or discharging ends, and allowing the pomace to escape more freely after it has been properly reduced. The concaves are provided with eyebolts by which the degree of vibration may be increased or diminished, and the grinding or crushing be made finer or courser as desired.

Claim.—First, attaching the concave D D′ of fruit mills to the ends of pendent pivoted arms *d d′*, at an intermediate point between the ends of these concaves, substantially as and for the purposes described.

Second, while not claiming broadly alternately vibrating concaves, I do claim supporting said concave or crushers by means of pivoted vibrating arms *d d′*, in combination with a rotating drum, or its equivalent, substantially as and for the purposes described.

Third, the eye bolts *d d′*, serving as hinges and adjusting devices to the concaves, substantially as described.

No. 41,724.—Alfred Sellers, New York, N. Y.—*Plates for Printing Bank Notes.*—February 23, 1864.—This invention consists in forming the plates of two sheets of metal: one being of soft iron for the front or engraved side, and the other, or back plate, being made of steel; the object being to prevent the spread of the soft iron in receiving transfers, &c.

Claim.—The manufacture of plates for engraving and printing purposes, composed of a layer of iron and a layer of steel, combined substantially as herein described, the iron forming the face and the steel the back of the plate, as herein specified.

No. 41,725.—Michael M. Shellaberger, Randolph county, Ind.—*Button-hole Cutter.*—February 23, 1864.—This invention consists in providing the arm of the device opposite the cutter with an oblong slotted plate of metal which acts as a guide to the cutter. The guard consists of an extension of the guide, and passes below it so as to correspond with the form of the edge of the knife when closed.

Claim.—The guide *c* and guard *d*, in combination with a button-hole cutter, constructed and operated substantially as herein set forth.

No. 41,726.—Joseph H. Smith, Cohasset, Mass.—*Mode of Raising Sunken Vessels.*—February 23, 1864.—This invention consists in the employment of chains arranged to be attached to the forward, middle, and rear parts of a sunken vessel, in connexion with reeving eyes through which the chains are passed.

Claim.—The application or arrangement of the fore and aft chains B C, and their sets of reeving eyes *a a*, together and with the hull A, of a vessel, substantially in manner and so as to operate as specified.

No. 41,727.—John T. Stoddard, Plymouth, Mass.—*Fibrous Batting or Wadding.*—February 23, 1864.—This invention consists in utilizing the waste cotton or other fibre from the mills, which is of too short a staple to be spun, and converting it into a batting or wadding by applying two thin layers or veneerings of a longer staple to its opposite sides for the purpose of holding the mass together.

Claim.—The improved manufacture of fibrous batting, as made substantially in manner and for the purpose as herein before specified.

No. 41,728.—James Swart, Hoffman's Ferry, N. Y.—*Cultivator.*—February 23, 1864.—The mould-board in this implement is constructed with flat-faced wings, made narrow at the base and wider towards their ends, and having straight lower edges with rounded lower ends for the purpose of preventing them from cutting or injuring the plants.

Claim.—The mould board A, constructed with flat-faced wings *e e*, narrow at the base and wider towards their ends, having straight lower edges *f f*, and rounded outer ends *g g*, all as herein shown and explained and for the purpose specified.

No. 41,729.—William Ten Eyck, Pike Township, Penn.—*Paint Composition.*—February 23, 1864.—This composition consists of rice flour, whiting, flour of lime or plaster of Paris, to which is added white glue with a sufficient quantity of water to bring the composition to a proper consistency.

Claim.—Compounding and mixing together the aforementioned ingredients to form a paint composition, substantially as herein described.

No. 41,730.—M. L. Thompson, Brooklyn, N. Y.—*Mosquito Canopy.*—February 23, 1864.—This device consists of an X-formed frame upon a pin or screw, also double cross-pieces, to the ends of which are connected cords or strings, also secured to the X-shaped pieces, so that when the double cross-pieces are retained upon each other, the cords will form a support all around the frame for the net or gauze, and when the cross-pieces are separated, the frame can be folded into a small compass without separating the strings or cords.

Claim.—The folding canopy frame, composed of the X bars *a* and *b*, and double cross-bars *d* and *e*, to which are attached the cords or lines *f* and *g*, as and for the purposes specified.

Also, the arms *h h*, and cords *k*, in combination with said canopy frame, for the purposes specified.

No. 41,731.—William Wanklyn, Albion Mills, Bury, England.—*Machine for Treating Compressed Cotton and other Fibrous Materials.*—February 23, 1864; patented in England July 30, 1864.—This machine consists of a steaming chamber supported upon trunnions and provided with a perforated false bottom, and a steam-tight lid, which is suspended to a chain or cord and counterbalanced. Steam is admitted to the chamber by a pipe in which is a tap, the steam being at a high pressure. A siphon or other suitable device is applied to the steam pipe to prevent the water of condensation entering the chamber with the steam.

Claim.—The arrangement and construction of the closed steaming vessel, having a perforated false bottom and receiving the steam below said false bottom, substantially in the manner and for the purpose set forth.

No. 41,732.—James Warner, Springfield, Mass.—*Breech-loading Fire-arm.*—February 23, 1864.—This invention is explained by the claim.

Claim.—The construction of the semi-cylindrical recess *f* of a diameter corresponding to that of the flange of the metallic cartridge, in combination with the semi-cylindrical breech-piece projection *h*, the recess *l*, and the hammer E, as herein shown and described, so that when the breech piece is open the cartridge case will be guided in an exact line with the barrel both in loading and withdrawing the case, and when the breech piece is closed the solid portion thereof or semi-cylindrical projection will press against the rear of the cartridge shell, while the fall of the hammer will lock the breech piece and prevent it from being blown open by the accidental rearward bursting of the shell, the premature discharge or striking of the hammer upon the cartridge pin being also avoided: all as set forth.

No. 41,733.—Seth Wheeler, Albany, N. Y.—*Hay-elevating Fork.*—February 23, 1864.—This device is constructed with curved teeth or tines, which converge towards one another, and are united in such a manner as to dispense with the ordinary cross-head, and afford a suspending loop or eye. One set of tines is introduced within the other and fastened by means of loops or rivets.

Claim.—First, a horse fork for handling hay and other substance, constructed with curved teeth or tines which converge toward one another, and are united so as to dispense with the ordinary cross-head, and yet afford a suspending loop or eye, substantially as and for the purposes set forth.

Second, attaching the tines *d d e e*, to the tines A *a a*, in the manner described.

No. 41,734.—William N. Whitely, Jr., Springfield, Ohio.—*Harvester.*—February 23, 1864.—Around the external face of the main driving wheel are projections for preventing its slipping, and it is connected with the internal driving gear rim by a convex side rim, for the purpose of causing the earth (especially when wet) to roll away from the said convex portion as it sinks into the earth, and thereby enables the rear part of the wheel to rise as it rolls out of the earth with less of the latter clinging thereto.

Claim.—Connecting the external or ground face of the wheel B, with the internal gear *h* by a convex side rim or projecting portion *j*, substantially as described, for the purpose set forth.

No. 41,735.—DeWitt C. Winans, New York, N. Y.—*Foot Shield.*—February 23, 1864.—This device is designed to be applied to the foot in connexion with a skate, and it consists of a shield constructed of metal of such a curved form that it will encompass a part of the foot while its ends will rest upon the edges of the sole of the boot or shoe, so that the straps of the skate will pass over the shield and press thereon when the skate is secured to the foot for the purpose of relieving the latter of pressure from the strap itself.

Claim.—The employment or use of a shield D, constructed of metal or other suitable material, and of such form as to encompass the foot while its ends rest upon the sole of the boot or shoe, and placed or adjusted in such a position as to be interposed between the foot and the skate straps to relieve the former of the pressure of the latter, substantially as set forth.

No. 41,736.—Jerome B. Woodruff, Washington, D. C.—*Battering or Piercing Ram for Naval Offence and Defence.*—February 23, 1864.—This invention consists in the arrangement of a steam cylinder and a hollow piston, which passes through a stuffing box, by means of which a piercing ram can be protruded and withdrawn. The stuffing box is arranged in a sliding segment fitted to move up or down in a groove made water-tight, so that the degree of elevation of the plunger can be changed while in operation.

Claim.—First; the arrangement of the steam cylinder and a hollow piston which passes through a stuffing box in a sliding segment, the same being fitted to move up or down in a groove, water-tight, so that the plunger can be changed in its position while in operation, substantially in the manner herein described.

Second, the plunger C, the same being inserted at the rear end and passing through the hollow piston D, and secured in its place, to be operated by steam power in the manner described, for the purpose of offence and defence in naval warfare, as specified.

No. 41,737.—J. Wright, St. Louis, Mo.—*Machine for Bolting Flour.*—February 23, 1864.—This invention consists in having one or more spiral screens and a spiral chute attached to a vertical rotating shaft and enclosed by a suitable case, so that the flour or other substance to be bolted or screened will be allowed to pass down and over the screen and chute as the latter revolves. In connexion with the spiral screen and chute is a hopper, which is also attached to the screen shaft, and is arranged to operate with a scraper in such a manner as to cause the substance to be bolted to be properly fed to the screens.

Claim.—First, the spiral screen D′, one or more attached to a vertical rotating shaft A, in connexion with a spiral chute D, also attached to the shaft A, the screen and chute being encompassed by a case E, and all arranged to operate as and for the purpose herein set forth.

Second, the hopper F, attached to the shaft A, above the screen D, in combination with the stationary scraper G, and the opening *n* in the bottom of the hopper, for the purpose herein set forth.

Third, the annular troughs I I on the base B, and underneath the screen D′, and chute D, when used in connexion with the screen and chute arranged on the shaft A, and the spouts J J′, for the purpose specified.

No. 41,738.—Ebenezer Young, Camden Centre, Mich.—*Lifting Jack.*—February 23, 1864.—This device consists of a lever provided with oblong slots and having notches at its outer end, the same being used in connexion with a bail which holds the lever, so that the latter can be readily reversed.

Claim.—The lever C, provided with oblong slots *c*, having notches *d* at its outer end, in combination with the bail D and a suitable frame in which the lever C, is fitted, all arranged to operate substantially in the manner as and for the purpose herein set forth.

No. 41,739.—Peter Antonides, Freehold, N. J., assignor to himself and George W. Mayher, New York, N. Y.—*Potato Digger.*—February 23, 1864.—This invention consists in attaching to the front part of a potato digger, of the class formed with a share and screen attached, a fork arranged in such a manner as to effect a partial separation of the earth from the potatoes before the latter fall or pass upon the screen. The outer prongs of the screen at each side are formed with hooks at their ends for the purpose of levelling the ridges of earth formed at each side of the implement as it is drawn along, and to separate the potatoes therefrom, so that they will be left upon the top of the earth.

Claim.—First, the fork F, attached to the front part of the bar D, when used in combination with the share C, and screen E, as and for the purpose specified.

Second, the hooks or curved terminals *d* at the ends of the prongs *c* of the screen E, substantially as and for the purpose specified.

No. 41,740.—James B. Drake, assignor to A. B., E. F., S. E., and L. B. Sprout, Picture Rocks, Penn.—*Horse Rake.*—February 23, 1864.—This invention relates to a method of applying the teeth so that they may be easily elevated and returned automatically to their working position.

Claim.—The application of the spring A, to the tooth B, spool C, and staple D, as herein described.

No. 41,741.—H. H. Elwell, assignor to the Norwalk Lock Company, South Norwalk, Conn.—*Lock and Latch.*—February 23, 1864.—This invention consists in attaching the inner end of the latch bolt to the lower end of a vibrating lever by means of a spring bolt, the upper end of which passes through a slot in the upper edge of the lock case, and by raising which the latch bolt may at pleasure be released and turned so that its bevel will face the opposite direction. The vibrating lever is controlled by the knob arbor by means of a lateral arm projecting from its upper end.

Claim.—The employment or use of a sliding or adjustable pin *d*, in the lever D, in connexion with a recess *b* in said lever to receive the inner end of the latch bolt C, substantially as and for the purpose herein set forth.

No. 41,742.—Horace K. Jones, assignor to the Hart Manufacturing Company, Kensington, Conn.—*Machine for Stamping Carpenters' Squares.*—February 23, 1864.—In this apparatus the dies for marking the graduations and figures upon the square are set in the periphery of a circular disk fitted loosely on the end of a horizontal shaft. Beneath this disk is a reciprocating carriage with a rocking bed upon its upper surface. The carriage is guided laterally by flanges, but at a point beneath the centre of the disk rests upon an eccentric, to the journal of which is fixed a weighted lever. The carriage, with the square lying lengthwise upon the rocking bed, is passed under the circular disk by means of a rack and pinion, which causes the disk to revolve while the weighted lever, operating the eccentric, keeps the square pressed up against the disk.

Claim.—First, the combination of the loose and removable roller K, self-adjusting bed G, and carriage F, constructed, arranged, and operating substantially as and for the purpose set forth.

Second, the combination of a roller which carries the dies with a self-adjusting bed and a weighted lever, substantially as and for the purpose herein shown and described.

No. 41,743.—John Lacy, assignor to himself, Conrad Furst, and David Bradley, Chicago, Ill.—*Cultivator.*—February 23, 1864.—This invention consists of a frame which may be made adjustable in width, in connexion with a segment pinion working in a rack, which is pivoted to the draught pole, and to which is attached a lever the handle of which is within reach of the driver, by means of which, in connexion with a rod and foot levers, the operator is enabled to move the frame supporting the ploughs in either direction, or to pass around such hills as are out of the line of the row.

Claim.—The combination and arrangement of the movable adjustable frame B, pivoted lever D, segment pinion C, and rack *h*, with pulleys *a*, rod *b*, and foot levers *k k*, the whole constructed and operating in the manner and for the purposes herein set forth.

No. 41,744.—George S. Miller, Thompsonville, Conn., E. B. Peck, Bridgeport, Conn., and William Olmsted, Thompsonville, Conn., assignors to the said G. S. Miller and E. B. Peck.—*Car Brake.*—February 23, 1864.—Upon an axle of the car is secured a collar, flange, and also a sleeve flange, which fits loosely upon the said axle, and by means of a lever connected with the loose sleeve and operated by rods extending, if necessary, through the length of the train, the loose sleeve is forced upon the fixed collar and thus acts as a brake to slacken the speed of the train.

Claim.—The employment of the flanges G H, upon the axle B, in combination with a double-acting lever J, and connecting rod I, substantially as and for the purpose described.

No. 41,745.—Edwin J. Morse, assignor to himself and Josiah D. Richards, North Attleborough, Mass.—*Watch Guard or Safety Chain.*—February 23, 1864.—This invention consists of two series of metal staple links combined with a series of grooved blocks, each formed of a prism of glass, jet, or other desirable material.

Claim.—The said watch guard or chain as constructed of the two series of staple links and the series of grooved blocks, made, combined, and arranged together, substantially as hereinbefore explained.

No. 41,746.—Edgar M. Smith, assignor to Mitchell, Vance & Company, New York, N. Y.—*Harvester.*—February 23, 1864.—This invention consists in so constructing the parts as to admit of the cutting apparatus being readily transferred from one side of the machine to the other, as convenience or the nature of the ground may require, or from the front to the rear thereof in changing the machine from a mower to a reaper, and *vice versa.* The gearing is arranged in such a manner as to enable the cutters to operate whichever end of the machine is drawn foremost, and to remain inoperative when the machine is backed. The reel is so constructed as to admit of its diameter being varied at will to suit the nature of the work required of it.

Claim.—In combination with the main driving and supporting wheels running loosely on their axle or journals, the main gear wheels D, running loosely on the hubs of said drive-wheels, and having a ratchet and pawl connexion with each other, substantially in the manner and for the purpose herein described and represented.

Also, the arrangement of the two sets of plates and boxes on the opposite sides of the main frame, so that the cutting apparatus may be arranged on either side, as set forth.

Also, in combination with the two sets of plates arranged on opposite sides of the main frame, the curved bar or brace F, extending from one to the other, so as to leave unobstructed space at I for the free action of the rake, as described.

Also, in combination with the loose and shifting main wheels and main cogged gear, the pinions *b*, permanently arranged on the shaft *d*, so that said loose and shifting wheels will, when on either side of the machine, mesh with said pinions, as set forth, whichever end of the machine goes foremost.

Also, hanging the reel blades to the reel shaft by means of the crossed arms and adjustable heads, hubs, or sockets, for the purpose of enlarging or diminishing the circumference of the reel, substantially as described.

No. 41,747.—George C. Taft, Worcester, Mass., assignor to Thomas H. Dodge, Nashua, N. H.—*Screw Wrench.*—February 23, 1864.—In this device the rosette is grooved and fitted to work into the parallel grooves of the shank in such a manner as to transfer the strain upon the ferrule to the shank when the wrench is used in the ordinary manner. The rear sides of the said grooves are perpendicular, while their front sides are inclined, the projections of the rosette being also formed with perpendicular rear sides and bevelled front sides.

Claim.—The combination in a wrench in which the strain is transferred from the ferrule to the shank, as described, of one or more grooves *b*, with perpendicular rear and bevelled or inclined front side or sides, with one or more projections *c*, of corresponding form, on the rosette F, substantially as and for the purposes set forth.

No. 41,748.—Henry Wood, Montreal, C. E.; George Henry Fourdrinier, Lynn, C. W.; and Margaret L. Haselden, Montreal, C. E., executrix of Richard Haselden, deceased.—*Grain Dryer.*—February 23, 1864.—The grain is made to pass through a cylinder made of wire gauze and fitted within a chamber which is heated by means of steam pipes. The cylinder revolves upon friction wheels, thus dispensing with the use of a central shaft. The grain is discharged from this cylinder into a cooling apparatus made of two concentric wire-gauze cylinders, within the inner one of which is arranged a fan blower. The claims cover the details of construction.

Claim.—First, the employment or use, for the purpose of drying grain, of a cylinder B, revolving on wheels a', and hubs a^*, secured to its circumference, and provided on its inside with spiral flanges *d*, and lifters *e*, substantially in the manner herein shown and described.

Second, the steam coils C, and jacket E, arranged in combination with the perforated cylinder B, rotated by means of the friction rollers a', and with the louvers F, in the manner and for the purpose set forth.

Third, the rotary cooler G, provided with spiral passages *j*, between two perforated cylinders *i i*, and with fan blowers *k*, to which motion is imparted by a sun and planet gear $m\ m'$, in the manner and for the purpose substantially as herein specified.

Fourth, the compartment G^*, in combination with the cooler G, elevator J, and chimney H, or its equivalent, constructed and operating in the manner and for the purpose substantially as described.

No. 41,749.—Solomon Andrews, Perth Amboy, N. J.—*Truss Pad.*—March 1, 1864.—This invention consists of a hollow truss pad of leather or other suitable material, provided with a hole and screw plug for the purpose of introducing a filling of granular or pulverulent materials, forming a yielding pad without elasticity.

Claim.—A hollow truss pad constructed as hereinbefore described, having one or more openings for the purpose of introducing the filling material, as set forth.

No. 41,750.—Henry T. Anthony, New York, N. Y.—***Mode of Preparing Albumenized Paper.***—March 1, 1864.—This invention consists in making a direct combination or mixture of the nitrate of ammonia with the albumenizing fluid, however it may have been prepared, and applying it to the paper in the usual manner of albumen.

Claim.—Combining or mixing the nitrate of ammonia directly with the albumenizing fluid, in the manner and for the purpose substantially as set forth.

No. 41,751.—Lewis J. Atwood, Waterbury, Conn.—*Lamp.*—March 1, 1864.—The nature of this invention is mainly explained by the claim. A hinged brace operates inside of the shell of the burner to prevent the chimney from turning over vertically beyond a certain distance, and forms a strong catch.

Claim.—First, a straight or nearly straight connexion extending from the moving part of the ring or hinge to the ratchet cap, when said connexion is fitted so as to swing at its end in opening or closing, and form a diagonal brace to the chimney when turned back, as and for the purposes specified.

Second, connecting the straight swinging rod to the chimney-holder by the head and elongated opening for the rod, as specified, whereby the rod is allowed to turn as the chimney-holder is moved on its hinge, as set forth.

No. 41,752.—J. C. Ball, Ionia county, Michigan.—***Wool Press.***—March 1, 1864.—In the operation of this press the end boards, with the side leaves, are folded so as to form a table when the press is not in use. While in this position the cords necessary to bale the wool are laid across the platform, and upon these cords is placed the material to be baled. The boards and leaves are then raised to an upright position, so as to form the sides and ends of the press, and the lever operated until the mass of wool is brought to the desired compass. The ends of the cord are then tied and the baling is completed.

Claim.—The end boards *h* in combination with the braces *m*, the door or cap piece N, the clamps *r*, the platform D, the post C, the lever P, the leaves I, and the braces *b*, the whole constructed as and for the purpose substantially as herein set forth.

No. 41,753.—Abel Beach, Iowa City, Iowa.—***Automatic Cistern Regulator.***—March 1, 1864.—To a float resting upon the water in the cistern is attached a rod which is connected at its upper end with a valve. When the water rises in the cistern to the desired height the eduction port is closed by the valve which thus opens the conduit for the flow of the water to any other desired point. The length of the valve rod admits of being readily adjusted.

Claim.—First, the combination and arrangement of a float and valve with a conduit of water and a cistern, all substantially as shown and described.

Second, in combination therewith, the arrangement A, for adjusting the length of the valve rod.

No. 41,754.—Alexander Bradford, Raynham, Mass.—***Anchor.***—March 1, 1864.—This invention consists in forging upon the shank a projecting end or head, to which latter are riveted two sets of flukes, one on each side. These flukes are secured to the shank by means of side braces for the purpose of imparting additional means of support.

Claim.—First, the shank A, having a head B, forged upon it.

Second, the two sets of flukes C C, fastened to the shank by rivets, and supported by the braces D D, substantially as herein shown.

Third, the palms F F, substantially of the same shape as here shown, for the double purpose of entering the ground easily and of not fouling the cable, as above set forth.

No. 41,755.—Charles B. Bristol, New Haven, Conn.—***Currycomb.***—March 1, 1864.—This invention consists in forming the currycomb of narrow strips of sheet metal bent at right angles longitudinally, one part forming the tooth strips and the other part the back of the comb. The strips are lapped one upon the other on the back and are then secured together by rivets.

Claim.—As a new article of manufacture, a currycomb made wholly of longitudinal sections, or strips, when the sections are formed and riveted together, substantially as herein described.

No. 41,756.—William Camerer, Reading, Penn.—***Safety Valve Attachment.***—March 1, 1864.—This invention consists in the employment of a pressure-equalizing spring for the purpose of rendering the safety valve of a boiler as reliable, or nearly so, as if the valve were held down by a "dead weight" upon the end of the lever, for use more especially where the latter would not be effective, as in locomotive boilers.

Claim.—A pressure-equalizing spring A, acting on the safety-valve lever D, in the manner and for the purpose substantially as set forth.

No. 41,757.—Rosanna Carpenter, Portsmouth, N. H.—***Raisin-stoner.***—March 1, 1864.—This invention consists in the employment of four small levers so hinged together, that when raisins are placed and held between them and a knife passed between the levers, the raisins will be cut so that the stones or seeds can be readily removed from them.

Claim.—The arrangement of sets of levers to operate together in the manner and for the purpose substantially as set forth.

No. 41,758.—Francis W. Clough, Springfield, Mass.—***Valve for Steam Engines.***—March 1, 1864.—This invention consists in combining a disk valve with the parts of a steam engine in such a manner that the motion of the piston of the engine can be reversed by a change of the valve, thus dispensing with the usual machinery employed for that purpose. Combined with the heads of the cylinder and the induction and eduction ports of the same are valves similar to the one above referred to for the purpose of operating the engine without the loss of the steam contained in those parts between the valve and the end of the cylinder.

Claim.—First, the rotating valve D, when applied to and used in combination with the head, E of a steam cylinder, when said head is provided with ports for receiving steam to and exhausting it from the cylinder, substantially as herein set forth.

Second, the pipes *h h*, in combination with the valve D, having the compartments $g\ g'\ g''\ g'''$, when arranged and operating substantially in the manner and for the purpose described.

Third, the steam chest B, and valve C, in combination with the ports H H′ and exhaust port *a*, when applied to a steam cylinder, substantially in the manner and for the purpose herein set forth.

No. 41,759.—Matthew John Cluff, Waltham, Mass.—*Wringing Machine.*—March 1, 1864.—This invention consists in securing a clothes wringing machine to tubs of varying sizes and shapes by means of stationary legs in combination with swivel brackets swinging on the said legs, and provided with set screws for fastening the same. The frame of the machine is constructed with slots for the purpose of holding the adjusting springs of the rollers.

Claim.—The method of securing a clothes wringing machine to tubs of varying sizes and shapes by the use, in combination with two stationary legs, of swivel brackets swinging on said legs and provided with set screws or other adjustable devices, substantially in the manner and for the purposes described.

Also, constructing the frame of a clothes wringing machine with slots to hold the adjusting springs of the rollers of the machine, substantially in the manner and for the purposes described.

Also, constructing the frame of a wringing machine with slots to hold the adjusting springs of the rollers in combination with the extension of the vertical sides thereof, forming pins or legs for the swivel brackets, as shown and described, the whole being arranged to operate in the manner and for the purposes set forth.

No. 41,760.—Reuben R. Cool, Millen's Bay, N. Y.—*Gate.*—March 1, 1864.—The inner post of the gate on which the latter swings is placed in an inclined position, so that its upper journal will project over its lower one, and towards the outer and free or disengaged end of the gate. The upper journal of the post is fitted in a pivoted segment with cords or chains attached, and arranged in such a manner that a person, upon horseback or in a vehicle, by pulling the said cords or chains, will cause the segment to be moved or turned, and the gate post to be thrown out of a vertical position, so as to cause the gate to open by its own gravity.

Claim.—The combination of the swinging gate A, segment B, cords or chains D D', post F, and sliding catch I, all arranged to operate substantially as and for the purposes specified.

No. 41,761.—Christian Degel, New York, N. Y.—*Vegetable Cutter.*—March 1, 1864.—This machine consists of a horizontal revolving cutter wheel applied beneath a table and so fitted that it can be employed to cut up vegetables introduced into a receptacle provided for the purpose, the table having a hinged flap or top that can be opened to afford access to the cutter, or closed so that the table can be used for its ordinary purposes.

Claim.—An ordinary table provided with a flap d, in combination with the receptacle beneath such flap, and with the horizontal cutter wheel o, provided with the adjustable cutters r, and rotated by the crank h, for the purposes and as specified.

No. 41,762.—Edward N. Dickerson, New York, N. Y.—*Steam Boiler.*—March 1, 1864.—This invention consists in combining in a boiler for the generation of steam two series of tubes, through one of which series the water passes, and upon the exterior of which the heated products of combustion impinge, while the steam on its passage to the outlet is made to surround and envelop the other series through which the products of combustion are made to pass, thus superheating the steam to the extent necessary to give it its maximum working temperature.

Claim.—First, the combination, in a boiler, of tubes through which the water passes, and which are acted on by the heated gases, with other tubes, through which the same gases pass, and around which the steam circulates and is superheated, substantially as described.

Second, the arrangement of the water tubes of a tubular boiler so that by removing doors or plates both ends of the tubes may be reached and cleaned without going into the boiler.

No. 41,763.—John S. Diltz, Mount Ophir, Cal.—*Apparatus for Amalgamating Gold and Silver.*—March 1, 1864.—This invention consists of an amalgamating process for extracting the precious metals from sulphuretted and arseniuretted ores, and from refuse or tailings left by mills that have worked the ore once. Use is made of a copper pan galvanized with quicksilver in connexion with a muller, the pulverized ore being first wet with brine and dried, and when placed in the pan quicksilver and lime are added, and the whole mass boiled over a furnace.

Claim.—The rotary muller, together with the copper pan, as applied to this boiling process.

No. 41,764.—James K. Fairbank, Waupun, Wis.—*Pump.*—March 1, 1864.—Within the pump stock where the piston moves a lining of glass, stone, or metal is set in cement, and at the upper part of the same a metal bar at each side is held by a bolt at each end passing entirely through the stock, so that two bolts secure both bars, that next the handle serving as the pivot on which the handle works.

Claim.—A pump having an interior cylinder adjusted in the manner set forth, and also the bands B B, and bolts $f\ f$, arranged to strengthen the upper part of the stock and afford bearings for the handle, all as shown and described.

No. 41,765.—Edward France, Cobleskill, N. Y.—*Carriage.*—March 1, 1864.—This invention consists in a method of detaching horses from a vehicle, in case of accident, by applying the foot to a stop connected with a ratchet wheel and spring, by means of which the bolts which hold the thills to the wagon are drawn out, and at the same time the fifth wheel is rigidly held, so as to keep the wagon from turning.

Claim.—First, in combination with two bolts operating in unison as described, the herein-described spring mechanism for the automatic locking or unlocking of the shafts, as set forth.

Second, the combination of two bolts, coupled as before referred to, and spring mechanism, arranged to operate as described with a ratchet and pawl for locking the bolts, substantially as herein set forth.

Third, combining with the bolts and spring a pawl and ratchet so arranged or located as that it may be readily actuated to release the spring ratchet and effect the unlocking of the shafts, substantially as herein set forth.

Fourth, the method of locking the wheel plate or fifth wheel by operating the spring ratchet for the purpose of steadying the course of the vehicle, substantially as herein set forth.

No. 41,766.—John W. Gay, Brooklyn, N. Y.—*Muff.*—March 1, 1864.—This muff is made of fur externally and of woven fabric internally, and is provided with a band of fur at the openings for the hands, so as to protect the wrists of the wearer.

Claim.—A muff formed with a band or ring of fur at each end of the opening through the muff, as and for the purposes specified.

No. 41,767.—Henry C. Glasgow, Chicago, Ill.—*Car Coupling.*—March 1, 1864: antedated February 17, 1864.—This invention consists in constructing the coupling in such a manner that cars of unequal heights may be readily connected together with a horizontal draught, and so as to avoid the necessity of a person standing between the cars to couple them, the same being accomplished automatically.

Claim.—First, the construction, combination, and arrangement of the castings A A', blocks B B', and partitions b, with the sliding planks E F, rods H I, and springs $s\ s$, as and for the purposes herein shown and described.

Second, in combination with the foregoing the pin c, with the stop or rest c', and bent rod e, and the slide g, moving in a longitudinal slot a, and the recess for the pin b', arranged as and for the purposes specified.

No. 41,768.—George W. Griswold, Abington, Penn.—*Wrench.*—March 1, 1864.—Projecting back from the movable jaw of this wrench, but in the same plane with it, is a box-like appendage through which the shank passes. The lid of this box is set far enough off from the back edge of the shank to admit between the two an iron ball, and towards the front end is inclined towards the shank, while at the extreme front end there is an aperture through which the finger may be thrust. The ball is not attached to the wrench, but by means of a spring and follower behind it is constantly pressed in between the inclined portion of the lid and the shank. By pressing upon the ball the spring will yield and release it from contact with the inclined portion of the lid, and thus allow the jaw to move freely upon the shank.

Claim.—In combination with the shank of the stationary jaw, and with the movable jaw of a wrench, the incline c, and loose roller h, for holding the movable jaw from slipping back, while it is always free to be moved forward, said roller being held up in place by a spring, substantially in the manner and for the purpose described.

No. 41,769.—Jacob Haege, Shiloh, Ill.—*Cultivator.*—March 1, 1864.—This invention consists in the arrangement of devices, specified in the claim, for raising and lowering the ploughs and also for moving or adjusting them laterally, so that the driver can control the movements of the same in his seat: the implement being designed to cultivate both sides of a row at one and the same time.

Claim.—The plough beams I I, fitted in the stays K, and upon the rods J, in combination with the springs L', and curved plates M, all arranged as and for the purpose specified.

No. 41,770.—John T. Hancock, Boston, Mass.—*Steam-boiler Furnaces.*—March 1, 1864.—The nature of this invention is explained by the claim.

Claim.—Supplying commingled air and steam to ignited fuel in furnaces, &c., when the said air and steam are mixed in a separate vessel and introduced into a closed ash-pit below the fire chamber.

No. 41,771.—Thomas George Harold, Brooklyn, N. Y.—*Dust Pan.*—March 1, 1864.—This invention consists in constructing the sweeping lip or edge of a dust-pan in a triangular form and corrugating the bottom of the same; the corrugations being made parallel with the said lip or edge.

Claim.—First, corrugating the bottom of the dust-pan parallel or nearly so with the edge or lip, for the purposes specified.

Second, constructing the sweeping lip of a dust-pan in a triangular form, sectionally for stiffening the same, as specified.

Third, the inclined sweeping lip of a dust-pan, in combination with the corrugated bottom, substantially as specified.

No. 41,772.—E. C. Haserick, Lake Village, N. H.—*Guard for Paint Brushes.*—March 1, 1864.—This invention consists in attaching to the paint brush a rod or bar of metal, wood, or other suitable material, extending down by the side of the brush, so that in using the latter the rod or bar will serve as a guard or guide and prevent the brush from slipping or sliding; the said guide or guard being secured to the brush by an elastic band.

Claim.—The employment of the elastic looped band B, in combination with the guard D, and brush A in the manner and for the purpose herein shown and described.

No. 41,773.—William Hensler, Milwaukee, Wis.—*Bathing Apparatus.*—March 1, 1864.—This apparatus consists of a closet having a perforated floor, and provided with a shower-bath tank above. Within the closet is a chair, under which is placed a pan for the reception of a spirit lamp for heating the closet. Within the closet is also arranged an adjustable cloth partition for reducing the height of the closet and concentrating the heat in the same.

Claim.—The cloth partition I, fitted within the closet A, as shown in connexion with the pan H, and chair G, or any equivalent seat, for the purpose specified.

No. 41,774.—E. Hobbis, Newark, N. J., and Alexander McNair, Bloomfield, N. J.—*Lamp Burner.*—March 1, 1864.—This invention consists in applying a tube to a lamp burner at the outer side thereof, and having the upper end of the said tube provided with a horizontal rotating or slide cap or cover so arranged that the lamp may be supplied with oil without unscrewing the burner from the lamp or disturbing any of the parts thereof.

Claim.—A tube placed at or attached to the exterior of the lamp burner, in connexion with a horizontal rotating or slide stopper or cover applied to the tube, all arranged substantially in the manner as and for the purpose herein set forth.

No. 41,775.—Bennett Hotchkiss, New Haven, Conn.—*Drop Hammer.*—March 1, 1864.—In this machine the belt which sustains the hammer is secured at its upper end to a cylinder provided with a conically-shaped head on each end, and fitted to turn freely on the main shaft. Corresponding with the conical ends of the cylinder are two disks, one of which is moved towards the cylinder by means of a block having a lateral movement on the shaft and attached to a spindle which is operated upon by a lever so as to clamp the cylinder when the hammer is to be raised. The lever is operated by means of a vertical rod in connexion with a hook or catch which holds the lever until it is desired to release the same, which may be done instantaneously, so as to allow the hammer to fall from its highest elevation with the unretarded force of its full weight. An arrangement of levers in connexion with the vertical rod is used for the automatic operation of releasing and engaging the lifting device.

Claim.—First, the friction clutch described, in combination with the hammer of drop presses, when the same is constructed and operates in the manner and for the purpose substantially as herein set forth.

Second, the lever L, and spindle *d*, where the same are combined with the friction clutch described, for the purpose specified.

Third, the combination of the rod P, and latch O, with the lever L, in the manner and for the purpose substantially as described.

Fourth, the levers 6 and 7, when combined with the hammer of drop presses, in the manner and for the purpose specified.

Fifth, the lever 5 and latch 16, when combined with the hammer of drop presses, substantially as described.

Sixth, the latch 11, in combination with the rod P and the hammer of drop presses, substantially in the manner described.

No. 41,776.—Charles Henry Hudson, Aske Terrace, England.—*Transferable Embroidery Pattern.*—March 1, 1864.—This invention consists in the employment or use of a pattern, printed or otherwise, produced upon paper or other suitable material by means of ink composed of about equal parts of sugar and gum-arabic, mixed with any color, for the purpose of printing or transferring working patterns upon cotton, woollen, and other fabrics, in such a manner that from one pattern several working patterns can be obtained on any desired fabric for embroidery, braiding, stitching, &c.

Claim.—As an improved article of manufacture, a paper or fabric which has its surface provided with a transferable embroidery pattern, as herein described.

No. 41,777.—William Huston, Wilmington, Del.—*Marine Leak Signal.*—March 1, 1864.—This invention consists in the employment of a tube arranged between the skin and ceiling of a ship, through which tube the motion of water from leakage causes an alarm-whistle to be blown. The said tube is bent to conform to the shape of the vessel, and is provided with two whistles, one at each end, and an opening at the lowest part of the bend, which is covered with wire gauze to prevent the introduction of obstructions. When the water rises in the tube the motion of the vessel will cause the water to move from side to side in the tube and alternately force the air in and out at the ends, thus causing the whistles to sound.

Claim.—The receiver A, the air tubes B, the whistle *c*, constructed with the hole *d*, the whole arranged in the manner and for the purpose herein set forth.

No. 41,778.—Clark S. Hutchinson, Burlington, N. J.—*Tobacco Pipe.*—March 1, 1864.—This invention consists in placing a piece of sponge within a cylindrical case, upon which latter the bowl is secured. Above and below the sponge is a perforated plate secured to a rod bent at the top to form a handle. Below the lower plate is a space or chamber for the reception of water that may drop from the sponge: the opening for the tube being placed at the upper part of the said chamber.

Claim.—First, the sponge G, or its equivalent, adapted to the case A, and arranged in respect to the opening *x*, and the bowl C, or its equivalent, substantially as and for the purpose set forth.

Second, the combination of the sponge G, with the rod *f*, and plates *e*, as set forth, for the purpose specified.

No. 41,779.—Samuel M. Longley, Hudson, N. Y.—*Hoisting Machine.*—March 1, 1864.—This invention consists in the employment of two chain wheels of different diameters, with a chain which is made to pass over the larger wheel, thence down around an ordinary sheave block and up over the smaller wheel, its ends being joined together. On the shaft which bears the pulleys or wheels is also placed a gear wheel which engages with a smaller gear wheel secured to a shaft below, the latter being operated by means of a wheel and rope on its outer end.

Claim.—The employment of the double chain wheel *c d*, with a chain B, in combination with a system of gearing C D, and a suitable power wheel E, substantially as and for the purposes described.

No. 41,780.—T. A. Macauley, New York, N. Y.—*Device for Converting Motion.*—March 1, 1864.—This device consists of a circular plate to which are attached three arms of different lengths, two of which are connected by a wrist to a pitman, and so arranged that as the plate rotates the wrist is caused to move toward and from the axis of the shaft and produce an irregular reciprocating motion of any body with which it is connected. The device is designed to be applied to the needle-motion of sewing machines.

Claim.—The combination with each other and with the rotating plate D, of the three arms E F G, wrist H, and pitman I, as herein shown and described.

No. 41,781.—Sylvester Marsh, Chicago, Ill.—*Apparatus for Rendering Lard, &c.*—March 1, 1864.—This invention consists in the employment of a long cylindrical vessel or tank in which is arranged a strainer, and provided with a faucet for drawing off the contents.

Claim.—First, the employment, in the art of rendering lard, tallow, or other fatty matter, of an elongated semi-cylindrical vessel or vessels of other form substantially the same, so that large quantities of matter may be operated upon with ease, while the heat emitted by the burning of the fuel is more perfectly utilized than heretofore.

Second, the employment in the art of rendering lard, tallow, or other fatty matter of an elongated heating vessel having at one end a drain pipe provided with faucets or cocks to cut off the flow of liquefied mass at pleasure.

Third, the employment, in combination with an elongated vessel for rendering lard, tallow, or other fatty matter, provided with a drain pipe and faucet, of a strainer within the boiler, arranged in any convenient manner.

No. 41,782.—S. W. Pingree, Lawrence, Mass.—*Extracting Tan Bark.*—March 1, 1864.—This invention consists in treating tan bark after it has been ground, first with weak tan liquor or water, whereby the bark is swelled and its strength partially extracted, and exposing the same, after the first liquor has been drained off, to the action of steam, which penetrates the swelled bark and prepares it for a second percolation with cold water or weak tan liquor in such a manner that by the application of the first lotion the bark is prepared for the action of the steam, and by the application of the steam the bark is heated and brought in the best possible condition to give up its tannin to the second lotion of cold water or weak tan liquor.

Claim.—The within described process of extracting tan bark by first swelling the bark with water or weak tan liquor, and heating it with steam, and afterwards steeping with cold water or weak tan liquor, substantially in the manner set forth.

Also, introducing steam into the bark contained in a leach-tub at different points through a flexible pipe D, with a metallic mouth-piece E, in the manner and for the purpose substantially as specified.

No. 41,783.—William F. Redding, Troy, N. Y.—*Stop Gauge for Weather-boarding.*—March 1, 1864.—To the upper end of the bar which forms the guide for the slide is applied an adjustable knife or spur in such a manner that it can be made to project more or less be yond the front edge or face of the bar, and when its point breaks it can be readily taken off, sharpened, and replaced.

The invention consists in the employment of a slotted bar to form the guide for the grooved slide in such a manner that when, by accident, the screw which holds the slide in place works loose, while the gauge is in use on the building, the said slide is prevented from dropping down to the ground, and the workman is enabled to put it back in its place and refasten it without the necessity of leaving his work for the purpose.

Claim.—The use of the slotted bar A, provided with an adjustable blade C, in combination with the slide D, and set screw *c*, as and for the purpose set forth.

No. 41,784.—Francis H. Roberts, Wilmington, Ind.—***Hand Planter.***—March 1, 1864: antedated February 21, 1864.—This invention consists in attaching to the plunger two adjustable cushioned stops of India-rubber or other elastic material for the purpose of preventing the concussion at the end of the upward and downward strokes. The stops may be so adjusted as to cause the pistons to plant the seed more or less deep as may be desired.

Claim.—Combining with the seeding devices the adjustable elastic stops M M′, substantially as described.

No. 41,785.—Robert Ross, Bethlehem, Penn.—***Lubricator.***—March 1, 1864.—This device consists of a reservoir or chamber provided at its upper and lower sides with projections, in the upper one of which is fitted a hollow screw spindle, and to the lower one is secured a branch, in which is a chamber for the reception of a hollow block C, the latter resting upon a spiral spring, and fitting so as to have a free vertical movement in the chamber. Just below the end of the hollow screw spindle, which projects downward a short distance within the reservoir, is a rod, which is enlarged at its lower end and forms a valve, and resting upon the hollow block below. The hollow spindle is provided with a handle, by which it is turned, so as to be raised and lowered. Above the said spindle is arranged an oil cup provided with a tube extending down into the hollow spindle, through which the oil descends to the reservoir. When a sufficient quantity of oil is supplied to the reservoir, the spindle is turned and pressed down upon the rod; the flow of oil from the cup is stopped, and is made to pass through an annular space at the bottom of the rod, through openings in the block, and down into the cylinder steam chest, or other part of the engine to be lubricated.

Claim.—First, a reservoir A, hollow screw spindle D, rod H, and any suitable spring for raising said rod, and the valve herein described, the whole being constructed and arranged substantially as set forth, for admitting oil to, and discharging it from, the reservoir by the simple turning of the said spindle D.

Second, the cup G, with its oil receptacle *z*, air-chamber *y*, and tube *f*, constructed and applied to the hollow spindle D, substantially as and for the purpose herein set forth.

Third, the combination of the hollow block C, spring M, and grooves *i*, at the bottom of the rod H.

No. 41,786.—Archibald H. Rowand, Allegheny, Penn.—***Moulds for Casting Bungs Plugs, &c.***—March 1, 1864.—This mould consists of a base plate, with the upper portion or cope formed in two parts, each part being hinged to one side, respectively, of the base. In the centre of the base plate is a tapering octagonal projection or core, for the purpose of forming a cavity in the bung, into which a plug wrench may be inserted. Underneath the base plate is a lever, to which the core is attached, and by which the latter is loosened and withdrawn when the metal is sufficiently cooled, the two parts of the cope having been first opened.

Claim.—A mould constructed substantially as and for the purposes set forth.

No. 41,787.—Samuel J. Seely, Brooklyn, N. Y.—***Mode of Strengthening and Improving Sheet-iron Buildings.***—March 1, 1864.—This invention consists in filling the space between the inner and outer shell composing the walls (or floors) of sheet-iron buildings with a mortar composed of Rosendale or other cement and sand, instead of sawdust, brick, earth, &c., as has been usual.

Claim.—The process herein described of strengthening and otherwise improving the walls (or floors) of sheet-metal buildings.

No. 41,788.—Charles William and Frederick Siemens, London, England.—***Regenerator Furnace.***—March 1, 1864.—The object of this invention, as stated by the inventors, is to economize heat, or to save and utilize much of it that is generally wasted, and also to produce heat by the combustion of gases and atmospheric air in mixture. For a furnace for puddling iron, or where a high degree of heat is required, are arranged four "regenerators" below the level of the bed of the furnace, and beneath the latter is a space for the circulation of cold air, the top of the regenerator immediately below such space being covered. From the upper part of two of these regenerators lead passages into the furnace, or into a channel communicating with one end thereof. The lower parts of the four regenerators have passages leading into them, respectively; and to one of the generators of each pair, at either end of the furnace, is provided an opening for the admission of atmospheric air. Into the lower part of the other regenerator of the pair is a conduit for supplying the same with gas. The several passages communicate with a flue and are provided with valves and reversing dampers, so that the currents of air and combustible gases may be directed through the furnace and the whole system of regenerators.

Claim.—In combination with a furnace A, and its chimney or smoke discharge flue P, a system or series of air and gas regenerators B1 B2 B3 B4, constructed substantially as specified, and having conduits and dampers arranged so that air and gas may be led into and through such regenerators and furnace and out of the chimney, in manner and so as to be operated as and for the purpose or purposes hereinbefore described.

Also, the arrangement and combination of the air space or open chamber C, with the furnace and its system of regenerators, arranged and applied together substantially in manner and so as to operate as described.

Also, the arrangement and combination of the air-chamber or space D, or the same and the space E, with the furnace, regenerators, conduits, and damper chests applied thereto, the whole being substantially as specified.

No. 41,789.—Coleman Sellers, Philadelphia, Penn.—***Machine for Drilling and Boring Metal.***—March 1, 1864.—In this apparatus the drill arbor *d*, having a driving pulley upon it, is connected by a swivel joint to a long screw, which passes through the tapped hub of spur wheel *h*, and is prevented from turning by groove and feather. Above and parallel with arbor *d*, is a shaft *n*, carrying loosely at its end a disk-shaped wheel *j*, the rim of which is provided, both externally and internally, with cogs, the outer ones gearing with wheel *h*, and the inner ones with two idlers, which revolve on pins projecting from the face of circular plate *m*, secured on shaft *n*, within the wheel *j*. Interposed between the two idlers is a pinion *q*, attached to one end of a loose collar *r*, which surrounds shaft *n*, while on the opposite end of said collar is a pulley, to which motion is communicated by means of a belt from a pulley on arbor *d*. If, when power is applied to driving pulley, shaft *n*, be allowed to turn freely, no feed motion will be imparted. If, however, said shaft be prevented from turning by means of set-screw *v*, or crank *u*, plate *m*, to which the idlers are attached, will remain stationary, but the pinion *q* will turn and communicate motion through the idlers to wheel *j*, and thence to wheel *h*, thus feeding the drill forward. Without the use of screw *v*, by placing the hand upon crank *u*, the resistance communicated to plate *m*, will be felt by the hand, and by slightly retarding the motion of shaft *n*, a slight feed will be imparted, while by turning it against the force, as perceived by the hand, the feed motion will be accelerated.

Claim.—The use of that combination of gearing, in which a wheel or wheels may either be made to transmit motion as idlers, or, by their rotation around a fixed or a moving wheel, be themselves the means of modifying velocity, substantially as and for the objects specified.

No. 41,790.—A. G. Simmons and Charles Scofield, Utica, N. Y.—***Sewing Machine.***—March 1, 1864.—The object of this invention is, firstly, to relieve the stud bearing of the rocker, alluded to in the first clause of the claim, and which is similar to that used in Burnet & Broderick's patent of November 30, 1858, of the great pressure and the wear incident thereto, and particularly in sewing upon leather and other heavy goods. The rocker has attached to it two bars, one of which is connected to the driving crank, and the other to the needle bar; but these bars, instead of being at right angles to each other, are so placed as to be nearly parallel at the period when the needle enters the material.

The invention consists, secondly, in an arrangement of devices named in the second clause, for the purpose of obtaining a more effective mode of feeding with the needle.

The invention consists, thirdly, in an arrangement of parts by which the needle thread is enabled to be kept tight after the stitch is made, and until the eye of the needle has reached the cloth in commencing the next stitch, in order to avoid leaving a loose loop of thread on the upper surface of the work.

Claim.—First, the arrangement of the rocker I, and its connexions J K, with the crank wrist and needle bar, substantially as herein described, whereby, at the time of the needle entering and passing into the cloth or other material to be sewed, the said connexions are brought parallel, or nearly so, with each other, and the stud or centre bearing of the rocker is relieved of pressure and strain, substantially as herein specified.

Second, the arrangement of the needle bar to slide in an oscillating sheath L, operated by a cam H, rock shaft M, arms *e g*, and spring *d*, or their equivalents, substantially as and for the purpose herein specified.

Third, the take-up N, to draw the thread through the eye *n*, attached to a rock shaft P, and operated independently of the needle-operating mechanism by means of a cam G, and spring *t*, substantially as and for the purpose herein specified.

No. 41,791.—Charles Smith, Buffalo, N. Y.—***Hair Restorer.***—March 1, 1864.—The ingredients of which this composition consists are burdock root, Peruvian wound balsam, lemon juice, castor oil, alcohol, oil of roses, and rain water.

Claim.—A composition for the hair composed of the ingredients substantially as herein described.

No. 41,792.—William Starkey, Bridgeport, N. J.—*Lamp Chimney*—March 1, 1864.—This invention consists in the application to a lamp chimney of a metal cap composed of an outer and inner casing or shell so arranged in relation to each other, and to the glass portion of the chimney, as to prevent the fingers from being burned while handling the same, or from scorching a paper shade.

Claim.—The metal cap, composed of the outer casing C, and inner casing D, adapted to each other and arranged in respect to the glass portion A, of the chimney substantially as and for the purpose herein set forth.

No. 41,793.—Abraham Stoler and Samuel A. Sisson, Bristol, Penn.—*Raking Attachment to Harvesters.*—March 1, 1864.—This invention consists in the arrangement of devices named in the claim for operating the raking apparatus automatically. Two rakes are employed, which move over the platform from front to rear, and serve more effectually in removing heavy and lodged grain than would a single rake. In working upon light grain one of the rakes may be removed.

Claim.—First, the automatic attachments, as described, consisting of plate H, button G, arm F, upright C, rakes D, and E, guide K, and bent arm L, or their equivalents, in combination with the shaft I, when arranged substantially as and for the purposes set forth.

Second, giving the rake shaft I, its elevating motion by means of button G, and arm F, substantially as described.

Third, the double platform A, and B, in combination with the two rakes D and E, when so operated that rake E, passes over and under platform A, and the rake D, is kept in an upright position while on its forward stroke, and in a horizontal position while on back stroke.

Fourth, rake E, when operated in the manner described, by means of shaft I, and button G, or their equivalents, in combination with the double platform.

No. 41,794.—Albert Taplin, Providence, R. I.—*Lamp.*—March 1, 1864.—This invention consists in connecting the two parts of the collar by forming a flange upon one side of each part, one of which flanges is made to fit within the other at its edge. In each flange is a slot, through which is inserted a stiff piece of metal, fastened at one end to the lower part, its upper end being bent over and made to support the upper part of the collar when turned over.

Claim.—The construction of the connexion substantially as herein set forth and for the purpose specified.

No. 41,795.—Albert Taplin, Providence, R. I.—*Lamp Collar.*—March 1, 1864.—The lamp collar is made in two parts, provided respectively with a male and female screw, and held together by means of a clasp upon one side and a spring catch, which descends within the reservoir; the whole to be placed between the oil reservoir and the burner, for the purpose of affording a ready means for feeding the lamp with oil.

Claim.—The combination of the upper and lower parts of the collar with the clasp joint and spring D, when constructed and operating substantially as described and for the purpose set forth.

No. 41,796.—T. J. Townsend, Baltimore, Md.—*Lamp Chimney.*—March 1, 1864.—This invention consists in so constructing the metal top of a lamp chimney as to enable it to expand and contract, and thus adapt itself to the varying temperature of the glass portion of the chimney, for the purpose of preventing the latter from being broken in consequence of the unequal expansion.

Claim.—The employment or use in a lamp chimney of a metal top B, so constructed and arranged as to admit of expanding and contracting circumferentially for the purpose of being readily fitted to and detached from the glass portion A, of the chimney, substantially as set forth.

No. 41,797.—John W. Van Deventer, Dundee, Mich.—*Slitting Gauge.*—March 1, 1864.—This invention consists in providing the slitting gauge with an adjustable knife arranged in the centre of the handle and with a beam socket at its side, and a screw for adjusting the knife; also with a tapering key passing from the front to the lower part of the handle, so that the knife can be made to cut at a greater or less depth, as desired, and the parts be detached so as to render the device portable when not required for use or when packed for transportation.

Claim.—As an improved article of manufacture the slitting gauge above described, having an adjustable knife E, arranged in the centre of the handle, a beam socket *a*, at its side, a screw *e*, for adjusting the knife, and a tapering key F, passing from the front into the lower part of the handle, and otherwise constructed and operating in the manner herein shown and explained.

No. 41,798.—Alexander J. Walker, New York, N. Y.—*Wardrobe Hook.*—March 1, 1864.—This device consists of a pendent wardrobe hook formed with an eye, by which it can be suspended for use from a nail or screw in the wall or side of a wardrobe.

Claim.—The pendent wardrobe hook, constructed substantially as and for the purpose specified.

No. 41,799.—George I. Washburn, Worcester, Mass.—*Apparatus for Pumping and Condensing.*—March 1, 1864.—This invention relates to that class of automatic boiler feeders which are capable of raising the water from a well or cistern below the level of the apparatus, and also of condensing the steam used in the operation. It may also be used for pumping water. The apparatus consists in the combination of a hollow shaft, two hollow arms carrying two balls or spheres, and two steam pipes through which steam is admitted to the balls alternately by means of passages in the hollow shaft. When one of the balls has been filled with water from the cistern it is depressed and steam is admitted, and the water contained in it is forced into the boiler or other receptacle provided to receive it. While this is being done, the other arm and ball are filled with water from the well, and this in turn depresses this arm, when steam is admitted and the water forced out and into the cistern, and thus the operation is repeated, the steam, coming in contact with the water in the pipe and cistern being wholly condensed.

Claim.—First, the oscillating chambered shaft A1, 2, 3, 4, arms D1, D2, balls E1, E2, and ports W1, W2, W3, S, S1, S2, constructed, arranged, and operating substantially as and for the purposes set forth.

Second, in combination with the above-described oscillating chamber shaft, the elevated condensing tank I, water pipe J, and steam pipe H, operating in the manner described, to condense steam by contact either with the water in the tank I, or with the part of the pipe H. immersed therein.

Third, the combination of the steampipe G, G1, G2, oscillating chambered shaft A1, 2, 3, 4, and discharge passages W′, K, substantially as and for the purposes set forth.

Fourth, in an apparatus constructed and operating substantially as hereinbefore described, the employment of the current of water forced through the pipe K, to communicate motion to machinery in any manner substantially as described.

No. 41,800.—James D. Whelpley, Boston, Mass.—*Cut-off Valve for Steam Engines.*—March 1, 1864.—This invention consists in making available the difference of pressure and the difference of momentum of steam in the induction pipe of a steam engine for the purpose of regulating the motion of the engine. The pressure in the pipe varying (within certain limits) inversely as the velocity of the piston; and its momentum (within certain limits) varying directly as the velocity of the piston. This is effected by placing a piston in an enlarged portion of the steam pipe, the said piston having an opening through its central part for the passage of steam. To this piston is attached a rod which extends to a movable portion of the valve rod in such a manner as to cause it to be depressed when the momentum of the engine is too great for the purpose of preventing the eccentric from opening the valve to too great an extent, and thus enabling the speed of the engine to be controlled.

Claim.—First, the employment of a slightly movable piston G, or its equivalent, substantially as set forth and for the purpose described.

Second, connecting with the valve seat G, a rod P, the end of which shall move the depressible section V, of the valve rod, substantially as described.

Third, the combination of the cover or valve K, with the movable obstruction or valve seat G, for the purpose of regulating the action of the latter in the chamber B, substantially as described.

Fourth, in combination with the movable obstruction G, the piston J, for the purpose of balancing or counteracting the variations of steam pressure in the boiler and pipe, substantially as described.

Fifth, the chamber B, as an expansion or recess of the induction pipe, substantially as and for the purpose described.

No. 41,801.—Richard Renner Wilson, Halifax, England.—*Machine for Hot-pressing Textile Fabrics.*—March 1, 1864.—This invention relates to that class of presses in which the several pieces of folded cloth to be pressed are placed between metallic plates arranged one above the other, each plate being internally heated by steam or otherwise, and having conducting pipes telescopically formed to permit the pressure upward of the plates by means of a hydraulic ram or pump.

The invention is designed as an improvement upon the English patent of Hillam and Wilson, No. 1,017, in 1860, and consists in the means for raising any indicated plate separately, so as to increase the space for the insertion of the fabric. This is effected by means of a hand lever, which lifts the said plate, pins having been previously so placed in a sliding frame as that they shall in rising bear up and lift the plate.

Claim.—The combination of the rods or rails I, the guide rails J, the links K, the rods L, the levers M, the bar N, and the lever O, with the parts of a steam press, substantially as and for the purpose set forth.

Second, the rods or rails I, the guide rails J, and the links K, for suspending the plates.

Third, the rods L, the levers M, bar N, lever O, and parts in connexion for lifting the said plates, substantially as herein set forth and explained by the accompanying drawings.

No. 41,802.—JOSEPH P. WOODBURY, Boston, Mass.—*Construction of War Vessels.*—March 1, 1864.—The novelty of this invention consists in the position of the battery, which is made to rest upon the lower or invulnerable deck of the vessel, when the upper deck and sides are vulnerable.

Claim.—In a vessel constructed with a vulnerable upper deck and sides above an invulnerable lower deck and plated bottom, I claim resting a battery or batteries immediately on or below said invulnerable deck, substantially as and for the purpose described.

No. 41,803.—S. W. WOOD, Cornwall, N. Y.—*Revolving Fire-arm.*—March 1, 1864.—This invention consists in providing a lateral opening into each of the chambers of the revolving cylinder, so as to permit the hammer to strike through them, for the purpose of exploding cartridges having their fulminate or priming placed in their side.

Claim.—The employment of apertures in the periphery of the cylinder (in front of the bottom of its chambers) leading respectively into the same, so as to admit the hammer to strike against the sides of primer cartridges and explode them, substantially as described.

No. 41,804.—CALVIN C. WOOLWORTH, New York, N. Y.—*Envelope.*—March 1, 1864.—This invention relates to an envelope having two flaps, one of which is folded inside of the other when fastened. On the outer faces are imprinted the addresses of two points in mutual communication; so that by simply reversing the position of the flaps, the envelope may be adapted for alternate transmission; the article being designed for the use of post offices, express companies, and mercantile houses.

Claim.—The use of an envelope of the construction described, with different addresses applied to its respective flaps or sides, or both, so that by reversing the positions of the flaps the envelope will be adapted for transmission in alternate directions between certain places, all as hereinbefore explained.

No. 41,805.—JOSEPH YATES, Mott Haven, Westchester county, N. Y.—*Manufacture of Iron.*—March 1, 1864.—This invention relates to what is known as the manufacture of iron from the ore direct. Powdered ore and coal are heated on the sole or hearth of the furnace by hot gaseous matters from another independent furnace. That part of the ore which is first touched by these gases would be unduly heated, whilst the part last touched would not receive sufficient heat. The object of this invention is to so regulate the motion of the hot gases and flame that all parts of the ore shall receive an equal amount of heat. This object is accomplished by regulating the time which the gases shall remain in contact with the ore in the different parts of the hearth, or by regulating the amount of gases which is brought in direct contact with the ore, and this regulation may be effected by several different modes, as. first, by increasing the capacity of the chambers in proportion to the intensity of the heat passing through them; second, by proportioning the area of the flues leading to and from the chambers according to the temperature of the flame or gases passing through said flues; and, third, by so combining chambers with flues that the capacity of the former and area of the latter shall be proportioned to the intensity of the heat of the flame.

Claim.—First, the method hereinbefore described of equalizing the temperature throughout all the chambers of the reducing oven. by increasing the capacity of said chambers in proportion to the intensity of the heat of the flame passing through them, substantially as set forth.

Second, the method hereinbefore described of equalizing the temperature throughout all the chambers of the reducing oven, by proportioning the area of the flues leading to and from the chambers, in accordance with the intensity of the heat of the flame passing through said flue and chamber, substantially as set forth.

Third, the method hereinbefore described of equalizing the temperature throughout all the chambers of the reducing oven by so combining said chambers with flues that the capacity of the former and the area of the latter are proportionate to the intensity of heat of the flame, substantially as set forth.

No. 41,806.—JOSEPH YATES, Mott Haven, N. Y.—*Apparatus for the manufacture of Iron.*—March 1, 1864.—This invention relates to the construction and arrangement of certain parts of a reverberatory furnace, having for its object the protection of them from the destructive effects of the heat to which they are subjected. Also, in an adjustment of the iron casing so as to allow expansion and contraction without straining the plates; and lastly, arranging the exit flues in such relation to the reducing oven that the products of combustion of the former will issue at the most distant part from the fire and enter the reducing oven at its discharge flue. In the drawings the blast enters at K, passes along the jointed tube H, G, and fire bridge F, into another jointed tube G′, H′, on the other side of the furnace, and out at M, and thus heated is passed under the fire grate. The joints of the tubes G, G′ are arranged on the outside of the furnace, so as to be packed easily.

Claim.—First, forming the hollow fire bridge of cast iron and connecting the same by means of an India-rubber or other hermetic joint located upon the outside of the furnace with tubes, or their equivalent, for conveying the blast of air to, through, and from the fire bridge, substantially as herein set forth.

Second, the combination of the hollow cast iron fire bridge and tubes for conveying the blast to and from the said bridge with intermediate hollow cast iron wall pieces, so that the sides in contiguity with the bridge shall, by a blast of air through them, be kept cool and preserved from injury, substantially as herein set forth.

Third, iron casing that portion of a reverberatory furnace which is above the sole, by making the sole of cast iron plate flanged to clasp the armor plate, substantially as hereinbefore described.

Fourth, combining with a reverberatory furnace operated by heated blast of air a reducing oven or apparatus so arranged in relation to each other that the flame and heated gases of the former shall be discharged into the latter at the temperature requisite for the reduction of the ore, substantially as herein set forth.

Fifth, forming in a furnace operated by a heated blast a double reverberatory roof, and so combining the same with a reducing oven that the contents of the latter may be discharged directly upon the sole of the furnace under the reverberatory roof, most distant from the fire, substantially as set forth.

No. 41,807.—JOSEPH YATES, Mott Haven, N. Y.—*Furnace and Ovens for the Manufacture of Iron.*—March 1, 1864.—This invention relates to improvements in the furnace and ovens for making iron direct from the ore in the manner proposed by Moses S. Salter in his patent of November 20, 1849. The invention consists in combining a reverberatory furnace with a reducing oven, and the necessary flues and chimney stack, in such a manner that no part of the reducing oven will be overheated by too close contact with the furnace, and that a free circulation of air may be had on all sides of the oven.

Claim.—First, a furnace of such construction that heat and gases necessary for the working of the whole apparatus are generated therein, and by a reverberatory arch deflected upon the hearth to weld the particles of iron together; its flue or flues for the exit of the flame being by exposure to the air partially protected from the effects of excessive heat, while the end wall at or about the flue affords ready access, and is thus capable of repair while the furnace is in operation.

Second, an oven in which the ore is reduced by the flame and gases emanating from the furnace, so arranged in relation to the said furnace that the heat of the latter, conveyed by radiation or otherwise, does not reach the oven so as to injuriously affect its structure; also, that the flue or flues receiving and conducting the flame and gases to the reducing chambers are protected by external contact with the air from the deteriorating action of excessive heat within.

Third, a stack or chimney connected with the reducing oven to carry off the products of combustion, and provided with means for regulating the pressure of the gases within the apparatus.

Fourth, so constructing a reducing oven upon arched columnar or other open work foundation as to allow of free circulation of the air underneath as well as around it, and so that the heat, radiated or otherwise, conveyed from the welding furnace does not injuriously affect it, substantially as set forth.

No. 41,808.—JOSEPH YATES, Mott Haven, N. Y.—*Apparatus for the Manufacture of Iron.*—March 1, 1864.—This invention relates to apparatus for making iron direct from the ore by means of a reverberatory furnace for uniting and welding the particles of iron which have been reduced from the ore on the hearths of the reducing oven by means of the flame and gases from the reverberatory furnace. The first part of the invention consists, first, in the employment, in combination with a reducing oven having two or more reducing chambers, one above the other, and heated by the flame or gases derived from a welding furnace, of a double or divided chimney, so that each chamber shall be provided with its own chimney or division of chimney, which may or may not intercommunicate, at the pleasure of the operator; and, second, in placing such double or divided chimney back of and in contiguity with the reducing oven.

The second part of the invention consists in forming the reducing tables of flat arches, made of refractory brick, set edgewise, the brick being of uniform width, so that the arch shall be of uniform thickness throughout.

The third part of the invention consists in so placing the divided chimney in relation to the reducing oven that the flame and heated gases shall be diverted from the working doors; and in combining with a reducing oven having two laterally arranged series of reducing chambers a double or divided chimney in contiguity with the oven, and between the working doors of the oven.

Claim.—The employment, in combination with a reducing oven having two or more reducing chambers superposed and heated by the flame or gases derived from a welding furnace, of a double or divided chimney, so that each chamber shall be provided with its own chimney or division of chimney, which may or may not intercommunicate, at the pleasure of the operator, substantially as herein set forth.

Also, locating such double or divided chimney back of and in contiguity with the reducing oven, the openings of communication of the chimney with the oven being arranged in relation to the partition or division walls so as to allow of the expansion of gases previous to their entering the reducing chambers, substantially as herein set forth.

Also, the arched reducing tables formed of refractory brick of uniform width, set edgeways or otherwise, so that the same shall be of uniform thickness throughout, substantially as set forth.

Also, so locating the divided chimney in relation to the reducing oven as that the flame and heated gases shall be diverted from the working doors, substantially as herein set forth.

Also, combining with a reducing oven having two laterally arranged series of reducing chambers, a double divided chimney located in contiguity with the oven and between the working doors thereof, substantially as herein set forth.

No. 41,809.—HORACE B. AMES, Brooklyn, N. Y., assignor to THEODORE D. DAY and GILBERT HORTON, New York, N. Y.—*Hoop Skirt.*—March 1, 1864.—In this skirt the ends of the hoops overlap, and each is embraced by alternate folds of a six-fold metal clasp; which also, in the direction of its length, turns over the ends of the said hoop.

Claim.—A non-extension hoop skirt, formed by uniting the ends of the springs by the clasp *c*, constructed and applied as specified.

No. 41,810.—WELLS J. COLBORN, assignor to himself and JOHN M. D. GREEN, Elmira, N. Y.—*Cut-off Valve Gear for Steam Engines.*—March 1, 1864.—The object of this invention is to regulate the flow of steam from the steam pipe to the steam chest so as to equalize the action whether the pressure be greater or less, which is effected by means of an adjustable sliding block that moves up and down in suitable heads or guides in front of the valve case, and operated by means of a rod which connects it in suitable manner with the ordinary governor or regulator, and used in connexion with a fulcrum slide, rock lever, eccentric, and crank.

Claim.—Regulating the flow of steam to the cylinder by means of the adjusting sliding block connected with the governor, the fulcrum slide *g*, rock lever G, provided with slot *f*, or equivalent, and connected with the eccentric and the crank E, the whole arranged substantially as described.

No. 41,811.—J. W. H. DOUBLER, assignor to himself and JOHN E. WYNNE, Warren, Ill.—*Grain Drill.*—March 1, 1864.—This invention relates to a method of making the furrows or drills into which the seed is dropped, and it consists of a series of wheels or narrow circular rollers provided with cutting edges and arranged upon an axle whose ends are supported upon bearings in arms which rest upon the fixed shaft of the large roller. The outer ends of the arms are connected to a lever extending over the hopper, by means of which the drills can be raised or lowered at pleasure by the operator. Between the drills is arranged a series of fingers which serve as scrapers to prevent the clogging of the drills. The hopper is provided with a double bottom, within which is a spirally-shaped shaft for conveying the grain to the perforations over the tubes.

Claim.—First, the combination and arrangement of the adjustable circular drills *b*, the scrapers *c*, arm B, and lever C, arranged and operating as and for the purposes delineated and described.

Second, the scrapers *c*, arranged in combination with the circular drills *b*, and operating as and for the purposes set forth.

Third, the combination and arrangement of the circular drills *b*, the scrapers *c*, the tubes *e*, spiral shaft F, and roller R, arranged and operating as and for the purposes herein delineated and described.

No. 41,812.—JIM B. FULLER, assignor to himself and JAMES B. UPHAM, Claremont, N. H.—*Apparatus for Separating Fibres of Flax, Hemp, &c.*—March 1, 1864.—This invention consists of a device for feeding the fibrous material into a curing vessel *a*, without diminishing the pressure of steam in the said vessel. The top of the vessel is fitted with a feeding slide formed with a cylinder *c′*, upon the slide, both of which move below a fixed plate provided with a hopper. A lever *g*, is caused to move a slide so as to carry the aforesaid cylinder from its position immediately under the hopper to an orifice in the upper part of the curing vessel *a*. As the said cylinder returns after discharging its contents into the curing vessel *a*, the pressure of steam is relieved in it by means of a vent. The material is removed from the curing vessel *a*, by means of a pump, and is thrown by a weighted plunger in a measured quantity into a curing vessel *o*, where it is treated with superheated steam before entering the grinder. The material is returned to the curing vessel *a*, by means of a pipe *s*, when necessary to pass it through the machine more than once.

Claim.—First, the cylinder *c′*, and slide *d*, in combination with the hopper *f*, and opening *h*, for supplying the vegetable material to the curing vessel, and maintaining the pressure in aid vessel, as specified.

Second, the arm *l*, and revolving shaft *k*, applied to the curing vessel *a*, for the purposes and as specified.

Third, regulating the amount of material passing from the curing vessel to the grinder by a pump, applied between said grinder and curing vessel, as specified.

Fourth, the plunger *n*, in combination with the pump *n*, for the purposes and as specified.

Fifth, the curing vessel *o*, applied between the curing vessel *a*. and the grinder *q*, whereby superheated steam is applied to the material before grinding, for the purposes set forth.

Sixth, the return pipe *s*, connecting from the bottom of the grinder to the upper portion of the curing vessel for returning the ground material to the curing vessel, for the purposes and as specified.

No. 41,813.—JIM B. FULLER, assignor to himself and JAMES P. UPHAM, Claremont, N. H.—*Disintegrating and Separating Fibres of Hemp, Flax, &c.*—March 1, 1864.—The stalks of fibrous plants are taken without being *retted*. and placed in a close vessel *a*, and treated either by steam or hot water under pressure. From this vessel they pass between rollers, where they are crushed and partially disintegrated. These rollers are made to move with different velocities, so as to rub and separate the fibres from the wood. The stalks are made to enter the rollers sidewise, or parallel to the axis of the rollers, so that the fibres will not be pulled in the direction of their length. After leaving the rollers the fibres are further separated by being rubbed between corrugated surfaces, and at the same time acted upon by steam. The steam used may be either high-pressure or super-heated. The corrugated surfaces are kept at the proper distance by means of bars acted upon by springs. Steam and water are admitted to the close vessel *a*, by means of pipes.

Claim.—First, separating the gummy and silicious substances from vegetable fibre, when softened by heat and moisture, by pressing out such dissolved and watery substances by rollers or other suitable mechanism acting lengthwise of the fibre, substantially as specified.

Second, subjecting the vegetable fibre, when in a softened state, to the action of rollers, whose surfaces move at different velocities, for the purposes and substantially as specified.

Third, the application to the fibres of flax, hemp, or other substances, while being rubbed for their separation, of jets of steam of the required temperature, for the purposes and substantially as specified.

No. 41,814 —WILLIAM C. HICKS, assignor to EDWARD ROBINSON and E. CHAMBERLIN, New York, N. Y.—*Breech-loading Fire-arm.*—March 1, 1864.—This invention is designed as an improvement upon the breech-loading fire-arm patented to C. C. Brand April 28, 1863, and it consists in cutting away a portion on each side of the shank or extended part of the sliding breech piece in such a manner as to leave a recess or chamber in the space or seat in which said shank or extended portion works on either side of the latter.

Claim.—Cutting away the shank *c*, at *e*, *e*, as described, so as to leave the dirt receptacles *f*, *f*, in its hole or receiver, (in the frame,) substantially as set forth.

No. 41,815.—E. N. HORSFORD, Cambridge, Mass., assignor to JOHN H. CHEEVER, New York, N. Y.—*Preparation of a Phosphate of Lime for Culinary and other purposes.*—March 1, 1864.—The object of this invention is to prepare an acid phosphate of lime which will not readily absorb moisture from the air, and which may be used for compounding baking or yeast powders. Burnt bones are treated with sulphuric acid, so as to remove about seven-ninths of the lime. To the liquid acid phosphate thus obtained additional lime is added, either as carbonate, caustic, or ordinary bone phosphate, so as to bring the compound to about three or four atoms of phosphoric acid to four of lime.

Claim.—This double phosphate of lime of the composition and preparation substantially as above described, for the uses above set forth.

No. 41,816.—JEROME B. HOWE, assignor to himself and JOSIAH C. RICHARDS, Middleville, Mich.—*Current Water Wheel.*—March 1, 1864.—Extending from the central vertical shaft are hinged buckets which are braced to receive the force of the current by means of open braces, one leg of each of the same descending vertically from the perimeter of the wheel, the other leg extending obliquely therefrom.

Claim.—In the construction of a submerged vertical shaft current water wheel, the combination of the hinged buckets *d*, *d*, and braces *e*, *e*, arranged and operating substantially as and for the purposes herein specified.

No. 41,817.—CASPER JAGY and FREDERICK DENZLER, assignors to WALTER K. MARVIN, New York, N. Y.—*Lock.*—March 1, 1864.—Springing up from the lock plate and passing through a slot in the tail of the bolt is a pin which constitutes a fulcrum, on which vibrates a skeleton plate D, and also a series of flat tumblers I, the latter being slotted at one end in order to facilitate the passage of and close around a stub C which projects outwards from the face of the bolt, while to the opposite end of each tumbler is attached a long slender spur. A thin, flat key, notched on one edge, to correspond with the points of the several spurs, is first to be inserted in the narrow groove in front of the spurs, so that by turning the knob the cam on the arbor will throw up the skeleton plate and with it the tumblers, until the spurs come in contact with the key, which will arrest the further movement of the tumblers at the precise point required to bring their slots into correspondence with the stub, when the bolt will be free to be projected outward or retracted inward by continuing to turn the knob. Without the use of the key the tumblers will be compelled by a series of springs to follow simply the movement of the skeleton plate, by which the possibility of correspondence of the tumbler notches with the stub or with each other is avoided.

Claim.—The tumbler I, provided with the pendants J, in combination with the plate D, bolt B, and knob arbor G, all arranged to operate in the manner substantially as and for the purpose herein set forth.

No. 41,818.—Asa S. Libby, Manchester, N. H., assignor to Gordon McKay, Boston, Mass.—*Cutting Tool for Turning.*—March 1, 1864.—This device consists of a circular disk of steel clamped rigidly, but so as to be adjusted at pleasure within a slot in the end of the stock or handle. A notch cut in the periphery of the disk, has one of its surfaces in the plane of the radii of the disk, and this surface constitutes the cutting point of the tool, while the other is nearly perpendicular thereto, and allows room for the chips to escape. The disk is so bevelled upon its edge that a transverse section of it, as exhibited by the cutting surface, will show an outline corresponding to the shape which the groove is required to have. The advantage claimed is that the disk, having been turned up in a lathe, will continue to produce grooves of one and the same outline, until by wear and repeated sharpenings its cutting point shall have receded back and around to the beginning of the other surface of the notch.

Claim.—The described cutting tool, when constructed and made so as to operate substantially as set forth.

No. 41,819.—Elijah Freeman Prentiss, Philadelphia, Penn., and Robert Adam Robertson, Liverpool, England.—*Apparatus for Distilling and Rectifying Whiskey and other Spirits.*—March 1, 1864.—This apparatus consists of four main chambers, into one of which "wash" or fermented fluid of any kind is introduced, which then passes through the other chambers in which it is distilled and rectified, and the "spent wash" escapes from the bottom of the fourth chamber, while the rectified and flavored spirit passes off at the bottom of the first chamber. The several chambers are supplied with tubes, shelves, &c.

Claim.—First, the arrangement and combination of the chambers 1, and 2, whereby the liquid to be distilled is made to act as a cooling medium in chamber 1, and as a regulating medium in chamber 2, substantially in the manner described.

Second, the employment of chamber No. 2, in combination with the regulator, or its equivalent, for maintaining any constant or desired temperature, substantially as described.

Third, the construction of the shelves in chamber 4, substantially as described.

Fourth, the employment of one or more perforated cases U, or its equivalent, in connexion with either or both of the chambers 2, or 3, for deodorizing, purifying, or flavoring the distilled spirit while in the vaporous condition, and before condensation, substantially as described.

Fifth, the employment of chamber 3, for raising the wash before it is introduced into chamber 4, to a greater heat than said wash gets in chamber 2, substantially in the manner described.

No. 41,820.—C. W. Saladee, assignor to Samuel Hart and Isaac Levy, of Paducah, Ky.—*Register for Card Games.*—March 1, 1864.—This invention consists in making a register for registering games and points in card playing, by attaching a suitable revolving or sliding disk to a card of like size with those of the pack, each party being provided with a register to keep account of his points and those of his adversary.

Claim.—A "card register," (for registering the "points" and "games" in games at cards,) when constructed and operating substantially as set forth.

No. 41,821.—D. S. Stephens, La Porte, Ind., assignor to himself and Charles Seymour.—*Water Wheel.*—March 1, 1864.—This invention relates to that class of water wheels in which the direct and reactive force of the water is obtained, and it consists in the employment of a series of buckets which are placed longitudinally on the shaft, with inclined planes between them, in combination with a series of curved or spiral buckets at each end of the longitudinal buckets, the latter being encompassed by chutes for directing the water properly upon them, all being placed within a box or penstock.

Claim.—First, the bucket B, placed longitudinally on the shaft A, with inclined planes *a* between them, in combination with the curved or spiral buckets C C placed at each end of the buckets B, and the latter encompassed by chutes E, all being placed within a box or penstock D, and arranged as and for the purpose specified.

Second, the inclined planes *a*, *a*, placed on the shaft A, between the buckets B, when used in connexion with the buckets C, C, box or penstock D, and chutes E, substantially as and for the purpose set forth.

No. 41,822.—Mary Tower, Rochester, N. Y., administratrix of the estate of Isaiah Tower, deceased.—*Machine for Making Augers.*—March 1, 1864.—This device consists of a series of pairs of circular metallic plates superimposed on each other, each plate having a peculiarly shaped mortise through the centre, and provided also with projecting and overlapping stubs upon its periphery. When these plates are arranged in certain positions the central mortises correspond with each other and admit the flat bar of metal, previously heated, of which the auger is to be made; the upper plate is then turned around with a continuous movement until each plate has, by means of contact of the projecting studs with each other, been forced to assume the position required for imparting to the metal the necessary twist.

Claim.—A series of plates constructed and operating in the manner and for the purpose substantially as herein described and represented.

No. 41,823.—Joseph B. Wilson, assignor to himself and John B. Moore, Fisherville, N. J.—*Cement for Sealing Preserve Cans.*—March 1, 1864.—This invention consists in combining with common asphaltum, or pitch from coal tar, while melted, a quantity of white or red lead, for the purpose of imparting to the composition a sufficient tenacity to enable it to be used for sealing vessels.

Claim.—A sealing cement composed of the ingredients and in the manner described.

No. 41,824.—Amory Amsden, Springfield, Ohio.—*Hydrostatic Scales for Indicating Tonnage of Boats.*—March 8, 1864.—This invention is designed as an improvement upon an apparatus for which a patent was granted to the said Amsden on June 28, 1838, and it consists in a method of ascertaining the exact centre or dead point of a boat or vessel. When the apparatus is to be placed completely below the deck, the graduated scale is made in two parts, connected by a bolt or pin, and the neck is provided with a slide or extension, so that by taking off the upper part of the scale and lowering the slide the apparatus is placed below the deck.

Claim.—First, the process hereinbefore described for arranging or locating a hydrostatic scale accurately at the dead point or centre of motion of a boat or vessel, for the objects specified.

Second, the slide H′, employed in the described combination with a hydrostatic scale, to adapt the entire apparatus to be placed below the deck when not in use.

No. 41,825.—George W. Billings, New York, N. Y.—*Retting Flax and Hemp.*—March 8, 1864; antedated February 21, 1864.—This invention consists in retting flax or hemp, straw or stalk, by placing it vertically in a vat or tank, with the upper end downwards, until it is filled, the straws or stalks being nearly of uniform length. Water of a proper degree of heat is then let into the vat sufficiently to immerse or cover the flax or hemp for one-third its length, where it remains a certain length of time after fermentation has commenced, when more water is let in until another third of the material is immersed and covered, and after a time more of the material is immersed, when it remains until the material is thoroughly macerated.

Claim.—The retting of flax or hemp, straw or stalk, or other analogous fibres, by sections, at intervals, so as to produce a uniform, even, and uninjured fibre, substantially as described and set forth.

No. 41,826.—George W. Billings, New York, N. Y.—*Cleaning and Separating the Fibres of Flax and Hemp.*—March 8, 1864; antedated February 21, 1864.—This invention consists in removing from the fibres of flax and hemp, or any other fibrous substances of like character, resin and other foreign and deleterious matter, so as to leave the fibre perfectly free and clean, and in a condition to be worked by the ordinary machinery into any desired fabric.

Claim.—The loosening and dissolving of all resinous matters, silex, and other foreign and deleterious substances from flax, hemp, and other fibrous substances of like or analogous character by fermentation, and removing the same by washing, and the moisture by drying, substantially as described and set forth.

No. 41,827.—Edward W. Brettell, Newark, N. J.—*Lock.*—March 8, 1864.—This improvement consists in projecting laterally from the inner end of the turning or key cylinder two parallel arms, thus forming a sort of frame within which is located a series of flat tumblers, each hung at its outer end upon a pin connecting the outer ends of the two arms, and extending back beyond the key cylinder, are then bent at right angles, and each one provided with a slot in the usual manner. The key cylinder is slotted for the reception of a flat key, and is provided with sliding plugs placed intermediately between each bit of the key and a corresponding tumbler. The key, on being pushed in, forces the tumblers down until their slots are in line with each other and with a fixed guard plate, when, by turning the key around, the outer end of the frame is brought in contact with the bolt and forces it outward at the same time that the slotted ends of the tumblers embrace the guard plate.

Claim.—First, in locks the employment of tumblers M, N, &c., mounted in the turning part E, adapted to be adjusted by the thrusting motion of the key, and to present their ends simultaneously against the bridge G, substantially in the manner and for the purpose herein set forth.

Second, in connexion with the above, bracing the bent tumblers M, N, &c., by an arm E 2, extending from the cylinder, and arranged substantially as herein set forth.

No. 41,828.—Howard C. Bristol, St. Clair, Mich.—*Envelope.*—March 8, 1864.—This invention consists in cutting out the paper, of which the envelopes are made, in such a form that when the end flaps are pasted on the inside surface of the face of the envelope, the sealing flap will form a part of the back of the envelope, instead of the front, as is usual; the said flap being gummed on its outside surface and along its creased or folded edge and introduced within the envelope so that it will adhere to the inside surface of the front of the envelope and prevent the opening of the latter without mutilating the superscription.

Claim.—First, so forming a letter envelope substantially as shown and described, that when the same is sealed it shall present two fronts, having a smooth unbroken surface, upon one of which the superscription may be written and upon the other an advertising card printed.

Second, a letter envelope constructed with a single flap *d*, coincident with the length of the body of the envelope, and with reduced end flaps coincident with the width of the body of the envelope, substantially as and for the purpose set forth.

No. 41,829.—Charles H. Brown, Fitchburg, Mass.—*Fast and Loose Pulley.*—March 8, 1864.—Within the loose pulley or band-wheel is arranged a brake supporter consisting of a hub and two flat arms extending in opposite directions from the hub. From one side of each arm of the brake supporter two square studs extend and pass through slots of one of two sliding brakes arranged within the pulley, and in one of the slots of each break is a helical spring, which serves to force the brake inward or away from the inner surface of the rim of the pulley. The hub of the brake supporter is embraced by two wedges or tapering projections, extending from a cylinder or slider, pressing which towards the pulley will cause the latter to rotate

Claim.—The fast and loose pulley A, sliding brakes D, D, springs *e*, *e*, wedges *g*, *g*, and brake supporter C, combined and arranged as described and for the purpose specified.

No. 41,830.—Thomas Carter, Covington, Ky.—*Egg-hatching Apparatus.*—March 8, 1864.—This apparatus consists of an apartment having a hollow bottom and walls which are filled in with sand for the purpose of retaining the heat and equalizing the temperature. Within this apartment is an egg receptacle so arranged as to be capable of being raised and lowered at pleasure. Combined with the said apartment is a heater, together with a vaporizing vessel, for the purpose of supplying moisture to the atmosphere of the apartment, and with the vertically adjustable egg receptacle is combined a system of clock-work in such a manner as to automically roll the eggs over at regular intervals.

Claim.—First, the provision in an apartment A, warmed and insulated in the manner described, of the egg receptacle F, the same being capable of elevation and depression within the apartment, substantially as and for the purpose set forth.

Second, the combination of the apartment A, heater B, and vaporizing vessel E, all constructed, arranged and operated as described.

Third, in the described combination with a vertically adjustable receptacle F, the automatic egg-turner K, operated by mechanism substantially as specified.

No. 41,831.—Isaac H. Coller, Poughkeepsie, N. Y.—*Harvester-cutter Sharpener.*—March 8, 1864.—This invention consists in making the harvester-cutter sharpener of an emery wheel or stone, with a conical or V-shaped grinding edge, upon which the cutter is held in such a position while being ground that the wheel fills the space between and fits the angles of the edges of the two contiguous teeth.

Claim.—Bevelling and sharpening the two contiguous edges of a mowing or harvesting cutter bar at one operation by straddling a conic or A-shaped wheel with the two contiguous edges of adjoining blades of such bar, substantially as described.

No. 41,832.—Dominic E. Coutaret, New York, N. Y.—*Preparing Artificial Fuel.*—March 8, 1864.—This invention consists in effecting the agglomeration of small common fragments of anthracite by mixing the same with a compound of pitch or tar and metallic oxide properly heated.

Claim.—The use of compounds known in chemistry under the name of insoluble soaps, in order to effect the agglomeration of small common fragments of anthracite, and obtain the infusible fuel prepared as described.

No. 41,833.—Josiah Crosby, Rome, N. Y.—*Card Cutter.*—March 8, 1864.—This device is composed of a series of long blades arranged parallel with each other with vertical edges and firmly secured to a cross-piece at one end with a brace rod passing transversely through the blades a short distance from the head piece, for the purpose of keeping the blades in a parallel position. Two handles are provided, one attached to the back of the cross-piece for the left hand, and the other secured by brace rods above and in front of the cross-piece for the right hand.

Claim.—As a new article of manufacture a card cutter and worker, consisting of a series of knives A, A, handles D, E, and rod C, all constructed and arranged as herein shown and described.

No. 41,834.—George Draper.—Milford, Mass.—*Yarn-delivering Mechanism for Looms.*—March 8, 1864.—This invention consists in the employment of a loosely sliding gravitating catch wheel, which takes into the teeth of a ratchet wheel and is attached to a lever on which is hinged a lever pawl, also taking into the same teeth, and it operates in such a manner that when the yarn depresses the guide F, the catch *p*, will be raised out of action with one tooth and allowed to slip into action with another tooth of the ratchet, while at the same time the pawl *l*, will be brought into action with the ratchet to prevent it from being rotated. With these devices is also combined a mechanism for stopping the delivery of the yarn at the period of the beating of the reed against the cloth, but which, on the recession of the lay, permits the let-off to be operated by the strain of the warp and cloth.

Claim.—Said yarn delivery mechanism or combination, substantially as described, the same consisting of the ratchet *i*, the pawl *l*, the arm *m*, the gravitating catch *p*, the weight *r*, or their mechanical equivalents, combined with the guide F, and the yarn beam, substantially in manner and so as to operate as hereinbefore specified.

Also, the combination therewith and with the lay, in the manner substantially as described, of the stopping mechanism, to operate as and for the object hereinbefore explained.

Also, the gravitating catch and its arm or carrier, to operate together and with the ratchet, substantially as specified.

No. 41,835.—John W. Drummond, New York, N. Y.—*Converting Motion.*—March 8, 1864.—This invention consists in the employment of a crank pin attached to and travelling with an endless belt around a pair of pulleys and taking a slot in the article, to which a reciprocating movement is to be imparted. The motion given by the crank pin can be of any desired length according to the length of the endless belt, and the crank pin in turning the pulleys serves to stop, and start the article reciprocated in the same manner as a crank pin on an arm—that is, gradually and without concussion.

Claim.—The combination of a belt and crank pin with a pair of pulleys or wheels, and a cross slot, for producing a reciprocating movement, as specified.

No. 41,836.—George Walter Dyson, Tinsley, England.—*Apparatus for Straightening and Polishing Cylindrical Bars or Tubes.*—March 8, 1864.—In this apparatus the straightening and polishing are effected by two plain cylindrical rollers supported one above the other in horizontal planes, but in different vertical planes, both extremities of each roller being slightly divergent from a vertical plane, which intersecting the axes of the two rolls at a point about the middle of their length would coincide with the axis of the shaft to be operated upon. The latter, lying in a supporting and guiding trough, is pushed up until its end enters between the ends of the two rolls, which revolving in one and the same direction will seize upon the shaft and cause it also to revolve, and at the same time will draw it forward until its entire length shall have passed through and out from the other end of the rolls, unless the direction of revolution of the rolls be previously reversed, in which case it will be drawn back in the opposite direction.

Claim.—Rolling and polishing pieces of solid metal or tubing of cylindrical shape by passing them between rolls in a direction in a line bisecting the angle of inclination of the axes of the rolls to each other—that is, in a direction nearly parallel with the axes of the rolls, instead of a parallel direction or one at right angles thereto.

Also, the use of rolls the axes of which are inclined to each other, and which are made to rotate in the same direction, through and between which metal rods, bars, and shafts or tubing are made to pass by the rotation of the rolls aided by guides, for the purpose of giving a cylindrical shape to such bars, shafts, or tubing, and at the same time, if desired, polishing the same.

No. 41,837.—Carlton Foster, Oshkosh, Wis.—*Car Coupling.*—March 8, 1864.—This invention consists in the employment of adjustable "eyes" secured by and working upon pivots attached to the bunters; they are operated by means of levers to raise the coupling pin when the car is to be uncoupled, and serve also to receive and hold them in position. As the cars come together the connecting links traverse the funnel-shaped chambers of the bunters, raising the coupling pins angularly, which swing inside the connecting link.

Claim.—First, the construction and use of the eyes *k*, connected to levers *g*, for the purpose of receiving and holding in position the coupling pins *e*, and operating them in their respective bunters, as herein described and set forth.

Second, in combination with the foregoing the mode of securing the connecting links as at *d*, *d*, for the purpose described.

Third, the combination of said eyes, levers, links, and hooks *m*, and bunters *a*, *a*, *a'*, *a'*, in the manner and for the purpose herein set forth.

No. 41,838.—Pinckney Frost, Springfield, Vt.—*Clothes Fastener.*—March 8, 1864.—This device consists of a small block of wood having a recess within which is fitted a small lever and a spring that forces the lever against the clothing and the line, thus securing them together.

Claim.—A clothes fastener constructed and operating substantially in the maner and for the purpose set forth.

No. 41,839.—JOHN S. GISBORNE, Birkenhead, England, and WILLIAM SIMPSON, Liverpool, England.—*Rendering Compasses Insensible to Local Attraction.*—March 8, 1864; patented in England February 14, 1863.—The nature of this invention will be understood from the claim.

Claim.—By means of electricity, however obtained, rendering compasses, or the magnetic needles in compasses, for ships and other purposes, insensible to local attraction, convenient practical constructions and arrangements being illustrated on the accompanying sheet of drawings and herein delineated.

No. 41,840.—GEORGE W. GLADDEN, Cincinnati, Ohio.—*Lubricating Compound.*—March 8, 1864.—The nature of this invention is explained by the claim.

Claim.—Lubricant composed of residuum from the distillation of petroleum, pine tar, and plumbago compounded, substantially in proportions and manner specified.

No. 41,841.—GEORGE P. GORDON, Brooklyn, N. Y.—*Printing Press.*—March 8, 1864.—The nature and object of this invention are explained by the claim and engraving.

Claim.—First, taking the unprinted sheet from the feed table, presenting it properly to the type for the reception of the impression, relieving it from such impression, and carrying it to and depositing it upon the pile table, by the use of one and the same set of reciprocating automatic nippers, whether constructed and operated in the precise manner shown, or in some equivalent way to produce a like result.

Second, the combination of said reciprocating automatic nippers with a cylinder or segment of a cylinder which shall have a part rotary with a return movement.

Third, the nipper trip V, and the nipper guide *z*, in combination with the reciprocating bed and the reciprocating nippers; and these in combination with the cylinder or segment of a cylinder, which shall have a part rotary with a return movement.

Fourth, The combination of the tympan sheet holders with the cylinder or segment of a cylinder, for the purpose shown.

Fifth, rotating reciprocating nippers to file the sheet (heretofore patented by me) when combined with a cylinder or segment of a cylinder, operating substantially as shown.

Sixth, The filing the printed sheets by the use of one and the same set of reciprocating automatic nippers directly before or in front of and under the eye of the operator, so that he may at once detect any imperfection in the impression (as heretofore patented by me) when combined with a cylinder or segment of a cylinder, substantially as described.

No. 41,842.—SAMUEL B. HAINES, Lewistown, Penn.—*Harvester.*—March 8, 1864.—In this machine the gearing is enclosed within a drum or cylinder, which is rotated during its forward movement by the driving wheels, or by direct contact with the ground, by which means motion is communicated to the working parts of the machine, the same being attached to a hinged frame or arm, which vibrates freely in a vertical direction through a slotted stationary head to the drum, so as to allow the cutting apparatus to rise and fall to conform to the undulations of the ground.

Claim.—First, the combination of the enclosing and rotary drum B, and pivoted gear frame F, arranged and operating substantially as described.

Second, the combination with the frame or arm F, constructed and arranged as described, of the slotted head C′, adapted to permit the vertical motion of the said frame and brace it horizontally, as explained.

Third, in combination with the drum B, the gear frame or arm F, provided with the concavity in its upper surface, as represented, to receive the pitman and combine lightness, strength, and rigidity.

Fourth, the main frame C, C1, C2, C3, constructed substantially as described, and attached to the wheels A, A, or drum B, in any suitable manner.

Fifth, the combination of the segments or pinions *d′*, cogged rims E, and lips *e*, with the pawls *b*, *b*, and wheels A, A, for throwing the parts in and out of gear, substantially in the manner explained.

Sixth, the pawl, P constructed with an elastic shank *p*, and operating in the manner and for the purposes specified.

No. 41,843.—JAMES HARRISON, New York, N. Y.—*Mode of Ringing Bells.*—March 8, 1864.—This invention consists in a combination of devices for the purpose of rotating a church bell while being rung, so that the hammer shall strike at a different point at each successive stroke.

Claim.—The combination of the gear wheel C, with the hub D, and shank E, fitted to a corresponding hole in yoke A, making a perfect right angle joint at the point D, and the bolt holes 1, 2, 3, 4, 5, for the purpose of fastening the wheel to the bell, as specified

Also, the combination of levers M, with the working pawl N, and check dog L, ratchet wheel J, and screw or worm K, and cam P, with friction roller O, for the purpose specified.

Also, the combination of cap G, with hole in centre to fit nut F, that bears the weight of the bell and slots *g*, *g*, *g*, *g*, to fit lugs *r*, *r*, on yoke A, substantially as described.

Also, the working of lever M, through the arm of yoke A, and the ears A′, on yoke A, substantially as described.

No. 41,844.—THOMAS D. HART, Philadelphia, Pa.—*Explosive Shell.*—March 8, 1864.—This invention consists in forming a series of detached bars or staves arranged in a barrel form, and casting the shell as a lining within such staves, the casting overlapping and firmly embracing them at their ends.

Claim.—Securing the bars C around the body of the shell A in the manner described, as and for the purpose specified.

No. 41,845.—CHARLES B. HOGG, Boston, Mass.—*Bridle and Bit Connexion.*—March 8, 1864.—The object of this invention is to dispense with buckles, the reins being connected to the ring of a bit. These rings are made with two prongs having an opening between them, and the rein is provided with loops at one end, the opposite side being passed and the rein drawn through the loop. The connecting loop is passed edgewise through the opening of the bit ring, and the rein is turned so as to be in line with the prongs which are inserted in the loop when the rein is drawn tightly on the ring.

Claim.—The improved bridle bit, having each of its rings made with the prongs *b b* and passage *c*, arranged substantially as described.

Also, in combination with a ring *a*, made with prongs *b b* and a passage *c*, arranged as described, the rein or strap R, as made with the holding loop A, and arranged within such loop and so as to be applied to the ring, substantially as described.

No. 41,846.—HENRY C. HUTCHINSON, Cayuga, N. Y.—*Lamp Burner.*—March 8, 1864.—This invention consists of a deflected wick tube, having an opening or slot in its side, so that the upward current of air caused by the draught of the flame is drawn against the base of the same for the purpose of obtaining a wide flame from a small amount of wick.

Claim.—A deflected wick tube with a lateral opening for the flame, substantially as described, whereby a wide flame may be obtained from a small wick tube and a free access of air to the base of the flame, in whatever direction it may burn from the tube.

No. 41,847.—SAMUEL S. JOHNSON, Virden, Ill.—*Washing Machine.*—March 8, 1864.—This invention consists in the combination of a rubbing surface roller with a metal surface plate operated by means of levers and weights in a tub or box having a metallic bottom, under which is placed a furnace or fire-box, so that the clothes may be boiled while being subjected to the action of the rubbing apparatus.

Claim.—First, the combination of the tub A, convex plate E, bar F, cleats E′, E′, roller G, and levers H, H, constructed and operating in the manner described.

Second, in combination with a machine of the construction above specified, the furnace C, arranged and operating in the manner and for the purpose set forth.

No. 41,848.—BEN KITTREDGE, Cincinnati, Ohio.—*Revolving Fire-arm.*—March 8, 1864.—This invention consists in the employment of a spring plate attached to the breech or recoil seat, and interposed between the hammer and the cap nipple, so as to deflect the fire of the exploding cap laterally.

Claim.—A metal shield constructed substantially as described, and placed between the cock and nipple to throw the fire laterally from the nipple.

No. 41,849.—JOEL LEE, Galesburg, Ill.—*Washing Machine.*—March 8, 1864.—This machine is composed of a circular tub having a pedestal in the centre, around which revolve a series of rods attached to arms that are vibrated by a shaft, pinion, and cogged segment secured on the cover of the tub, the pedestal being designed to keep the clothes away from the centre of the tub when they are agitated.

Claim.—The pedestal A, the shaft D, the segment H, the pinion E, the yoke K, the cross bars C, and the rods *m*, the whole constructed and arranged substantially as and for the purpose herein set forth.

No. 41,850.—PHILEMON MARKLEY, Canton, Ill.—*Filtering Cisterns* —March 8, 1864.—A hollow globe is constructed of a brick wall for its lower part, the upper part being of less thickness, to form a wall or dome, and the outer course of brick, ascending vertically from the horizontal great circle, to form a perpendicular cylindrical cistern. The floor of this cistern is made level with the summit of the globe by the deposit of a filtering medium through which, as well as through the dome, the water percolates into the hollow globe.

Claim.—A filtering cistern, in the form of a hollow globe, with the chamber for unfiltered water directly above the cistern, thereby giving a filtering surface equal to the circumference of the water chamber, with the water chamber and cistern having a common base, to wit: the lower half of an 8-inch globe wall.

No. 41,851.—BENJAMIN MERRITT, jr., Newton, Mass.—*Rolls.*—March 8, 1864.—The object of this invention is to produce a roll which will be less liable to spring than those ordinarily used, which is designed to be effected by making the exterior portion of the roll of a tubular form, and supporting the same on an internal shaft having two bosses which closely fit the interior of the tube and support it at two points, distant about one-fourth the length of the tube from the two ends thereof.

Claim.—A pressure roll consisting of an exterior metallic shell A, supported on a metal shaft B, having heads or bearings at *b*, *a*, placed at or about one-fourth the length of the roll from its ends, and the shaft reduced in diameter each side of said bearings, in the manner and for the purpose substantially as set forth.

No. 41,852 —JAMES M. MESCHUTT, New York, N. Y.—*Cinder Washer.*—March 8, 1864; antedated February 20, 1864.—This invention consists in the employment of a rotary or oscillating bucket or ash receptacle, which is sustained by and moved upon a centre pin in a pail or water receptacle, for the purpose of washing cinders.

Claim.—The rotary or oscillating bucket or ash receptacle *c*, sustained by and moved on the centre pin *b*, in a pail or water receptacle for washing cinders, as set forth.

No. 41,853.—SOLON E. MORSE, Montgomery, Vt.—*Butter Worker.*—March 8, 1864.—This invention consists of a shallow box or tray having a perforated bottom covered with cloth and mounted upon legs. Across one end of the box is a rod, underneath which is arranged a lever, to be operated by the hand, for working the butter. Underneath the box or tray is an inclined board for conveying to a proper receptacle the buttermilk, which is forced through the cloth and perforated bottom during the process of working the butter.

Claim.—The improved butter worker, as made with the grooved inclined plane E, the perforated table A, and the layer of cloth B, the whole being arranged and constructed substantially in manner and so as to operate as specified.

No. 41,854.—J. Y. D. MURPHY, Half Moon, Penn.—*Corn Planter.*—March 8, 1864.—This invention consists in the arrangement within a peculiarly-constructed furrow opener, of a seed-depositing device, situated below the seed hoppers, the latter being also provided with the usual seed slides. The seed passes from the hopper to the lower slides by means of a tube attached to the furrow opener. Combined with the above are three springs, which, in connexion with a cam wheel, serve the purpose of more easily operating the slides.

Claim.—First, in combination with the side plates B, unobstructed at the forward ends, a sliding seeding mechanism, composed of a grain duct or passage *n*, and the bell-crank levers or arms *o*, for opening and closing the same, substantially in the manner and for the purpose described.

Second, in combination with the sliding plates and their grain ducts or passages, the hoppers P, attached thereto and operating in connexion with the seed hoppers D, substantially as described.

Third, the combination of the three springs *e. k*, *k*, with the cam and with the plates *m*, *m*, for the purpose of more readily raising up the plates, without requiring so much resistance as one spring alone would require from the drive-wheels to compress it, as hereinabove described and represented.

No. 41,855.—JAMES H. MURRILL, Baltimore, Md.—*Sugar-cutting Machine.*—March 8, 1864.—This invention consists in the employment of a reciprocating or traversing hopper in connexion with a circular saw for cutting the loaf sugar into disks, which are again cut by two sets of circular saws into bars, and, at the same time, cut into cubes or lumps by vibrating knives; all driven by suitable machinery.

Claim.—The employment of the vibrating knives *h*, *h*, in combination with the armed rollers G, G, in the manner and for the purposes substantially as set forth.

Also, the arrangement of a slabbing saw B, and reciprocating frame *e*, *e*, *e*, and hopper C, in combination with rollers G, G, and knives *h*, *h*, in the manner substantially and for the purpose of cutting sugar into lumps.

No. 41,856.—JOHN C. NYE, Cincinnati, Ohio.—*Stencil Plate.*—March 8, 1864.—This invention consists of a frame made with a channel at each side, so as to accommodate the ends of a movable set of stencil letters with wired ends to slide in the channels, and overlapping edges, for the purpose of preventing the flow of paint between the letters.

Claim.—The combination of the holding frame A, having grooved or hollow ways, *a a*, therein, with the wired or otherwise enlarged and stiffened guide edges *b*, *b*, of letter plates B, B, in the manner and for the purpose herein specified.

Also, the combination of the enlarged abutting edges of the letter plates with the intermediate overlapping edges *h*, *h*, thereof, for the purpose herein set forth.

No. 41,857.—WILLIAM PALMER, New York, N. Y.—*Revolving Fire-arms.*—March 8, 1864.—The nature and object of this invention will be understood from the claim and engraving. It does not admit of a brief description.

Claim.—First, the employment of a grooved carrier *k*, intermittently revolved by automatic mechanism, for presenting a chamber containing the charge to be fired to the rear end of the barrel, and holding the same in place while being fired, as set forth.

Second, a hopper slide or opening *e*, combined with said revolving carrier, when such hopper slide or opening is so located that the chambers placed therein descend into the said carrier by gravity, as set forth.

Third, a shield *d*, in combination with said rotary carrier *k*, and hopper slide or opening *l*, when said shield extends from the base of the hopper slide or opening *l*, to the point at which the chamber *i*, is brought into line with the barrel for firing, as specified.

Fourth, a revolving cam *n*, in combination with the rotary carrier *k*, for giving progressive motion to said carrier, and allowing a pause while the piece is being fired, as set forth.

Fifth, the employment of automatic mechanism to press the chambers to the rear of the barrel, and then withdraw the same, in combination with the rotary carrier, also moved by automatic mechanism, so that the motions are in unison, as set forth.

Sixth, the metallic-case cartridge *r*, formed and acting as specified, in combination with the detached chamber *i*, receiving the same, as specified.

Seventh, the combination of the rotary carrier *k*, cams *n*, and *p*, and hammer *o*, in the manner specified, the parts being so formed and timed that the motions are harmonious, for the purposes and as set forth.

Eighth, the bridle piece *q*, in combination with the cam *n*, and rotary carrier *k*, for drawing back the chambers *i*, *i*, and rotary carrier, as specified.

Ninth, the ring *g*, or its equivalent, in combination with the rotary carrier, for withdrawing the chambers *i*, *i*. as the carrier is moved, as set forth.

Tenth, the disk *m*, and its pins 3, 3, in combination with the cam *n*, and its grooves 4, and 5, for the purposes and as specified.

No. 41,858 —ELIJAH FREEMAN PRENTISS, Philadelphia, Penn., and ROBERT ADAM ROBERTSON, Liverpool, England.—*Apparatus for Distilling Rock Oil and other Hydro-carbons.*—March 8, 1864; patented in England July 31, 1862.—The object of this invention is to produce continuous distillation of the oil, and, at the same time, separate the different kinds of oil by their different boiling points. The crude oil is made to enter through tubes in the condensing column, so as to be heated on its way to the still, which serves to condense the less volatile parts of the oil.

Claim.—First, the combination of the still A, the injecting worm *a*4, *a*5, *a*6, *a*7, and the central tube G, G′, G″.

Second, roughening the surface of the injecting worm or tube *a*5, *a*6, *a*7, to render the ebullition regular and quiet.

Third, the combination of the still A, with the series of columns, three or more, each column being set and maintained at the temperature necessary to separate the product condensible at such temperature, whereby, at one continuous operation, the crude oil is separated, with the various products due to condensation, at the different temperatures fixed upon.

Fourth, the arrangement of the vapor tubes and oil spaces in column B, B‴, or C, C‴, whereby the crude oil, on its way to supply the still A, is made to act as a condensing bath to the vapors in these columns coming from the still A.

Fifth, the arrangement of the columns B, B‴, and C, C‴, in combination with the still A, and the movable exit tube *g*″, whereby the operation of the still is rendered continuous.

Sixth, the air regulator, or its equivalent, for regulating the temperature of the respective columns, or either of them, in combination with the pipes of supply of the heating and cooling media.

Seventh, the water legs X, and the floats Z, for regulating the escape of water from the columns.

Eighth, the auxiliary heads V, V′, for enabling the oil bath in each column to act as a still.

Ninth, the warming of the bottoms of the chambers which are at the bases of the columns by means of steam chambers, arranged and operating as shown above.

Tenth, the warming of the bottom of the column on which the still A is supported, substantially as above described.

No. 41,859.—NATHANIEL W. PLYMATE, Freeland, Iowa.—*Hay-shocking Machine.*—March 8, 1864.—This invention consists in the employment of a vertically adjustable apron, composed of horizontal rods attached to a sliding frame and combined with an endless hay-elevating belt, which deposits the hay upon the apron when it is in an elevated position, which apron, when filled, is lowered, so that the stubble passing between the rods on which the hay rests shall hold the hay in a compact form while the rods are drawn from beneath by the forward motion of the machine.

Claim.—The shock frame constructed of the frame or sash Y, Y, and teeth or bars A, A, A, when combined with the rotating rake and used in the manner and for the purpose herein set forth.

No. 41,860.—ADAM R. REESE, Phillipsburg, N. J.—*Wire Harness.*—March 8, 1864.—This invention consists in the use of iron wire or cord, which is cut into the necessary lengths for the different parts of the bridle and harness. Upon the ends of the wire rope are constructed loops of the same material, for connecting the parts together where necessary.

Claim.—First, the use of wire rope or cord in bridles or harness, substantially in the manner and for the purposes set forth.

Second, the formation of solid loops in wire harness, substantially in the manner and for the purposes set forth.

No. 41,861.—Sylvester Renfrew, Marseilles, Ill.—*Apparatus for Punching and Shearing.*—March 8, 1864.—To the bed plate or frame, which is bolted upright to a post, is attached a sliding stock having a punch secured in its lower end and a shear blade attached diagonally to a support projecting from its face, while a stationary blade is secured to a support attached to and projecting from the bed plate, slotted in such a manner as to permit the lower portion of the stock to pass freely through it The stock is operated by means of a system of levers connecting it with the bed plate, thus enabling the apparatus to be used either as a punch or shear.

Claim.—The cutter plate G, secured to the shank of the metal punch, in combination with the stationary cutter-plate *d*, secured to the frame of the punch to form a combined metal cutter and punch, substantially in the manner and for the purposes herein described.

Also, in combination with the combined metal cutter and punch, the toggle links I, K, link L, and hand lever M, substantially in the manner and for the purposes described.

No. 41,862.—Edwin Reynolds, Mansfield, Conn.—*Lithographic Printing Press.*—March 8, 1864.—This invention relates to a lithographic power press employing a revolving tympan and a traversing stone, and the invention consists in the manner of operating the tympan with respect to the movements of the bed which carries the stone; in the mechanism for removing the printed sheet from the tympan and in the method of constructing the damper.

Claim.—Imparting the upward motion to the movable tooth *g*, by means of the rod *h*, arm *i*, rocker shaft *k*, arm *r*, and cam *q*, operating together in the manner substantially as described.

Also, the combination of the rod *h*, lever *v*, catch *a*2, and arm *i*, for entirely arresting the descent of the tooth and the operation of the tympan, as set forth.

Also, the combination of the pins *k*4, and projection *h*4, operating together substantially as described, to lock the tympan in position when the movable tooth is out of gear with the rack.

Also, the combined operation of the cams *q*, and *f*2, for controlling the arrest of movement of the tympan, substantially as specified.

Also, operating the nipper jaws *n*2, *m*2, to close them and to cause them to remove the sheet from the tympan frame by the combined action of the pin *e*3, lever *s*2, and projection *f*3.

Also, constructing the stationary damper with folds, in the manner and for the purpose substantially as described.

No. 41,863.—Conrad Roder, Ceralvo, Ky.—*Hand Loom.*—March 8, 1864.—This invention consists in a device for taking up the web of cloth or other fabric uniformly and evenly as fast as it is woven, so that the fabric being thus wound up on the web beam by an equal and continuous strain from the commencement to the end of the operation, the web when completed is caused to be quite regular and uniform in thickness. Ratchet wheels, differently graduated, are employed, adapted to fabrics made with warp of coarse or finer thread. Connected with the batten by cords are springs secured to the upright parts of the frame, so that the momentum of the batten, as it is rapidly vibrated by hand, is in part arrested.

Claim.—First, communicating motion to the tension beam B, from the batten *d*, by means of the arm *l*, lever *m*, pawl *n*, ratchet *o*, and intermediate gearing, substantially as specified.

Second, in combination with the tension beam B, the use of the removable ratchet *o*, or a series of similar ratchets spaced or adapted to the thread or yarn used as filling in the web, as herein set forth.

Third, in combination with the batten *d*, the use of the springs *r*, *r'*, substantially as and for the purpose specified.

No. 41,864.—Louis C. Rodier, assignor to Samuel Norris, Springfield, Mass.—*Padlock.*—March 8, 1864.—This improvement consists mainly in locking the shackle by means of a spring. To this end a strong flat spring, lying transversely within and attached at one end to the side of the case, is so adjusted that its free end is presented edgewise, directly in the path of the shackle. That portion of the latter which enters the case has upon one of its sides a broad notch, and its extreme end is bevelled off so that when the shackle is forced in the bevelled end, coming in contact with the spring, passes down along its surface and forces it aside until the notch and spring coincide with each other, when the latter, to gain its former position, springs into the notch and holds the shackle locked. In unlocking, the key bit, when inserted, passes beyond the spring, and on being turned comes in contact with a rounded projection on the side of the spring, and in sliding over it forces the spring out of the notch, thus releasing the shackle.

Claim.—First, the employment in padlocks of a locking spring moving, when actuated by turning a key either to the right or to the left, transversely to and out of the path of the bolt, substantially as herein shown and described.

Second, in combination with a locking spring vibrating under the action of a key turning on a fixed pin within the lock case, either to the right or to the left, transversely to the path of the bolt, the cam-shaped hook on the end of the said bolt, for operation as set forth.

Third, the arrangement, in combination with a side locking spring and hinged bolt, operating as described, of wards cast to the front plate of the lock case, as shown and set forth.

Fourth, in combination with a bolt-locking side spring, a yoke, or the equivalent thereof, actuated by a spring, as described, to securely hold the side spring when locking the bolt, and when arranged in relation to the key, so that when turned either to right or left it shall cause the release of the spring, substantially as herein set forth.

Fifth, in combination with the bolt-locking spring and spring-locking yoke, a spring connected with or disconnected from the yoke spring, arranged within the casing of the lock relatively to the bolt and the yoke, so as to constantly bear on the yoke and to throw out the bolt when a key is applied from without to actuate the yoke and side spring, as shown and described.

No. 41,865.—Charles Rundquist, Knoxville, Ill.—*Stump Extractor.*—March 8, 1864.—This invention consists in the employment of a series of radial conical rollers placed on fixed axles between collars surrounding the vertical screw, which latter is embraced by a guide-piece fitted in grooves on the inner sides of the uprights.

Claim.—The guide F, vertical screw G, grooves *f*, *f*, in uprights B, B, and radial conical rollers *c*, *c*, *c*, *c*, *c*, as herein arranged and combined, operating substantially in the manner and for the purpose specified.

No. 41,866.—John W. Sharrett, Portsmouth, Va.—*Safety Cleat for Releasing Sails of Vessels.*—March 8, 1864.—This invention consists in the employment of a releasing cleat, which, upon a certain pressure caused by a squall of wind, is made to free the sail automatically; the cleat is acted upon by means of a pendulum, which, upon a certain degree of inclination of the vessel, is brought into action upon the cleat.

Claim.—First, a cleat constructed with a pivoted tongue *a'*, substantially as and for the purposes described.

Second, the extended latch *d*, formed on the pivoted tongue *a'*, or a cleat in combination with a pendulum D, or its equivalent, substantially as described.

Third, releasing the sails of vessels by means of an automatic device constructed and operating substantially as described.

No. 41,867.—Christian Sholl, Mount Joy, Penn.—*Joiner's Gauge.*—March 8, 1864.—This invention consists in forming the stem of three or four separate longitudinal pieces or slides, all confined by one head or mortise and a thumb-screw, so that either piece can be moved out independently of the others.

Claim.—A gauge, the stem of which is composed of three or four separate stems, each independently adjustable and held by a single thumb-screw, substantially in the manner shown and for the purpose specified.

No. 41,868.—Thomas Silver, New York, N. Y.—*Spring Tension Regulator.*—March 8, 1864.—This invention consists in combining a spring with an eccentric in such a manner as to vary in effect the increasing tension of any form of spring, whether in a state of extension or contraction. To accomplish this, one end of the spring is fixed to a stationary point, while to the other end a chain or cord is attached, which is applied to the long radius of the eccentric, so that the leverage of the latter is diminished as the intensity of the spring is increased; the greater force of the spring having a shorter lever to operate upon.

Claim.—The combination of a spring with an eccentric, substantially as described, for the purpose specified.

No. 41,869.—Charles C. F. Stender, Chicago, Ill.—*Damper.*—March 8, 1864.—This device consists of a circular plate fitted within a stove-pipe and provided with oblong slots in connexion with another plate of smaller diameter, so as to form both an oscillating and a sliding damper. On each side of these plates is secured a conically-shaped deflector, by means of studs, for the purpose of checking the heat and causing it to radiate without obstructing the passage of the smoke.

Claim.—First, the combination of one or more deflectors G, G', with the sliding damper or register D, and valve plate A, substantially as and for the purpose described.

Second, the combination of one or more deflectors G, G', with an oscillating valve A, substantially as and for the purpose described.

No. 41,870.—A. William Süs, New York, N. Y.—*Knapsack Hammock.*—March 8, 1864.—This invention consists of a webbing or cloth provided at its edges with cords or straps for suspending it from stakes to form a hammock, and having attached to it a pouch or pocket and shoulder straps, so that it may be folded up and carried as a knapsack,

Claim.—A new article of manufacture, the army knapsack hammock, hereinbefore described, consisting of the webbing A, pouch D, shoulder straps B, B, slinging cords C, C, C, C, and ties E, E, all constructed, combined, and arranged in the manner and for the purposes specified.

No. 41,871.—Alexis Thirault, New York, N. Y.—*Distilling Rock Oil.*—March 8, 1864.—This invention consists in subjecting crude petroleum or rock oil to repeated evapoations by condensing the vaporous products in one, and returning the condensed liquid to the still through another pipe in such a manner that the density of the prodnct of evaporation gradually increases until the same attains the required density to render it fit for a safe and non-explosive fluid; it also consists in the arrangement of two pipes, one being provided with or passing through a condensing medium, and extending from the top, and the other from the bottom of the still, in combination with a funnel-shaped conductor, which receives the condensed liquid from the first pipe and transmits it to the second in such a manner that the vapors of small specific gravity, rising first from the material in the still, pass through the first or condensing pipe and thence in the liquid state through the conductor and through the second pipe back to the bottom of the still, where they are mixed with the less volatile parts of the material; the operation to be continued until the liquid emanating from the first pipe has assumed the desired density. In the interior of the still is arranged a rectifier connected with a pipe leading to the funnel-shaped conductor.

Claim.—First, subjecting petroleum or rock oil to repeated evaporations by condensing the vaporous products in one and returning the condensed liquid to the still through another pipe, substantially as and for the purpose specified.

Second, the arrangement of the condensing pipe D, funnel-shaped conductor E, and return pipe F, in combination with the still A, constructed and operating substantially as and for the purpose described.

Third, the arrangement of the rectifier H, in the interior of the still A, in combinattion with the condensing pipe D, funnel-shaped conductor E, return pipe G, and condeusing pipe I, all constructed and operating substantially in the manner and for the purpose herein specified.

No. 41,872.—Henry B. Thomas, Cascade, Iowa.—*Grain Winnower.*—March 8, 1864.—This invention consists in suspending the upper and second shoe by means of notched spring plates attached to the sides of the mill and shoe. The second shoe is provided with a perforated plate and three overlapping hinged plates for the purpose of discharging small seeds at the sides of the machine through the discharge channels, and used in connexion with a pair of reciprocating rock-shaft screens operated by means of a lever arm and connecting rod.

Claim.—The mode of suspending the upper and second shoe by means of the notched spring plates H, attached to the sides of the mill and to the shoe as seen in the drawings of Figs. 4 and 2.

Also, the second shoe, having a perforated plate and three overlapping hinged plates for discharging small seeds at the sides of the machine through the discharge channels as arranged in relation to the pair of reciprocating rock-shaft screens in combination with the lever arm L, and connecting rod M, substantially in the manner and for the purpose herein set forth.

No. 41,873.—Otto Troemel, Manitowoc, Wis.—*Medicine for Wounds, Inflammations, &c.*—March 8, 1864.—This invention consists of a "medicine" composed of green vitriol, alum, verdigris, and sal-ammoniac, in proper proportions; after being well ground and mixed they are melted together, and when cooled they form a solid and stone-like mass.

Claim.—The production of the above-described solid and stone-like mass by the mixture and melting of the above-named ingredients, substantially as and for the purpose set forth.

No. 41,874.—Joseph M. Trowbridge, United States Army.—*Telescopic Sight for Fire-arms.*—March 8, 1864.—This invention consists in attaching a telescopic sight rigidly to the barrel of the fire-arm, the cross-wires within it being adjusted laterally and vertically by means of set screws.

Claim.—First, a cross-line diaphragm mounted adjustably within a telescope attached rigidly to a fire-arm, whereby the instrument is rendered secure from derangement by ordinary military and sporting usage.

Second, securing the diaphragm D, adjustably within the telescope A, by springs E, E′, reacting against set screws F, F′, substantially as and for the purposes set forth.

No. 41,875.—Edward Turner, assignor to Thos. Grannis, Baltimore, Md.—*Apparatus for Raising Sunken Vessels.*—March 8, 1864.—This invention consists in the employment of lifting screws provided with toothed or geared nuts working on trussed beams and turned by endless screws. The trussed beams are arranged across two or more lifting vessels, separated a sufficient distance from each other to admit of a sunken vessel to be raised between them.

Claim.—The combination of the lifting screws, gearing, and chains, constructed and arranged as herein described, with two or more trussed beams, which beams rest on two or more floats or vessels, for the purpose of raising the sunken vessel, in the manner herein described.

No. 41,876.—Abner T. Upham, Canton, Mass.—*Foot Stove.*—March 8, 1864.—This stove is designed to be heated by a lamp over which is a metal deflector or guard-plate which arrests the soot, and the heated air and gases being deflected beneath its lower edge, pass into the upper portion of the stove, which latter is covered by a perforated plate.

Claim.—The improved foot-stove as made not only with the foraminous top, but with the chambered guard arranged with respect to such top and the lamp, substantially in manner and so as to operate as described.

No. 41,877.—Lorenzo Vance, Philadelphia, Pa.—*Saw-mill.*—March 8, 1864.—This invention relates to a machine for sawing timber at any given angle, or upon a curve of a given radius, and it consists in providing two rotating disks placed upon the main frame, and upon which are placed sliding frames, each carrying a mandrel and saw. These disks have on their edges a concave in which is cut a screw-thread and into which works an endless worm-screw, causing the disk to revolve to the right or left and the saw to be turned from the direct line across the machine. The sliding frame on the disk can be fed forward or back by means of an adjusting screw, and on this frame is placed another frame in which is placed the mandrel and saw. This frame is hinged at its inner end to the sliding frame so as to allow the external end of the frame to be raised or lowered to any angle desired by an adjusting screw passing through a female screw in a cross tie at the outer end of the frame, thus allowing the saw to be put at angle either way from a vertical line. Upon another disk situated centrally between and partly in front of the two disks described is a frame containing the feed rollers and the devices for operating them. This disk can be rotated by a similar device as described for operating the others; the lower feed roller is always at the same height and is put in motion by being connected to a shaft with two universal joints, which allows the feed-rollers to be turned either way. A shaft passes through the lower feed roller, at the end of which and outside of the frame is a bevel wheel gearing into another wheel on an upright shaft that gives motion to the upper roller. The wheel on the upright shaft slides up or down as desired and is prevented from turning on the shaft by a groove cut longitudinally on the shaft and a pin working in the groove; this allows the feed rollers to be adjusted as to distance apart and still be held firmly in place by adjustable screws over the upper feed roller, around which is a spiral spring to adjust the roller to the uneven surface of the timber. Motion is given to the saws from a driving shaft by a belt passing over a carrying and returning pulley hanging in a rotating frame, which can be adjusted to a position to correspond with the mandrel on which the saw is fixed by an adjusting screw attached to a lever that is connected with a central shaft that moves the frame in which are placed the rollers. The shaft of each of these pulleys works in boxes that are adjusted by screws which tighten the belt.

Claim.—First, the combination and arrangement of the rotating disk C, sliding frame E, frame I, carrying the saw *a*, and the means of adjusting them severally or singly when constructed and operating substantially as described.

Second, the arrangement of the sliding frame E, the saw frame I, and saw *a*, when constructed and used substantially as and for the purpose specified.

Third, the adjustable pulley-frame Q, and pulleys P P, in combination with the saw frame I, and sliding frame E, and its adjusting devices, when arranged to operate as described.

Fourth, the rotating frame R, having adjustable feed rollers *c c*, with their adjusting and operating devices, in combination with a driving shaft T, having two universal joints, substantially as described.

No. 41,878.—Stanislas Vigoureux, Rheims, France.—*Producing Mixed-colored Woollens, &c.*—March 8, 1864.—Where different colored fibres are mixed together, corded and spun, it is difficult to produce a perfectly uniform shade in the mixture. This difficulty is designed to be obviated by printing or otherwise dyeing in strips, filaments or slivers of the fibre, and then cording and spinning in the usual manner.

Claim.—The manufacture of mixed-colored woollen and other threads from filaments dyed, printed, or colored in sections, in the manner hereinbefore described.

No. 41,879.—Benjamin H. Webb, North Cambridge, N. Y.—*Rubber Boots and Shoes.*—March 8, 1864.—This invention consists in the combination of a tube with a boot which is provided with channels on the inside and an opening through at the heel of the insole, the said tube being on the outside of the back of the boot-leg open at the top and connecting at the opening at the heel of the insole with the channels inside the boot, for the purpose of allowing a circulation of air within the boot.

Claim.—The combination of a tube, or, what is equivalent, with boots and shoes that are made of India-rubber or other material requiring ventilation, substantially as and for the purpose set forth.

No. 41,880.—Charles T. Webber and Paul Iverson, Janesville, Wis.—*Tools for Drawing Spikes.*—March 8, 1864.—This invention consists in combining with a spike bar, having a slot in its end, a steel point having a similar slot in its end corresponding with that of the main bar, to which latter it is attached by means of a set screw, so that it can be readily adjusted on the same. The bar is also provided with a flexible fulcrum, so as to admit of its being adjusted to the vertical position of the spikes and draw without bending them.

Claim.—The combination of the adjustable steel point *b* with the main bar *a*.

Also, the combination of the flexible fulcrum *c* with the said bar, substantially as described.

No. 41,881.—Milton D. Whipple, Cambridge, Mass.—*Blank for Horseshoe Nails.*—March 8, 1864.—In this nail blank the head may be said to represent in outline two truncated rectangular pyramids placed base to base, the shank of the nail being projected from one of the two truncated surfaces.

Claim.—As a new article of manufacture, a blank for horseshoe nails, substantially of the form herein shown and described.

No. 41,882.—William S. Williams, Canton, Ohio.—*Canister Shell.*—March 8, 1864.—This invention relates to a shell carrying a charge of canister shot, which may be projected from it at any desired period during or at the termination of its flight, at any desired interval, after which the entire shell explodes; and it consists in a peculiar formation and arrangement of the charge chamber of the canister portion, and in the form and method of adjusting the charging tube of the said chamber; also in the provision of a fusible guard to the time fuze, which communicates fire from the canister chamber to the rear explosive chamber of the shell.

Claim.—First, the peculiarly-formed hemispherical chamber C, in the described combination with the shoulder *h*, and final explosive chamber D, for the purposes specified.

Second, the combination of the perforated plate H, resting upon a shoulder *h*, the tapering tube I, permanently attached by its smaller ends to the plate H around the aperture *i*, and the cap F, with a tapering neck *f*, fitting within the large end of the tube I, all as herein shown and described and for the purposes specified.

Third, the fusible guard *e* applied to the orifice of the fuze E, in the manner and for the purposes explained.

No. 41,883.—J. P. Woodbury and N. Ames, Boston, Mass.—*Automatic Railroad Switch.*—March 8, 1864.—This invention is designed more particularly to be applied to street railroads, upon which horse cars are used and it consists in an arrangement of springs, levers, and wheels in connexion with a pendent or depressible arm, secured to the centre of the axle, which may be operated by the driver to switch off the cars when necessary.

Claim.—First, attaching a pendent or depressible arm permanently to the longitudinal centre of the axle, substantially as set forth and for the purpose described.

Second, combining with the arm *d*, permanently attached to the longitudinal centre of the axle, either a horizontal or vertical roller F or G, substantially as and for the purpose described.

Third, holding the arm *d* in a perpendicular position by means of the start *e*, or its equivalent, in combination with links or a cleat attached to the bottom of the car by bolts so small as to break when required, substantially as described.

Fourth, connecting and raising the two arms *d* and *d* by means of a single spring, substantially as described.

Fifth, the combination of the windlass J, chain I, and box D, substantially as and for the purpose set forth.

No. 41,884.—C. H. Binger and W. E. Fischer, Boston, Mass., assignors by mesne assignments to Alfred B. Ely, Newton, Mass —*Pegging Machine.*—March 8, 1864.—This machine is more particularly designed for use with lasting machines, where it is employed to peg down the vamp to the inner sole for the usual temporary purpose; and the invention consists in a method of operating the awl and driver, so as to avoid the difficulty experienced in consequence of the liability of the metallic slides to be struck by the hand hammer in cases where parts of the vamp are left exposed by the slides.

Claim.—A mechanism, substantially as herein described, for alternately operating by percussion to give long and short strokes to the instrument *a*.

No. 41,885.—E. G. Camp, Bristol, England.—*Rotary Hair Brush.*—March 8, 1864; patented in England March 11, 1862.—This invention consists of a round brush provided with a handle on opposite sides, and a fixed pulley, to which motion may be imparted by means of an elastic band, operated by the hand or other power, the same being more especially designed for the use of hair-dressers.

Claim.—The construction and employment of circular brushes or apparatus, whether magnetized or not, for brushing the human hair and skin, made to act substantially in the manner hereinbefore described.

No. 41,886.—John Cram, assignor to himself and John S. Cram, Boston, Mass.—*Washing and Wringing Machine.*—March 8, 1864.—This invention consists in making the elastic covering of the two washing rollers of a solid tube of vulcanized rubber, or equivalent material, grooved helically from end to end, in connexion with a yoke lever, so arranged as to regulate the pressure upon the clothes in washing and wringing.

Claim.—The improved mode of making the elastic covering of each of the elastic washing rollers, viz., of a solid tube of vulcanized rubber, or other equivalent material, grooved helically from end to end, as described.

Also, the combination of the single yoke lever and the holding devices thereof with rollers operating together substantially as described.

No 41,887.—Lewis Francis, assignor to himself and Cyrus H. Loutrel, New York, N. Y.—*Printers' Inking Roller.*—March 8, 1864.—This invention consists in making the inking roller of a composition consisting of glue, glycerine, castor, or any of the fixed oils, borax, ammonia, and sugar.

Claim.—The use or employment of the ingredients specified, when combined to form a composition for the manufacture of printers' inking rollers.

No. 41,888.—Luther Hall, Boston, Mass., assignor through mesne assignments to Alfred B. Ely, Newton, Mass.—*Pegging Machine.*—March 8, 1864.—This machine is particularly designed for driving pegs which are inserted at the time the shoe is being lasted, to secure the upper leather temporarily to the inner sole and to the last, such pegs not being driven regularly around the sole, as in ordinary peg work, but at irregular distances from each other, and the work being done by hand. In this machine the descent of the plunger alternately makes a hole and cuts off a peg and drives it, so that by striking two blows upon the plunger, without moving the instrument, a hole will first be made, and a peg will then be driven into it.

Claim.—Interrupting the motion of the awl and employing it as a driver upon each alternate stroke, for the purpose described.

Also, interrupting the upward motion of the driver every other time it ascends, to prevent the feeding of the peg strip until after the peg is cut off and a hole is made to receive it.

Also, the combination of the boss I, the block G, the switch *d*, and the pin *c*, or their equivalents, operating as set forth for the purpose specified.

No. 41,889.—Addison Hathaway, assignor to The Ames Manufacturing Company, Chicopee, Mass.—*Tool-rest for Turning Lathe.*—March 8. 1864.—This invention consists in making, in the standard of a tool rest, a ball and socket joint, the lower portion forming the concave or socket, the corresponding part or ball having a flat upper surface, across which is a groove in which the tool rests. The stationary tool-post extends vertically through holes in the centres of both parts of the standard, that in the upper part being elongated to admit of its being set at any angle required by the work to be done. The tool is held when adjusted by the post and set screw thereon in the usual way.

Claim.—First, the combination of a ball and socket joint with a stationary post to form an adjustable tool-rest for engine lathes, substantially as described.

Second, the combination in a tool-rest for lathes of a stationary post, a rocking and a rotating rest, and a set screw, arranged and operating as set forth for the purposes specified.

Third, the combination of a stationary post with a ball of a ball-and-socket joint, having an elongated slot to vary the vertical position of the tool while the post remains stationary, as and for the purposes set forth.

No. 41,890.—P. R. Higley, assignor to W. P. Sproule, Oshawa, Canada.—*Automatic Car Brake.*—March 8, 1864.—This invention consists of a railroad car brake, so constructed and arranged that when the cars start forward or backward, the power applied to the draw-heads will be transmitted through a system of levers and rods to the brakes, whereby they are thrown off or retracted from the wheels, and when the speed of the cars is slackened and the tension on the draw-heads ceases, the brakes are brought into action by means of the springs.

Claim.—First, a brake for wheel vehicles, held in contact with the wheel by a weight or spring and retracted therefrom by the power applied to draw the vehicle, substantially as described.

Second, the combination of the draw bar C, connecting rods E *f'* J, links *f*, levers F K G G, and pin *k*, all operating in the manner described to retract the brakes by either the forward or backward movement of the cars.

No. 41,891.—John Kinloch, assignor to himself, Archibald Catanach and Adam Catanach, Philadelphia, Penn.—*Razor.*—March 8, 1864.—To the side of the razor blade is attached a metallic guard formed like a comb. A portion of this guard is bent over the back of the blade and is secured to it by a set screw, while the teeth bear against the face of the blade and project slightly beyond its edge. When in use the points of the teeth bear upon the skin and tend to prevent it from being cut by the blade.

Claim.—The toothed guard arranged in respect to the blade of a razor and rendered reversible on and detachable from the same, substantially as and for the purpose herein set forth.

No. 41,892.—Francis Maguire, assignor to himself and T. H. Coneys, Boston, Mass.—*Stove.*—March 8, 1864.—This invention consists in the combination of a fuel chamber of cylindrical form with an air space or chamber by which it is surrounded and provided with an induction passage which passes through the smoke chamber to the rear part of the stove. The ash chamber below the grate is surrounded by a hollow base or auxiliary smoke chamber, having a discharge pipe at its rear part. The dome of the fire chamber is made in two parts, each of which is hollow and opens out of the air chamber, the rear portion of the said dome rising above the front part of the same in such a manner as to leave a crescent-shaped duct or passage between the two.

Claim.—The combination and arrangement of the supplying and heating chamber B, with the fire chamber A, and the surrounding smoke space or chamber D.

Also, the combination and arrangement of the air-supplying and heating chamber B, the fire chamber A, the surrounding smoke space D, and the auxiliary chamber G.

Also, the peculiar fire chamber dome as made in two parts *g h*, and with one of them extended above the other so as to form therewith the crescent or equivalent-shaped educt *i*, the smaller being provided with air-discharging openings arranged in it, as described.

Also, the arrangement of air-holes in the sides of the throat of the fireplace and out of the air-heating chamber, so as to discharge air across the throat, in manner and for the purpose specified.

No. 41,893.—WM. RIDENOUR and M. K. BISER, Springfield, Ohio, assignors to themselves and GEORGE FRY.—*Hay and Cotton Press.*—March 8, 1864.—In this machine the discharge door is formed of a grating composed of vertical bars separated by interstices which allow the advancing end of the hoop to pass out in front where it can be grasped by the operator, drawn tight, and be returned through the upper part of the grating to be fastened. At the ends of the channels in the floor are placed inclined or slanting blocks for the purpose of deflecting the ends of the hoops and conducting them past the corners.

Claim.—First, in a horizontal baling press of the construction specified, the hinged and grated discharge door L *l l'*, applied and operating in combination with grooves J J, in the manner and for the purposes set forth.

Second, in combination with the above, the slanting blocks K K, at the ends of the floor channels J, for the object specified.

No. 41,894.—H. S. SHEPARDSON, assignor to himself and F. R. PRATT and W. H. MAYNARD, Shelburne Falls, Mass.—*Countersink.*—March 8, 1864.—In this device the tool that cuts the countersink only partially surrounds the bit, and is held in place by means of a set screw, so that it can be removed laterally from the bit. The cutting lip is made to work concentrically with the bit, the throat of which always corresponds with the throat or twist of the bit, thus offering no resistance to the free passage of the chips made by the bit passing over the countersink device.

Claim.—In a countersink to be used with a boring tool, the making of the countersink to only partially surround the shank of the bit, and the cutting lip to work concentrically with the bit, and the throat of the countersink to conform to the clearance of the bit, all as herein described and represented.

No. 41,895.—J. A. THOMPSON, Auburn, N. Y.—*Hat and Velvet Polish.*—March 8, 1864.—This invention consists of a device formed of convenient size similar to a hat brush, having an interior metallic case enclosed in wood on its sides, and upon its face camel's hair plush. The interior metallic case is designed to hold some heating fluid or sand.

Claim.—A hat and velvet polish, with an interior metallic case, into which may be introduced heated fluids or sand.

No. 41,896.—GEORGE I. WASHBURN, Worcester, Mass.—*Gear Wheel and Pulley.*—March 8, 1864.—This invention consists of a metallic gear wheel, formed in two or more parts, in such a manner as to enable the same to be passed around the shaft, and firmly secured thereto, without being slipped over the ends thereof.

Claim.—A compound wheel constructed of metal, substantially as herein shown and described, so that each member, while forming part of the body of the wheel, will also constitute a clamp to hold the parts together.

No. 41,897.—WILLIAM E. HAGAN, Troy, N. Y., assignor to JOHN B. GALE.—*Stove.*—March 8, 1864.—The nature and object of this invention are explained by the claim.

Claim.—In the management of combustion in fire chambers, the application, substantially as herein described, of superheated steam, in jets, so as to impinge, without admixture with atmospheric air, directly against the incandescent coals, in addition to or in combination with the supply, separately, of atmospheric air, either by draught or blast, in the usual manner, as set forth and for the purpose specified.

Also, in the construction of fire chambers for the combustion of fuel and provided with apertures at or near the bottom for the admission of atmospheric air, combining therewith a steam chamber or chambers for superheated steam, the inner wall of the steam chamber or chambers, having numerous small apertures next to the fuel for the escape of the superheated steam to impinge, without admixture of atmospheric air, against the incandescent coals, substantially as and for the purpose specified.

Also, in the construction of fire chambers, combined, substantially as herein described, with a chamber or chambers for superheated steam, and with numerous apertures for the escape of jets of superheated steam to impinge against the incandescent coals, making the perforated wall of the fire chamber grooved, or the equivalent thereof, to reduce the thickness of the wall at the perforations, substantially as and for the purpose specified.

No. 41,898.—JOSEPH B. ALEXANDER, Baltimore, Md.—*Calculating Machine.*—March 15, 1864.—This machine is designed to perform the various operations of addition, subtraction, multiplication, and division. Reference to the specification and drawings will be necessary for a description of its construction and operation.

Claim.—The combination of the separate levers with the separate sets of wheels, so that the speed of calculations is gained from right to left, or from left to right, by arithmetical progression, as described and represented.

Also, in combination with the wheels A, the spring cogs *i*, substantially as and for the purpose set forth.

Also, so combining a set of figured drums with suitable means of operating them as that they will show subtraction working in combination with those which record addition, substantially as herein described and represented.

Also, the combination and arrangement of figured drums, wheels, face-plate, and levers, so that addition, subtraction, multiplication, and division may be worked out on one machine, substantially as described.

No. 41,899.—JOHN AUSTIN, Rockford, Ill.—*Cultivator.*—March 15, 1864.—In this machine the driver's seat rests upon two standards or arms secured to the frame in the line of the axles, and incline upward and backward. The seat is made in two parts, the upper one of which slides in the lower, so that it can be readily moved forward or backward, and that the weight of the driver will cause the rear portion of the machine to preponderate and counterbalance the weight of the forward part, and the tendency of the ploughs to draw down the front of the machine when in operation. The shanks of the outer ploughs are pivoted at their upper ends to the rear end of the frame and connected near their lower ends by rods or chains to a cross-bar pivoted to the front ends of two rocking levers, which are in turn pivoted to standards on the main frame and converge towards their rear ends, where they are united by a hinge, the three levers thus forming a triangular frame all above the main frame.

Claim.—First, the combination of the shifting driver's seat D' with the main frame A and laterally shifting ploughs K, in the manner described, for the purpose of enabling the driver to balance the machine and control both the vertical and the lateral movements of the ploughs, as set forth.

Second, the combination of the main frame A and compound lever frame F G with the ploughs E K, when the several parts are arranged and operate as described, for the purposes set forth.

Third, the combination of the adjustable driver's seat, the foot levers N, and the laterally adjustable ploughs K, when severally arranged (relatively to the main frame A) and operating in the matter and for the purpose described.

No. 41,900.—ISAAC BANISTER, Newark, N. J.—*Buckle.*—March 15, 1864.—This invention consists in constructing a double buckle in such a manner that the joint bars of the two tongues shall each one be at the required distance from the inside of the buckle to form the necessary loops for the straps. The strap that holds the buckle in place is attached to the lower tongue, the joint bar of the upper tongue being the stop and bearing for the lower tongue.

Claim.—The double buckle with the joint bar of one tongue forming the loop for the other's strap, while the one joint bar forms the stop or bearing for the lower tongue, when constructed and arranged substantially as herein specified.

No. 41,901.—M. C. BIGNALL, Seneca Falls, N. Y.—*Water Elevator.*—March 15, 1864; antedated March 14, 1864.—This invention consists in the use of a cross-board placed underneath the reel and provided with an opening in which the chain runs in order to prevent the counterbalance weight from being drawn up over the reel when the bucket is lowered, and to guide the chain and prevent it from displacement on the reel. The said cross-board also serves to thrust the lower part of the bucket toward the spout or trough when it is to be emptied.

Claim.—The cross-board E, provided with the opening or passage *k*, when said board performs the double office of guiding the counterpoise rope, belt, or chain, and thrusting the lower part of the bucket toward the spout or trough, as arranged with the chain C, and reel B, substantially as herein set forth.

No. 41,902.—GEORGE W. BILLINGS, New York, N. Y.—*Flax and Hemp Machine.*—March 15, 1864: antedated March 5, 1864.—This invention consists in attaching to any of the well-known devices for feeding and breaking the material a series of movable knives or scrapers and lifting or feeding bars, in connexion with a series of smooth or fluted feed rollers and pairs of stationary knives placed one above the other, so as to form throats, so that by passing the material through the machine it is freed from all woody and other coarse substances without injuring the fibre.

Claim.—The cleaning of flax and hemp by passing the fibre between stationary knives or slats, in combination with the scraping knives, the lifting bars, and feed rolls, the whole being constructed, arranged, and operating substantially as described and set forth.

No. 41,903.—George W. Billings, New York, N. Y.—*Machine for Breaking Flax and Hemp.*—March 15, 1864; antedated February 28, 1864.—This invention consists of a machine constructed with smooth and fluted rollers in the ordinary manner for crushing and breaking the stalks of flax and hemp, and adding thereto a pair of smooth rollers with a delivery throat, which receives the straw or stalks from the smooth rolls. In front of this are arranged two knives or scrapers extending across the machine, and each attached at both ends to pitmen or crank rods, the upper ends of which latter are attached to cranks, one at each end of a revolving shaft, the lower ends being fastened to horizontal bars, which constitute the scrapers. These scrapers have connecting rods, by which they are each attached at both ends to slides, reciprocating in vertical grooves upon the lower part of the frame.

Claim.—The knives or scrapers *k*, having the compound motion herein described, in combination with the stationary aperture or throat *o* and smooth feed rollers *i i*, the whole constructed substantially as and for the purpose set forth.

No. 41,904.—George A. Brown, Milford, Mass.—*Mode of Cutting Boots.*—March 15, 1864.—This invention consists in cutting the uppers of boots in the form shown by the engraving, for the purpose of economizing the leather and allowing the corners and parts left off to be supplied by pieces from the scraps of the shop otherwise wasted.

Claim.—Forming a boot upper by means of two curved cuts J, J, of increasing radius, and interposed pieces C D, all as herein shown and described.

No. 41,905.—Lewis S. Chichester, Brooklyn, N. Y.—*Grain Dryer.*—March 15, 1864.—This invention consists in a series of tables placed one above the other and fitted in such a manner as to be rocked or oscillated, so as to pass the grain from one end to the other of the tables, and thence upon the table below, by which means the grain is made to pass over a large extent of surface. The tables are made hollow, and are provided with slots in their upper surface, over which are projecting lips, and through which air is caused to pass and is directed immediately upon the grain as it passes over the tables, the grain being prevented from entering the slots by the said lips.

Claim.—First, a series of parallel or nearly parallel tables, in combination with a rocker, whereby the grain is passed alternately from end to end over such tables in consequence of the rocking movement, substantially as specified.

Second, the metallic tables formed with mortises and overhanging lips, as and for the purposes specified.

Third, the arrangement of the tables *a a* and air passages *f f*, for the purposes and as specified.

No. 41,906.—Lewis S. Chichester, New York, N. Y.—*Grain Weigher.*—March 15, 1864; antedated March 14, 1864.—This invention is designed as improvement upon a machine for which a patent was granted to the said Chichester May 30, 1862, and it consists in the employment of a swinging bucket that receives the grain and tips the same out by swinging on its centres, and then swings back again to receive a fresh supply of grain. A series of weights are so fitted as to be successively and gradually raised as the weight of the grain causes the said bucket to descend, thereby avoiding any sudden motion or shock of the parts. In combination with the swinging bucket are a series of cut-offs that check and finally stop the flow of grain from the hopper or spout into the bucket as it descends. At the lower end of the hopper or delivery spout is a delivery mouth provided with a deflector to arrest the momentum of the grain, and thereby insure accuracy in the weighing apparatus.

Claim.—First, hanging the box *d*, on which the bucket swings or turns, by a link taking the centre 3 on the scale-beam *b*, for the purposes and as specified.

Second, the crutch *d'* and screws *x*, in combination with the box *d* and scale-beam *b*, for the purposes specified.

Third, the bucket frame *e* receiving the bucket *e'* in the manner substantially as specified, in combination with the counterpoise *f*, for the purposes set forth.

Fourth, a spring or springs applied to the weight or weights substantially as specified, for allowing a gradual movement to the scale-beam and grain bucket, for the purposes specified.

Fifth, the arrangement of the cut-offs *p*, *q r*, in combination with the swinging or oscillating bucket *e'* and frame *e*, for the purposes specified.

Sixth, the deflector *n* at the delivery mouth *m* of the hopper or spout to check the momentum of the grain, as specified.

Seventh, the stop 13, in combination with the incline *s*, to retain the bucket as it comes up to position for securing the grain, as specified.

Eighth, the spring roller 14, in combination with the stop 13, for the purposes and as specified.

No. 41,907.—C. O. Crosby, New York, N. Y.—*Collarette.*—March 15, 1864.—In the manufacture of this article a single line of chain stitches is run along the edge of the material used; a narrow strip of similar material is laid upon the centre of the first; both pieces are then passed through a filling and double stitching machine. When cut in lengths each end is rounded and the two ends brought together and sewed. A cord or ribbon is then run under and over several crimps at a time.

Claim.—The collarette herein described as a new article of manufacture.

No. 41,908.—Pearson Crosby, New York, N. Y.—*Saw-mill.*—March 15, 1864.—This invention relates to a method of securing tubular side pieces to the cross-heads of the gate and sash for the purpose of obtaining a firm and durable connexion of the parts. Tubular rods are used for the sides instead of solid ones, which are secured to the cross-heads of the frame by welding iron rods into the ends of the tubes forming the sides or uprights and serving as screw bolts to secure the said cross-heads to the tubular side rods.

Claim.—The method of connecting or securing the tubular side pieces B B to the cross-heads A A, to wit: having rods C welded into the ends of the tubular side pieces to serve as screw bolts for the same, which pass through the cross-heads, and either with or without the plates D, or other equivalent bearings, at the inner edges of the cross-heads, substantially as herein set forth.

No. 41,909.—Henry Davies, Portsmouth, Ohio.—*Balanced Slide Valves.*—March 15, 1864.—This invention consists in a method of applying a flexible diaphragm in combination with a slide valve, whereby the pressure of steam on the diaphragm is made to counteract that on the valve. The diaphragm is placed in the top of the column, in which work a rocker F, the bar G, and levers H, and a small steam pipe leads from the main pipe to a space in the column above the diaphragm; by these means the valve is held down to its seat with just force enough to prevent the steam pressing against its under side from escaping.

Claim.—The rocker F, bar G, levers H H, stud J, diaphragm D, and radial bars L L, applied and operating in combination with a valve A, having the induction of steam under its face, substantially as herein specified.

No. 41,910.—Morris Dewey, Clarendon, N. Y.—*Wood-sawing Machine.*—March 15, 1864.—In this machine a pitman is employed, which gives motion to a rock lever pivoted in the centre, to which it is attached at one end, whilst the other end is pivoted to the shank of the saw. In connexion with the above is a notched lever, by which the saw can be raised after it has made its cut, and held above the log by a pawl falling into the notch on the lever. The wood to be sawed is held firmly in place by a bent lever placed in a notched plate and a swivelled pawl operating in a toothed plate attached to the frame.

Claim.—The special arrangement of the machine, constructed substantially as described, consisting essentially of the reverse saw and shank D' D, rock lever C, pitman E, lever I, with notch or notches *m*, pawl K, and the lever M, provided with pawl *p* and the ratchets *o o* and *q q*, substantially as and for the purposes herein set forth.

No. 41,911.—Thomas W. Emery, Buffalo, N. Y.—*Railroad Car Window.*—March 15, 1864.—The object of this invention is to construct the window so as to enable it to assist in ventilating the car. The upper part of the window consists of a pane of glass of a size sufficient to fill the window opening, and to its lower edge is hinged a folding frame, whose leaves are covered with fine wire gauze. When the window is lowered the folding frame is turned down beneath it. The upper leaf of the folding frame is provided with a metal cover to protect the wire gauze from the rain.

Claim.—The combination of the jointed screens *b b b* with the pane B, or its equivalent slide, and a frame A, the whole so arranged that when unfolded the screens serve as a ventilator and dust excluder, but when folded they are in compact form out of the way, substantially as herein specified.

Also, in combination with the folding screens *b b b*, the cover or roof *b'*, arranged and operating substantially as described.

No. 41,912.—C. J. Fay, Hammonton, N. J.—*Folding Saw-horse.*—March 15, 1864.—This device is so constructed as to allow the cross-bars or legs at each end to turn on the centre bar, which connects and holds them together, and to each are applied folding braces or levers, jointed at their centres and formed of two metal plates. The outer ends of these plates are attached to the legs, so that when the horse is folded the braces are received in recesses cut in the legs, and when the legs are expanded the two bars will serve to hold the horse firmly in open position.

Claim.—A folding or expanding and contracting saw-horse constructed in the manner substantially as herein shown and described.

No. 41,913.—Joseph S. Foster, Virginia, Nevada Territory.—*Rock-drilling Machine.*—March 15, 1864.—This invention relates to a device for holding the drill and rotating the same, and also for adjusting it in a more or less inclined position, as may be required. The bed of the machine is of triangular form, having three set screws passing through it, one near each angle. At each angle of the bed is a socket or mortise to receive the lower ends of inclined bars of square or quadrilateral form in their transverse section. Each bar has a slide fitted upon it, and through each slide passes a screw rod, the same being parallel with the said bars, and working in bearings in their upper ends. In the upper face of the bed is a recess to receive a plate which is secured by buttons, and is provided with two curved standards, connected at their upper ends by a cross-plate, in which the upper end of a tube is fitted and allowed to turn freely. The lower end of the said tube is fitted in the plate, and its interior is of square form, to admit of a square drill rod being fitted in it, the said rod passing through a hole in the bed. Fitted in bearings on the outside of the said tube, and placed at right angles to the same, is a shaft, having a pinion upon it, which works in a mortise in the tube and gears into a rack at one side of the drill rod.

Claim.—The tube H, with the drill rod I, fitted within it, in combination with the rack M, pinion L, pawl N, wheels O P, and spring Q, all arranged to operate in the manner substantially as and for the purpose set forth.

Also, the combination of the bed A, plate F, set screws B, slides D, tube H, drill rod I, wheels O P, pawl N, shaft K, and spring Q, all arranged to form a new and improved device for the purpose specified.

No. 41,914.—John A. Frey, Washington, D. C.—*Portable Oven.*—March 15, 1864.—This invention relates to ovens of that class which are heated by means of a stove set within the same. The stove has a pipe collar on two sides, and the stove-pipe carries the smoke and gases to the flue space made by the double walls of the oven.

Claim.—First, the arrangement of the inside and outside case of the oven with the partitions N and O, and fire-box J, with its flanges to support the roasting racks, return pipes M, and removable plate T, as described for the purposes set forth.

Second, the combination of a fire box having a smoke-pipe connexion at each side thereof, with a portable oven having double walls to provide flues with which the smoke-pipes connect, substantially as shown.

No. 41,915.—Reuben Goodrich, Pittsfield, Mass.—*Melodeon.*—March 15, 1864.—This invention consists in interposing between the socket board containing the reeds and the air-receiving chamber of the exhaust bellows, in a melodeon or other reed instrument, a sound-board of glass or other sonorous material. The air, after it has passed the reeds, is caused to pass through one or more slots or narrow passages at one edge of the sound board, instead of through a hole or holes in the foundation board, directly under the valves, as is usual.

Claim.—First, the employment in a melodeon or other reed musical instrument of a sound board of glass or other sonorous material, interposed between the socket board and the air-receiving chamber of the exhaust bellows, substantially as and for the purpose herein specified.

Second, causing the air, after passing through the reeds, to pass through one or more slots or narrow openings *d d*, provided at the edge of the sound board, substantially as herein specified.

No. 41,916.—W. S. Guinness, Mount Vernon, N. Y.—*Sewing Machine.*—March 15, 1864; ante-dated March 9, 1864.—This invention consists in a series of devices named in the claim, by means of which the machine is operated by three cranks upon one main shaft, and admits of being readily run either forward or backward, and to stitch perfectly either way. The method of holding and operating the shuttle is designed to render it free from noise, and admits of a larger shuttle being carried than common without increasing the size of the machine. It also admits of the thread being governed or regulated, by means of a lever, in either a forward or backward movement of the machine.

Claim.—The combined arrangement of the needle-arm C, the feed-arm N N′, the shuttle-holder G, the carrier *g g*, and the thread-regulator or governor V V, moving simultaneously in the manner and for the purpose substantially as described and shown in the drawings.

No. 41,917.—O. J. Harrington, Manchester, Penn.—*Railroad Car Brake.*—March 15, 1864.—This invention consists in the combination of a cord, weight, pulleys, levers, &c., used in connexion with brakes, by which the latter are brought into operation as the cars come together when the train is to be stopped, and released by the forward motion of the locomotive in starting.

Claim.—The combination of the cord *s*, weight *u*, friction pulley *m*, drum *n*, shaft 2, levers *o g* and *j*, chains *y h* and *r*, pulley 6 7 *q z t* and *v*, when used in connexion with brakes *k*, each brake being operated by a separate lever, and made self-operative by the means herein described and set forth.

No. 41,918.—Darwin Helmer, Mohawk, N. Y.—*Dipping Frame for the Manufacture of Matches.*—March 15, 1864.—The object of this invention is so to construct the several slats that form parts of the dipping frames used in the manufacture of matches, that the operation of placing the blank match sticks therein may be more rapidly and effectually performed; and that when the blank match sticks are in place, and the dipping frame keyed up or tightened, the match sticks are not liable to drop out, so as to embarrass the succeeding operation of dipping, and cause waste of materials.

Claim.—First, the longitudinal channels *b b*, Fig. 2, on the upper surface of the slats, (without restriction as to the number and location of said channels on the upper surface of the slat,) when the said longitudinal channels are used in connexion with corresponding longitudinal elevations on the lower surfaces of contiguous slats, in the manner and for the purpose substantially as set forth.

Second, the longitudinal elevations *c c*, Fig. 3, (whether formed as part of the slat or by additions thereto,) on the under surface of the slats, when said longitudinal elevations are used in connexion with corresponding longitudinal channels on the upper surface of contiguous slats, in the manner and for the purpose substantially as set forth.

Third, the improved slat formed by the combination of the longitudinal elevations on its under side with corresponding longitudinal channels on its upper side and the deepened transverse grooves for the reception of blank match sticks, or its equivalent, when used in the manner and for the purpose substantially as hereinbefore set forth.

No. 41,919.—David Henderson, Boston, Mass.—*Trap Caster for Bedsteads.*—March 15, 1864.—This invention consists in casting a liquid cup with the arms and spindle of a caster, all in one piece.

Claim.—As a new article of manufacture, a furniture caster with the arms B, liquid cup G, and spindle D, cast in a single piece, substantially as and for the purpose described.

No. 41,920.—Cancelled.

No. 41,921.—Elijah Holmes, Lynn, Mass.—*Tobacco Pipe.*—March 15, 1864.—This invention consists in connecting the bowl and stem of a wooden smoking pipe by means of a knee provided with an oblique conical socket for the reception of the stem, and a flexible flange which can be pressed up snugly against the bowl to make a tight joint.

Claim.—Connecting the bowl and stem of a wooden smoking pipe by means of the knee B, provided with an oblique conical socket for the reception of the stem, and a flexible flange *f*, substantially as set forth and for the purpose described.

No. 41,922.—A. A. Hotchkiss, Sharon, Conn.—*Guard-finger for Harvesters.*—March 15, 1864.—This invention consists in forming the steel facings of guard-fingers with wings extending obliquely downward below the under face of the plane portion, by which the scrap steel resulting from the manufacture of the vibrating cutters of the harvesters may be successfully employed, and the cost both of material and labor saved to a great extent.

Claim.—Forming the steel facings of guard-fingers with wings M M, extending obliquely downward below the under face of the plane portion C, substantially in the manner and for the purpose herein set forth.

No. 41,923.—Charles Rogers Jackson, Brooklyn, N. Y.—*Sewing Machine Button-hole Stitch.*—March 15, 1864.—This stitch is made with a single thread, the usual eye-pointed needle, and a vibrating looping hook beneath the table; the needle having a lateral motion, such that in its descent it passes first through the cloth, and next over its edge, and so on alternately; the vibrating hook so disposes and spreads the loops as that the needle in its descent outside the edge of the cloth shall pass through the previous loop left after its descent through the cloth, and in its next descent through the cloth shall pass through the last made loop so left outside the edge, thus causing each loop to pass through the preceding one and encircle its succeeding one.

Claim.—The sewing machine stitch herein described suitable for stitching eyelet holes, button holes, or edges, by passing the thread or loops through and over the edge of a fabric, the same being formed with a single thread and by a succession of stitches or loops passing into each other, in the manner herein described.

No. 41,924.—John T. Johnson and Newton T. Smith, Grand Rapids, Mich.—*Car Coupling.*—March 15, 1864.—This invention consists in the employment of a link or shackle provided at each end with a shoulder, in connexion with catches placed within the draw heads, and all arranged in such a manner as to render the coupling self-connecting and admit of the draw-heads being readily disconnected when desired.

Claim.—The combined arrangement of the obliquely pivoted plates B, having apertures *d′*, and projecting key shafts C, with the draw-heads D, and link E, in the manner herein shown and described.

No. 41,925.—William M. Keague, Brooklyn, N. Y.—*Tool for Opening Boxes.*—March 15, 1864.—This device is composed of a handle having on one side a toe and on the other a hammer, the said toe being attached to the handle in an oblique direction, so that by entering the same between the cover and top edge of a box, and depressing the handle, the nails are forced out and the box is opened, and by the aid of the hammer the nails can be readily removed from the cover or refastened, as may be desired; the toe is prevented from slipping by V-shaped notches cut into both surfaces of the same near its opposite edges.

Claim.—As a new article of manufacture, an instrument for opening boxes, constructed and operating in the manner described.

No. 41,926.—**George A. Keene**, Newburyport, Mass.—*Cattle Stanchions.*—March 15, 1864.—This invention relates to a method of securing cattle in stalls in such a manner that while each can be operated separately the whole tier can be operated together from the outside of the building, so as to release all the cattle at once in case of fire, &c. This is accomplished by attaching to the end of a sliding bar outside of the building, to which the upper ends of the movable stanchions are fastened, a hinged handle or extension piece, which, when raised up, draws out a spring bolt that holds the sliding bar and slides the bar at the same time.

Claim.—In combination with the frame C, and sliding plate F, the pin m, rope n, and lever O, or their equivalents, substantially as set forth and for the purpose specified.

No. 41,927.—**Jerome Kiddfr**, New York, N. Y.—*Magneto-electric Machine.*—March 15, 1864.—The object of this invention is to enable the character of the currents obtained by an electro-magnetic machine to be varied in a very great degree, more especially for remedial purposes, and it pertains to that class of machines which are operated by automatic circuit breakers. The poles of the magnets are made adjustable by means of iron screws inserted in them, and two magneto-electric helices are used in such a manner that the combined currents of each may be employed, or the currents may be made to oppose each other, and all the wires so arranged in connexion with switches that all the modifications of currents are derived from two electrodes.

Claim.—First, the two helices or systems of helices H H′ so combined and arranged that the induced current or currents of one may be added to the current or currents of the other; also that the current or currents of one may be made to run in opposition to the current or currents of another for the purpose of cutting off the power, substantially as herein specified.

Second, the combination of a metallic strip or wire t surrounding a helix, and the arrangement for metallic connexion V V1 V2, to connect any desirable points upon the said strip, substantially as and for the purpose herein specified.

Third, the battery multiplier, composed of a system of studs $k\ l\ m\ n\ k^*\ l^*\ m^*\ n^*$, or their equivalents, and switches P P*, with suitable battery connexions, substantially as and for the purpose herein specified.

Fourth, making the poles of the electro-magnet p and the armature or hammer p' relatively adjustable toward or from each other without altering the tension of the spring which draws back the armature or hammer, substantially as herein specified.

Fifth, the movable clamp E applied to the spring K, which carries the vibrating armature or hammer, substantially as and for the purpose herein specified.

Sixth, the combination of the two bridges Y Y′, screws $a^*\ b^*\ c^*\ d^*\ a'^*\ b'^*\ c'^*\ d'^*$, and studs $a\ b\ c\ d\ a'\ b'\ c'\ d'$, the whole applied in relation to the several coils of the helices and to the electrodes + and —, to operate substantially as and for the purpose herein specified.

No. 41,928.—**George W. Landon**, Graham, Ind.—*Mill-stone Bush.*—March 15, 1864.—This device consists of a square casing having four angular tapering blocks in each corner forming seats for the journal blocks, which latter are fitted upon the seats so as to admit of their being moved to or from the collar, as may be desired, by means of the keys operated by set screws. The lid is made of any suitable metal and fits over the square of the spindle under the driver, and the damsel may be made in the form of a fluted cylinder.

Claim.—The journal blocks $b\ b\ b\ b$ and keys $a\ a\ a\ a$, when set in a position diagonally opposite each other, the set screws $c\ c\ c$, &c., the rim f, the lid E, the tube d, and the damsel D, when constructed with the lubricating apparatus, when used in combination for the purpose above described and set forth.

No. 41,929.—**William J. Lewis**, Pittsburg, Penn.—*Machine for Heading Bolts.*—March 15, 1864.—In this apparatus three horizontal die-carrying stocks are employed, two of which P P approach each other lineally and gripe the shank of the bolt, while that of the heading or upsetting die A moves in a direction perpendicular thereto. On the side next to the latter, P P, when closed, present, at their point of junction, a vertical recess of a breadth equal to that of the stock A, which must enter into it, and equal also to the diameter of the head of the bolt. The heading die in the end of A is bounded, both above and below, by a lip; the two separated from each other by a space equal to the diameter, and projecting forward a distance equal to the thickness of the bolt head, so that when operating the protruding portion of the rod of which the head is to be formed will be bounded on all four sides by a wall which will limit its expansion laterally, and impart to the portion upset a rectangular outline and sharp and well-defined angles.

Claim.—A recess or cavity in the griping dies so constructed as to embrace the bolt head on two sides only, and in combination therewith a header formed with "cheeks" or projections on its face or front end, so as to catch the bolt head on its opposite sides, whereby the "flash" or "fin" produced by the first stroke of the machine may be driven off, by turning the bolt one-fourth way round, so that the surplus metal will come against the solid portion of the dies, previous to the second stroke, substantially as herein set forth.

No. 41,930.—**Charles C. Lloyd**, Philadelphia, Penn., and **Robert M. Potter**, New York, N. Y.—*Gas Regulator.*—March 15, 1864.—This invention consists in the arrangement of the liquid which supports the valve float within two chambers communicating with each other only at the bottom, in connexion with the valve, the float, the inlet passage, and liquid chambers, for the purpose of obtaining greater steadiness, and so as to cause the valve to close and shut off the gas, in case of the exhaustion of the liquid.

Claim.—The combination of the two concentric chambers E L, communicating at bottom through contracted apertures $d\ d$, the central supply pipe C, rising vertically within the chamber L, the annular float F, bridge e, conical valve B, small air hole f in chamber E, and discharge aperture b in the upper part of the chamber L, when the said parts are constructed and arranged and operate as herein specified.

No. 41,931.—**Manoah C. Longacre**, Cleveland, Ohio.—*Refrigerator.*—March 15, 1864.—This invention consists of an open frame and rack for holding ice, beneath which is a plate of corrugated metal to convey the drip of the ice to a trough, the whole to be placed in a room for cooling provisions or fruits.

Claim.—The combination with the open frame A E of the rack C, removable corrugated plate F, trough H h, and pins h', all constructed and arranged in the manner and for the purposes specified.

No. 41,932.—**A. E. Lozier**, New York, N. Y.—*Marine Log and Lee-way Indicator.*—March 15, 1864.—The log line is attached at one end to springs fixed within a case secured to the taffrail of the vessel; upon the other end is a "chip" or "bucket," the resistance of which, upon being drawn through the water, causes a pull upon the springs with proportionate force, and the motion of spring, being multiplied by gearing, is shown by a suitable index. The case is pivoted so that in making lee-way it will be drawn to one side, and indicate, by a graduated scale, the amount of lee-way.

Claim.—First, the combination of the case A, slide E, springs $r\ r$, line v, chip or bucket G, rack or gearing $j\ i\ k\ l\ m\ n$, indices $h\ q$, and dial a, the whole applied, arranged, and operating substantially as herein set forth.

Second, the balancing of the case A on pivots or journals $b\ b$, substantially as and for the purpose herein specified.

Third, the attachment of the slide E, gearing and spring of the log to a plate C, or its equivalent, which is capable of turning within the case A in such manner that by the use of a suitable scale outside of the box the slide may serve to indicate the lee-way.

No. 41,933.—**Josis Miller**, Antwerp, N. Y.—*Boot and Shoe Heel.*—March 15, 1864.—This invention consists of a metallic shell forming a heel, having inside of it projections, into which a circular plate is closely fitted resting upon the projections, the circular plate being fastened by screws to the insole of the boot or shoe, and admitting of being adjusted so as to prevent the heel from working sideways.

Claim.—A shell or skeleton metallic heel, in combination with a metallic circular plate closely fitting to the inside of the shell, all constructed and arranged as herewith described.

No. 41,934.—**Joshua Monroe**, New York, N. Y.—*Artificial Limb.*—March 15, 1864.—This invention consists in attaching a strap to the canvass covering of the stump and passing it through a pulley in the cup or socket of the thigh portion of the artificial leg, and then out through the wall of the socket, the same to be fastened by a buckle, so as to prevent the slipping back of the stump or its covering.

Claim.—First, the roller a, or its equivalent, applied to the interior of the cup A of an artificial limb in combination with a strap b, secured to the covering of the stump, substantially in the manner and for the purpose herein shown and described.

Second, the disk f, arranged in combination with the covering c of the stump and with the strap b and cup A, substantially as and for the purpose specified.

No. 41,935.—**George A. Parker**, Lancaster, Mass.—*Construction of Piers, &c.*—March 15, 1864.—This invention is designed to be used in submerging, founding, and erecting subaqueous structures in localities where piles cannot be driven, and may also be made to serve as a wharf or pier for temporary or permanent use where piles cannot be driven, or where stonework would be impracticable.

Claim.—First, a portable constructing-pier, supported upon and levelled or adjusted by or to the bed of the stream upon which it rests, substantially as and for the purpose described.

Second, in combination with constructing piers, either portable or permanent, the fastening of them to the bed of the stream by screws forced into the same from the top of the pier, substantially as described.

No. 41,936.—**Stephen R. Parkhurst**, New York, N. Y.—*Machine for Picking and Cleaning Wool, &c.*—March 15, 1864.—This invention consists of a revolving feeding cylinder in connexion with a receptacle into which the cotton, wool, or other fibre is placed, and from which the said cylinder draws the fibre to the extent necessary for filling its card or other teeth with such fibre. Combined with the above is a vibrating or oscillating comb that detains, keeps back, and evens the fibre on such feeding cylinder. The feeding cylinder is provided with a shell surrounding a portion of it, and from the said feeding cylinder the fibre is taken, pulled apart, and gradually opened by toothed rollers acting at the edge of the shell to draw off and loosen the fibre and allow dirt to fall out; and from thence the fibre is exposed to a cleaning operation on both sides, as employed in a machine previously patented to the said Parkhurst.

Claim.—First, a toothed cylinder in combination with a receptacle or hopper, to act as a feeder to carding, picking, and cleaning machines, by conveying to such machines the fibres that are seized by and surround the teeth of such cylinder, substantially as specified.

Second, a vibrating or oscillating comb or detainer in combination with the said feeding cylinder and receptacle, as specified.

Third, the fluted roller *k*, in combination with the toothed cylinder *h* and stripper *i*, for the purposes specified.

Fourth, the toothed cylinders *g h* and *l*, and strippers *i* and *m*, arranged substantially as specified, in combination with the feeding cylinder *d* and shell *f*, for the purposes and as specified.

No. 41,937.—Robert P. Parrott, Cold Spring, N. Y., *Percussion Fuze for Explosive Shells.*—March 15, 1864.—This invention consists in providing the front end of the plunger with two columns or prongs of sufficient thickness to resist any concussion in a longitudinal direction to which they may be subjected by the dropping of the shell or by other accident; but to bend or twist off easily in a lateral direction, so that when rapid rotation is imparted to the shell by discharge from the gun, the arms will bend or break.

Claim.—The construction and arrangement of the columns or arms *f*, substantially in the manner herein shown and described; so that said arms will be longitudinally strong but laterally weak, and thus, when rapid rotation is imparted to the shell by discharge from the gun, the arms will bend or break; but at all other times will remain firm and rigid, as set forth.

No. 41,938.—Elbert Perce, Brooklyn, N. Y.—*Geographical Globe.*—March 15, 1864.—This invention is explained by the claim.

Claim.—A geographical globe with magnetic properties so that small objects made of steel or iron will be attracted and retained by the force of magnetic attraction, in the manner and for the purpose above specified.

No. 41,939.—J. W. Pitt, North Adams, Mass.—*Method of connecting Governors with the Gates of Water-wheels.*—March 15, 1864.—This invention consists in applying a governor to the gate of a water-wheel by means of a cone-pulley and a spiral or scroll-shaped arm with a belt attached to it and leading to the said cone-pulley, for the purpose of causing the gate in opening to move with an accelerated or gradually increasing speed, and in closing, to move with a corresponding diminution of speed so as to compensate for the varying force of the water at different heights of the discharge orifice.

Claim.—The applying of a governor to the gate of a water-wheel, in the manner substantially as described, so that the gate in opening will move with an accelerated or gradually increasing speed, and in closing, move with a corresponding diminution of speed to compensate for the varying force of the water at different heights of the discharge orifice, as set forth.

No. 41,940.—E. L. Pratt and John B. Thompson, Boston, Mass.—*Elastic Carriage Wheel.*—March 15, 1864.—This invention consists in placing a band of rubber around the wheel between the tire and a thin hoop encircling the wheel.

Claim.—The application of the rubber or elastic cushion *e*, to the outer surface of the metallic tire or hoop *d*, (which surrounds and keeps in place the fellies,) when such cushion is surmounted by a metallic protector or band *f*, as set forth.

No. 41,941.—Thomas J. Price —Industry, Ill.—*Skimming Apparatus for Sugar Pans.*—March 15, 1864.—This invention consists in connecting a skimmer to head blocks, together with a rock shaft and levers, in such a manner that the skimmer, in its backward movement, is elevated above the boiling juice until it gets in the rear of the scum, when it drops down into the juice, and in its forward movement catches all the scum and scrapes it up the inclined end, whence it is deposited in the gutter.

Claim.—First, the skimmer A, in combination with the head blocks B B, and rods O O, substantially as and for the purpose set forth.

Second, the rock shaft J, and levers D D, and rods S S, in combination with the head blocks B B, and rods O O, substantially as shown and described for the purpose specified.

Third, a skimming apparatus which elevates the skimmer above the boiling juice in its rearward movement until it gets in the rear of the deposit of scum, then drops into the boiling juices, and in its forward movement catches the scum and scrapes it up to the inclined end, depositing it in the gutter, as shown and for the purpose set forth.

No. 41,942.—John E. Richey and C. Hotchkiss, Van Wert, Ohio.—*Bee-hive.*—March 15, 1864.—The object of this invention is to admit of the swarm of bees within the hive being readily divided and transferred to another hive so as to multiply the swarms. A ventilating moth chamber is also so arranged as to entrap the moths and serve for the proper ventilation of the hive.

Claim.—The arrangement of the divisible hive *p p*, and slide D, with the ventilating and moth chamber *k*, and boxes *d d*, in the manner herein shown and described.

No. 41,943.—Reuben Shaler, Madison, Conn.—*Toy Pistol.*—March 15, 1864.—In this pistol, a hammer, projecting from a revolving shaft upon which is a spiral spring, is retained in position by the trigger when wound up. Upon pulling the trigger, the hammer becomes disengaged and strikes the bolt to be projected through a slot in the lower part of the barrel and drives the same forward.

Claim.—The combination and arrangement described of the barrel B, hammer C, spring *d*, and trigger E, in the manner and for the purpose specified.

No. 41,944.—Robert Spencer, Newark, N. J.—*Saddle Cloth.*—March 15, 1864.—This invention consists in making the cloth of one piece and shaped so as to fit the back of the horse. It is also graduated in thickness, the thickest part being fitted under the bearings of the saddle and a thin part fitting over the ridge of the horse's back, which part is also perforated.

Claim.—As a new article of manufacture, a saddle cloth shaped to the back of the horse without seam and graduated in thickness, made or combined substantially in the manner and for the purposes described.

No. 41,945.—William Stechschult, Glandorf, Ohio.—*Axle Box.*—March 15, 1864.—This invention consists in the arrangement of two projections or lugs rising from plates or brackets that are secured to the axle by bolts or other suitable means, one or both of said projections being provided with noses or scrapers, in combination with a circular groove in the rear end of the hub or box, and with an oil hole in front in such a manner that the oil contained in a circular groove at the rear end of the hub or axle box is pushed out and spread on the axle by the action of the scraper or scrapers, and at the same time by having two such plates or linch-pins, one on either side of the axle, the strain on the axle is equalized and the friction reduced.

Claim.—The employment of the spreading noses *e e* in combination with the linch-pins C C^*, projections d d^*, groove *b*, and axle B, all in the manner herein shown and described, so that the grease or lubricating material will be caught and spread over the surface of the axle, as set forth.

No. 41,946.—John Stewart, New York, N. Y.—*Mosquito Tent or Frame.*—March 15, 1864.—This invention consists of a frame formed in a telescopic shape, and provided with a windlass and ropes with hinged arms, so that it can be readily raised and expanded to form a space enclosed by a netting, and be lowered and folded up so as to occupy but little room when not in use.

Claim.—The telescopic column A, provided with a windlass C, ropes or chains *d e*, hinged arms D, and ropes or chains *i*, all constructed and operating in the manner and for the purpose herein shown and described.

No. 41,947.—R. T. Sutton, Rochester, N. Y.—*Grain Dryer.*—March 15, 1864.—In this machine the grain descends from the hopper upon a revolving conical wire gauze sieve, from the outer edges of which it falls upon a fixed perforated plate. Over the surface of this plate a series of scrapers is made to pass, which carry the grain to an opening in the centre of the fixed plate, through which opening the grain again falls upon another revolving conical sieve, the operation being repeated as many times as there are sieves and plates in the dryer. Hot air is supplied below each fixed plate, and discharged just above them by means of a suction blower.

Claim.—The revolving perforated cones D, conveyers F, and perforated floors B B^*, in combination with the tower A, air-supply chamber G, with inlet and outlet openings H H', and air discharge chamber G', with openings g' and suction blower I, constructed and operating in the manner and for the purpose substantially as shown and described.

No. 41,948.—George Turner, Lansing, Mich.—*Gate and Door-closing Device.*—March 15, 1864.—This invention relates to the method of closing doors by means of a weight and pulley attachment, and it consists in the employment of a fixed and a self-adjusting pulley arranged in such a manner that the device may be applied to either a right or left-hand door or gate, and operate equally well in either application, without the liability of the cord slipping from the pulleys in any position of the door or gate, the weight at the same time being entirely out of the way.

Claim.—A pulley device for the weight, cord or rope of doors and gates, composed of an arm A, with a fixed vertical pulley C attached in combination with an adjustable plate D, pivoted to A, and having a horizontal pulley E fitted to it, all arranged to operate in the manner substantially as and for the purpose herein set forth.

No. 41,949.—G. R. Vanderbilt, Mount Vernon, N. Y.—*Condenser.*—March 15, 1864.—This invention consists in the employment of one or more pipes leading from the steam chimney or steam space of one or more of the boilers of a steam vessel, to or nearly to one end of the vessel, thence down through the bottom and along the outside thereof to or nearly to the other end of the vessel, thence up through its bottom to any part of the interior thereof where fresh water is required. By this means a supply of fresh water is supplied from the steam which is condensed in this pipe, and may always be forced out whenever the stop-cock is opened by the pressure of the steam in the boiler.

Claim.—The employment for obtaining a supply of fresh water on board a steam vessel at sea, by condensation or distillation, of a pipe or pipes *a c*, leading from the boiler to or nearly to one end of the vessel through the bottom and along the exterior thereof to or nearly to the other end, thence to the interior and to the point or points where the supply is required, substantially as herein described.

No 41,950.—Richard Vose, New York, N. Y.—*Helical Car Spring.*—March 15, 1864.—This invention consists of a helical spring formed of a metallic bar, which tapers gradually both in width and thickness from end to end, the same to be coiled upon a tapering mandrel so that when the bar is coiled thereupon the outer edges of the coils will all be uniform in diameter and the exterior of the spring be perfectly cylindrical.

Claim.—The use of a metallic bar, varying in width or thickness either from end to end or from centre to ends, when it is coiled into a helical spring, substantially in the manner and for the purpose herein set forth.

No. 41,951.—D. R. Warfield, Muscatine, Iowa.—*Gate.*—March 15, 1864; antedated March 9, 1864.—This invention consists in suspending the gate upon an angular pivoted bar placed in a suitable framing and arranged with a catch or fastening, and a system of levers, in such a manner that a person on horseback or in a vehicle by pulling a cord can readily open the gate.

Claim.—The bar C, with the weight E attached, in combination with the catch F, levers G G, cords *s*, and levers *q q*, all arranged substantially as and for the purpose set forth.

No. 41,952.—Oliver J. Warren, Chicago, Ill.—*Boot Crimp.*—March 15, 1864.—This invention consists in placing within the ends of the outer jaws a wedge-formed yoke enclosing a wedge-shaped nut, which, in connexion with a screw passing through the said nut, serves to force the shanks asunder and cause the outer jaws to press towards the inner jaws at their upper ends and gripe whatever is placed between them.

Claim.—The wedge-formed yoke E, enclosing the nut E, and operating to spread the arms *b b′* in the described combination with the crotch A *a a*1 2, outer hinged jaws B *b* B′ *b′*, and screws C, arranged and operating substantially as and for the purposes specified.

No. 41,953.—Ephraim B. Wells, Uniontown, Penn.—*Washing and Wringing Machine.*—March 15, 1864.—This invention consists in the combination of two elastic rollers with an endless apron in such a manner that the clothes will be carried under the pounder to be washed, and when washed the said rollers may be used for wringing the clothes without altering the arrangement of the machine except to change the position of the directing board which carries the clothes out of the machine, the said board being ordinarily so placed as to allow the clothes to fall back into the tub.

Claim.—In combination with the endless apron C, the rollers F J, the latter being elastic, for the purpose of placing the moving of the apron at the will of the operator, as described, under the beaters for washing, or without the beaters for wringing only, as set forth and represented.

No. 41,954.—Amos Westcott, Syracuse, N. Y.—*Churn.*—March 15, 1864.—This invention consists in the employment of a series of blades made flat at one edge and sharp on the other, and attached to a rotating shaft, a series of similar blades being attached to the inner sides of the churn. In churning, the shaft is so rotated as to cause the back or flat edges to strike upon and penetrate the cream When used as a butter worker, the shaft is rotated in the opposite direction, and the butter is compressed between the two sets of blades. The crank is secured to the shaft by means of a button or short lever secured to its side, one end of the said button being fitted to lock into a notch cut in the side of the shaft, so as to hold the crank in place. By this means it can be easily detached from the shaft of the driving wheel, and instantly attached to the main dasher shaft, so as to apply more power, with less speed, in working the butter. The dasher shaft is attached to its bearing journals in a similar manner, so that it can readily be removed, while the journals remain in position in the ends of the churn box.

Claim.—First, the use of dasher paddles of the form above described.

Second, the use of stationary dashers of the form above described, in combination with the other parts of the churn, as above described.

Third, the use of the dasher paddles marked *a′ a′ a′ a′*, Fig. 2, so constructed and attached to the shaft B, Fig. 2, as to move close to the inner sides of the ends of the box of the churn, essentially as above described, in combination with the other parts of the churn as above described.

Fourth, the method of constructing, attaching, and securing in place the shaft B, Fig. 2, so that the same crank can be used upon either the driving wheel, at one end of the churn, or upon the shaft, at the other end of the churn, at pleasure, essentially as above described, in combination with the other parts of the churn, as above described.

Fifth, the use of the blower, in combination with the other parts of the churn, essentially as above described.

No. 41,955.—Milton D. Whipple, Cambridge, Mass.—*Machine for Making Horseshoe Nails.*—March 15, 1864.—In this machine is employed a series of four pairs of levers attached, at varying elevations, to arms projecting from an upright stock, each pair of arms moving in a vertical plane perpendicular to that of the pair next below it. The short arm of each lever carries upon the eccentric face of its extremity a section of a die, and, the two moving in concert, compress the blank between their abutting ends as they vibrate up and down. When the blank is passed into the open dies of the upper pair, the long arms of the levers are raised up, which closes the dies upon the blank, thus swaging it upon both sides, and, at the same time, carrying it downward until the dies have traversed its whole length, when it falls from them into the open dies of the next pair below, by which the other two sides of the blank will, in the same manner, be swaged, and so on until it shall have passed the whole series, when it passes between two vibrating rolls, which completes the operation.

Claim.—First, the series of pairs of vibrating levers L M N O, each pair in the series operating at right angles to the next preceding pair, and provided with dies for swaging the blank, substantially as set forth.

Second, in combination with the above series of levers and dies, flattening and finishing the nail by passing it between the rolls R and S, as described.

No. 41,956.—Frederick Wood, Bridgeport, Conn.—*Concealed Hinge.*—March 15, 1864.—This invention consists in so constructing the hinge that the two divisions may be readily separated by simply lifting and withdrawing the door. The hinge pin is fixed in the bent arm of one part, and the other part of the hinge is enlarged, so as to allow the said arm to swing freely and move in the same.

Claim.—The enlarged opening O′, in combination with the free hinge pin *f*, constructed and operating in the manner as described, or in any other manner substantially the same.

No. 41,957.—John Zengeler, Chicago, Ill.—*Mosquito Net.*—March 15, 1864.—This invention consists in securing a piece of netting to elastic hoops of wire, cane, or other suitable material, and of such diameter and size as to admit of the device being placed over the head of the wearer; the netting being cut in such form as to admit of its being fitted to the shoulders and confined closely to the waist in front.

Claim.—A mosquito net for the head and neck, constructed of netting B attached to elastic hoops A A, and secured to the wearer substantially as herein set forth.

No. 41,958.—Rufus Dutton, Brooklyn, N. Y., assignor to himself and Anthony B. Allen, New York, N. Y.—*Mowing Machine.*—March 15, 1864.—This invention consists in so constructing a mowing machine that the cutters may be transferred from the front to the rear of the wheels at pleasure by shifting the bar and cutters from one position to the other. The cross-bar A′ is provided with a bend or offset for depressing the crank end of the connecting rod when behind the wheels, and elevating it when forward of them, in order to keep the journals at each end of the rod parallel with each other. The draught rod has a bend at one of its ends, and is made reversible, so as to adapt it to front and rear cutting.

Claim.—Changing the cutting apparatus from front to rear, and from rear to front of the right wheel of the machine, by means of detaching and reversing the parts of the gear casing C D, draught rod C′, cross-bar A′, substantially as set forth in the specification.

Also, the bend or offset in the cross-bar A′, for depressing the crank end of the casing in rear cutting, and elevating the same in front cutting, substantially as set forth.

Also, constructing the draught rod with a bend at one of its ends, and made reversible, to adapt it to front and rear cutting, substantially as and for the purpose set forth.

Also, so attaching the line of draught in a mowing machine as to counteract the tendency of the gear casing to rotate on the axle, as well as to prevent the finger bar from rising above the ground in rear cutting, and pressing upon the ground in front cutting, substantially as set forth.

No. 41,959.—E. Otis Frink, assignor to himself and S. C. Frink, Indianapolis, Ind.—*Skate.*—March 15, 1864.—This invention consists in securing the sole of the boot or shoe to the skate by means of clamps, which are operated by a spring lever in connexion with a cog wheel, and ratchet, and pawl.

Claim.—The ratchet A, the cog wheel C, the guides *d* and *d′*, the spring lever B, and pawl *g*, when the same is operated, constructed, and arranged as described.

No. 41,960.—Ralph Graham, assignor to himself and Samuel Booth, Brooklyn, N. Y.—*Explosive Shell.*—March 15, 1864.—This invention consists in soldering the base portion of an elongated shell to the tubular portion, and in applying thereto a thin perforated powder chamber or cartridge case at its rear, with sufficient air space between it and the chamber of the gun to permit the gas of the propelling charge to drive out the said thin metal case after the projectile has passed out of the barrel.

Claim.—First, forming the shell of two parts, *a* and *b*, in the manner specified, and soldering them together, whereby the parts of said shell can be cast of type metal, or similar alloys, in moulds with facility; and when united by soldering, said shell becomes as solid as if cast in one piece, for the purposes and as specified.

Second, the case *g*, formed as specified and connected to the rear end of the projectile, when said shell is of such a shape as to allow a space between the shell and chamber sufficient for the gases in the explosion to pass in and eject said shell after the projectile has passed out of the barrel as specified.

No. 41,961.—JOHN HALL and HENRY HALL, senior, assignors to themselves and HENRY JONES, Brooklyn, N. Y.—*Piston for Steam-engines.*—March 15, 1864.—This invention relates to a method of constructing the piston so as to allow the packing ring to be readily expanded, equally at all points, from the exterior of the piston. From the central hub of the piston radiate three ribs, which extend to within a short distance from the inside of three segments arranged within rings that are severed at one point to allow them to expand. On each rib is formed an inclined surface, against which bears one of the inclined sides of a wedge, the other inclined side of the same bearing against the bevelled end of a block, which is arranged to fit snugly, but allowed to slide freely, between one of the ribs and a projection which forms a part of the flange of the piston. An annular plate is fitted snugly, but so as to turn freely, on the hub of the piston immediately below an annular plate provided with three projections on its under side, which bear against one of the above-named wedges.

Claim—First, the sliding blocks H, wedges G, and ribs F, or their equivalents, in combination with the annular plate K and its projections *m*, or the equivalent thereto, the whole being constructed and arranged for action on the segments and rings of the piston substantially as and for the purpose herein set forth.

Second, the arrangement within described of the sliding blocks H in respect to the segments, for the purpose specified.

Third, the worm spindle P, the screwed spindle *g*, with its wheel M, when the whole is combined with the annular plate *k*, and arranged for operating the same, substantially as described, for the purpose specified.

Fourth, the use of the single spring R, for imparting an equal pressure and elasticity to the rings, substantially in the manner described.

No. 41,962.—JOHN MCLAIN, St. Mary's, Ohio, assignor to JOSEPH CHENOWETH, Columbia City, Ind.—*Hames Fastening.*—March 15, 1864.—This invention consists in the arrangement of curved slides inserted into the ends of the hames, one of the said slides being made adjustable by means of a screw passing through the hames and fitting into different holes in the said slide, and the other slide being provided with ratchet teeth, and made adjustable by means of a spring catch, in such a manner that the hames can be opened and closed and adjusted to the necks of different horses whenever it may be desired.

Claim.—The arrangement of slides B C, adjustable by a screw *d* and holes *e*, or by ratchet teeth *f* and spring catch *g*, in combination with the bows *a b* of hames A, constructed and operating in the manner and for the purpose substantially as herein shown and described.

No. 41,963.—FREDERICK MILLER and J. N. MCINTIRE, assignors to FREDERICK MILLER, New York, N. Y.—*Machine for Cutting up Fat.*—March 15, 1864.—This invention consists of two cylinders, each provided with a series of spirally-shaped cutters bent in opposite directions, and used in connexion with two rolls or plain cylinders. In the spaces between the spiral knives are arranged plates provided with lugs or pins, which operate to prevent the knives from being clogged. The object of the machine is to cut up the large pieces of fat taken from the hogs into small pieces suitable for the rendering kettle in the manufacture of lard.

Claim.—The employment of the cutter cylinder A with its knives *a*, the roll C, and the cutter cylinder B with its knives *a'* and roll D, the whole arranged and operating as described.

Also, the employment in combination with a cutting cylinder of the clearing plates *m*, arranged to operate as and for the purposes described.

Also, the arrangement of the lower cutter cylinder in such manner with the upper as that the former will clear off the plates *m* of the latter, as described.

Also, the use of the clearer bar T in combination with the cylinder B and its plates *m*, the whole arranged and operating as specified for the purpose set forth.

Also, the combination of the two cutter cylinders, one over or in advance of the other, when each is made with special knives and the knives of the two are twisted in opposite directions, as and for the purposes set forth.

No. 41,964.—ISAAC NEWTON, New York, N. Y., and NORMAN W. WHEELER, Brooklyn, N. Y., assignors to the said ISAAC NEWTON.—*Vacuum Engine.*—Patent issued March 15,

1864; antedated January 13, 1864.—This invention consists in a combination and arrangement of independent air and circulating pumps with each other and with the surface condenser of a marine engine, in such a manner that the vacuum in the condenser may be constantly maintained, and all the steam generated in the boiler (whether the marine engine be at rest or not) can be consumed in the condenser, thus avoiding noise and waste of fresh water by blowing off steam. To one side of the bed plate are attached two air pumps, and to the opposite side are attached two circulating pumps. These pumps are all of like stroke, and their axes are on the same plane both ways. On one end of the bed plate is placed the steam cylinder, from which the steam passes to the condenser, where it is condensed in the ordinary manner. The air pumps are connected to the fresh water side of the condenser, and the circulating pumps to the salt water side of the same, and thus all the steam generated can be condensed, and the water of condensation returned to the boiler by the aid of suitable forcing pumps. The principal object of the invention is to prevent the escape of steam from the blow-off pipes of marine boilers when the engines are at rest.

Claim.—First, the use of the single-acting air and circulating pumps B B and A A, in combination with each other, and with the surface condenser of a marine engine, when said pumps are connected and operated in relation to each other substantially in the manner described.

Second, the combination of the receiving valves *c*, bucket valve *d*, and delivery valve *e*, when said valves are arranged in respect to each other and to their respective seats and chambers, constructed substantially in the manner described.

Third, the combination of the steam cylinder with the air and circulating pumps, when said pumps are arranged between separate channel plates, and steadied by the action of a fly-wheel, substantially as shown and described.

No. 41,965.—RODNEY L. SMITH, assignor to PARKERS, SNOW & CO., West Meriden, Conn—*Lamp Burner.*—March 15, 1864.—This invention consists in the employment of a fastening, hinge, and stop, constructed and applied to the burner in such a manner that the cone or deflector may be firmly secured down upon the burner and a hinge attachment obtained, which is formed of a wire or rod attached to the under side of the base of the cone or deflector, and made to serve also as a stop or fastening to prevent the cone or deflector from being thrown or turned back beyond a certain position; the parts being all constructed from a single piece of wire.

Claim.—The wire or rod C, attached to the under side of the base *a* of the cone or deflector, and bent so as to form a hinge, stop, and a catch or fastening, substantially as herein shown and described.

No. 41,966.—SAMUEL G. TWAMBLEY, assignor to CHARLES A. SHAW, Biddeford, Maine.—*Lathe-rest for Trueing Watch Wheels.*—March 15, 1864.—This invention consists of a vertical stock attached to the standard of a lathe-rest, the said stock having its face and side each covered by a spring secured to the same. The abrading material made use of is attached to these springs, which latter are adjusted to their work by means of set screws placed behind the springs in the stock.

Claim.—First, the combination with the staff A of a file or stone mounted on a spring made adjustable by a screw, substantially in the manner and for the purposes set forth and specified.

Second, in one piece of mechanism the combination of a file and stone when mounted substantially in the manner and for the purposes hereinbefore described.

No. 41,967.—WILLIAM WELLS, Middleton, Mass., assignor to ALFRED B. ELY, Newton, Mass.—*Lasting Machine.*—March 15, 1864.—This invention consists in the combination of a heel-jaw and a movable toe-jaw; the side jaws being hung upon pivoted clamps, which swing open to insert the last and then closed up and fastened. To the side jaws are rigidly attached projecting flanges, and the end jaws are provided with hinges or folding flanges, which are thrown apart when the side jaws are open, and are closed or folded together over the heel and toe when the side jaws are closed. Gauges are attached to the flanges for fitting on the outer sole. The last is placed upon a rod, one end of which is attached to a lever for the purpose of adjusting it to the proper height.

Claim.—First, the combination of hinged or folding flanges with the end jaws, heel, and toe.

Second, the combination of hinged or folding heel-and-toe flanges with flanged side jaws.

Third, so constructing the parts that the hinged end flanges can be folded together over the last when in position by bringing up the side jaws or clamps.

Fourth, constructing and combining the side clamps and side jaws so as to remove and replace the jaws as may be required.

Fifth, so constructing the holding mechanism as to adjust the height of the last to the flanges or jaws, substantially as described.

Sixth, the combination of gauges with the flanges for fitting on the outer sole.

No. 41,968.—Cancelled.

No. 41,969.—NATHAN AMES, Saugus Centre, Mass.—*Attachment of Buttons, &c.*—March 22, 1864.—The shank of the button, hook and eye, &c., terminates in one or two pointed prongs, which are passed through the cloth and pressed down upon a transverse shoulder, and thus secured in position.

Claim.—As an attachment of buttons, hooks and eyes, and other analogous objects, the shank or shanks *d*, prong or prongs *e*, and shoulder or shoulders *c*, substantially as and for the purpose described.

No. 41,970.—Edward H. Ashcroft, Lynn, Mass.—*Salinometer Case.*—March 22, 1864.—This invention consists in so arranging the parts of a salinometer as to enable an attendant to determine the temperature and specific gravity of the saline water which may be within the boiler, (a portion of such water being caused to flow from the boiler through the salinometer or its measuring cistern, into which a thermometer or a hydrometer may be placed,) without being exposed to danger from the escape of hot water, and also to maintain the water while in the measuring chamber sufficiently free from agitation to enable the specific gravity to be indicated by the hydrometer. Within the lower part of the measuring cistern is placed the spray box, having its sides near the bottom pierced with holes, and between the sides of this box and of the cistern is left a narrow opening for the passage of the water upward, the induction pipe being provided with a stop-cock, which opens into the spray box. The said pipe is in the form of a syphon, and delivers the water upon a button-shaped standard erected upon the bottom of the box, from whence it flows out through the perforations into the case of the instrument.

Claim.—The arrangement of the spray chamber C within the measuring cistern A, substantially as described.

And with the said arrangement of the spray chamber C within the measuring cistern A the arrangement of the jet tube F of the spray chamber, viz., so as to discharge toward the bottom of the spray chamber, substantially in manner as described.

Also, improved arrangement of the spray chamber C, the measuring cistern A, the stand pipe G, the auxiliary conduit *d*, and the valve *g*, and its stem *h*, the whole being substantially as hereinbefore described.

No. 41,971.—Willard Badger, Jr., North Chelsea, Mass.—*Door Spring.*—March 22, 1864; antedated March 15, 1864.—This invention consists in the employment of a vibrating spring arm inside of the jamb and casing, and connected with the inside corners of the door by means of a spring or strip of metal or other suitable material, whereby the closing power of the spring on the door is gradually decreased as the latter is opened. Attached to the inner edge of the door is a start or lever combined with the spring strip in such a manner that when the door is wholly open it assists in starting the door to close.

Claim.—First, the vibrating spring arm E arranged inside of the jamb and casing, and connected with the corner of the door by means of a metallic strip G or its equivalent, substantially as set forth, and for the purpose described.

Second, the lever *i* in combination with the spring strip G and vibrating arm E, arranged and operating substantially as described.

No. 41,972.—Marshall Burnett, South Boston, Mass.—*Lamp.*—March 22, 1864.—This invention consists in the method of forming a connexion between the burner and the reservoir of a lamp, whereby the burner may be moved horizontally from over the neck of the reservoir so as to supply the latter with oil.

Claim.—The connexion C combined with the reservoir and burner, and made substantially as and for the purpose described.

No. 41,973.—Samuel Carpenter, Cedar Rapids, Iowa.—*Broom.*—March 22, 1864.—This invention consists in a combination and arrangement of clasps and braces in connexion with screw-bolts and nuts in such a manner as to enable the handle to be readily secured to the wisps of a broom, and so that old wisps may be readily removed when worn and new ones substituted.

Claim.—The combination of the handle *c*, the braces *a a* and *b b*, the clasps *e* and *f*, the screw bolts and nuts *g g g g*, and the wisps *i*, in the manner and for the purpose set forth.

No. 41,974.—William Class and Ernest Rubenow, Cincinnati, Ohio.—*Apparatus for Making Coffee, Tea, and other Extracts.*—March 22, 1864.—This apparatus consists of a cylindrical vessel having within it a removable cup with perforated bottoms for containing coffee, tea, or other substance. Over the cover is arranged a pump, communicating with the cylinder of which is an enclosed passage or tube provided with a valve, and to the end of the said passage or tube is attached a hose or pipe leading to a hot-water receptacle. The water is drawn up by the pump and forced through a filtering medium and the coffee, &c., and out through an exit pipe at the bottom of the cup.

Claim.—The arrangement of the pump, valves, and filtering medium herein described and represented, between the inlet and exit passages I D, for the purpose of making coffee, tea, or other extracts, or for the purpose of filtering any liquid, as herein represented and set forth.

No. 41,975.—H. W. Dopp, Buffalo, N. Y.—*Vapor Store.*—March 22, 1864.—This invention consists in arranging over the retort in which the oil is converted into vapor a tube L for mingling the vapor with atmospheric air, whence it passes through a tube K down to the perforated distributing plate, through which the vapor passes to be burned.

Claim.—Mingling tube L and conducting tube K in combination with perforated distributing plate A, for the purposes set forth.

No. 41,976.—George Dowler, Birmingham, England.—*Match Box.*—March 22, 1864; patented in England January 7, 1863.—This invention consists in constructing the match box with a double bottom or case, so as to contain a number of strikers or sheets of material upon which the matches are to be rubbed for the purpose of being ignited. The strikers admit of being removed and replaced, so that when one side becomes worn the opposite side may be used.

Claim.—The match box made with or having applied to it the striker case or plate *x*, provided with the opening *w*, the same being as and for the purpose as hereinbefore more fully set forth.

No 41,977.—Spencer B. Driggs, New York, N. Y.—*Piano-forte.*—March 22, 1864.—The nature and object of this invention are mainly explained by the claim. The case of this piano is made narrower across the middle than at the rear end, and wider than usual at the latter, thus making it approximate the shape of a violin or guitar, as best adapted for sound, and so as to obtain a greater width of sound board in the lower or base part of the instrument where greater vibration is necessary. At the left-hand front corner of the sound board is provided an opening for the purpose of allowing the emission of sound when a bottom sound board is used.

Claim.—First, the employment throughout the scale of a piano-forte of a system of straight bridges of different heights, whereby the strings are brought in overstrung tiers or sections over or as near as possible to the middle portion of the sound board, substantially as herein described, and other results hereinabove mentioned are obtained.

Second, electrically isolating the case, the sound board, and all that is instrumental in producing or developing the sound from the iron frame or mere sustaining portion of the piano-forte, substantially as and for the purpose herein specified.

Third, constructing the case of the grand piano-forte of violin form—that is to say, with both sides curved, and with the rear portion wider than the middle portion, substantially as and for the purpose herein described.

Fourth, in combination with a bottom sound board C in a grand piano-forte the opening *f f g*, at the front left-hand corner of the upper sound board D, substantially as and for the purpose herein specified.

No. 41,978.—Samuel P. Duffield, Detroit, Mich.—*Soluble Silicate.*—March 22, 1864.—This invention consists in the manufacture of silicate of potash from common wood ashes. The ashes resulting from the combustion of wood in evaporating the salines is mixed intimately with a portion of pure quartz sand, which mixture is then heated or fluxed in a reverberatory furnace until a chemical union takes place, forming a molten mass of silicate of potassa, which forms, after being cooled, a soluble silicate of potash.

Claim.—The above-described silicate of potassa as a new article of manufacture, the same being made directly from ashes and sand, substantially as described.

No. 41,979.—Samuel P. Duffield, Detroit, Mich.—*Manufacture of Common Salt.*—March 22, 1864.—This invention consists in the manufacture of salt or chloride of sodium when made from brines or saline waters containing the chlorides of calcium and magnesium, these latter chlorides being separated from the chloride of sodium by means of silicate of potassa or of soda.

Claim.—The above-described common salt or chloride of sodium, as a new article of manufacture, the same being made from salines containing the chlorides of calcium or magnesium, or both said salines being purified by the use of a silicate of potash or of soda, substantially as set forth.

No. 41,980.—Samuel P. Duffield, Detroit, Mich.—*Manufacture and Purifying of Common Salt.*—March 22, 1864.—This invention consists in the use of a soluble alkaline silicate for the purpose of separating chloride of calcium or of magnesium from the chloride of sodium in brines or salines containing such chlorides in solution.

Claim.—The use of soluble alkaline silicates for the purpose of purifying brines or salines, or common salt itself, by the precipitation of the chloride of calcium or of magnesium or both, substantially in the manner and for the purposes set forth.

No. 41,981.—Whitman S. Dyer, Portland, Maine.—*Gas Burner.*—March 22, 1864.—Within the gas tube is arranged a cap which deflects the gas, and on opposite sides of the cap near its lower edges is an orifice through which the gas escapes, whence it passes up through a fine screen to the burning point.

Claim.—The gas burner constructed and operating in the manner described and represented as an improved new article of manufacture.

No. 41,982.—A. K. Eaton, New York, N. Y.—*Manufacture of Paper Pulp from Straw, &c.*—March 22, 1864.—This invention consists in subjecting the straw to a grinding process soon after the hot alkaline solution has begun to act upon it, the grinding being continued in connexion with the alkaline treatment. In order to recover the alkali of the waste liquor, it is passed through a filter of lime or charcoal a sufficient number of times; the liquor is then evaporated and the residuum formed into cakes and burned, when a carbonated alkali will be formed, which may then be rendered caustic in the usual manner.

Claim.—First, preparing paper pulp from straw or other substances by subjecting it to a grinding process, commencing with the early stages of the treatment with hot alkalies, and continuing the grinding in connexion with the alkaline treatment, in the manner and for the purpose herein described.

Second, purifying the alkali held in solution in the refuse liquor by passing it through a filter constructed substantially as above described, sufficiently to enable one to use it again, and completely reproducing it when necessary by making it into combustible cakes, as set forth.

No. 41,983.—George Franklin Evans.—Norway, Maine.—*Plane-stock.*—March 22, 1864.—This invention is designed as an improvement upon a device for which a patent was granted to the said Evans on January 28, 1862, and it consists in providing a flexible steel face made fast to the stock centrally, and to the ends of the same are fastened connecting rods which are inserted into the curved ends of the stock by means of a curved mortise, the rods also being curved to accommodate their working freely in the mortises, which allows the face to be made readily adjustable to a given circle of either a convex or concave form.

Claim.—As an invention or improvement in the plane made with the spring face plate, the construction of the connecting rods F F, and their receiving parts of the stock curved, substantially in manner and so as to operate together as specified.

No. 41,984.—George H. Ferris, Utica, N. Y.—*Breech-loading Ordnance.*—March 22, 1864; antedated March 9, 1864.—The nature of this invention is explained by the claim and engraving.

Claim.—First, closing and opening the chamber of a gun from the rear by means of a screw-actuated and screw-encircled recoil seat or breech piece F', when said recoil seat or breech piece is received into a screw perforation in the breech of the gun, and combined exteriorly with a supporting nut D, or its equivalent, substantially in the manner and for the purpose herein set forth.

Second, when the chamber of a gun is rearwardly opened and closed by means of a screw-actuated recoil seat E', the combining a tubular-shaped expansible double flange N, constructed as described with the inner face of said recoil seat, substantially in the manner and for the purpose herein set forth.

Third, when the chamber of a gun is closed and opened by a screw-encircled recoil seat or breech-piece E', the forming a longitudinal groove or slot in the lower portion of the screw-cut portion of the opening of said chamber, to serve as a receptacle for the dirt that may accumulate in the screw-threads of the same, substantially in the manner herein set forth.

No. 41,985.—Henry S. Fisher, Newburgh, Penn.—*Sealing Fruit Cans, &c.*—March 22, 1864.—This invention consists in coating the elastic gasket used to make a close joint between a can and its cover, with a composition which will preserve the gasket from contact with any part of the contents of the can, and will also cause a more intimate contact between the joints.

Claim.—The use of India-rubber or gutta-percha gaskets coated on both sides or surfaces with a composition such as specified, in combination with a preserve can or jar and cap c and retaining device f, substantially as described.

No. 41,986.—Zebina E. Fobes, Troy, N. Y.—*Washstand.*—March 22, 1864.—This invention consists in the combination with a washstand provided with a basin of one or more elevated service water-receivers for containing hot and cold water, together with one or more waste-water tanks, and all provided with the proper pipes and cocks.

Claim.—A portable washstand having a basin B, and provided with one or more elevated service water-receivers and one or more waste-water tanks, and with cocks for controlling the supply and escape of the water, substantially as described.

No. 41,987.—Lavinia H. Foy, Worcester, Mass.—*Corset Skirt-supporter.*—March 22, 1864.—At the front opening and at the lateral partial openings of this supporter are placed hooks which are attached by means of eyelets, and also eyelets for the hooks to catch into, so as to allow lacings to be substituted for the hooks when desired. The ends of the bows or half-hoops are shielded by pieces of sheet metal turned into the wood on the sides to protect the cloth from being torn.

Claim.—First, the mode of fastening the front by means of hooks b and eyelets, whereby the article can be either laced or hooked, substantially as set forth.

Second, also, making the bosom adjustable by means of the hooks and eyelets, substantially as set forth.

Third, also, in combination with the supporting rim F of a skirt supporter, the hoop E, shielded at its ends by metal caps g, substantially as set forth.

Fourth, also, in combination with the supporting rim of a corset skirt-supporter of a hoop with its ends protected and covered by shields, additional to the case, for the purposes set forth.

No. 41,988.—Pinckney Frost, Springfield, Vt.—*Nib for Scythe Snaths.*—March 22, 1864.—This device consists of a nut fastening which is made cylindrical in form and provided at one end with a nut which engages with a looped nib bolt, and at the other end with an angular hole to receive the tightening key or wrench, the end portions being firmly united. The whole is made to fit into a recess adapted to receive it in the end of the nib.

Claim.—The nut fastening g g', constructed and applied to the nib B, substantially as and for the purposes herein described.

No. 41,989.—Eliza Jane Hall, San Francisco, Cal.—*Furnace for Smelting Ores.*—March 22, 1864.—The object of this invention is to make a provision for a powerful draught combined with a condensing apparatus for saving the volatile portions of various metals, and forming the furnace in such a manner as to retain an intense heat with an economical use of fuel. The claim sets forth the various features of the invention.

Claim.—First, the combination of parts herein described for the reduction and saving of ores, viz:

1st, the arrangement for a powerful draught. 2d, the peculiar egg-shaped form of the furnace. 3d, the gradually contracting flue going out from the back of the furnace. 4th, the peculiar construction of the condensing apparatus. 5th, the boiler on top of the furnace for economy of fuel. 6th, introduction of steam above and near the bottom of the fire, for oxidation. 7th, small fire box in the boiler. 8th, fan-blower or other power to supply the draught. 9th, simple and cheap fluxes named. 10th, charcoal for fuel. 11th, the peculiar construction of the bottom of the furnace herein described.

Second, the condenser with the sieve at its top through which a continuous shower of cold water is kept pouring for the purpose of condensing and precipitating the volatile portions of the metals escaping with the draught, arranged and operating substantially as set forth.

Third, the flue s, within the condenser, and surmounted with the conical cap, to secure the condensation and precipitation of the volatile portions of the metals escaping with the draught.

No. 41,990.—O. J. Hardgrove, Massillon, Ohio.—*Horse Rake.*—March 22, 1864.—The lever which controls the vibrating rake in this machine is controlled, through intermediate arms or levers, with a lock shoulder so arranged as to automatically lock the rake in its depressed or working position and prevent its being thrown up during its operation.

Claim.—The combination with a vibrating rake, of a vibrating lever C, constructed with a locking shoulder 3, pivoted arm i, and vibrating arm h, operating substantially as and for the purposes described.

No. 41,991.—Emanuel Harmon, Washington, D. C.—*Mode of Cancelling Revenue and other Stamps.*—March 22, 1864.—This invention consists in clipping or cutting from the stamp the date or mark representing the approximation to the date of the month and the year of its use, as a method of cancellation instead of cutting away the other dates. The letters on the borders of the stamp are made to represent the initials of the months of the year, the dots representing periods or divisions of the month in days.

Claim.—The method of cancelling revenue stamps, in combination with engraving thereon of the initials of the months of the year, and of figures or dots representing the days or a series of days of months, substantially as above described.

No. 41,992.—S. E. Hartwell, New Albany, Ind.—*Dovetailing Machine.*—March 22, 1864.—This invention consists in arranging in a frame having a sliding carriage upon which the stuff to be dovetailed is fed to the cutters, and a clamp frame to firmly hold such stuff, a gang of cutters or bits that rotate on axes at right angles to the face of the feeding carriage so as to completely cut the tenons and mortises. The cutters or bits are made of a conical form so as to cut the mortises, the spaces between the tenons, and the tenons themselves, in such a way that they shall exactly fit into each other.

Claim.—First, the arrangement of the gang of conical dovetailing bits C K K' k k', rotating on axes at right angles to the plane of motion of the bed E, substantially as and for the purposes explained.

Second, the combination of the adjustable dovetailing bits C K K' k k', bed E e, sliding in a plane at right angles to the axes of the said bits, theclamps H and I, and gauge G, the whole being arranged and operating substantially as set forth.

Third, the dovetailing cutter C K K' k k', operated as represented in the foregoing specification.

No. 41,993.—Charles T. Harvey, Chicago, Ill.—*Chimney Flue.*—March 22, 1864.—This invention is designed as an improvement upon that class of flues which are surrounded by an air flue communicating as it ascends with the floors of the house, for the purpose of ventilating and warming the rooms through which it passes; and it consists in dividing the air flue longitudinally so as to have several distinct air flues in the space about the smoke flue. Combined with the above are branch air flues which extend towards the centre of the rooms beneath the floor for ventilating or warming them as occasion may require.

Claim.—The combination and use of two or more longitudinal compartments surrounding (except as before stated) the smoke flue or chimney, when they are divided into distinct air flues, and have independent currents of air passing through them for heating and ventilating purposes and as a protection against fire, substantially as shown.

Also, the branch connexion T T, by which heat can be conveyed to or air drawn from the centre or other part of a room or rooms, into and from the upright air flues in combination with the chimney described in the preceding clause of claim, substantially as shown.

No. 41,994.—Ezra S. Hazeltine, Warren, Penn.—*Cleaner for Lamp Chimneys.*—March 22, 1864.—This device consists of an elastic pad attached to a handle, upon which pad may be wound thin unsized paper and applied to the inner moistened surface of the glass chimney.

Claim.—The use of an elastic pad for the cleaning of lamp chimneys or other glass tubes with curved or irregularly curved inner surfaces.

No. 41,995.—Henry W. Hewet, New York, N. Y.—*Screw Wrench.*—March 22, 1864; antedated January 25, 1864.—This invention consists in forming a part of the handle from one end of a cylinder, the other end of the same forming a male screw, which rotates on a rounded portion between the square part of the shank and the outer end of the handle. The male screw works in a corresponding female screw, which is attached to and made to move the jaws.

Claim.—Extending the tube upon which the adjusting male screw is cut so as to form a part of the handle, with its peculiar bearings, or their equivalents, thereby rendering the shank spindle quite inflexible, and affording an easy and powerful adjustment of the movable jaw, substantially as herein described.

No. 41,996.—John R. Hill, Goshen, Ohio.—*Invalid Bedstead.*—March 22, 1864.—This invention relates to a mode of constructing an "invalid supporter," or "hospital cradle," and adapting it for attachment to a common bedstead, so that the bottom of the said supporter may be elevated or depressed at either or both ends by means of windlasses, and also admitting of various adjustments to relieve the necessities of the patient.

Claim.—First, suspending the bottom of an invalid cradle by a frame D capable of elevation or depression at either or both ends by windlasses H I, or their equivalents, substantially as and for the purposes set forth.

Second, in the described combination with the suspended frame D of an invalid cradle, the provision of standards B and clamps C, for attachment to a common bedstead, as set forth.

Third, the arrangement of the parts L O P N *n* Q Q′, for sustaining and laterally stretching the bottom R of an invalid cradle.

No. 41,997.—William Hinds, Little Falls, N. Y.—*Plough.*—March 22, 1864.—This invention relates particularly to the form of the mould-board and standard, and to the method of connecting or securing the land side to the mould-board. The nature of the invention is explained by the claim and engraving.

Claim.—First, a plough mould-board when constructed in accordance with the following conditions, viz: all lines on the face of the mould-board which are parallel to a surface upon which the plough rests when in its proper position for operation to be straight; all said lines to intersect two circular arches described upon vertical planes, transverse to an axis from which said arcs are generated, said axis to be parallel to the before-mentioned horizontal surface. The radius of that arc which is nearest the rear end of the mould-board to be about double the radius of that arc which is nearest the front end of the mould-board. The distance between the vertical transverse planes upon which said arcs are described to be about equal to the radius of the smaller arc.

Second, in combination with a plough mould-board constructed as described in the preceding claim, a rim or flange *m*, for the purpose of rendering the rear edge of the mould-board more durable.

Third, in combination with a plough mould-board constructed as claimed above, a sward cutter V, attached to the plough share, and secured to the standard by a removable bolt.

Fourth, in combination with a plough mould-board a cross-bar constructed with feet, as shown at Fig. 6, for the purpose of more rigidly attaching the rear end of the beam to the rear end of the mould-board.

Fifth, in combination with a plough mould-board a land-side arm N, constructed in a trough-like form and fitted to the land-side with a dovetailed joint, for the purpose of attaining greater security and facility of attachment.

No. 41,998.—G. R. Huntley, Taunton, Mass.—*Wringing Machine.*—March 22, 1864.—This device is composed of a stand having a slot in its upper part for the reception of the roller journals, and provided with legs to fit over the sides of the tub, the outer leg having hinged to it a lever provided with a thumb-screw, by which it is secured to the tub. The journal of the lower roller turns on a friction wheel attached to the stand, and a sliding box is placed on the journal of the upper roller, being pressed down by a hook extending through a flange on the stand.

Claim.—The stands N, with legs L and M, lever E, rollers R R, friction wheel G, box B, rod A, flange K, and spring C, arranged in the manner described for the purpose set forth.

No. 41,999.—Gustavus A. Jasper, Charlestown, Mass.—*Apparatus for preventing the loss of Sugar.*—March 22, 1864.—From excessive ebullition during the process of evaporating sirups, particles of sugar are sometimes carried over with the vapor in the vacuum pan. The object of this invention is to prevent the loss of the sugar thus occasioned, and it consists in the employment of a vessel D, provided with a float, which is interposed between the vacuum pan and the condenser. By the accumulation of liquid in the vessel D the float rises and closes the mouth of a tube properly fitted, so that the pumps cease to draw vapor or air from the vacuum pan, when the pressure at once stops and the ebullition ceases.

Claim.—The combination of the vessel D, its float F, and pipe E, with the vacuum pan A, its conduit C, and the condenser B, the whole being arranged substantially in manner and so as to operate as and for the purpose hereinbefore specified.

No. 42,000.—Benjamin F. Joslyn, Stonington, Conn.—*Breech-loading Fire-arm.*—March 22, 1864; antedated March 11, 1864.—This invention consists in the employment of a rod upon one side of the barrel, and arranged to slide longitudinally in an opening in a collar at the rear end of the barrel. One end of the said rod is bent so as to catch inside the collar or enlargement of the cartridge, so that on elevating the breech the rod will be moved forward and push the cartridge a limited distance from the rear of the barrel, when it can be removed by the fingers.

Claim.—The sliding rod H, arranged in respect to the metallic cartridge and operated by the movable breech of a breech-loading fire-arm, substantially as and for the purpose herein set forth.

No. 42,001.—Sylvester Kent, Providence, R. I.—*Washing Fluid.*—March 22, 1864.—The nature of this invention is explained by the claim.

Claim.—As a new article of manufacture, with the within written name and title, substantially the within-described combination of potash, sal ammoniac, and salts of tartar, in solution, as and for the purpose specified.

No. 42,002.—William M. Kepler, Cincinnati, Ohio.—*Cooking Range.*—March 22, 1864.—This invention consists in leading the hot-air pipes which connect the hot-air chambers upon each side of the fire box with the ovens, behind the range, so as to enable connexions to be made with them to conduct the hot air into other apartments. The pipes first pass out of the stove and then return back into the ovens.

Claim.—The arrangement of the hot-air chambers G G at the sides of the fire box, and connecting them with the ovens B B by pipes that first pass out of the stove, and then return back into the ovens, so as to heat said ovens, and offer facilities for connecting with the hot-air chambers or passages, and for the purposes specfied.

No. 42,003.—Isaac Lamplugh, Springfield, Ill.—*Apparatus for Shearing Metals.*—March 22, 1864.—This invention consists in curving the standards which at one end of the apparatus serve to support, and at the other end to guide, the vibratory beam which carries the upper shear blade. The shear blades are arranged with their cutting faces, not in the same plane with, but at an angle to, the plane of vibration of the upper beam, in such a manner that, owing to the combination of the curved standards with the oblique shear blades, the apparatus will permit longer and wider sheets of metal to be cut than has hitherto been practicable with apparatus of this character.

Claim.—First, a tool-holding machine consisting of a bed B, curved standards C *c*, lever D, and longitudinal braces *f f*, in combination with the diagonal shears *e e′*, all arranged and operating substantially as described.

Second, a machine for shearing metal, &c., constructed and operating substantially as described.

No. 42,004.—Isaac Lamplugh, Springfield, Ill.—*Apparatus for Shearing Metals.*—March 22, 1864.—This invention consists of a frame having two single plate jaws, one of which is fixed rigidly to standards, and the other is pivoted at one end to one of said standards and operated at the opposite end by jointed levers.

Claim.—First, the single plate machine, composed of the perpendicular standards A A′, longitudinal brace B, stationary jaw C, and the movable jaw D, with its guides *d d*, all combined, constructed, and arranged substantially as and for the purposes described.

Second, the application of the punching, shearing, or bending tools to the single plate jaws C D, in combination with the guides *d d*, substantially as set forth.

No. 42,005.—William P. Lathrop, Winchester, Conn.—*Machine for Rolling Knife Blades.*—March 22, 1864.—In this machine the roller dies are so constructed that when a plate of metal of sufficient width for two blades is passed between them they will impart to it the proper taper form from one end to the other, will swage the two edges to a thickness suitable for the back of a blade, and will at the same time reduce the central portion of the said plate to as little thickness as practicable to correspond with the edge of a blade, so that when the blank shall afterwards be divided in the direction of its length through the central or thinned portion two blade blanks will be formed.

Claim.—The combination of mechanism for making knife blades economically, expeditiously, and in a way not now in use, as herein described, or by any other mode substantially the same.

No. 42,006.—Gustav Adolph Liebig, Baltimore, Md.—*Treating and Preparing "Navassa Guano."*—March 22, 1864.—This invention consists in a method of separating the particles existing in the "Navassa guano" in its crude state and cleansing the same, so that the particles designed for use as guano may be free from the objectionable qualities, while the other particles may be used in the manufacture of paints and other articles to which it is adapted.

Claim.—First, the separating process, herein indicated, for cleansing and purifying "Navassa guano."

Second, the separate articles herein described as articles of manufacture, trade, or commerce, derivable from "Navassa guano," in the manner indicated, or by other analogous means.

No. 42,007.—Charles B. Loveless, Syracuse, N. Y.—*Petroleum Stove.*—March 22, 1864.—This invention consists in an arrangement of devices designated in the claim, which do not admit of a limited description.

Claim.—First, the use, in vapor stoves, of a valve seat and valve made of steel, in the pipes through which the supply of the fluid takes place, in combination with the supplying and vaporizing pipes, substantially as above described.

Second, the retort pipe *g* and vapor pipe *h*, constructed, arranged, and operating substantially as set forth, in combination with the retort N.

Third, the additional vapor pipe R and burner O′, in combination with the protected vapor pipe *h*, for the purposes set forth.

Fourth, the deflector-plate B, constructed and operating substantially as described, for the purpose of forming the hot-air chamber 1, and of forming the escape-chamber 2, as specified.

Fifth, the hot-air chamber 1 around the cylinder E′, constructed substantially as set forth.

Sixth, the stove-plate A, constructed substantially as described, with escape holes *a*, in combination with the top casing C, arranged and operating as set forth.

Seventh, the annular air-heating or hot-blast chamber 4 surrounding the air-mixing chambers 3, constructed and operating substantially in the manner and for the purposes specified.

Eighth, the cap F, in combination with rods *b*, for the purpose of securing the cylinders D and E to the under side of the base plate.

Ninth, the valve P, constructed, arranged, and operating substantially as set forth, when in combination with the vapor pipe *h*, the whole operating substantially in the manner and for the purposes specified.

No. 42,008.—William M. Mason, Polo, Ill.—*Device for Loading and Unloading Corn Shocks.*—March 22, 1864.—This invention consists in the employment of one or more tilting frames attached to the sides or rear end of a wagon-bed, so that by placing the wagon by the side of a corn shock the said frame can be thrown into a vertical position, when, by means of a rope and windlass, the shock can be bound to the frame, and the frame then be tilted over upon the wagon bed for transportation. By tilting the frame back to a vertical position the binding rope can be released, and the shock left standing as at first.

Claim.—The combination of two or more tilting frames with the horizontal bed frame of a cart or wagon when constructed and arranged substantially in the manner described, for the purposes set forth.

No. 42,009.—R. W. McClelland, Springfield, Ill.—*Harvester.*—March 22, 1864.—This invention consists in providing the cutter-bar with a flange or shoulder at each end, and securing the removable head and cutter sections between the said shoulders by means of a series of square-shouldered bolts. Combined with the shouldered sickle-bar is a series of removable blades and a removable head secured thereto.

Claim.—In combination with a shoulder at each end of the sickle-bar, the square-shanked rivets *d* and the sickle sections B with their holes and slots, for the purpose of holding said sections to the bar in a direction transverse, as well as longitudinal, to said bar, and this whether the flange *h* and groove *i* be used or not, substantially as described.

Also, in combination with a shouldered sickle-bar, the series of removable blades and the removable head secured thereto, substantially as and for the purpose described.

No. 42,010.—H. A Meriam, Titusville, Penn.—*Instrument for Double Seaming Tin Cans.*—March 22, 1864.—This device consists of a bar of steel, or other suitable metal, bent in the form shown in the engraving, with the rear end bent at right angles to the shank, so as to fit into a bench or other support. When in use the instrument is inserted into a hole in the can, so that its forward end will rest against the inner angle of the can and serve as a base against which to hammer in seaming.

Claim.—The instrument B, formed with the head *f*, curve *h*, and shank *g*, substantially as described, when used for seaming a square or rectangular can A, in the manner herein set forth.

No. 42,011.—William Morton, Woodhull, N. Y.—*Drilling Machine.*—March 22, 1864.—In this apparatus the drill is pressed down upon the plate by a lever vibrating upon a pin, which passes through one end of it and having a weight attached to the other. To regulate the pressure a stirrup suspended from the upper cross-beam of the frame embraces the lever, and is provided with a wheel hand screw, which passes up vertically through the lower cross-bar of the stirrup, and receives in a socket formed upon its upper end a cone-shaped pivot attached to the under side of the lever.

Claim.—The arrangement and combination of the pressing lever D, the adjustable hanging yoke *a*, the regulating screw *f*, with its socket *n*, and cove point *i*, operating substantially in the manner as and for the purposes herein set forth.

No. 42,012.—David Munson, Indianapolis, Ind.—*Paper Ruler.*—March 22, 1864.—This invention consists in combining a paper cutter and ruler in one article, and providing it with an adjustable roller on the under side, by means of which the ruler edge can be readily elevated to any desired distance from the paper to prevent blotting, &c.

Claim.—The adjustable ruler and paper cutter when combined in one article and constructed substantially as shown and described for the purposes set forth,

No. 42,013.—Lucius H. Muzzey, Springfield, Ohio.—*Barrel Churn.*—March 22, 1864.—This invention consists in securing one of the ends of two or more rods to one side of the curb surrounding the opening of the churn, while the opposite ends, after being passed around the barrel, enter holes in the opposite side of the curb, when they are provided with nuts for tightening the rods to any desired extent and to compensate for shrinkage, &c.

Claim.—The combination of the curb, the tightening screw hoops, and the barrel of the churn, when constructed, arranged, and operating substantially in the manner described and for the purposes set forth.

No. 42,014.—William Nevins, Irving, N. Y.—*Potato Planter.*—March 22, 1864.—This invention consists in providing the potato planter with adjustable angular wings, which hold the shares for making the furrow and covering the seed, the same being hinged to the main beam in such a manner that their outer edges or sides can be elevated or depressed for the purpose of forming a ridge or furrow for the reception of the seed when desirable. The planting device consists of a hopper having a revolving roller provided with teeth for the purpose of carrying the potatoes forward and downward over a spring plate to the opening in the bottom of the hopper, the said roller being also provided with a shield plate at its rear upper side, which is vibrated by means of the roller teeth so as to shake down the potatoes in the hopper.

Claim.—First, the combination of a potato planter E′, or equivalent, with a cultivator provided with adjustable angular wings B B, by which a ridge is formed and the seed planted on the same, substantially as herein set forth.

Second, also the combined construction and arrangement of the potato planter proper, consisting of the roller K provided with teeth *u u*, the spring *v*, endless chain L, driven by the traction wheel M, and the shield *z*, vibrated by means of the roller teeth so as to shake down the potatoes in the hopper, the whole operating substantially as herein specified.

No. 42,015.—Barak T. Nichols, Newark, N. J.—*Saddle.*—March 22, 1864.—This invention consists in providing the saddle with a fender or swinging flap, to the bottom of which the stirrup is attached, and the fender is connected with the girth in such a manner as to cause the latter to be tightened when a downward pressure is applied to it.

Claim.—First, the fender or swinging flap B when the stirrup is pendent to the bottom thereof, substantially as described, and thereby dispensing with the long stirrup straps.

Second, the combination of the said fender B with the girth D in such a manner as that when a downward pressure is applied to the fender it will have the effect to tighten on the girth, substantially as described.

No. 42,016.—Marcus P. Norton, Troy, N. Y.—*Office Desk and Chair Combined.*—March 22, 1864.—This invention consists in the employment of a frame hinged to the desk, upon which frame is a track; upon this track a chair is made to run, so that it can be readily moved to and from the desk by the occupant.

Claim.—The employment of the track frame C hinged to the desk A, in the manner substantially as and for the purposes herein described and set forth.

Also, the combination of an office chair with an office desk by means of the track D D, or its equivalent, substantially as and for the purposes herein described and set forth.

No. 42,017.—Harrison Ogborn, Richmond, Ind.—*Bee-hive.*—March 22, 1864.—This invention consists in constructing the hive with a feeding box for feeding weak swarms, over which is fitted a board forming part of the movable bottom to the brood box. The moth drawer and brood box are separated by a wire cloth. An opening in the front of the hive communicates directly with an opening in the moth drawer, on the bottom of which rest convex metallic strips, under which latter the moth and worms hide, so that they may be readily reached and destroyed.

Claim.—First, the convex pieces N in combination with the moth entrance M, movable bottom board H and G, moth drawer E, and protector J, when arranged together in the manner and for the purposes set forth.

Second, the feed box F, entrance I, and slide U, in combination with groove Q, wedge R, cleat O, movable bottom H and G, when arranged, combined, and operated as herein set forth.

No. 42,018.—John Peak and F. S. Pinkham.—*Burial Case.*—March 22, 1864.—This invention consists in combining an outer case of wood with an inner air-tight casing of sheet metal, from the upper edge of which projects a channel for holding cement, and is made to receive a lip on the cover. A self-sealing joint is formed by means of a groove or channel in the casing, in which is made to fit a peculiarly shaped lip on the lid of the cover.

Claim.—First, combining an outer case of wood with an inner air-tight casing of sheet metal, having a channel for cement projecting from its upper edge to receive a lip on the cover, all as set forth.

Also, forming the self-sealing joint by means of the groove or channel in the receptacle, and the peculiar shaped lip on the lid or cover, in conjunction with a proper cement, as described.

No. 42,019.—F. M. Pearl, Daviess county, Ky.—*Mode of Securing a desirable Color to Tobacco.*—March 22, 1864.—This invention consists in the employment of an implement similar to a pair of shears, one blade of which has a sharp point, while the other blade has a half circle formed on its edge for encircling a stalk of tobacco, by means of which an incision is made entirely around the plant, the sharp point being used for puncturing the stalk.

Claim.—The adaptation of the instrument to the deadening of tobacco in the parts marked A A and B, and the deadening of tobacco in the field, as heretofore described, by belting or cutting around the stalk, and piercing the stalk in or near the belt or cut, to secure a desirable color, lessen labor, &c.

No. 42,020.—John H. Pitezel, Three Rivers, Mich.—*Saddlers' Stitching Horse.*—March 22, 1864.—This invention consists in the combination of two jaws, one being fixed and the other pivoted, and attached to the seat by a single fastening having an extension arm, and combined with toggle joints or levers operated by a treadle and strap connexion, a toothed plate serving to keep the jaws closed; the whole being so arranged that a workman sitting upon the horse can close the jaws by depressing the outer ends of the treadle, and upon releasing the same the jaws are forced open by means of a spring acting upon the lower ends of the hinged jaws.

Claim.—First, the combination of fixed and pivoted jaws C D with the toggle joints J J, treadle N, and strap connexion S, constructed and operating substantially as described.

Second, hinging the movable jaw D to a jaw C, which has an extension arm C′, in combination with toggle levers constructed and operating substantially as described.

Third, providing for attaching the two jaws C D to the seat by a single fastening, substantially as described.

Fourth, the two extended arms of jaws C D, in combination with the toggles J J, strap connexion S, treadle N, toothed plate *m*, catch plate *j*, and spring L, all operating substantially as described.

No. 42,021.—Daniel Reed, Derby, Conn.—*Soap Cup.*—March 22, 1864.—This invention consists in attaching to the side of a soap cup an elastic handle, so formed as to enable the cup to be hung upon the side of a wash-tub, in connexion with a curved adjusting device to cause the cup to be retained in a level position.

Claim.—The combination and arrangement described of the elastic handle C, curved adjuster D, with a cup A, for the purpose substantially as specified.

No. 42,022.—Henry Sandhop, New York, N. Y.—*Pavement Driver.*—March 22, 1864.—This invention consists in the employment of a heavy weight or rammer, which is attached to a rope wound around a drum of conical form. Attached to the drum is a movable flange upon the same axle with the drum, and so arranged that when the weight is raised to a sufficient height, by means of guides, the flange is caused to separate from the drum, when the rope is released, and the weight consequently falls. The apparatus is mounted on wheels, so that, as it is drawn along, the operation of the rammer may be continuous.

Claim.—A rammer so constructed as to be alternately raised and dropped by the action of a continuously-revolving shaft, substantially as described and for the purpose set forth, when the whole mechanism is mounted on a carriage, substantially as set forth.

Also, a conical drum, having a movable flange, for the purpose of holding a rope upon the drum, and subsequently permitting it to slip off, substantially as described.

No. 42,023.—Warren A. Simonds and Albert H. Silvester, Boston, Mass., and Charles Caldwell, Chelsea, Mass.—*Apparatus for Regulating the Pressure of Gas.*—March 22, 1864.—The object of this invention is to regulate the supply of gas to a burner when the gas is supplied from a reservoir or tank in which it is placed in a compressed state for transportation, which is effected by means of a small bellows gas-holder interposed between the outlet from the reservoir and the burner pipe. The said holder is connected by a tube with the reservoir, which tube is provided with a valve that is closed by means of a chain and a system of levers when the holder is filled with gas. As the gas is consumed the top of the bellows falls and the chain is relaxed and a weight or leaden ball causes the valve to open and let in another supply of gas from the reservoir.

Claim.—A regulator, with a double leverage, connected to the rod of the valve *n*, as herein described.

Also, the connexion of a chain to the end of lever 5, near ball 7, also to the centre of the oval top L, to be operated substantially as and for the purpose herein set forth.

Also, the attachment of a leaden ball to one end of lever 5, for the purpose as herein specified.

Also, the attachment of the diaphragm F to the rim of top L and to the screw ring *a*, the same to operate as herein set forth.

No. 42,024.—John D. Smedley, Chicago, Ill.—*Indicating Funnel.*—March 22, 1864.—At the base of the funnel is placed a soft packing to prevent the escape of air, and into the receiving vessel descends, for a short distance, a tube, having its sides perforated, in order to permit the descent of the liquid. Below these perforations is a disk, having a small hole in its centre, from which projects upwards a tube to the level of the top of the funnel, and made tapering at or near its upper end. The escape of air through this narrow tube causes a whistling noise which ceases when the vessel is nearly full, and thus indicates the amount of liquid in the same.

Claim.—First, in combination with a fluid-filling funnel A, and conduit B, and side passages C, and floor *s*, any air-tight packing P at the base of the funnel, as described, and a tube T, with a contraction at the top or in any part thereof, so constructed as to make a distinct sound when the air from the cask is conducted up through it, as described.

Second, the combination of air-tight packing at the base of a funnel, and a tube through the conduit of a funnel, by which the air displaced by the liquid when entering the cask escapes, substantially as described.

No. 42,025.—Lewis H. Spear, Braintree, Vt.—*Mode of Preserving Animal and Vegetable Substances.*—March 22, 1864.—In this process a perfectly neutral solution of sulphite of soda or other alkali is first prepared free from sulphur particles. The sulphur is burnt by applying heat beneath it with abundance of air. The fumes are conducted into a revolving barrel containing sal soda in a saturated solution. The sulphite so prepared is the liquid which is to be used for preserving purposes.

Claim.—The use of sulphite of soda or other alkaline sulphites for preserving vegetables, fruits, jellies, meats, oysters, or other fish, substantially as described.

No. 42,026.—Charles M. Spooner, New Bedford, Mass.—*Composition for Stove Polish.*—March 22, 1864.—This composition consists of a mixture of plumbago, yellow soap, candle pitch, litharge, and water.

Claim.—The composition or stove polish, made of the ingredients and in manner substantially as hereinbefore specified.

No. 42,027.—George Stephenson, Zionsville, Ind., and John J. Crider, Greenfield, Ind.—*Huller and Screen.*—March 22, 1864.—This invention consists of a rotating frame, covered with wire cloth, into which grain or seed to be cleaned is introduced. The slats which form the circumference of the frame are armed with iron pins which project inward, and the central shaft is also armed with similar pins projecting outward. Within the screen are arranged separate breakers or independent armed wheels which operate in connexion with the pins above named.

Claim.—First, the revolving breaker C, armed with pins *g′*, in combination with pins *g*, projecting from the central shaft *b*, and slats or bars *c*, substantially as described.

Second, operating the breaker C by the fixed sheave D, core *k*, and sheave *h*, substantially as described.

No. 42,028.—U. D. Taylor, Fort Madison, Iowa.—*Coal Oil Lamp.*—March 22, 1864.—This invention consists in the application of a ground glass stopper to glass lamps when coal oil is used, for the purpose of preventing the escape of the odor from the oil.

Claim.—The use of glass ground stopple A, in connexion with a glass lamp, as and for the purpose substantially as herein set forth.

No. 42.029.—**James Thompson**, Vevay, Ind.—*Churn.*—March 22, 1864.—This invention consists in the application to a wooden box-churn of a metallic bottom in such a manner as to admit of its ready removal, and forms, when in place, a chamber for the reception of hot or cold water, as may be desired, for regulating the temperature of the cream. The dasher consists of an octagonal or other prismatically formed shaft, provided with chambered straight-sided boards applied one to each face of the shaft and overlapping each other. The dasher is journalled eccentrically within the churn.

Claim.—First, the tempering chamber C in the described combination with the movable metallic floor B, wooden bottom A′, and cover *c*, all constructed, arranged, and applied in the manner and for the purposes herein specified.

Second, the manner of attaching and detaching the metallic floor B by means of the devices *a a′ b b′* D, as herein shown and explained.

Third, the dasher, consisting of an octagonal or other prismatic shaft G, with chambered straight-sided boards H H H, applied one to each face of the shaft, and overlapping each other, all as represented and described.

Fourth, the combination, with the retractable shaft M, bridge S, and stuffing-box P, of the tapering ring T, formed and applied in the manner and for the objects specified.

Fifth, the arrangement of a single rotary dasher G H, journalled eccentrically within the tub, as described.

No. 42,030.—**Pelatiah Thompson**, Springfield, Ohio.—*Barrel Churn.*—March 22, 1864.—This invention relates to a barrel churn of that class which have a large opening in the side to admit of the ready removal of the dasher, and it consists in providing a means for keeping the barrel tight at its central portion where the hoops cannot pass entirely around the barrel on account of the opening, which is effected by applying to the ends of the short or broken hoops rigid hooks which catch over the edges of the opening and hold the hoops securely in place.

Claim.—The hoop *c*, provided at each end with a hook D, in combination with a cask having a large orifice in its side, substantially as described and for the purpose set forth.

Also, the coaming F, in combination with the hoop *c* and hook D, substantially as described.

No. 42,031.—**Homer Twitchell**, Naugatuck, Conn.—*Pocket Knife.*—March 22, 1864.—This invention relates to a method of confining the spring in a handle of metal cast in one piece, and dispensing with the use of rivets. In the back of the handle of a knife with one blade is formed a slot in which the spring is fitted; the latter, at its end, abutting against the solid metal of the back, whence, being deflected inwards, it is projected along the inner curved surface of the back, and has its extremity bent around a stud cast in the handle. When the knife has a blade at each end the spring is constructed with three bosses upon its outer surface, one at each end and the other at about its centre, which bosses pass through apertures formed in the otherwise solid back, so that after the blades are inserted the spring will be securely held in place.

Claim.—The combination of the handle, spring, and blade, when the whole is constructed and fitted to operate substantially as herein described.

No. 42,032.—**Peter H. Vander Weyde**, New York, N. Y.—*Gas Alarm.*—March 22, 1864.—This invention consists of a lower cylinder of wire gauze, to the upper end of which is attached a metallic tube. Over this tube is arranged a jointed gas-burner, and below the wire gauze cylinder is another burner. The stop-cock of the latter is connected in any suitable manner with the door or window of a house, so that should the same be opened the gas will be let on and cause a shrill continued sound sufficiently loud to alarm the inmates of the house.

Claim.—The construction of a gas alarm, for the protection of property, in the manner and for the purpose above specified.

No. 42,033.—**A. J. Walker**, New York, N. Y.—*Wardrobe Hook.*—March 22, 1864.—This device consists of a series of sustaining links, to which are attached pendent hooks, all so constructed as to admit of being folded together in a small space for transportation.

Claim.—A series of pendent wardrobe hooks arranged on a sustaining bar or series of sustaining links, forming a portable clothes-hanging apparatus that will take up but little space when packed, as set forth.

No. 42,034.—**Sheldon Warner**, Enfield, Mass.—*Saw for Felling Trees.*—March 22, 1864.—This invention consists in driving into opposite sides of a tree, at a suitable height from the ground, two dogs or staples, to which are attached struts, by means of clamps. To the upper ends of these struts are hinged two bars, so as to swing outwardly from the tree, and to these bars are attached, by means of a thumb-screw in a slot, two hangers, which sustain the saw. By swinging the hangers to and from the tree, the saw is caused to cut its way through the same.

Claim.—The combination of the dogs D D, the struts C C, and the hangers B′ B′, as arranged and to be applied together and to a saw and a tree, substantially as and for the purpose as specified.

No. 42,035.—**S. Lloyd Wiegand**, Philadelphia, Penn.—*Envelope.*—March 22, 1864; antedated March 9, 1864.—This invention consists in forming the envelope with narrow lateral flaps, which fold over and close the ends of the envelope. The ends of the flaps are extended a short distance, and are made to adhere when pasted to the interior surface of the lapel.

Claim.—The form of envelope blank, or the equivalent thereof, when constructed with the extensions D and D′, and used substantially as hereinbefore set forth, represented, and described.

Also, the forming of the narrow lateral flaps C and C′ on the back of envelopes, having lapels formed on the front opposite side thereof, in the manner hereinbefore set forth and described.

No. 42,036.—**Charles H. Willcox**, New York, N. Y.—*Sewing Machine.*—March 22, 1864; patentsd in England May 13, 1862.—The first clause of the claim explains itself. The method referred to in the second clause consists in first making the buffer or pad in long strips, which are then cut in sections as desired; one of these strip sections is then introduced into the recess on the left-hand side of the eccentric and forced in so as to fit the same tightly, thus assuming the shape of the recess and leaving a curved side where it comes in contact with the eccentric.

Claim.—First, the application and use of leather, or other sound-deadening material, interposed between those parts of the feed mechanism of sewing machines which strike against or come in contact with each other when at work, with a view to the prevention of noise, as hereinbefore described.

Second, the method herein described of forming the pad or buffer R, by cutting strips of the form described and introducing the same into the feed-bar slot, substantially as set forth.

No. 42,037.—**D. S. Wood**, Albany, N. Y.—*Axle Box for Railroad Cars.*—March 22, 1864.—This invention consists in the employment of a device for closing and keeping tight the box by means of a spring arranged in the lid or cover, and bearing upon a pressure bolt, a cap or enlargement being provided in the lid or cover to protect the bolt from dust, &c.

Claim.—The combination of the pressure bolt *i* with the cover B and cam *d*, arranged and operating substantially in the manner and for the purpose set forth.

Also, in combination with the spring pressure bolt *i* and cover B, the cap or enlargement *g*, for protecting the bolt from dirt or other obstructions, substantially as described.

No. 42,038.—**John Wood**, Brooklyn, N. Y.—*Pile Driver.*—March 22, 1864.—This invention relates to a method of applying a steam hammer to the driving of piles, and it consists in a means for causing the steam cylinder and hammer to follow up the pile as the same is driven by the action of the hammer.

Claim.—A steam cylinder and hammer fitted in slides and connected by ropes or chains with the pile, substantially as specified, so that the cylinder is lowered by the act of driving the pile, and maintains a position sufficiently near to the top of the pile to cause the hammer to be operative thereon, as set forth.

No. 42,039.—**A. Ely Beach**, Stratford, Conn.—*Street Railroad.*—March 22, 1864.—This invention consists in a method of propelling street cars by stationary engines placed at the end of or along the route, the propelling cable running in grooves between the rails, and used in connexion with a device attached to the car, and fitting into the links of the cable, through the grooves, which device is raised or lowered by actuating the brakes.

Claim.—First, having the rail or track upon which the car wheels run so grooved, made or arranged, whether in one or more parts, that the said rail or track shall form a receptacle or protection for the propelling cable, substantially as herein shown and described.

Second, the combination with one or both of the rails of a railroad track of a propelling cable, in the manner substantially as herein shown and described.

Third, the employment between the bottom of the car and the propelling cable of the connecting device H, or its equivalent mechanism, operating substantially as herein shown and described.

Fourth, the combination of the cable-connecting devices, or their equivalent mechanisms, with the axles or truck parts of the car, so that the said cable-connecting devices will not be effected by the movement of the car body upon its springs, substantially as herein shown and described.

Fifth, the combination of the cable-connecting device with the brake of the car, so that on the movement of the brake the cable-connecting device will be operated, and vice versa, substantially as herein shown and described.

Sixth, the combination of the cable-connecting device with the ordinary brake lever or shaft P which operates the brake, so that the said shaft will serve the double function of operating the brakes and also the cable-connecting device, substantially as set forth.

Seventh, the employment for the propulsion of street cars of a cable composed of jointed bars, having heads of larger size than the body of the bars, substantially as herein shown and described.

Eighth, the arrangement or construction of the propelling cable with friction rollers in or upon it, substantially as herein shown and described.

Ninth, the construction of the links of the cable in the form of torsion springs, substantially as herein shown and described.

No. 42,040.—**J. A. Bailey**, Brooklyn, N. Y., and **John J. Speed**, Gorham, Me.—*Machine for Covering Wires for Telegraphs.*—Issued March 22, 1864; patented in England December 14, 1863.—This invention consists in so covering or encasing wire to be used for telegraphic or other purposes with any material capable of being made into twine or other cordage, or capable of being wound around a wire, that the article used as a covering shall be compressed into a firm solid mass so hard and compact as to resist the action of moisture upon it for a considerable length of time, for the purpose of improving the insulation of the wire.

Claim.—The compression, longitudinally, in conjunction with the winding spirally upon the wire, of any fibrous material, such as flax, hemp, jute, cotton, or other substance capable of being made into cordage, and whether saturated or unsaturated with any non-conducting substance, for the purposes set forth.

Also, the screw-shaped cylinder C, in combination with the receiving cylinder D, or their equivalent, for the purpose of winding and compressing the cordage upon the wire for the purposes set forth.

No. 42,041.—**Henry Blackmore**, assignor to himself and **Adam Apple**, Pittsburg, Penn.—*Car Coupling.*—March 22, 1864.—This invention consists in the employment, in combination with a coupling box, of a hinged pin, so constructed that the draught bar will push the hinge piece of the said pin back when it enters the coupling box, and as soon as the draught bar has entered the cavity of the coupling box the movable part of the coupling pin will drop down into the link and securely lock it in place.

Claim.—The use, in combination with a coupling box, of a hinged pin, so constructed, substantially as described, that the draught bar will push the hinge piece of the pin back when it enters the coupling box, and that so soon as the draught bar has entered the cavity of the coupling box the movable part of the coupling pin will drop down into the draught bar or link, thus securely locking it in place.

No. 42,042.—**Leander W. Boynton**, Hampton, Conn., assignor to himself and **Levi L. Tower**, Cambridgeport, Mass.—*Washing and Wringing Machine.*—March 22, 1864.—This invention consists in arranging two elastic rollers within a wash tub in such a manner that they may be lowered into the tub and used for washing the clothes, and afterwards raised out of the water and used for wringing the clothes.

Claim.—The improved washing and wringing machine, made substantially as described, viz., with two rollers so combined with their tub as to be capable of being moved vertically within the same, so as to enable them to be employed either for washing clothes in the tub, or subsequently expressing their fluid contents from them, substantially as specified.

No. 42,043.—**Henry S. Brown**, New York, N. Y., assignor to **Alfred Arnold**, Jersey City, N. J.—*Gathering Mechanism for Sewing Machines.*—March 22, 1864.—Upon the outer end of the presser foot is placed a removable shoe which so elevates the foot that the feeding device will act upon that part only of the cloth which is griped between itself and the shoe, the cloth being beyond this shoe, lying loosely and free, to be pulled backwards. During the feeding motion the cloth is, as usual, so carried forward that the point where the last stitch was made is beyond the range of the needle; upon tightening the succeeding stitch, the mere pull of the thread effects a gather by pulling backward a portion of the cloth previously advanced, and contracting it within the stitch as it is tightened, thus causing the thread to pass through a single thickness only of the material, instead of through three thicknesses, as is usual.

Claim.—First, the making of gathers by the action of the needle and thread in the manner and by the devices herein described.

Second, the gathering of a piece of cloth and fastening the gathers in place by the action of the stitching apparatus or sewing machine, when the feeding mechanism is arranged and operated relatively to the stitching apparatus, substantially as herein described.

Third, the presser foot or rest D, or its equivalent, substantially as herein described, and for the purpose herein specified.

No. 42,044.—**John B. Collen**, assignor to himself, **A. Rex**, and **J. T. Rowand**, Philadelphia, Penn.—*Water Injector.*—March 22, 1864.—This invention consists in combining with an injector, operating upon the "Gifford" principle, a cock K for the purpose of allowing any air contained in the instrument to pass out, thus facilitating its starting and insuring its immediate working. Combined with the above is a chamber containing a valve and stem, which latter serves to draw off any water that may remain in the chamber after the instrument has stopped working, and the valve serves to prevent any reflux of water from the boiler or other reservoir to which it may be connected.

Claim.—First, the combination of an injector, constructed substantially as described, with a cock K, or its equivalent, for the purpose specified.

Second, the combination of the valve chest F, with a valve I, rod J, and cock K.

No. 42,045.—**William R. P. Cross**, assignor to himself, **Samuel Adams**, Jr., and **C. H. Breed**, Portland, Me.—*Cone and Chimney Elevator.*—March 22, 1864.—This invention consists in attaching to the lamp cone a curved, sliding, hinged arm, together with supporting arms, in such a manner as to enable the chimney to be raised off from the burner and moved to one side of the flame, for the purpose of trimming the wick.

Claim.—First, the curved, sliding, hinged arm *g*, in combination with a lamp cone *d* and hinged supporting arms *i*, substantially as and for the purpose described.

Second, so forming and applying the arm *g* to the burner and cone that it serves the two-fold purpose of a support and a lifter for the cone, substantially as described..

No. 42,046.—**Caleb V. Fleetwood** and **Edward W. Morten**, Vincennes, Ind.—*Baling Press.*—March 22, 1864.—This invention consists in so constructing a vertical frame and connecting with it a removable tramper frame and a reversible driving wheel as to admit of its being readily converted into a horizontal press. In the interior of the frame are two stirrups fitting in vertical grooves, and over the top of the stirrups are arranged two hooks projecting from the top of the tramper when the latter is to serve as a follower. The doors G G′ are each provided at their free edges with clamps, having claws, for the purpose of preventing the press from spreading during the pressing operation.

Claim.—First, the arrangement of main frame A B C D E, removable tramper frame K, and reversible driver Y, the whole contributing a provision for converting a vertical into a horizontal press, and *vice versa*.

Second, the combination of the tramper N and hooks L R, with the stirrups O O, adapted to spring outward, so as to be clear of the tramper in the act of beating, as set forth.

Third, the provision of the hooked bars or clamps H H′ upon the doors G G′, to keep the press from "spreading" during the pressing action, as set forth.

No. 44,047.—**H. Hochstätter**, Grand Duchy of Hesse Darmstadt, Germany, assignor to **Isaac R. Diller**, Springfield, Ill.—*Gunpowder.*—March 22, 1864.—This powder consists of a composition of chlorate of potash and carbon combined in various proportions, to which may be added for particular purposes other substances, such as sawdust, barilla, nitrate of potash, carbonate of soda, and nitrate of lead.

Claim.—The manufacture of an explosive compound or composition of the materials and in the manner substantially as herein set forth and described.

No. 42,048.—**Robert Lakin**, Ardwick, England, **John Wain**, Manchester, England, assignors to **Matthew Curtis**, Manchester, England.—*Self-acting Mule.*—March 22, 1864; patented in England December 24, 1862.—In this machine there is used, in connexion with the radial arm and screw of the "Roberts" mule, a slightly conical drum, having thereon a spiral thread; a catch on the carriage engages with this thread, and, turning the drum and its shaft, causes a diminution in the "winding on." By means of another set of devices, motion is imparted from a shaft placed below the rim shaft to the scrolls which draw in the carriage, to the backing-off wheel, and to the change shaft, and, through the latter, to the cam-shaft thereon. A toothed spring brake on the carriage, the teeth of which may, at intervals, be made to engage with the teeth of a gear on the carriage, operates to prevent the rotation of the winding-on drum during a short period before the carriage has completed its outward run, and also after the carriage has commenced its inward run, and thus allows an interval between the commencement of the inward run and the commencement of the winding on, which interval may be varied in duration. The devices combined in the fourth clause of the claim are for the purpose of moving the carriage inwards at a slow rate while twisting at the head, the motion being determined by the form of the snail which acts when the catch box is in gear, the time being regulated by the incline.

Claim.—First, in combination with the radial arm B and screw A′ of a mule or twiner, the shaft D, the drum, with the spiral threads D′, the screw D 2 and skew wheel D 4, with working parts for regulating the winding on, substantially as herein described.

Second, the combination, in a mule or twiner, of the loose pulley F, the bevel wheel I′, the shaft I 2, the bevel wheel I 3, the friction box I 4 I 5, the bevel wheel I 6, the shaft J, the bevel wheel J 1, the pinion J 2, the wheel J 3, the shaft G, the scroll shaft H, and wheel H 2, substantially as herein described.

Third, the combination of the bracket or instrumental *a* (on the framing K) and the spring brake *b* (on the mule carriage) with the wheel or gear *d* of the mule carriage, the same being to operate as and for the purpose substantially as herein described.

Fourth, the combination and arrangement of the change shaft G of a mule, the worm M, the shaft O, the wheel P, the clutch box Q, the spring S, the hoop *u*, the snail R, the plate U, the incline *s*, the stud *x*, the plate *n*, and the brackets V and N, for moving a mule carriage, substantially as herein described.

No. 42,049.—**J. W. Martin**, assignor to himself and **Jonathan A. Martin**, Milton, Mass.—*Damper.*—March 22, 1864.—This invention consists in the combination of a stovepipe provided with a damper, and an outer pipe enclosing the same, and placing in the annular space between the two a spiral guide or deflector for the purpose of retarding the progress of the products of combustion in their passage through the said space.

Claim.—The improved draught regulator, consisting of the pipe B, the damper D, and the screw or helical partition C, as arranged together and within a smoke pipe, substantially as described.

No. 42,050.—**Calvin H. Paine**, assignor to **Charles S. Horton**, Providence, R. I.—*Carriage Jack.*—March 22, 1864.—This device is composed of a notched lifter applied to a standard in such a manner as to admit of its sliding upwards and downwards thereon, and provided with a lever and a roller or wheel, against the periphery of which the shorter arm of the lever is made to bear so as to force it and the lifter upwards. The jack is provided with a series of holes, and a pin, which projects from the lifter and serves to adjust the height required.

Claim.—The above described improved carriage jack, as not only constructed with its notched lifter B, arranged with and applied to its standard A, so as to be capable of being slid either upward or downward thereon, but as provided with an operating lever C and a roller D, or their equivalents, arranged together, and with respect to the standard and lifter, and applied thereto in manner and so as to operate substantially as explained.

Also, the improved jack, as so made and as provided with the series of holes *m m* and the adjustable pin *o*, or the mechanical equivalents therefor, arranged or applied to the notched lifter as specified.

No. 42,051.—**George H. Sellers**, assignor to the Phœnix Iron Company, Phœnixville, Penn.—*Machine for Straightening Iron Bars.*—March 22, 1864.—This apparatus consists of a long iron table, with a straight-edged flange attached to its surface near to and parallel with one of its lateral edges, and a carriage which may be moved to any point lengthwise of the table as the bends in the bar or beam may require, and which also carries a device for clamping the bent portion of the bar up against the straight-edged flange, and another similar device for clamping it down upon the face of the table. The bar or plate is forced and held against the straightening plate by means of a vertical or a horizontal screw.

Claim.—The straightening of plates, beams, or bars, as they come hot from the rolls, by means of a movable carriage working over or in connexion with a straightening plate, and having vertical or horizontal screw, or both, for forcing the plate, beam, or bar up against or between straight edges, substantially as described.

No. 42,052.—**Joseph H. Springer**, assignor to himself and **W. F. Weaver**, Philadelphia, Penn.—*Letter Box.*—March 22, 1864; antedated March 9, 1864.—This device consists of a box of any suitable exterior form, and having in the interior three inclined or curved plates arranged, as shown in the engraving, in such a manner, in relation to the opening for the admission of letters, as to prevent the withdrawal of the contents of the box through the said opening.

Claim.—A box furnished with a suitable door, and having in the interior the three inclined or curved plates D E F, arranged in respect to the opening for the insertion of letters, &c., as and for the purpose herein set forth.

No. 42,053.—**Felix Tylee**, assignor to himself and **Josiah S. Pond**, Cleveland, Ohio.—*Spring for Furniture.*—March 22, 1864.—This device consists in the employment of a spiral spring placed between two disks or blocks, and so arranged that the upper disk will turn horizontally, the two disks being connected by means of two cords, so that when the upper disk is turned the cords will twist together and cause the spring to contract.

Claim.—The tension cords D D, the same being secured to the base on which the spiral spring is supported, and extending up through, so as to connect with the cap or disk B, which by turning the disk twisting the cords together the elasticity of the spring is varied and regulated in the manner and for the purposes herein specified.

No. 42,054.—**William Watts**, **Fenn Willcox**, and **Daniel F. Tompkins**, Newark, N. J.—*Spike and Nail.*—March 22, 1864.—This invention consists in furnishing the neck of the ordinary fluted and twisted spike with longitudinal wings or pins projecting outward as far as the head, and a suitable distance down the body of the spike, for the purpose of preventing it from being turned or loosened by any strain to which it may be subjected.

Claim.—The combination of the flanges *a a a* in Fig. 1 with the twisted spike, Figs. 1 2 3, substantially in the manner and for the purposes described.

No. 42,055.—**Charles Webster**, **William Camp**, and **S. L. Stall**, Akron, Ohio.—*Clay Mill.*—March 22, 1864.—This machine consists of a bed plate, made in one piece, upon which revolve two crushing wheels or rollers attached to a horizontal shaft. On the inside of the wheels are yokes fitted around sleeves and forming collars to the wheels; these yokes extend downwards and are formed into slotted arms, in which are secured adjustable blades or scrapers. Across the top of the frame are arched braces secured to each of the horizontal pieces forming the upper frame. At the centre of the arched braces, on one side, extend upwards arms through which pass gauge rods provided with gauge nuts, the said rods being connected to a cross-bar by a joint. Through the ends of the cross-bar pass screws, attached to the top of springs, the said screws being adjusted and kept in place by means of nuts.

Claim.—First, the application of the entire solid bed plate A, in combination with the reversible crushing rollers E and F, when arranged and operating in the manner and for the purpose set forth.

Second, the yokes O P, and adjustable blades or scrapers, arranged substantially as set forth, in combination with a clay mill for the purpose specified.

Third, the combination of the friction box *u*, and key *u'*, provided with a nut and screw, when arranged and applied to the purpose described.

Fourth, the adjustable gauge rods *l*, the open corner blocks L', in combination with the cross bar *m''*, and spring *n''*, substantially as set forth.

No. 42,056.—**Charles M. Wetherill**, Lafayette, Indiana, assignor to **Isaac R. Diller**, Springfield, Ill.—*Gunpowder, &c.*—March 22, 1864.—This invention consists in forming a composition for gunpowder, &c., by combining chlorate of potash with carbonaceous matters or bodies in such proportion that the oxygen and carbon shall be in the ratio to each other, by equivalents, either as 1 to 1 or 2 to 1, or some proportion intermediate between these two ratios. To the said composition may be added bin-oxide of manganese to make a quicker or slower burning powder, and also may be added dextrine, or a similar gum, to the first-named compound.

Claim.—The invention of a mixture of an oxygen compound of chlorine, capable of giving off its oxygen by heat, with a carbonaceous body or bodies, in such proportion that oxygen given off by the former shall be to the total carbon contained in the latter as eight parts by weight to six parts, with a view of forming carbonic oxide, or as sixteen parts by weight to six parts by weight, with a view of forming carbonic acid; or in some intermediate proportion to form a mixture of the two aforesaid gases.

Also, by the proper selection of the kind of carbonaceous matter, or by the addition of the peroxide of manganese, or its equivalent, to obtain at pleasure a quicker or slower burning powder.

Also, by the addition of a sufficient amount of dextrine, or other equivalent gum, and with or without the subsequent operations of pounding or pressing and granulating, the manufacture of a grained powder having valuable properties.

Also, by the use of oil of vitriol, or any body acting similarly upon the aforesaid chlorine compound, and brought in contact with it by appropriate devices at the proper moment, to effect the explosion of the powder in shells at, or soon after, striking an object; or, by similar devices, the explosion of mines, torpedoes, or the like, under or against an enemy.

No. 42,057.—**Charles M. Wetherill**, Lafayette, Indiana, assignor to **Isaac R. Diller**, Springfield, Ill.—*Apparatus for the Manufacture of Gunpowder.*—March 22, 1864.—This invention consists in the construction of a series of jacketed pans, and a drying chamber to be heated by steam, and used in the manufacture of gunpowder.

Claim.—The use of this drying apparatus for completing, if it be needed, the desiccation of the aforesaid explosive or deflagrating compound after it shall have left the aforesaid boiling or evaporating pan.

No. 42,058.—**Herman Winter**, Boston, Mass., assignor to **James Gregory**, New York, N. Y.—*Fastening for Deck and Side Lights of Vessels.*—March 22, 1864.—This invention consists of a collar attached around the shank of the screw, and passing into a recess in the frame that supports the glass, so as to prevent the screw from falling out, and enable the light to be tightly closed and held by hand until the screws are turned.

Claim.—The collar *g*, applied to the shank of the fastening screw of a deck or side light in combination with the recess *h*, in the frame carrying the glass, for the purpose and as specified.

No. 42,059.—**George L. Witsill**, assignor to himself, **Charles M. Rhodes**, and **C. W. Oldenberg**, Philadelphia, Pa.—*Petroleum Stove.*—March 22, 1864.—This invention consists in the employment of a metal cup filled with sand or other similar substance which is saturated with the oil. Air to support combustion is admitted beneath, and over the cup is a metal dome whose apex is open, beneath which opening is arranged a deflector of less diameter than the opening.

Claim.—First, the combination of the disk C, base plate A, its openings *h*, and plate E, or its equivalents.

Second, the combination of the disk C, dome D, and disk D', constructed and arranged within a stove or heater, substantially as and for the purpose herein set forth.

No. 42,060.—**William Adamson**, Philadelphia, Penn.—*Pulverizing Machine.*—March 29, 1864.—This machine consists of two rollers, the journals of which turn in boxes on each side. To one end of each of the box frames is hinged a lever, and near the end of this lever is suspended a rod I, which passes through one of the beams of the frame, below which the rod is surrounded by a tube J, of gum elastic, a nut on the end of the rod bearing against the end of this tube. A rod R, is so connected to each lever, and so arranged in respect to the box against which the rod bears, that on depressing the outer ends of both levers one of the rollers will be moved towards the other.

The pieces of stone are fed to the rollers from a hopper in a stream as wide as the rollers are long, and fenders are used to retain the stream within proper limits, and to prevent the broken stones from falling to the ground without passing the rollers.

Claim.—First, the two rollers F and F′, and the two feeders *n n*, in combination with a hopper X, situated above the rollers, and as wide, or nearly as wide, as the same.

Second, the lever H, and rod R, or its equivalent, the rod I. and gum-elastic cylinder or block J, or other equivalent spring, and the regulating nut *m*, in combination with the movable boxes E.

No. 42,061.—Henry T. Anthony, New York, N. Y.—*Cuvette and Tray for Photographic Purposes.*—March 29, 1864.—This invention consists in constructing the vessels of wood, and coating the interior with some proper material which will receive and retain paraffine. A lining of felt or other fibrous or textile fabric, and on this a covering of thick brown paper, may be cemented upon the interior of the wooden vessel, which latter is then filled with melted paraffine, and when the paper is saturated the oil is poured off and the vessel is ready for use.

Claim.—Constructing cuvettes and other vessels for holding the solutions for photographic uses, in the manner substantially as described.

No. 42,062.—James S. Arthur, Cordaville, Mass.—*Nut for Wrenches and other Tools.*—March 29, 1864.—In this device, a socket extending back from the movable jaw, and through which the handle passes, has a mortise in one of its walls in which is fitted a dog provided with teeth on one side, which correspond to the teeth of a ratchet bar in the inner face of the handle, and upon the other side several short sections of spiral threads which correspond with spiral grooves cut in the interior of a surrounding rotating ring. At a certain point in the interior of the latter is a recess of a sufficient size to admit the dog, and when turned, so that the recess and the dog correspond in position, the latter is forced by means of springs into the recess, which frees its teeth from those of the ratchet bar and allows the jaw to be adjusted as desired.

Claim.—First, the nut C, and the toothed block *b′*, operating in combination with the shank A, to adapt the jaw B′, to be either freely slidden on the said shank or adjusted by the screw.

Second, the sliding toothed block *b′*, constructed and operating substantially as and for the purposes explained.

No. 42,063.—Henry Bagley, Mechanicsville, Iowa.—*Animal Trap.*—March 29, 1864.—This device is designed more particularly for catching prairie fowl, and is constructed of four corner pieces inclining outward from top to bottom, and bound together at the sides and ends by horizontal slats. At the top of the frame are two trap doors, at the outer edges of which are inserted a series of iron rods inclining outward. In the outside rod is formed an eye into which is inserted the hook of a connecting rod, its opposite end being so arranged as to cause both trap doors to descend at the same moment as the fowl enters the trap.

Claim.—First, the connecting rod *n*, constructed and operated as herein set forth.

Second, the trap doors *c*, the rods *d* and *g*, and the connecting rod *h*, the whole arranged and constructed substantially as and for the purposes herein set forth.

No. 42,064.—Peter Bauer, Newark, N. J.—*Spring Punch.*—March 29, 1864.—This invention consists in the arrangement of a conical socket in the outer end of the cutter jaw, fitted to receive tubes or cutters of different sizes, and provided with a hollow thumb-screw, in such a manner that by removing the said thumb-screw the tube or cutter can be readily removed and replaced by another of a different or of the same size. The invention also consists in the application to the supporting jaw of a screw-plug of brass, copper, or other soft metal, which will not injure the edge of the cutter, in such a manner that the face of the said screw-plug can always be adjusted according to the length of tube in the cutter jaw, and when the said face is worn out it can easily be filed off and readjusted. In or under one of the handles is arranged a tube or receptacle, closed by a screw-plug or other suitable device, in such a manner that the different tubes can be readily introduced or taken out, and that the said tubes are always ready when required.

Claim.—First, the socket *b*, in the jaw B, in combination with the hollow thumb-screw *d*, and tubes *c*, constructed and operating substantially as and for the purpose specified.

Second, the adjustable screw anvil *g*, in combination with the jaws B C, of a punch A, as and for the purpose set forth.

Third, the receptable D, arranged in combination with one of the handles of a punch A, substantially as and for the purpose described.

No. 42,065.—Joseph A. Bertola, New York, N. Y.—*Apparatus for Concentrating Auriferous Ores.*—March 29, 1864; antedated March 21, 1864.—This apparatus consists of a movable grating or gratings which rest upon an inclined plane or trough, and form grooves for the concentration of auriferous sands or ores, and when raised, allow such concentrated material to be washed to the lower end of the incline, thus avoiding the necessity of cleaning out the grooves separately, as is usual. The gratings are made deeper at the lower end of each section, in order to form a deeper groove or receptacle for the metallic ores and sands, and thereby retain the heaviest particles in the shallow grooves, while the less valuable portions are deposited in the deeper grooves.

Claim.—The movable grating or gratings *d*, applied to the inclined plane or trough of ore-concentrating apparatus, for the purposes and substantially as specified.

Also, the bars or slats 1 1, formed deeper at the lower end of the grating than at the upper end, for the purposes and as specified.

No. 42,066.—Albert D. Bishop, New York, N. Y.—*Ball Carriage.*—March 29, 1864; antedated February 17, 1864.—This invention consists in confining a series of balls within a casing in such a manner that after they have passed over a space dependent upon the length of the carriage, they are lifted in rotation from the ways or track and forced forward within the carriage by the pressure of the other balls, upon which the weight is at the same time advancing.

Claim.—A carriage in which the balls or rollers for sustaining a traversing weight may be shifted, in the manner and for the purpose described.

No. 42,067.—Philos Blake, New Haven, Conn.—*Suspender Buckle.*—March 29, 1864.—This device consists of a strip of metal slotted at one edge, to which the shorter strap is permanently secured. The opposite edge is bent at right angles, and in line therewith or nearly so are extensions of the plate on which is hinged, by two bent ends, a shield which admits of being swung to either side of the slotted plate. On the inner side of this shield is a recess into which the suspender is forced, where it is held firmly by the turned edge of the slotted plate.

Claim.—First, forming a suspender buckle of two parts, that is to say, of a loop piece and a shield, when the former is bent at right angles, or thereabouts, and hinged to the latter under the arrangement hereinbefore described, so as to operate in the manner and for the purposes set forth.

Second, in combination with a loop piece bent at right angles, or thereabouts, and hinged as described to a shield, corrugating or recessing the face of the shield corresponding with the bent part of the loop piece, substantially in the manner and for the purposes as set forth.

Third, hinging the loop piece in line with or above the folding edge thereof, for the better impinging of the strap and for its ready adjustment, substantially as set forth.

No. 42,068.—John Francis Bridge, Deadwood, Cal.—*Portable Blacksmith's Forge.*—March 29, 1864.—This apparatus consists of a shallow iron box divided into two portions, one of which constitutes a water tank and the other the hearth, the latter being immediately in front of the tuyere, and protected by fire tiles or clay. Sheet-iron fenders are provided which may be temporarily adjusted to two sides of the box to protect the fire from blasts of wind. The apparatus is mounted upon four legs, which may, when necessary, be folded up against the sides of the box for convenience of transportation.

Claim.—A box-shaped, portable forge of the form herein described, containing within itself this combination of the flange-headed tuyere as *g*, a fire box with a depression formed in its bottom, to be filled with brick or clay as at *o*, and a light sheet-iron slack trough as at *p*, when the box, with all these parts combined, is mounted on legs that can be operated and folded to the sides, substantially as specified.

No. 42,069.—Alexander Brooks, Factoryville, N. Y.—*Grain Drill.*—March 29, 1864.—In this machine the seed rollers are grooved and occupy a position in the bottom and rear side of the seed box, so as to carry the grain upward instead of downward, and fitting closely over the rollers is a concentric sliding register plate so arranged as to cover wholly or partially the seed rollers and gauge the quantity of seed to be sown. The drill teeth bars are raised or lowered all together, or each one separately, and adjusted to any height by means of a roller having one side flattened, and of a series of bent levers hinged to the roller, so that one arm of each lever may rest on the flattened side thereof, while the other projects outward so as to be held by the hands of the operator. At one end of the said roller is a ratchet wheel, with a corresponding pawl to hold the roller in any position for keeping the drill teeth up when raised. The roller is also provided with a crank which operates, through a connecting rod, a bent lever pivoted on the frame of the machine so as to move a clutch for coupling or uncoupling the cog wheel and seed roller shaft.

Claim.—In combination with the seed rollers D D, arranged as described, and with ungrooved portions or cylinders occupying the intermediate concentric spaces, the sliding register plate E, either with or without an index to indicate its movements, arranged and operating substantially as herein set forth.

Also, the combination of the flat-sided roller N, and hinged angle levers *n n*, with the ratchet wheel O, and pawl *o*, substantially as and for the purpose herein specified.

Also, the combination of the crank *m*, on the roller N, the connecting rod M, and crank lever L, substantially as herein specified, for automatically operating the clutch by which the shaft of the seed rollers is coupled to the driving cog wheel H, or uncoupled therefrom when the drill teeth are raised and lowered.

No. 42,070.—Nicholas S. Brown, Litchfield, N. Y.—*Cooking Stove.*—March 29, 1864.—This invention consists in the arrangement of a series of hollow check-plates in the upper part of the fire chamber, for the purpose of directing the course of the products of combusion so as to cause them to pass around the fire chamber, in connexion with which are certain flue partitions in the back part of the stove, the object being to economize the fuel and regulate the heat of the same.

Claim.—The arrangement of the hollow partition check-plates *e*1, *e*2, *e*3, *e*4, *e*5, perforated holes *h*, *h*, *h*, *h*, *h*, *h*, hollow plates C, with opening *d*, in combination with the partitions E, and G, and movable furnace B, when constructed substantially in the manner as herein described and set forth.

No. 42,071.—E. W. Bullinger, New York, N. Y.—*Gas Stove.*—March 29, 1864.—This invention consists in providing the cap which fits upon the outer cylinder with a projecting edge, and also the cap fitting over the inner cylinder with a similar projecting edge. Between the two cylinders is placed a piece of perforated metal to prevent the flame from igniting the gas in the mixing chamber. The gas and air being mixed, is ignited, and burns between the edges of the caps on the inner and outer cylinders.

Claim.—The combination of the edges *b c*, with an annular gas-mixing chamber C, and its disk F, substantially as herein shown and described.

No. 42,072.—Samuel B. Butler, Middletown, Conn.—"*Lazy Jack*" *for Sails.*—March 29, 1864.—This device is designed as an appendage to sails as a means of working them, and the invention consists in the use of endless ropes passing through pulleys in place of fixed or attached ropes.

Claim.—First, the endless ropes K K′, and pulleys *d d* and *g g′*, in combination with the single ropes *e e′*, arranged and operating substantially as and for the purposes set forth.

Second, adapting endless ropes for use as "lazy jacks," substantially as described.

No. 42,073.—John Cannon, New Richmond, Penn.—*Mode of Collecting Oil on Surfaces of Rivers.*—March 29, 1864.—This invention consists in stretching across a river, or a portion thereof, a boom to which a trough is attached, for the purpose of collecting oil floating on the surface of the water. The oil is conducted from the troughs into reservoirs on the land.

Claim.—A boom stretching across a river, or a portion thereof, consisting of a trough A or equivalent, for the purpose of collecting in a body the oil that floats on the surface, so constructed that the oil is allowed to flow in on the upper side, while it is prevented from flowing over on the lower side, substantially as herein set forth. In combination with the trough A, also the float board *f*, arranged and operating substantially as and for the purpose herein specified. In combination with the trough A, also the strainer *g*, substantially as herein described.

No. 42,074.—Alfred Carson, New York, N. Y.—*Fireplace Stove.*—March 29, 1864.—This invention consists in suspending a metal plate across the whole breadth of the fireplace, its upper edge being joined to the face of the fire-back, and its lower edge reaching a little below the surface of the fuel, for the purpose of causing the products of combustion to pass under the lower edge of the plate on their way to the exit flue, and be consumed by passing over and through the incandescent fuel. The exit flue opens behind the plate and on a level with its lower edge.

Claim.—First, the pendent plate C, in the fire chamber arranged relatively with draught passages, substantially as shown and for the purpose specified.

Second, in combination with the pendent plate *c*, the pipes D, damper F, box E, all arranged substantially as and for the purpose herein set forth.

No. 42,075.—Ezra Caswell, Newport, Mich.—*Machine for Boring Wagon Hubs.*—March 29, 1864.—This invention consists in the employment of a screw rod provided with adjustable knives and having rotary concentric clamps fitted upon it, by which means the knives are made to cut centrally in the hub as the wheel is rotated.

Claim.—The screw rod C, provided with the adjustable and removable cutters I J, in connexion with the rings E G, provided with the set screws F F, and connected respectively by means of the arms *c c*, nut D, and the arms *f f*, and collar *g*, with the rod C, substantially as and for the purpose herein set forth.

No. 42,076.—Joseph Chase, Worcester, Mass., and J. M. Stone, Andover, Mass.—*Mode of Operating the Rolls in Drawing Frames.*—March 29, 1864.—The object of this invention is to give a temporary twist to the sliver during the drawing process, in order to obtain a more uniform attenuation, and to secure a more nearly parallel arrangement of the fibres than usual. The slivers are made to receive a twist or torsion while passing between the sets of rollers, and are also untwisted and twisted in the opposite direction, but finally discharged without having received any permanent twist.

Claim.—So arranging and operating the rolls of a drawing or condensing machine that the reciprocating movements of adjacent sets of rolls shall be in alternate directions, substantially as described.

No. 42,077.—Harvey B. Chess, Pittsburg, Penn.—*Screw Head.*—March 29, 1864.—This device consists of a piece of wire which is bent to a right angle at a point in its length

corresponding to the length required for the straight stem or shank, and at a point in the deflected portion corresponding to half the diameter required for the head is bent again, but in a direction perpendicular to that of the previous bend, its end being bevelled so as to fit snugly up to and against the external angle of the shoulder, from which the annular portion is projected.

Claim.—The head *c*, formed by bending the wire in the manner herein described in the form of a ring perpendicular to and concentric or nearly so with the screw shank or stock.

No. 42,078.—Gustavus D. Dows, Boston, Mass.—*Draught Tube for Soda Fountains.*—March 29, 1864.—The object of this invention is to so construct the draught tube of a soda fountain that the water may be delivered in a strong jet for the purpose of mixing it with the sirup, the jet being then checked while filling the glass, so that the gas shall not be too freely liberated from the water, which is effected by making the passage through the pipe leading from the fountain smaller than that of the eduction chamber and orifice at the end of the pipe. The bent lever pivoted at the orifice has its handle on the interceptor *h*, arranged in such a manner that by raising the handle the interceptor is thrown immediately under the orifice, and so checks the flow of the aerated liquor.

Claim.—An interceptor arranged within the draught tube of a soda apparatus, and operating for the purpose above set forth.

No. 42,079.—Orson D. Dunham, Plainwell, Mich.—*Horse Rake.*—March 29, 1864.—This invention relates to that class of horse rakes which are provided with rigid straight teeth fitted in a head, which is allowed to rotate in order that the rake may discharge its load. Elastic hook bars and catches are so connected with the handle and rake head as to enable the attendant to readily cause the head to revolve and discharge the load with certainty.

Claim.—The combination with the handle F, and rake head A, of the elastic hook bars I and catches J, as and for the purpose herein set forth and described.

No. 42,080.—Jacob Edson, Boston, Mass.—*Device for Operating Windlasses.*—March 29, 1864.—This invention consists in the combination of a swinging beam with adjustable radial arms and lever bars arranged in such a manner as to admit of the windlass being worked by a small number of men when necessary, and also be adapted to a large crew, and so that the adjustment from one condition to the other may be readily made.

Claim.—The combination and arrangement of the swinging beam, adjustable radial arms, and lever bars, operating together substantially as described and for the purposes specified.

No. 42,081.—Pinckney Frost, Springfield, Vt.—*Scythe Fastening.*—March 29, 1864.—The loop which holds the scythe to the snath is provided with screw-tapped ends, which pass through the ferrule into recesses formed in the snath, so that the said ends are rendered capable of separate adjustment by means of two screws passing through the ferrule and snath from the opposite side and engaging with said ends; the claw plate and the double-bevelled wedge used in connexion with the loop allow the scythe to be adjusted relatively to the snath in angle and pitch to suit the hand of the operator.

Claim.—First, the loop D, constructed with screw-tapped ends fitting into recesses formed in the snath, in combination with the two screw fastenings *d d*, the whole constituting a clamp for securing the scythe to its snath substantially as described.

Second, the perforated claw plate E, when constructed substantially as and for the purposes described.

Third, the construction of the ferrule C, with flat sides *c c′*, groove *k*, and perforations for receiving the ends of a clamping loop D, substantially as described.

Fourth, the double-bevelled wedge G, in combination with a clamping loop D, constructed and operating substantially as described.

Fifth, the combination of clamping loop D, scythe handle *a*, claw *a′*, and perforated claw plate E, constructed and operating substantially as described.

Sixth, the tenons or spurs *h h*, formed on the clamp plate E, substantially as and for the purpose described.

No. 42,082.—Geo. P. Ganster and Isaac S. Schuyler, New York, N. Y.—*Percussion Bulb for Fuzes.*—March 29, 1864.—The nature of this invention is explained by the claim.

Claim.—A percussion fuze consisting of a pear-shaped bulb formed of glass, containing sulphuric acid hermetically sealed, and having on its exterior a paste composed of chloride of potash and sulphur, all as herein described and for the purpose specified.

No. 42,083.—Richard Gilbert, Rochester, N. Y.—*Rotary Pump.*—March 29, 1864.—The pistons of this pump move in an inner cylinder surrounded by an outer concentric shell or cylinder. A perforated metal diaphragm is arranged within the shell, leaving a water-space upon one side and divided in the centre by a septum, so as to form an eccentric chamber in which to operate the pump. The inner cylinder and the pistons moving within fine partitions in the back part of the stove, the object being to economize the fuel and regulate the heat of the same.

Claim.—The arrangement of the hollow partition check-plates *e*1, *e*2, *e*3, *e*4, *e*5, perforated holes *h*, *h*, *h*, *h*, *h*, *h*, hollow plates C, with opening *d*, in combination with the partitions E, and G, and movable furnace B, when constructed substantially in the manner as herein described and set forth.

No. 42,071.—E. W. BULLINGER, New York, N. Y.—*Gas Stove.*—March 29, 1864.—This invention consists in providing the cap which fits upon the outer cylinder with a projecting edge, and also the cap fitting over the inner cylinder with a similar projecting edge. Between the two cylinders is placed a piece of perforated metal to prevent the flame from igniting the gas in the mixing chamber. The gas and air being mixed, is ignited, and burns between the edges of the caps on the inner and outer cylinders.

Claim.—The combination of the edges *b c*, with an annular gas-mixing chamber C, and its disk F, substantially as herein shown and described.

No. 42,072.—SAMUEL B. BUTLER, Middletown, Conn.—"*Lazy Jack*" *for Sails.*—March 29, 1864.—This device is designed as an appendage to sails as a means of working them, and the invention consists in the use of endless ropes passing through pulleys in place of fixed or attached ropes.

Claim.—First, the endless ropes $K\ K'$, and pulleys *d d* and $g\ g'$, in combination with the single ropes $e\ e'$, arranged and operating substantially as and for the purposes set forth.

Second, adapting endless ropes for use as "lazy jacks," substantially as described.

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Claim.—A boom stretching across a river, or a portion thereof, consisting of a trough A or equivalent, for the purpose of collecting in a body the oil that floats on the surface, so constructed that the oil is allowed to flow in on the upper side, while it is prevented from flowing over on the lower side, substantially as herein set forth. In combination with the trough A, also the float board *f*, arranged and operating substantially as and for the purpose herein specified. In combination with the trough A, also the strainer *g*, substantially as herein described.

No. 42,074.—ALFRED CARSON, New York, N. Y.—*Fireplace Stove.*—March 29, 1864.—This invention consists in suspending a metal plate across the whole breadth of the fireplace, its upper edge being joined to the face of the fire-back, and its lower edge reaching a little below the surface of the fuel, for the purpose of causing the products of combustion to pass under the lower edge of the plate on their way to the exit flue, and be consumed by passing over and through the incandescent fuel. The exit flue opens behind the plate and on a level with its lower edge.

Claim.—First, the pendent plate C, in the fire chamber arranged relatively with draught passages, substantially as shown and for the purpose specified.

Second, in combination with the pendent plate *c*, the pipes D, damper F, box E, all arranged substantially as and for the purpose herein set forth.

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Claim.—The screw rod C, provided with the adjustable and removable cutters I J, in connexion with the rings E G, provided with the set screws F F, and connected respectively by means of the arms *c c*, nut D, and the arms *f f*, and collar *g*, with the rod C, substantially as and for the purpose herein set forth.

No. 42,076.—JOSEPH CHASE, Worcester, Mass., and J. M. STONE, Andover, Mass.—*Mode of Operating the Rolls in Drawing Frames.*—March 29, 1864.—The object of this invention is to give a temporary twist to the sliver during the drawing process, in order to obtain a more uniform attenuation, and to secure a more nearly parallel arrangement of the fibres than usual. The slivers are made to receive a twist or torsion while passing between the sets of rollers, and are also untwisted and twisted in the opposite direction, but finally discharged without having received any permanent twist.

Claim.—So arranging and operating the rolls of a drawing or condensing machine that the reciprocating movements of adjacent sets of rolls shall be in alternate directions, substantially as described.

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corresponding to the length required for the straight stem or shank, and at a point in the deflected portion corresponding to half the diameter required for the head is bent again, but in a direction perpendicular to that of the previous bend, its end being bevelled so as to fit snugly up to and against the external angle of the shoulder, from which the annular portion is projected.

Claim.—The head *c*, formed by bending the wire in the manner herein described in the form of a ring perpendicular to and concentric or nearly so with the screw shank or stock.

No. 42,078.—GUSTAVUS D. DOWS, Boston, Mass.—*Draught Tube for Soda Fountains.*—March 29, 1864.—The object of this invention is to so construct the draught tube of a soda fountain that the water may be delivered in a strong jet for the purpose of mixing it with the sirup, the jet being then checked while filling the glass, so that the gas shall not be too freely liberated from the water, which is effected by making the passage through the pipe leading from the fountain smaller than that of the eduction chamber and orifice at the end of the pipe. The bent lever pivoted at the orifice has its handle on the interceptor *h*, arranged in such a manner that by raising the handle the interceptor is thrown immediately under the orifice, and so checks the flow of the aerated liquor.

Claim.—An interceptor arranged within the draught tube of a soda apparatus, and operating for the purpose above set forth.

No. 42,079.—ORSON D. DUNHAM, Plainwell, Mich.—*Horse Rake.*—March 29, 1864.—This invention relates to that class of horse rakes which are provided with rigid straight teeth fitted in a head, which is allowed to rotate in order that the rake may discharge its load. Elastic hook bars and catches are so connected with the handle and rake head as to enable the attendant to readily cause the head to revolve and discharge the load with certainty.

Claim.—The combination with the handle F, and rake head A, of the elastic hook bars I and catches J, as and for the purpose herein set forth and described.

No. 42,080.—JACOB EDSON, Boston, Mass.—*Device for Operating Windlasses.*—March 29, 1864.—This invention consists in the combination of a swinging-beam with adjustable radial arms and lever bars arranged in such a manner as to admit of the windlass being worked by a small number of men when necessary, and also be adapted to a large crew, and so that the adjustment from one condition to the other may be readily made.

Claim.—The combination and arrangement of the swinging beam, adjustable radial arms, and lever bars, operating together substantially as described and for the purposes specified.

No. 42,081.—PINCKNEY FROST, Springfield, Vt.—*Scythe Fastening.*—March 29, 1864.—The loop which holds the scythe to the snath is provided with screw-tapped ends, which pass through the ferrule into recesses formed in the snath, so that the said ends are rendered capable of separate adjustment by means of two screws passing through the ferrule and snath from the opposite side and engaging with said ends; the claw plate and the double-bevelled wedge used in connexion with the loop allow the scythe to be adjusted relatively to the snath in angle and pitch to suit the hand of the operator.

Claim.—First, the loop D, constructed with screw-tapped ends fitting into recesses formed in the snath, in combination with the two screw fastenings *d d*, the whole constituting a clamp for securing the scythe to its snath substantially as described.

Second, the perforated claw plate E, when constructed substantially as and for the purposes described.

Third, the construction of the ferrule C, with flat sides $c\ c'$, groove *k*, and perforations for receiving the ends of a clamping loop D, substantially as described.

Fourth, the double-bevelled wedge G, in combination with a clamping loop D, constructed and operating substantially as described.

Fifth, the combination of clamping loop D, scythe handle *a*, claw a', and perforated claw plate E, constructed and operating substantially as described.

Sixth, the tenons or spurs *h h*, formed on the clamp plate E, substantially as and for the purpose described.

No. 42,082.—GEO. P. GANSTER and ISAAC S. SCHUYLER, New York, N. Y.—*Percussion Bulb for Fuzes.*—March 29, 1864.—The nature of this invention is explained by the claim.

Claim.—A percussion fuze consisting of a pear-shaped bulb formed of glass, containing sulphuric acid hermetically sealed, and having on its exterior a paste composed of chloride of potash and sulphur, all as herein described and for the purpose specified.

No. 42,083.—RICHARD GILBERT, Rochester, N. Y.—*Rotary Pump.*—March 29, 1864.—The pistons of this pump move in an inner cylinder surrounded by an outer concentric shell or cylinder. A perforated metal diaphragm is arranged within the shell, leaving a water-space upon one side and divided in the centre by a septum, so as to form an eccentric chamber in which to operate the pump. The inner cylinder and the pistons moving within the same are made flush with the ends of the outer shell; the said cylinder being attached to the heads which carry the journals, and move in corresponding enlargements of the journal boxes.

Claim.—First, the diaphragm D, wings B and B′, and shell or cylinder A, in combination with the double pistons P and P′, and cylinder C, the parts being constructed and arranged substantially in the manner specified.

Second, making the cylinder C, with one or both of its heads H and H′, detachable, they being attached with their inner face flush with the outer edge of the pistons P and P′.

No. 42,084.—EPHRAIM HAMBUJER, Detroit, Mich.—*Head-rest for Railway Carriage Seats.*—March 29, 1864.—This device consists of a self-fastening spring clamp, so constructed as to be readily adjusted to the back of a chair or car seat, and provided with a pad, also adjustable in sockets, so that a varied position can be given to the head while resting upon the same.

Claim.—The self-fastening spring clamp A, provided with a stationary socket *b*, and adjustable socket *h*, in combination with the vertically adjustable head-rest or pad C, constructed and operating in the manner and for the purpose herein shown and described.

No. 42,085.—JOHN H. HAYWARD, New York, N. Y.—*Portable Gasometer.*—March 29, 1864; antedated March 23, 1864.—This invention consists of a movable piston head or compressor, together with a double-coned spring, the base of the upper cone being immovably fixed in the spring box, and that of the lower cone being fastened to the upper surface of the compressor, so as to operate the same. To the centre of the compressor is fixed the lower end of a ratchet rod, which passes through the centre of the double-coned spring to the top of the box, at which place is secured a ratchet collar, which serves to prevent the compressor from springing up or down with the motion of the car or other vehicle to which it is attached.

Claim.—First, the application of the movable piston head or compressor, and its several parts, for the purpose of expelling the gas.

Second, the use of the double-coned spring, or springs of other shape, by means of which the gas is compressed and expelled from the cylinder.

Third, the ratchet rod, with its several parts, as a means by which a steady and uniform pressure is maintained upon the gas while being expelled for consumption.

No. 42,086.—WILLIAM HENRY, Wyoming, Penn.—*Plough.*—March 29, 1864.—This invention consists in attaching two ploughs to one beam in such a manner as to admit of their being brought nearer together or placed further apart, and at the same time causing either one to be placed more or less in advance of the other. Within the rear portion of the plough is a supporting wheel, so arranged as to relieve the rear portion of the land side and mould board entirely from contact with the bottom of the furrow, the wheel being also adjustable, so as to gauge the depth of the furrow.

Claim.—The two ploughs F F′, attached to the adjustable bar C, which is fitted in the beam A, and has a perforated semicircular bar D, attached to it, through which a bolt E, passes, in connexion with the wheels G, and bar I, the latter being connected with the bar C, by the bars J J, and all arranged substantially as and for the purpose herein set forth.

No. 42,087.—E. S. HIDDEN, New York, N. Y.—*Deck and Side Light for Ships.*—March 29, 1864.—This invention consists in applying non-corrosive hinges and fastenings to a cast iron dead-light. The claim explains the character of the invention.

Claim.—A side and deck light composed of an iron frame fitted for supporting a glass, non-corrosive hinges and fastenings, or either of them, and an iron frame that may be attached to the side of the vessel; the whole being constructed and possessing characteristics substantially as hereinbefore set forth.

No. 42,088.—R. D. JONES and THOMAS PURCELL, Rochester, N. Y.—*Potato-digger.*—March 29, 1864; antedated March 21, 1864.—This invention relates to that class of potato-diggers having a revolving endless belt, and it consists in providing a ready means for adjusting the elevation of the rear end, and in the application of two side racks or gatherers arranged at the rear end of the belt so as to cause the potatoes to be delivered in a narrow row centrally. The front shaft is made to slide through one of the pulleys by removing a pin and making removable boxes for the rear shaft of the belt, so that the latter may be taken out of the machine without taking apart or disarranging the frame.

Claim.—First, adjusting the rear end of the revolving belt B, by means of the standard J, hanger *h*, and stirrup *s*, substantially as described, so as to change the inclination of the belt B, and at the same time secure a uniform depth of mesh between the pinion P, and the spur wheel F, at all points of the adjustment.

Second, the tubular or pipe box *n*, in combination with the hub *h′*, hanger *h*, and shaft *f*, when all are arranged in the manner and for the purpose set forth.

Third, the employment of the gatherers R, constructed and arranged in the manner and for the purpose set forth.

No. 42,089.—SALEM T. LAMB, New Washington, Ind.—*Washing Machine.*—March 29, 1864.—This machine consists of a tub having an open lattice bottom and a rubber of a corresponding form hung upon suitable pivots, so that the tub and rubber can be moved in reverse directions, and operated by the feet upon treadles, or by the hand acting upon levers suitably arranged.

Claim.—The combination of a tub and rubber constructed, arranged, and operating together, as herein described, and for the purpose set forth.

Also, the suspending of the rubber disk E, and its frame D, on the high post A, by means of a spring catch *g*, when used for the purpose herein described.

Also, the treadle G, in combination with the three-armed lever I, as and for the purpose herein described.

No. 42,090.—HENRY LANERGAN, Boston, Mass.—*Window-sash Weight.*—March 29, 1864.—This invention consists in constructing an iron sash-weight with a knot chamber in its upper end, and a hole in the apex of the weight through which the rope passes, connected with the chamber.

Claim.—The improved window-sash weight as made with the knot chamber B, the rope passage *a*, and the opening *b*, arranged together and within such weight, substantially in manner as described.

No. 42,091.—JOHN B. LEAROCK, Boston, Mass.—*Adjustable Front Sight for Ordnance.*—March 29, 1864.—This device is formed with a socket tube which receives a slider marked with a scale of divisions. The slider is surmounted by a thin standard, having on its upper extremity a small cylinder, and is also provided with an annulus, arranged concentrically with the said cylinder. The interior surface of this annulus is blackened, so as not to reflect the light, for the purpose of shading the cylinder from the sun and to aid in bringing the axis of the cylinder to bear correctly upon the object aimed at.

Claim.—The improved ordnance fore-sight, as made with the shade annulus F, the sight standard D, and cylinder E, and in other respects so as to be adjustable, substantially as specified.

No. 42,092.—GEORGE P. LEONARD and WILLIAM LAUSTER, Fall River, Mass.—*Brush for Cleaning Boiler Flues.*—March 29, 1864.—This invention consists of a brush made of flat pieces of wire, or narrow strips of thin metal, which are passed through a stem formed by doubling up a piece of wire or strip of sheet metal and fastened by a thin round wire wound around the same in such a manner that, by said binding wire, a hollow stem is formed, and after the whole has been secured together and twisted, a handle can be introduced into one end of said tubular stem, and the brush is ready for use.

Claim.—A brush for cleaning boiler flues, made as herein shown and described, as a new article of manufacture.

No. 42,093.—RODMAN LOVETT, Canton, Ohio.—*Beehive.*—March 29, 1864.—The front of the hive, to which the comb-frames are hinged, is supported in an upright position by the base of the hive, the sides and rear constituting a mere casing for the frame, and are hinged at the centre of the rear of the hive, so as to be readily closed for covering or opening the hive for the removal or exposure of the frames. When closed they are secured to the front by means of hooks or otherwise.

Claim.—Attaching the comb-frames D, to the removable or detachable side *a*, of the body A, of the hive in such a manner that the comb-frames will be allowed to swing laterally, when said comb-frames, thus attached, are used in connexion with the body A, constructed with the side *d*, divided into the vertical parts connected by joints *e*, so as to admit of the body being opened or distended to expose the comb-frames, substantially as set forth.

No. 42,094.—JAMES B. LYONS, Milton, Conn.—*Stone and Root Grubber.*—March 29, 1864.—This invention consists in extending the beam of the machine by providing it with iron hooks or prongs, so that the same will serve for both beam and tongue, for the purpose of preventing it from injuring the team in case the hooks should slip off or suddenly become detached from the root or stone to be pulled.

Claim.—Two strong iron hooks or prongs E E, when secured to a beam A, sufficiently long to reach the ring of the yoke when oxen are used, or the ring of the neck-yoke when horses are employed, for the purpose of steadying the implement and preventing it bouncing about, in the manner as and for the purpose set forth.

No. 42,095.—JAMES B. LYONS, Milton, Conn.—*Stump Puller.*—March 29, 1864.—This invention consists in the combination of ordinary ox-cart wheels with a derrick frame, a double windlass, a system of gearing, pulley blocks, and hooks, for the purpose of extracting stumps, raising rocks, and removing them to any desired or convenient place.

Claim.—The application and use of the ox-cart, neap, wheels, and axle, in combination with a double windlass, pulley, blocks, and derrick frame, mounted on wheels, for the purposes herein specified.

No. 42,096.—ROBERT L. P. MANNING, Cleveland, Ohio.—*Scuppers for Vessels.*—March 29, 1864.—Between the stanchions is arranged a series of planks having an inclination outwards, and to the under side of these planks, at their inner edges, the scupper boards are hung by hinges so as to admit of their swinging outwards, and of their rising from pressure within, by the outflow of the water from the deck.

Claim.—Forming a series of scuppers along the bulwarks, and closing and opening the same by means of hinged scupper boards, arranged in a single row along the deck or in a series one above another, the same being constructed, arranged, and operating as and for the purpose herein set forth.

No. 42,097.—WILLIAM M. MASON, Polo, Ill.—*Corn Harvester.*—March 29, 1864.—The platform upon which the stalks fall as they are cut is arranged obliquely to the main frame, and is pivoted at its front to the frame underneath the finger bar, its rear end being supported by a coiled spring of sufficient strength to hold the platform, when empty, in a horizontal position, and off the ground. Curved fingers in the rear of the platform assist it in sustaining the weight of the stalks until a sufficient amount is accumulated thereon, when the fingers are withdrawn, and the weight of the stalks depresses the rear end until the heads of the stalks rest upon the ground, and the platform is withdrawn from under the said stalks by the forward motion of the machine.

Claim.—First, the combination of the retracting fingers with the spring platform, as and for the purposes set forth.

Second, the combination of the diagonally arranged finger beam, the adjustable rotating reel, the spring platform, and the vibrating fingers, substantially in the manner and for the purposes set forth.

No. 42,098.—GREEN B. MCDONALD, Louisville, Ky.—*Railroad Chair.*—March 29, 1864.—The chair is constructed with a base plate having a lip to grasp the rail and a flange projecting below it, through which flange are cut holes for the reception of bolts, having hooks on one of their ends which grasp the opposite side of the rail, and are secured by means of screws, by which means the chair may be adapted to suit rails of any size or pattern, or to connect two rails of different sizes.

Claim.—The base plate A, provided with the pendent flange B, and the lip D, in combination with two or more hooks C C, all arranged substantially as and for the purpose set forth.

No. 42,099.—JAMES MCDONALD, Cincinnati, Ohio.—*Grate Bar.*—March 29, 1864.—These bars are provided with semi-spherical projections on their inner ends, which rest in sockets formed on the rear bearing bar. The front ends of the grate bars project beyond the front wall of the furnace so that they can be seized by the attendant and moved at will. Each grate bar is mơvable about the ball and socket joint at its inner end, either laterally, vertically, or with a rocking motion.

Claim.—First, connecting the bars of a furnace grate to the rear bearing by universal joints E F, which enable the bars to be agitated in three several modes or directions, as set forth.

Second, the provision on a universal-jointed grate bar of shoulders K K′, and fillet G, in the described combination with the jog H in the bearing bar, for retaining such grate bars firmly in position when at rest, as herein described.

No. 42,100.—JAMES T. MCDOUGALL, San Francisco, Cal.—*Reducing Ores of Copper and Silver.*—March 29, 1864.—This invention consists in smelting copper and silver ore with a fusible hydrous silicate of alumina. The water given off as the heat rises serves to desulphurize the ore, and, as the heat is further increased, the alumina acts as a flux.

Claim.—The art of reducing the ores of copper and silver to the metallic state by smelting them in combination or contact with fusible hydrous silicate of alumina.

No. 42,101.—GEORGE E. MILLS, New York, N. Y.—*Portable Apparatus for Distilling Wood.*—March 29, 1864.—This invention consists of a distillatory and condensing apparatus mounted on wheels. The fire boxes are arranged on each side of the still. The products of combustion pass down in the space between the outer jacket and the inner still, which is made of corrugated metal. The substance to be distilled is placed in a metallic basket, which is then placed in the still.

Claim.—First, a portable apparatus, mounted on wheels, constructed and arranged in the manner herein described, for the purpose of distilling woody-fibrous and vegetable substances.

Second, the corrugated cylinder surrounded by an iron casing, to which the fire boxes are attached, with the surrounding space between and under, for distributing the heat uniformly throughout the mass, the centre pipe or flue connecting with the smoke stack and the movable grate, all in combination in the manner here described.

Third, a condenser, in combination with a portable apparatus for distilling vegetable matter, the same being divided into two compartments, for the purpose of condensing and clarifying the essential oils produced therefrom.

No. 42,102.—GEORGE R. MOORE, Lyons, Iowa.—*Apparatus for Clearing Fire-chambers.*—March 29, 1864.—The object of this invention is to separate the coal which does not touch the grate, and hold it in suspension while the grate is being dumped, in order to get rid of the clinkers and other substances which lie upon or near the grate and tend to retard the combustion of the fuel. The invention consists in the employment of a flat piece of metal, which is suspended against the front inner wall of the fire chamber and is forced against the fuel by a rod, which may also be used as a shovel, and thus cause the upper part of the fuel to be retained while the grate is being cleaned.

Claim.—The clamp *e*, operating in combination with the fire chamber of a stove or heater substantially as above set forth.

Also, the shovel *s*, connected and operating together with the clamp *c* in combination with the fire chamber of a stove, substantially as above set forth.

No. 42,103.—OSCAR F. MORRILL, Chelsea, Mass.—*Vapor Stove.*—March 29, 1864.—This invention is mainly explained by the claim. The conduit within which the valve rod passes extends up through the reservoir, small orifices being made in its sides within the reservoir so as to permit the passage of the fluid. The hand wheel which moves the valve rod is screwed down over the conduit and acts as a cap to the same. The valve for the supply of the fluid is operated independently of the gas-cock which regulates the supply of the vapor to the mixing reservoir.

Claim.—The arrangement of the valve stem, reservoir conduit and hand wheel, when the conduit is extended into and through the reservoir.

Also, the extension of the said stem and conduit through and beyond the reservoir, and providing the conduit with the extra hole *s*, the whole being substantially as specified.

Also, the combination of the auxiliary valve *g*, and its actuating mechanism (screw *h*, and wheel *i*,) or other equivalents, with the aero-vapor burner, as described, its conduit D, reservoir C, its main valve *l*, and an actuating mechanism so made and applied to the valve as to be separate and distinct from the actuating mechanism of the auxiliary valve *g*, as to enable either of such actuating mechanisms, with its valve, to be operated or put in operation, without at the same time effecting any movements of the other of the said actuating mechanisms and its valve, the whole being arranged substantially as described.

Also, the combination of the hand wheel *o*, of the valve stem *n*, with the conduit D, substantially in manner and so as to serve the purposes as specified, the hand wheel under such circumstances being recessed and screwed on the conduit, instead of the valve rod being screwed into the reservoir.

Also, in combination, an arrangement with an aero-vapor burner, substantially as described, and its fluid vaporizer or means of converting the hydro-carbon fluid into a vapor, the adjustable valve *g*, and its seat, the same being for the purpose of enabling the vapor to be ejected out of the vaporizer to a height sufficient to enable it to pass up through the wire gauze diaphragm of the air and vapor mixer of the burner.

Also, the combination of an aero-vapor burner, substantially as described, a reservoir, a conduit or vaporizer and two valves, so arranged that one of such valves may be used to control the ingress of fluid into the vaporizer, and the other to control the egress of combustible vapor therefrom.

Also, the combination of a fluid reservoir and aero-vapor burner, with a valve to regulate the escape of vapor under an arrangement to operate in the manner and for the purposes set forth.

Also, the combination of a fluid reservoir and vaporizer, the aero-vapor burner and the requisite valves to regulate the supply of fluid and the escape of vapor, together with a stove or support for vessels or articles to be heated.

No. 42,104.—WILLFORD H. NETTLETON, Bristol, Conn.—*Clock Pillar.*—March 29, 1864.—This invention consists in the production of clock pillars, which shall be of a size equal to that required for the tenon, the pin blanks cut from the said wire having a shoulder formed near either end, by upsetting the same while the blank is confined in suitable dies.

Claim.—The clock pillar formed with collars swaged or swelled out by endwise compression, substantially as specified.

No. 42,105.—JOHN C. NYE, Cincinnati, Ohio.—*Compound Car Axle.*—March 29, 1864.—This invention consists in the combination of a hollow outer axle with an interior smaller axle, surrounding one end of which latter is a collar working between the end of the outer axle and the shoulder of a sleeve, the latter being screwed upon the end of the outer axle and secured in place by means of a set screw.

Claim.—The combination and arrangement of the outer hollow axle B, minor axle H, collar L, and screw C, screwed in place by a set screw F, or its equivalent, said axles overlapping as far as practicable the whole distance between the wheels, substantially as and for the purpose herein specified.

No. 42,106.—C. D. PAGE, Grand Rapids, Mich.—*Brick Kiln.*—March 29, 1864.—This kiln is constructed with one or more cupolas, the lower ends of which curve so as to form chutes. In the horizontal part of one of the chutes is a metallic endless apron which carries the bricks to the air or cooling chamber; the latter is formed with an inclined bottom and provided with dampers. Upon the top of the stack is a platform on which is placed the charger having one or more compartments provided each with a slide, above which are two pins or rods upon which the bricks are placed as the charger is being filled. At the lower end of the stack is an extension, in the top of which are spring breaks which serve to diminish the size of the openings of the chutes so as to retard the motion of the bricks as they come from the cupola.

Claim.—First, the charger F′, with one or more compartments, provided with slides *f* and rods *n*, in combination with the cupolas, in the manner and for the purpose set forth.

Second, one or more vertical cupolas C D, and metallic chutes C′ D′, in combination with the furnaces, arranged in the manner and for the purpose set forth.

Third, the spring breaks I J, in combination with the chutes, in the manner and for the purpose described.

Fourth, the endless apron G, in combination with the chutes and dampers M, in the manner and for the purposes set forth.

Fifth, the air-chamber L′, in combination with the chute and damper M, and apron G, as and for the purpose specified.

No. 42,107.—Emery Parker, West Meriden, Conn.—*Call Bell.*—March 29, 1864.—This invention consists in pivoting to the standard an "angular step" upon which the lower part of the pressure rod impinges, and to which is attached a curved rod bearing on its outer end a ball. As the pressure rod is operated, the ball strikes against the edge of the bell, but will not rest against it to prevent the vibration thereof.

Claim.—As a new article of manufacture a call bell C, angular step F, pressure-rod D, working within the aperture *d*, substantially as and for the purpose described.

No. 42,108.—F. C. Payne, New York, N. Y.—*Folding Bed-bottom.*—March 29, 1864.—This invention consists in forming the bed-bottom in two parts, connected together by suitable hinges so arranged that the mattress can be compactly folded without being injured.

Claim.—A folding bed-bottom provided with a joint composed of the plates *d d*, connected with the adjoining ends of the frames A A, as shown, and having the blocks D, attached centrally to them, substantially as and for the purpose herein set forth.

No. 42,109.—Thomas J. Price, South Union, Ky.—*Manufacture of Sugar.*—March 29, 1864.—The object of this invention is to produce a cheap portable apparatus to be used by farmers to make sugar on a small scale, and it consists in the employment of two rollers for crushing the cane in connexion with an evaporating pan having its bottom made of sheet metal and its sides of wood. All the parts are constructed of such material and in such a manner as to admit of the apparatus being readily moved from place to place.

Claim.—The construction and arrangement of apparatus for crushing and squeezing the cane, sorghum and other similar saccharine plants, and for boiling and defecating the juice thus obtained, substantially in the manner hereinbefore described.

No. 42,110.—Owen Redmond, Rochester, N. Y.—*Sewing Machine.*—March 29, 1864.—This machine makes the two-threaded lock-stitch. A looping-hook carried by a revolving disk, has, in addition to this revolving motion, a rocking motion on its own axis to admit of its taking and carrying the loop of needle thread around a stationary bobbin and then discharging the same; this rocking motion being imparted by a system of pinions on the face of the disk.

The feeding bar has only a horizontally reciprocating motion, an adjustable yielding plate which rises and falls, supplying the place of the ordinary vertical motions of the feed bar. Backward motion is prevented by so pivoting a curved lever to the face of the driving pulley, as that, when the machine is turned in the proper direction, the outer end of this lever acting as a brake is thrown by centrifugal force towards the periphery of the pulley and meets with no obstruction; but when turned in the reverse direction, the brake falls and strikes a stop on a fixed bearing and thus arrests the motion.

Claim.—Governing the motion of the looper *n*, by means of the set of pinions *k l m*, situated in the head 5, in such a manner that the said looper shall come in proper position to catch the needle thread and carry it around the shuttle, and then discharge it, substantially as herein set forth.

Also, in combination with the set of pinions *k l m*, situated in the head 5, the rock shaft *h*, crank *i*, and connecting rod E, jointed to the lower end of the needle bar C, substantially as described.

Also, gauging the length of the stitch and indicating the gauge by means of the eccentric *w*, provided with the pointer *x*, and the cork *v*, for deadening the sound, when the same are used in combination with the feed bar I, as herein set forth.

Also, operating the yielding cloth-plate L, by means of the bar M, adjusted to raise the cloth-plate more or less to adapt the action to either thick or thin fabric, by means of the screw *b′*, or equivalent, said cloth-plate being used in combination with the feed bar I, substantially as described.

Also, the brake T, pivoted to the band pulley, in combination with the pin or stop *i′*, or equivalent, arranged in such a manner as to be thrown outward clear from the stop when turning forward, but to fall and strike the stop and arrest the motion when turned backward, substantially as specified.

No. 42,111.—J. T. Reed, Charlestown, Mass.—*Dyeing Kid Gloves.*—March 29, 1864.—This invention consists in the employment of a frame made of wood or other suitable material for holding the glove in proper shape after it has been dyed. A detached thumb-piece is provided with a handle, so that it can be placed in the thumb of the glove, and the finger board is then inserted so that all the parts of the glove are kept distended while drying.

Claim.—The finger-board A, and the detached thumb-piece G H, held together and making one mould or form when the glove is placed upon it, substantially as herein described and for the purpose specified.

No. 42,112.—Walter Ross, Oshkosh, Wis.—*Grain Drill.*—March 29, 1864.—This invention consists in the arrangement of gear wheels of the two feed-roller shafts in relation to corresponding driving gear wheels attached to the supporting wheels of the machine, in connexion with a system of levers, in such a manner as to enable the machine to be converted at pleasure from a grain drill to a corn-planter, and *vice versa*, without the removal of any of the parts.

Claim.—In combination with the hoppers *a″ a″* and *b*, the cog wheels *m o* and *n p*, and levers *k l*, all arranged and operating in the manner herein shown and described, for the purpose of adapting the machine to be readily converted from a grain drill to a corn-planter, as explained.

No. 42,113.—Alfred A. Seabury, Norfolk, Va.—*Opening Envelopes.*—March 29, 1864.—This invention consists in stitching a thread through an envelope with one or more ends of the thread passing outward, so that pulling the same the envelope may be readily opened.

Claim.—The stitching of a thread through and through the envelope in such a manner that any one may be enabled to cut or tear it open with expedition, in the manner set forth.

No. 42,114.—Asa F. Severance, Concord, N. H.—*Corn-sheller.*—March 29, 1864.—This machine is composed of a cast-iron hollow truncated cone with teeth or cogs on the inside of the same, and within which is a shaft provided with a crank. A cast-iron plate or frame, having its upper end notched, is arranged obliquely within the said cone, and to one side of this plate is fastened a lever which is connected by a hinge joint to a hopper H, having on its under side a rod provided with an adjusting nut. The ears of corn are pressed against the toothed cone by means of springs attached to the hopper, and fall upon a funnel-shaped hopper, whence they are carried to a delivery spout.

Claim.—The combination of the cylinder C, shaft D, plate B, and hoppers H and E, the whole constructed and arranged to operate substantially as and for the purpose set forth.

No. 42,115.—George Shepherd, Philadelphia, Penn.—*Liniment for Rheumatism.*—March 29, 1864.—This liniment consists of a tincture made from the seeds of the common Jamestown weed and pitch of pine knot.

Claim.—The composition or liniment made in the manner and of the materials substantially as herein set forth.

No. 42,116.—U. H. Shockley, Litchfield, Ill.—*Grain Drill.*—March 29, 1864; antedated March 23, 1864.—This invention consists in the arrangement of a rotary front wheel and pole with the frame and seat in such a manner that the driver can have full control over the machine for the purpose of guiding, steering, and turning the same as required. A clearer is also arranged in such a manner as to keep the drill teeth free from dirt, weeds, and trash as the machine is drawn along.

Claim.—The arrangement of the rotary front wheel E, and pole G, with the frame A, clearer K, and seat D, in the manner herein shown and described.

No. 42,117.—John J. Sibley, New York, N. Y.—*Sewing Machine.*—March 29, 1864.—The object of this invention is to enable the Wheeler & Wilson sewing machines to be adapted to make the double-looped stitch of the Grover & Baker machine as well as the lock-stitch, the change being made from one to the other at option. In order to effect this, the bobbin and ring slide are removed, and in their place there is attached to the machine a removable frame containing the looper or thread-carrier and its operative devices, motion being imparted to the whole from the feeding cam.

A supplemental loop-check or pad assists in detaining the loop a sufficient length of time upon the revolving looper which is used in making either stitch.

Claim.—First, the combination of the under thread-carrier with the needle and rotating hook and operative parts of a Wheeler & Wilson sewing machine (except the bobbin and ring slide) substantially as and for the purposes described.

Second, the separate organization of the under thread-carrier with its lever, in an independent frame, in such manner that it may be at once attached to the Wheeler & Wilson sewing machine, in the place of the ring slide, so as to bring the thread-carrier and its actuating lever in co-operative relation with the hook and needle and the cam that advances the cloth, substantially as described.

No. 42,118.—George L. Smith, Brooklyn, N. Y.—*Grate.*—March 29, 1864.—This grate is composed of small sections, the openings between which are diagonal or angular, so that the scoriæ and refractory substances in the cinders shall be subjected to a shearing action when the fire is raked. The construction also admits of the portions of the grate which may become warped or burnt out being readily removed and replaced by new pieces.

Claim.—First, forming the air passages or openings in sections of grates diagonal or angular to the length or width of the grate, in combination with a grate constructed of a series of sections, substantially as shown and for the purpose described.

Second, forming the air passages or openings in sections of grates diagonal or angular to the length or width of the grate, as shown and described and for the purpose set forth.

No. 42,119.—Hamilton E. Smith, Pittsburg, Penn.—*Washing Machine.*—March 29, 1864.—This invention consists in arming the internal wooden ribs of a perforated washing tub with metal wires, plates or bars, for the purpose of protecting the wooden ribs and presenting prominent edges to act upon the clothes.

Claim.—Arming the wooden ribs of the revolving perforated vessel of a washing machine with metal wires, plates or bars, substantially as and for the purpose herein set forth.

No. 42,120.—Jacob J. Smith, Philadelphia, Penn.—*Bedstead Fastening.*—March 29, 1864.—This invention consists in the employment of two flat wrought-iron plates applied to the post and rail pieces respectively of a bedstead, so that the plate in the one piece shall afford a slightly inclined projection on one side only of a recess in the said piece, and the plate in the other piece afford a bent projecting end adapted to enter the recess in the first named piece, the two plates operating together by the gravitation of the rail to bind the latter and the post firmly together.

Claim.—The fastening described, the same consisting of the plates C C′, constructed and applied to the post and rails of a bedstead, so as to operate together in the manner described for the purposes specified.

No. 42,121.—James Smith and Allan Greig, Tarville, Penn.—*Apparatus for Separating Gas from Petroleum.*—March 29, 1864.—This invention consists of an apparatus for expelling gas from petroleum oil, with which it is mixed, as it is taken from the well. A current of air is forced into the oil by a fan blower, or other suitable means, and by the action of an air pump it is stored up in a suitable receiver, from which it may be conducted through suitable pipes to the place or places of consumption.

Claim.—An apparatus consisting of a tank A, blower C, air pump F, receivers G, pipes D B H, and spreader a, arranged and operating substantially as described to separate gas from oil.

No. 42,122.—Willard H. Smith, New York, N. Y.—*Lamp Burner.*—March 29, 1864.—This invention consists in constructing the cap for the wick tube of two flat rings of metal and an intermediate one of mica, secured together, the inner ring being provided with a flange at the top. The insulator for the base of the cone is made by placing a similar ring of mica between the shell and interior metal ring, with a flange for the cone to rest upon.

Claim.—First, the cap $e\ f\ g$, constructed and applied as and for the purpose herein set forth.

Second, the insulator $a\ b\ c$, constructed and applied as and for the purpose herein set forth.

Third, the combination of the insnlators $e\ f\ g$ and $a\ b\ c$ in the same burner, constructed, combined, and applied as and for the purpose herein set forth.

No. 42,123.—Willard H. Smith, New York, N. Y.—*Wick Tube.*—March 29, 1864.—This invention is explained by the claim and engraving.

Claim.—The construction of flat wick tubes with a semicircular orifice at the bottom, whether the base of the tube be circular or semicircular.

Also, the wick tubes represented by figures 1 and 2, constructed as represented and for the purpose specified.

No. 42,124.—L. B. Southworth, Deep River, Conn.—*Jointing and Burring Saws.*—March 29, 1864.—This invention consists of a vertically adjustable head with a transverse slide, which forms the bearings for the pivot of a swinging frame carrying the jointing wheel or cutter in combination with two pawls, one to feed the saw by its action on the teeth, and the other to arrest it in the desired position in such a manner that the cutter or jointing wheel can be readily adjusted to saws of different diameters, and the operation can be performed uniformly and with accuracy. The burring is performed by a triangular tool or blank file, which is secured to a reciprocating carriage and combined with a self-acting dog in such a manner that in moving the carriage towards the saw the tool is pressed down into the teeth, and in moving the carriage back the tool is raised by the action of the dog and the saw allowed to turn and to bring the next succeeding tooth in the proper position to be acted upon by the tool.

Claim.—First, the rotating cutter wheel E, arranged in the swinging frame F, in combination with the adjustable slide G, and carriage H, and with the saw D, and self-feeding pawl f, all constructed and operating in the manner and for the purpose substantially as herein shown and described.

Second, the employment or use, or the purpose of burring saw teeth, of the tool J, in combination with the reciprocating carriage L, constructed and operating substantially as herein specified.

Third, the tool-holder r, dog u, and spring t, in combination with the tool J, and carriage L, constructed and operating substantially as and for the purpose set forth.

No. 42,125.—J. W. H. Stübbe, Boston, Mass.—*Lithographic Printing Press.*—March 29, 1864.—This invention does not admit of a brief description.

Claim.—In combination with a carriage L, that supports the bed O, and that vibrates in the arc of a circle, a jointed scraper c', that is actuated in a line radial to that arc, substantially as described.

Also, raising and lowering the bed O, by means of screws and worm gears, or their equivalents, substantially as set forth for the purpose specified.

Also, the removable cams h', the form of which is made to correspond with the surface of the stone or zinc, whether it be curved or flat, for the purpose of pressing the scraper uniformly on to the stone during its traverse; and of such a width of bearing surface that the scraper will be held down a length of time corresponding to the length of the stone, substantially as set forth.

Also, the revolving tympans J K, and nippers h, in combination with the rolls G H I, when said tympans serve the purpose and are used in lieu of a roller or platen, and operating substantially as set forth for the purpose specified.

Also, revolving the tympans which move under the heavy pressure of a scraper, and are used without a roller or platen to give pressure by means of chains and sprocket wheels, substantially as set forth.

Also, the method substantially as described of combining and attaching the tympan and nippers to, and operating them by means of, the chains e, for the purpose set forth.

Also, the employment of two or more revolving tympans when used without a roller or platen to give pressure, and two or more sets of nippers, as set forth for the purpose described.

Also, disengaging the printed sheet from the nippers at such a time during the revolution of the tympan, that it will fall printed side up on to the receiving table, in the manner substantially as set forth.

Also, the swinging receiving table z, with its inclined plate C′, in combination with the frame A′, for the purpose of laying the printed sheets one on the top of the other, substantially as described.

Also, the endless band D′, in combination with the rolls $s\ t\ x$, and trough r, for the purpose of damping the stone or zinc, substantially as set forth.

Also, the grease box B′, for the purpose of lubricating the interior surface of the tympans, substantially as described.

Also, the distributing tables V and V, in combination with the ink-distributing cylinder T and ink rolls y, for the purpose of evaporating the superfluous moisture absorbed by the ink, substantially as set forth.

No. 42,126.—James Suggett, Cortland, N. Y.—*Pump for Bored Wells.*—March 29, 1864.—This invention consists in the employment of a perforated pipe having a tapering point at its lower end. A stuffing of cotton, tow or other material, which is easily extracted, serves to exclude the earth during the descent of the hollow rod. It may be combined with any suitable pump.

Claim.—The perforated pipe a, with the pointed end b, constructed as a drill and united with a pump, all substantially as shown and described.

No. 42,127.—Jacob Taylor, Oldham, England.—*Machine for Preparing Cotton, &c., for Spinning.*—Patent issued March 29, 1864; patented in England May 26, 1862.—In this machine the combs work at each end in a stationary eccentric slot, and project and recede in succession beyond the periphery of the roller which contains them in order to strip the doffing cylinder. An acute-angled bar intervening between the fibrous material on the doffer and the revolving combs consolidates the material on the doffer, and prevents the combs from taking it off unequally. An elastic band upon the ends of the series of combs serves to keep them in contact with the inner eccentrics, and prevents any unnecessary movement.

Claim.—First, the arrangement and combination of straight, movable, adjustable knives or combs, having V-shaped teeth, with the blocks k, the roller e, and the eccentric seats l, substantially as and for the purpose set forth.

Second, the combination of an angular or other shaped bar s, with the doffer b, and the revolving combs or knives, in the manner described and for the purpose set forth.

Third, the combination of adjustable stop pieces a' and e', with each end of the loose knives or combs, in the manner described and for the purpose set forth.

Fourth, the application of an elastic band, or its equivalent, for the purposes and in the manner set forth.

No. 42,128.—William H. Thomas, Sacramento, Cal.—*Pump.*—March 29, 1864.—The object of this invention is to keep the pump always charged with water after having been once put in operation. The main cylinder terminates just below the sweep of the piston, at which point the lower end of an S-shaped pipe is united to it, the upper end of the said pipe being connected with a perpendicular pipe above the level of the upper range of the piston. A portion of this perpendicular forms an air-chamber. The lower end of the said pipe rests on the bottom of the well, near which is a ball valve for preventing the return of the water. An aperture at the upper bend of the curved pipe is kept closed by a float valve in a box communicating with the main cylinder, so long as the water is up to the level of said valve, but opens when the water falls below this level.

Claim.—The vent or tube *b*, fitted in the pipe D, or at the bend of a siphon-shaped suction pipe of a pump, in connexion with a plug or stopper *c*, attached to an arm I, provided with a float *g*, and fitted within a chamber H, communicating with the pump-cylinder A, or the cylinder pipe through which the water is discharged, all arranged to operate substantially as and for the purpose specified.

Also, the relative arrangements of the air-chamber F, valves C and G, and pump cylinder A, substantially as herein shown and described.

No. 42,129.—George True, Funchal, Madeira.—*Mechanism for Operating Churns.*—March 29, 1864.—This invention consists in pivoting a barrel-shaped churn in a yoke or hoop in such a manner that the churn can be made to assume a more or less angular position within the frame. Attached to the churn is a series of gear-wheels, and a fly-wheel for imparting a rotary motion to the churn, and the whole is mounted upon a frame having at each side standards provided with racks into which the gear-wheels engage, so that the churning is accomplished by the action of the gravity of the barrel and its contents.

Claim.—First, the barrel G, hung upon pivots *g*, in a rotary hoop E, in combination with the toothed racks D D′, sliding carriages C C′, and suitable gear-wheels and pinions, all constructed and operating in the manner and for the purpose substantially as described.

Second, the sliding pinion e^*, in combination with the gear-wheels *c d e*, rack D′, sliding carriage C′, and barrel G, constructed and operating substantially as and for the purpose set forth.

Third, the application of the segmental flanges *h*, to the heads of the barrel G, when the latter is hung upon pivots *g*, in the rotary hoop E, substantially as and for the purpose specified.

No. 42,130.—Marshall Turley, Council Bluffs, Iowa.—*Washing Machine.*—March 29, 1864.—This invention relates to that class of washing machines in which the operation of washing is effected by the action of a pounder, which is placed in an ordinary washtub with a corrugated or slatted bottom, and to which a reciprocating motion is imparted by a hand lever.

Claim.—The pounder C, with an oval head *b*, and suspended by means of a pivot *d*, from the hand lever D, in combination with the brackets E, socket *e*, strap *f*, and spring *g*, constructed and operating in the manner and for the purpose substantially as herein shown and described.

No. 42,131.—Charles Twyford, Red Bank, N. J.—*Brush.*—March 29, 1864.—This invention consists in inserting the buts of the bristles in a band of sheet metal, and securing the same therein by means of a metal wire which passes transversely through perforations in the metal band and the bristles, the ends of the bristles within the metal band being covered with shellac, and the wooden handle fitted in the metal band and secured therein by transverse rods headed or riveted at their ends. The lower edges of the band are turned upward so as to cover the wire which passes through the metal band and bristles.

Claim.—A whitewash, varnish, or other similar flat brush, constructed by having the bristles B, fitted or placed within a metallic band A, and secured therein by means of a wire *a*, passing through the bristles, and the perforations *b*, in the band and covered with shellac *c*, the wooden handle D, being secured in the band A, as shown, and all arranged substantially as and for the purpose set forth.

No. 42,132.—Joseph Van Houten, Mount Morris, N. Y.—*Attachment to Fanning-mill Shakers.*—March 29, 1864.—This invention relates to the attachment to the ordinary bent lever or shaker of a fanning-mill of a separate or independent and adjustable arm, for the purpose of reducing the motion of the shoe to its minimum distance.

Claim.—The employment of the attachment D, constructed, arranged, and operating substantially in the manner and for the purposes described, in combination with the shaker C.

No. 42,133.—J. H. Van Riper, New York, N. Y.—*Knife Cleaner.*—March 29, 1864.—This device consists of a box for holding the scouring material used in cleaning knives, having a rubber attached to an arm which moves in openings in the side of the box and transversely across the blade of the knife, which latter is held in openings in the box at right angles to the rubber bar.

Claim.—An instrument or device for cleaning knives, composed of a box provided at two opposite sides or points with guides to receive a reciprocating rubber bar, and provided with recesses at its other two sides or at two opposite points which are in a plane at right angles or thereabouts with the plane of the guides, to admit of the knife blade being passed under the rubber of the reciprocating bar at right angles or nearly so with the latter, substantially as set forth.

No. 42,134.—Charles Weil, New York, N. Y.—*Album Clip.*—March 29, 1864.—This device consists of two thin plates of metal or other suitable material, one being much shorter in length than the other, and so connected and arranged as to hold a card and enable it to be readily inserted within the leaves of an album.

Claim.—The combination of two blades or thin and smooth pieces of iron, steel, or bone, or other suitable material, in the manner above described, for the purpose of inserting a card portrait or picture into paper, pasteboard, or other frail frames of the nature and kind generally used for albums.

No. 42,135.—David H. Wood, Sandusky, N. Y.—*Device for Destroying Vermin and Insects.*—March 29, 1864.—This invention consists in the employment of a small vessel, in which water is heated for the generation of steam by means of an alcoholic lamp placed underneath the same. In the upper part of the vessel is arranged a pipe, flexible or otherwise, through which the steam can be ejected upon bedsteads or other articles which may be infested with vermin, for the purpose of destroying the said vermin.

Claim.—The combination and arrangement of the steam chamber A, heater J, and pipe G, when the parts are constructed as shown and described, and for the purposes set forth.

No. 42,136.—C. T. Woodman, Boston, Mass.—*Machine for Ornamenting Leather.*—March 29, 1864.—This invention consists in producing a pebbled or boarded grain or finish upon leather, by subjecting it to the pressure of a short revolving cylinder or roller of steel or other metal, having the required design or figure engraved upon its periphery, and rolling over a table which is supported by springs on its under side. The table may be raised or lowered by means of an arrangement of toggles, arms, and a cam, when desirable.

Claim.—First, boarding or pebbling skins or leather by means of a single short cylinder rolling over a table, with the requisite pressure, substantially as described.

Second, raising and lowering the table A, by means of the toggles Q, arm S, spring U, arm T, and cam P, or their equivalents, substantially as set forth and for the purpose described.

No. 42,137.—Thaddeus C. Banks, assignor to himself and Samuel A. Banks, New York, N. Y.—*Signal Whistle.*—March 29, 1864.—This invention consists in constructing a signal whistle with more than one pipe or barrel, combined with a common mouth-piece, so as to produce discordant sounds.

Claim.—Constructing a signal whistle of more than one pipe or barrel, but each combined with a common mouth-piece, in the manner and for the purpose substantially as set forth.

No. 42,138.—John B. Crowley, assignor to Chamberlain & Co., Cincinnati, Ohio.—*Bailed Hollow-ware.*—March 29, 1864.—This invention consists in making the ears of bailed hollow-ware of three studs, the one in the centre being above those at each side, and all three being connected by a centre-piece. The bail is secured upon the centre stud, and is supported when down by the studs on either side.

Claim.—As a new article of manufacture, a pot or kettle A, having bail ears of the form B B′ C D E E′, constructed and operating in the manner set forth.

No. 42,139.—Cyrus B. Holden, assignor to himself and S. H. Bowker, Worcester, Mass.—*Breech-loading Fire-arm.*—March 29, 1864.—This invention consists in the peculiar arrangement of a hinged or folding breech block provided with separate or independent hammer rods on each section of the breech block, which are brought into contact when the said folding breech is in its proper position.

Claim.—First, the breech piece D, and brace lever E, combined with each other and with the frame of the arm, substantially as herein specified.

Second, the two pins *p q*, one applied to slide in the brace lever E, and the other to slide through the breech piece D, and the two combined to operate substantially as herein described.

No. 42,140.—E. N. Horsford, Cambridge, Mass., assignor to John H. Cheever, New York, N. Y.—*Double Phosphate of Lime and Soda for Culinary and other Purposes.*—March 29, 1864.—This invention consists in the preparation of a double phosphate of lime and soda or other alkali, the base being in the proportion of about seven equivalents to six of acid. The composition is designed to be used as a baking powder or substitute for yeast.

Claim.—The double phosphate of lime and soda of the composition and preparation substantially as above described, for the uses above set forth.

No. 42,141.—Francis Hovey, assignor to E. W. Frost, New York, N. Y.—*Copying Press.*—March 29, 1864.—The object of this invention is to make a more economical connexion between the screw and the platen, and it consists in having the upper surface of the platen provided at its centre with a chamber for receiving the soft metal.

Fourth, the application of an elastic band, or its equivalent, for the purposes and in the manner set forth.

No. 42,128.—WILLIAM H. THOMAS, Sacramento, Cal.—*Pump.*—March 29, 1864.—The object of this invention is to keep the pump always charged with water after having been once put in operation. The main cylinder terminates just below the sweep of the piston, at which point the lower end of an S-shaped pipe is united to it, the upper end of the said pipe being connected with a perpendicular pipe above the level of the upper range of the piston. A portion of this perpendicular forms an air-chamber. The lower end of the said pipe rests on the bottom of the well, near which is a ball valve for preventing the return of the water. An aperture at the upper bend of the curved pipe is kept closed by a float valve in a box communicating with the main cylinder, so long as the water is up to the level of said valve, but opens when the water falls below this level.

Claim.—The vent or tube *b*, fitted in the pipe D, or at the bend of a siphon-shaped suction pipe of a pump, in connexion with a plug or stopper *c*, attached to an arm I, provided with a float *g*, and fitted within a chamber H, communicating with the pump-cylinder A, or the cylinder pipe through which the water is discharged, all arranged to operate substantially as and for the purpose specified.

Also, the relative arrangements of the air-chamber F, valves C and G, and pump cylinder A, substantially as herein shown and described.

No. 42,129.—GEORGE TRUE, Funchal, Madeira.—*Mechanism for Operating Churns.*—March 29, 1864.—This invention consists in pivoting a barrel-shaped churn in a yoke or hoop in such a manner that the churn can be made to assume a more or less angular position within the frame. Attached to the churn is a series of gear-wheels, and a fly-wheel for imparting a rotary motion to the churn, and the whole is mounted upon a frame having at each side standards provided with racks into which the gear-wheels engage, so that the churning is accomplished by the action of the gravity of the barrel and its contents.

Claim.—First, the barrel G, hung upon pivots *g*, in a rotary hoop E, in combination with the toothed racks D D′, sliding carriages C C′, and suitable gear-wheels and pinions, all constructed and operating in the manner and for the purpose substantially as described.

Second, the sliding pinion e^{*}, in combination with the gear-wheels *c d e*, rack D′, sliding carriage C′, and barrel G, constructed and operating substantially as and for the purpose set forth.

Third, the application of the segmental flanges *h*, to the heads of the barrel G, when the latter is hung upon pivots *g*, in the rotary hoop E, substantially as and for the purpose specified.

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Claim.—The pounder C, with an oval head *b*, and suspended by means of a pivot *d*, from the hand lever D, in combination with the brackets E, socket *e*, strap *f*, and spring *g*, constructed and operating in the manner and for the purpose substantially as herein shown and described.

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Claim.—A whitewash, varnish, or other similar flat brush, constructed by having the bristles B, fitted or placed within a metallic band A, and secured therein by means of a wire *a*, passing through the bristles, and the perforations *b*, in the band and covered with shellac *c*, the wooden handle D, being secured in the band A, as shown, and all arranged substantially as and for the purpose set forth.

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Claim.—An instrument or device for cleaning knives, composed of a box provided at two opposite sides or points with guides to receive a reciprocating rubber bar, and provided with recesses at its other two sides or at two opposite points which are in a plane at right angles or thereabouts with the plane of the guides, to admit of the knife blade being passed under the rubber of the reciprocating bar at right angles or nearly so with the latter, substantially as set forth.

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Claim.—The combination of two blades or thin and smooth pieces of iron, steel, or bone, or other suitable material, in the manner above described, for the purpose of inserting a card portrait or picture into paper, pasteboard, or other frail frames of the nature and kind generally used for albums.

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Claim.—The combination and arrangement of the steam chamber A, heater J, and pipe G, when the parts are constructed as shown and described, and for the purposes set forth.

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Claim.—First, boarding or pebbling skins or leather by means of a single short cylinder rolling over a table, with the requisite pressure, substantially as described.

Second, raising and lowering the table A, by means of the toggles Q, arm S, spring U, arm T, and cam P, or their equivalents, substantially as set forth and for the purpose described.

No. 42,137.—THADDEUS C. BANKS, assignor to himself and SAMUEL A. BANKS, New York, N. Y.—*Signal Whistle.*—March 29, 1864.—This invention consists in constructing a signal whistle with more than one pipe or barrel, combined with a common mouth-piece, so as to produce discordant sounds.

Claim.—Constructing a signal whistle of more than one pipe or barrel, but each combined with a common mouth-piece, in the manner and for the purpose substantially as set forth.

No. 42,138.—JOHN B. CROWLEY, assignor to CHAMBERLAIN & CO., Cincinnati, Ohio.—*Bailed Hollow-ware.*—March 29, 1864.—This invention consists in making the ears of bailed hollow-ware of three studs, the one in the centre being above those at each side, and all three being connected by a centre-piece. The bail is secured upon the centre stud, and is supported when down by the studs on either side.

Claim.—As a new article of manufacture, a pot or kettle A, having bail ears of the form B B′ C D E E′, constructed and operating in the manner set forth.

No. 42,139.—CYRUS B. HOLDEN, assignor to himself and S. H. BOWKER, Worcester, Mass.—*Breech-loading Fire-arm.*—March 29, 1864.—This invention consists in the peculiar arrangement of a hinged or folding breech block provided with separate or independent hammer rods on each section of the breech block, which are brought into contact when the said folding breech is in its proper position.

Claim.—First, the breech piece D, and brace lever E, combined with each other and with the frame of the arm, substantially as herein specified.

Second, the two pins *p q*, one applied to slide in the brace lever E, and the other to slide through the breech piece D, and the two combined to operate substantially as herein described.

No. 42,140.—E. N. HORSFORD, Cambridge, Mass., assignor to JOHN H. CHEEVER, New York, N. Y.—*Double Phosphate of Lime and Soda for Culinary and other Purposes.*—March 29, 1864.—This invention consists in the preparation of a double phosphate of lime and soda or other alkali, the base being in the proportion of about seven equivalents to six of acid. The composition is designed to be used as a baking powder or substitute for yeast.

Claim.—The double phosphate of lime and soda of the composition and preparation substantially as above described, for the uses above set forth.

No. 42,141.—FRANCIS HOVEY, assignor to E. W. FROST, New York, N. Y.—*Copying Press.*—March 29, 1864.—The object of this invention is to make a more economical connexion between the screw and the platen, and it consists in having the upper surface of the platen provided at its centre with a chamber for receiving the soft metal.

Claim.—The combination of the following elements, to wit, the plate E, and socket D, cast in one piece, the screw C formed with a journal *c d*, and groove *a*, and the soft metal filling *b*, introduced through an aperture *f*, into the chamber *e*, of the socket D, all as herein specified and for the purposes explained.

No. 42,142.—**Arthur Little**, assignor to **Busby, Little & Co.**, Wheeling, West Va.—*Army or Wagon Train.*—March 29, 1864.—This invention consists in attaching to army or train wagons adjustable racks arranged in such a manner as to be capable, when not required for use, of being folded against the sides of the wagon, so as to be out of the way.

Claim.—The combination of adjustable racks with a wagon, arranged and applied to operate substantially in the manner as and for the purpose herein set forth.

No. 42,143.—**Frederick McKee** and **Charles Bullinger**, assignors to **McKee & Brothers**, Pittsburg, Penn.—*Glass-pressing Machine.*—March 29, 1864.—This invention consists in a method of applying steam power to a piston and plunger for pressing glass in moulds; the piston rod of the steam cylinder being separated from the piston rod of the plunger in such a manner that while both shall descend together, the steam piston rod may rise without the other. With the divided piston and the pressing mechanism is combined an overpoise weight, so that when the press is run down by the action of the steam the operator may hold it down, while the steam piston may rise up without it, and the overpoise, when released, raise it up. With the divided joint of the two pistons are combined spring jaws that hold and release the mechanism by which the steam valves are operated, thus making the press partially automatic.

Claim.—First, operating the piston of a plunger in glass-pressing by the application of steam applied in the line of the piston or plunger, substantially as described.

Second, the separation between the plunger rod and the piston rod, so that the latter may, after forcing down the plunger, raise up, while the plunger remains momentarily down, for the purpose and substantially in the manner described.

Third, the combination of the overpoise lever H with the pressing mechanism, for carrying up said mechanism after the piston rod has ascended, substantially as described.

Fourth, in combination with the piston and plunger rods the spring jaw levers *a c*, and rod *e*, with its attachment to the arm *h*, for the purpose of working the valves of the steam cylinder, substantially as described.

No. 42,144.—**Edward Mingay**, Boston, Mass., assignor to **Lemuel M. Leonard**, Taunton, Mass.—*Stove.*—March 29, 1864.—This invention consists in arranging a valve for the admission of air into the smoke flue so as to control the draught, in an enlargement made in the stove just below the pipe collar.

Claim.—Improved arrangement of air valve *b*, seat *a*, opening *g*, and conduit B, together, and with respect to a smoke pipe A, or flue, and so as to operate therewith, substantially as described.

No. 42,145.—**Samuel Myers**, assignor to hmself and **George W. Early**, Chicago, Ill.—*Apparatus for the Manufacture of Vinegar.*—March 29, 1864.—This apparatus consists of a series of tanks placed one above the other to the height of thirty or more feet, so that the acidification of the alcohol, high wine, or other liquid, will take place as the same descends from the upper to the lowest tank. In order to prevent the air passing up the sides of the tanks, triangular ledges or projections are placed at intervals on the inner sides of the tanks, and, to control the admission of air, doors are placed on the sides. Cords of fibrous material are used in connexion with the tanks for the purpose of exposing the liquid to the largest possible quantity of atmospheric air and promoting the acidification.

Claim.—First, the arrangement of triangular ledges or projections *a* on the inner sides of the filling tanks B, substantially as and for the purpose specified.

Second, the application of doors *d*, to the air chambers C, as and for the purposes set forth.

Third, the combination of the strips *a a a*, and cords or strips *e e e*, with a vertical series of tanks and chambers B C B C, as herein shown and described.

No. 42,146.—**Joseph F. Sargent** and **Elmer Townsend**, assignors to the said **Elmer Townsend**.—*Punching Machine.*—March 29, 1864.—To punch a series of holes at once, whether in straight or curved lines, zig-zag or otherwise, (particularly for the insertion of eyelets,) the punches are held in vertical sockets forming parts of a series of keys, which move in a slot in a plate above, to which plate they are clamped by means of a vertical set screw, the operation of punching being effected by means of a double-crank movement below, which forces the angle up against the punches.

Claim.—Constructing a punching machine so that its punches may be adjusted in any direction in their plane of action, substantially as described.

Also, working the movable bed with reference to fixed punches, by means of slide *l*, and levers *r*, *q*, and *b*, operating together as described.

No. 42,147.—**George H. Sellers**, assignor to the Phœnix Iron Company, Phœnixville, Penn.—*Manufacture of Bar Links.*—March 29, 1864.—In this process the bar of metal to be operated upon is firmly clamped upon a long supporting table, at one end of which are three swages, one for stairing up or upsetting and widening out the end of the bar, and two lateral ones for imparting to the expanded portion the proper shape, any increase in the thickness of the upset portion being at the same time prevented by an adjustable plate, which clamps it down more or less tightly upon the table.

Claim.—The making of links from rolled bars without welding on the enlarged portions, viz., by upsetting the iron at each end of the bar by and within suitable formers, and so that the sectional area of said ends, through the centre of the pin-holes, shall equal the area of the centre of the bar, substantially as and for the purpose described.

No. 42,148.—**John H. Snyder**, Killbuck, Ill., assignor to **Nelson Bigelow**, Scott, Ill.—*Harvester.*—March 29, 1864.—This invention consists in an arrangement of parts whereby the cutting apparatus and platform are elevated or depressed while being retained in the horizontal or working position for the purpose of changing the machine from the ordinary to a heading reaper, and *vice versa;* the standing grain being cut and raked into gavels, which are discharged from one side of the machine.

Claim.—The arrangement of the cutting apparatus, apron, raker, and frame G, with the V-shaped adjusting lever E and frame A, in the manner herein shown and described.

Also, the combination of the spring flap *k* with the rake J and box I, all constructed, arranged, and operating in the manner herein shown and described.

No. 42,149.—**Henry T. Stains**, Scottsville, Penn., assignor to **Robert Baird**, Shirleysburg, Penn.—*Sewing Machine.*—March 29, 1864.—This invention consists of a device for holding stationary the stitching device of Henry Hudson, which was patented November 1, 1859, or any other similar stitching device, in proper position over an adjustable table in such a manner that said stitching device can be used as a stationary sewing machine.

Claim.—The employment or use of a standard A and screw clamp D in combination with a vertically adjustable table F, and with the bed plate of a stitching device, all constructed and operating substantially as and for the purpose herein shown and described.

No. 42,150.—**Robert Wood**, West Troy, N. Y., assignor to **Henry I. Seymour**, Troy, N. Y.—*Chair Seat.*—March 29, 1864.—This invention consists in securing to the frame of a chair back or seat a series of parallel slats of some thin strong wood, the ends of the slats being fitted and glued in shallow grooves in the said frame.

Claim.—Chairs containing seats or backs, made substantially as described, as a new article of manufacture.

No. 42,151.—**John Agnew**, Bath, Penn.—*Corn Planter.*—April 5, 1864.—This invention relates to that class of seed-planters which are designed for planting seed in hills and in check rows, and it consists in the employment of a seed-dropping mechanism with means for turning the same out of gear simultaneously with the elevating of the shoes or furrow openers, whereby the seed-dropping drill is placed under the complete control of the driver, and is capable of being manipulated by him when the machine is drawn along.

Claim.—The sliding or adjustable crank shaft I, connected with the bar G of the slides F F by means of the pitmen H H, in combination with the bar J, provided with the bevelled projection *d*, the shaft K, lever M, and cranks *h h*, connected with the furrow openers O, all being arranged to operate substantially in the manner as and for the purpose herein set forth.

No. 42,152.—**G. W. Arnold**, Morgantown, West Virginia.—*Ambulance.*—April 5, 1864.—The object of this invention is to arrange the couches so that they will be retained in proper position in the ambulance when the same is passing over inclined ground, the couches being also allowed to yield or give vertically under the jarring movement of the ambulance, which is effected by pivoting the couches at the head and foot, the pivots being made to play vertically upon stout posts surrounded by spiral springs, which support the pivot blocks. A device for raising or lowering the curtains of the ambulance is also employed to suit the state or condition of the patient.

Claim.—An ambulance provided with couches suspended on pins *g g*, which are attached to slides H, the latter being fitted on vertical rods I, and resting on spiral springs J, substantially as herein shown and described.

Also, attaching the side curtains F to rollers C, substantially as described, to facilitate the raising and lowering of the curtains as may be required.

No. 42,153.—**J. E. Atwood** and **G. Holland**, Mansfield, Conn.—*Manufacture of Sewing Silk.*—April 5, 1864.—This process consists in winding the silk whilst moist from one roller to another of larger size, both being driven at the same velocity, and thus giving it as great a tension as it will bear without breaking. The several strands are hence laid more evenly upon each other, and the irregularities due to the gradually diminishing thickness of the filaments as drawn from the cocoon and to the carelessness of the attendant in "matching" are thus designed to be overcome.

Claim.—The process of giving sewing silk a uniform or evenly twisted appearance by subjecting the same, after being twisted and moistened, and before being deprived of its natural gum, to a requisite degree of tension, in the manner substantially as herein set forth.

No. 42,154.—**John Baird**, New York, N. Y.—*Slide Valve for Steam Engines.*—April 5, 1864.—The object of this invention is to prevent the friction caused by too much pressure upon the back of valves when their whole surface is exposed to such pressure, and it consists in combining a face plate with a valve in such a manner that a lateral or endwise motion of the former will cause its contact to be more or less close with the valve while the entire pressure of the steam is borne upon the face plate. The valve, moving between the said face plate and the valve seat, is relieved of much of the friction that it would otherwise be subject to.

Claim.—The combination of a face plate with a slide valve by means substantially as described, whereby an endwise or lateral motion of the former causes its acting face to recede from or approach the back of the latter, substantially as set forth.

No. 42,155.—**Lucien Bardoux**, Poitiers, France.—*Manufacture of Paper Pulp.*—April 5, 1864.—Patented in France June 7, 1861.—This invention consists in boiling, pounding, and washing the material of which paper is to be made, then treating it with sulphuric acid and bleaching liquor successively until a fine fibre is obtained. The substances designed to be treated in this way are potatoes, beans, peas, turnips, cabbage, bran, broom grass, ferns, and the stems and leaves of most trees.

Claim.—The above described process of making pulp for the manufacture of paper and pasteboard, adapted to vegetable as well as animal substances.

No. 42,156.—**Edward Beanes**, London, England.—*Treating Animal Charcoal.*—April 5, 1864.—This invention consists in impregnating dry animal charcoal with dry hydrochloric acid gas. After saturation, the gas is permitted to remain a sufficient length of time to change the alkaline and earthy carbonates into soluble chlorides; the excess of gas is then expelled and the charcoal dried to remove all soluble matters. Heretofore, animal black has been treated with liquid acid, but this is objected to inasmuch as the bone phosphates are thereby injured.

Claim.—The employment of hydrochloric acid gas, and chlorine in a gaseous state, in the preparation and treatment of animal charcoal, substantially as and for the purpose herein described.

No. 42,157.—**Elizabeth F.** and **Sidney S. Bedford**, Johnstown, N. Y.—*Ladies' Leggin.*—April 5, 1864.—This leggin is made of leather lined with cloth, and made to fit the leg closely, extending from the upper part of the calf of the leg to the ankle joint and over the instep. At the top of the leggin is an elastic garter provided with a clasp to keep it in position, and an elastic strap is also attached to the bottom and passing under the centre of the foot.

Claim.—The construction and arrangement of the ladies' leggin, as herein described and for the purposes set forth.

No. 42,158.—**Job W. Blackham**, Brooklyn, N. Y.—*Device for Sewing Hat-linings in Sewing Machines.*—April 5, 1864.—By means of this device a piece of cloth of oval form, such as the flat portion of the lining of a hat, is, whilst held in a revolving oval plate, fed properly to the needle so as to cause the line of stitches whilst sewing together the flat and cylindrical parts of the lining to be of an oval instead of a circular form. The plate with its axis and bearings receives a horizontal reciprocating motion through the action of oval cams against fixed grooved wheels, so that although the axis of the plate is constantly shifting its position, yet its edge which presents the cloth to the needle will always preserve the same distance from the needle.

Claim.—First, in combination with the operative parts of a sewing machine, the within described arrangement of the ways *a a*, anti-friction wheels *b b*, and traversing carriage B, adapted to support the part which carries the hat tip, and allow it to rotate and slide freely back and forth, as herein specified.

Second, in connexion with the above the employment of the two ovals E and F, arranged at right angles to each other and adapted to act on the wheels G H, or their equivalents, so as to give a positive motion in both directions, substantially in the manner and for the purpose herein set forth.

No. 42,159.—**Reuel Blackwood**, Philadelphia, Pa.—*Method of Expanding Tubes in Tube Sheets.*—April 5, 1864.—This invention consists in combining a small hydraulic press with the frustum of a cone, and a clamp which is made to abut against the press and the grooved ferrule, which is used for securing the ends of the flues in the tube sheets at the same time. The rod of the press is provided with a T-shaped head, which is passed through the frustum and turns one-fouth of a revolution, which causes its head to bear upon the sides of the frustum in consequence of the smaller diameter of the aperture in that direction. This frustum is then inserted into the ferrule and the whole into the tube which is in position, and the press is operated by a hand lever which causes the frustum to be drawn through the ferrule, and the flue is thus firmly secured in its place.

Claim.—The employment of a hydraulic press provided with a head *a*2 on its projecting main stem *a'*, in combination with the frustum of a cone E and a suitable clamp F, arranged to operate together, substantially in the manner described for the purpose specified.

No. 42,160.—**H. S. Blood**, New Orleans, La.—*Clothes-dryer.*—April 5, 1864.—This invention consists in the employment of brackets such as are used by painters, in connexion with a platform and a series of poles attached to the brackets in such a manner as to admit of their being rotated so as to wind the clothes upon them when passing out of the window. The device is constructed so as to be readily applied to and removed from a window.

Claim.—First, the employment or use of a series of poles D fitted to a platform C, or to any suitable fixture attached to a window-sill, in such a manner that said poles may be capable of being rotated for the purpose of winding the clothes upon them and unwinding the clothes therefrom, substantially as and for the purpose herein set forth.

Second, the segment or curved bars *k i* attached to the platform C, and provided respectively with notches *l*, buttons *m*, and holes *j*, for the purpose of securing the poles D to the platform, as herein described.

Third, the combination of the brackets A A, poles D, and platform C, the latter being provided with suitable fastenings for the poles, and all arranged to operate substantially as and for the purpose herein set forth.

No. 42,161.—**Charles T. Boardman**, Bergen Point, N. J.—*Steam Heater.*—April 5, 1864.—This invention consists in an arrangement of deflectors, in combination with a series of upright steam tubes, and upper steam chamber, and a surrounding air casing, for the purpose of conducting the air to be heated among the said tubes, and in contact with the whole of the surface in the said upper chamber. The flue of the boiler is combined with an air-casing surrounding the boiler and radiator, so that the heat of the escaping gaseous products of combustion is economised by using it partly to heat the boiler and partly to heat the air for the supply of a building or apartment.

Claim.—First, the combination of the horizontal deflectors *j* and vertical deflectors *k* with the boiler A, annular flue C, and deflector D E, constructed, arranged, and operating as described.

Second, the combination with each other and with the boiler A, and radiator D D F, of the annular flue C, casing F, and deflector *i*, substantially as and for the purpose herein set forth.

No. 42,162.—**William E. Bond**, Cleveland, Ohio.—*Step Ladder.*—April 5, 1864.—This invention is mainly explained by the claim, the object being to construct the side bars and step boards in such a way as to guard against lateral swaying.

Claim.—The herein described construction of the side bars A A, with step boards B C E F, in combination therewith, and having their ends cut at continually varying angles, and by their union with each other causing a spiral or twisted form of the side bars in opposite directions, in the manner and for the purpose specified.

No. 42,163.—**Pierre Buisson**, New York, N. Y.—*Artificial Fuel.*—April 5, 1864.—This invention consists in agglomerating anthracite coal dust by means of a mixture of from four to ten per cent. of the solid residuum from the distillation of petroleum. The use of ordinary asphalt, tar, &c., is disclaimed.

Claim.—Uniting anthracite coal dust with petroleum residuum to form blocks or lumps of artificial fuel, as specified.

No. 42,164.—**John P. Burnham**, Chicago, Ill.—*Wind Wheel.*—April 5, 1864.—This invention relates to that class of wind wheels in which the wind is conducted by a series of stationary boards to a wheel, arranged on the interior of each board, and made to rotate on a vertical shaft. The moving wheel consists of two concentric rings, having wooden uprights or sails corresponding in number and relative position to the exterior stationary boards. The interior sails are made in sections, standing, when the wheel is moving, so as to form two sides of an equilateral rectangle, the inner side being fixed and the outer side being pivoted at its centre above and below. The outer side of each pivoted section descending below the lower ring is pivoted to a horizontal arm, which is secured to the under side of a small disk beneath the revolving wheel. Descending from this disk is a tube having an oblique slot in one side, and within this tube is a sleeve having a set screw which moves in the slot so as to be elevated or depressed at will, by which means the pivoted sails of the inner wheel may be caused to stand at right angles to the fixed sails of the same, or to stand nearly in line with the periphery of the said inner wheel, or at any desired intermediate angle.

Claim.—First, the combination of the regulating sections *f*, fixed sections *e*, rings 6, stationary boards A, and regulating disk E, all constructed and operating in the manner and for the purpose shown and described.

Second, the oblique slotted tube *j* and disk E, in combination with the vertically sliding sleeve *k* and regulating sections *f* of the sails D, constructed and operating as and for the purpose set forth.

No. 42,165.—**Amos Chase**, Weare, N. H.—*Currier's Arm or Grain Board.*—April 5, 1864.—This invention consists in the employment of a grain board for curriers' use, provided with detached faces; the said board having a flange turned so as to form a groove into which the detached surfaces are made to slide, and by which they are held firmly, but so as to admit of their being readily removed and replaced by others when necessary.

Claim.—The construction of curriers' grain boards with detached faces.

Also, the flanges *a a*, (Fig. 1,) grooves *b*, (Figs. 2 and 3.)

No. 42,166.—E. S. CLAPP, Montague, Mass., and EMORY BLANCHARD, Amherst, Mass.—*Fence.*—April 5, 1864.—This invention consists in constructing the panels of the fence of longitudinal strips attached parallelly to upright bars, a single nail or bolt passing through the strips and bars where they intersect each other, the said panels being connected together and secured to the earth by means of stakes which pass through metal loops or eyes attached to the ends of the panels, all so arranged as to admit of the panels being adjusted in a straight line, or in a zigzag or other form as desired, and on level or inclined ground as circumstances may require.

Claim.—The combination of the projecting pivoted loops B B, stakes C, and pivoted panel A, all adapted to operate as herein described.

No. 42,167.—JOHN CODY, New York, N. Y.—*Rock Drill.*—April 5, 1864.—The object of this invention is to operate the drill so as to cause it to act against the rock with a uniform blow throughout the entire length of the hole to be drilled. In the upper part of the frame of the machine is a horizontal driving shaft, provided with a crank, a pinion, and a driving wheel, which latter is placed loosely on the shaft, and made to turn only in one direction by means of a ratchet. The pinion upon the said shaft gears into another pinion upon a shaft having a spiral cam upon it which turns a worm wheel provided with an arbor. This arbor is allowed to rise and fall through the worm wheel, which it is also made to turn, and at the lower end of the arbor is secured a drill. The lower part of the arbor passes through a cross-bar, to which are connected cords that pass over drums upon a shaft in the upper part of the frame. To the under side of the lowest cross-bar are two springs having cords attached to them which pass under pulleys and around a shaft in the upper and rear part of the frame, the said shaft being also provided with a pulley and cord with a weight attached to the free end, by means of which the springs are kept at a proper tension.

Claim.—First, operating the drill J through the medium of the crank *a*, cord V, pinions Q R, on the shafts P S, the pinion R having a smooth portion *f* on its periphery, and the cords N N attached to the cross-bar K and drums O O on the shaft P, arranged substantially as set forth.

Second, the springs X X attached to the bar K and connected by the cords Y to the shaft A′, having the pulley C′ upon it provided with the cord and weight *b′* B″, substantially as and for the purpose specified.

No. 42,168.—VIRGIL P. CORBETT, Washington, D. C.—*Sleeping Gorment for Travellers.*—April 5, 1864.—This invention consists in attaching to the corners of the collar of the garment a cord or strap, the slack of which may then be secured to the ceiling of a car or held in front by the knee or otherwise, the head resting upon the thus supported collar.

Claim.—The combination of the straps or cords *s s* with the collar *c* of a traveller's garment, as and for the purposes specified.

No. 42,169.—ISAAC C. CRANE, Edgerton, Ohio.—*Harvester Sickle.*—April 5, 1864.—The vibrating cutters are pivoted at their points to the guard fingers in advance of the point of the reciprocating cutters, and at their rear ends to the bar which carries the reciprocating cutters, in such a manner as to allow the said bar to be reciprocated in straight lines across the fingers.

Claim.—In the described combination with the finger bar A, fingers B, and scalloped reciprocating blade C D, the vibrating blades E, pivoted at their front ends to the fingers, and at their rear ends to the reciprocating blade, substantially as represented.

No. 42,170.—GUSTAVUS CUPPERS, New York, N. Y.—*Belt Clasp.*—April 5, 1864; antedated March 23, 1864.—This invention consists in forming the ends of the outer cheek B of the clamp, with lips turned at right angles to the interior face of the same, and adapted to overhang the lips of the inner cheek so as to cause the ends of the belt to bend at right angles in the spaces between the clamps.

Claim.—The construction and use of belt clasps formed as herein described, the material of the belt being bent at right angles or nearly so between the lips *b1 b2* and the bodies B and C, for the purpose herein set forth.

No. 42,171.—DAVID DAVIS, JOSEPH HIEBELER, and SAMUEL A. PORTER, Prescott, Wis.—*Raking Attachment to Harvesters.*—April 5, 1864.—This invention consists in an arrangement of devices whereby the rake is caused to sweep over the platform from its front to its back erect, and rake the cut grain therefrom, when the device is elevated and moved forward in an elevated position over the platform and above the grain falling thereon to its front end, at which point the rake is allowed to drop, and is then moved forward as before to perform the raking operation.

Claim.—Arranging or suspending the cam H in a swinging bar E, connected to a foot lever K by a cord or chain *h*, in connexion with the wheels J B attached respectively to the cam-shaft F and axle *a* of the driving wheel B. all arranged as and for the purpose specified.

No. 42,172.—JOHN DEERE, Moline, Ill.—*Cast-steel Mould.*—April 5, 1864.—This invention consists in lining the moulds used in casting steel with a composition made of powdered coke, charcoal, and plumbago, mixed to the consistency of cream, with water containing fire-clay diffused through it. To increase its adhesiveness a little beer or molasses may be added.

Claim.—The peculiar composition herein described for coating the interior surfaces of moulds of dry sand to be used in casting steel into shapes.

No. 42,173.—D. D. DEVOE, Ilion, N. Y.—*Grain Cradle.*—April 5, 1864.—This invention consists in the employment of a coupling band provided with a set screw and combined with a connecting rod, for the purpose of adjusting the points of the grain cradle and preventing them from twisting.

Claim.—The coupling band D with its set screw E, in combination with the connecting rod C, as and for the purpose herein described.

No. 42,174.—SAMUEL R. DUMMER, New York, N. Y.—*Combined Measure and Funnel.*—April 5, 1864.—This invention consists of a measure of a flaring form, having division lines made by exterior grooves so as to produce corresponding enlargements within. Half of the top is covered by an arched piece, to the centre of the base of which is attached a tapering discharge spout

Claim.—The conical graduated measure and funnel combined, forming a new article of manufacture, as specified.

No. 42,175.—CHARLES FASOLDT, Rome, N. Y.—*Regulating Watches.*—April 5, 1864.—The watch is regulated as usual by varying the length of the hair spring; but in order to insure precision the outer end of the hair spring is secured to the end of a free arm of an elastic bow, the other arm being fixed to the foundation plate. The motion of the free end of the arm is controlled by an adjusting screw so as to expand or contract the hair spring at pleasure, and thus increase or diminish the rate of its vibrations.

Claim.—In combination with the screw *d* the bow spring C *c1 c2*, constructed and arranged substantially as hereinbefore set forth.

No. 42,176.—CYRUS FISHER, Leesburg, Ohio.—*Retarding the Blossoming of Fruit Trees.*—April 5, 1864.—This invention consists in placing around the bottom of the tree a frame, inside of which are dug holes for the reception of a quantity of chaff or sawdust. When the ground freezes the holes are filled with ice or water which will freeze, and the frame is packed with straw, and thus left until it is desired that the tree shall bloom, when the straw, &c., is removed. By this process the bloom of the fruit is retarded until danger from frost is passed.

Claim.—The process for retarding the bloom of trees, substantially as herein set forth and described.

No. 42,177.—GEORGE W. BROWN, Galesburg, Ill.—*Corn Planter.*—April 5, 1864.—This invention consists in the employment of a series of flat spring cut-offs, each operating independently of the other, and used in combination with a rotating disk provided with a corresponding series of seed cells so arranged that a cell containing a single seed is brought under each spring cut-off. Immediately over the said disk is placed a series of stationary radial arms, which also act as cut-offs, and thus serve to relieve the spring cut-offs of a portion of the strain that would otherwise come upon them.

Claim.—First, in combination with the above described duplicate seed cups *i1 i2* the duplicate spring cut-offs J1 J2, arranged substantially as represented, and for the purpose herein specified.

Second, the fixed agitators *p1 p2*, arranged to act in combination with the duplicate seed cups *i1 i2*, substantially in the manner and for the purpose herein set forth.

No. 42,178.—GEORGE W. BROWN, Galesburg, Ill.—*Corn Planter.*—April 5, 1864.—This invention consists in making one of several slides (each of which closes a seed cell in a rotating disk independently of the others) of such width as only partially to close the cell with which it is connected, thereby reducing the size of the orifice through which the seed passes from the hopper to the planting tube, so as to adapt the machine to the planting of broom corn, sorghum, or similar seeds, smaller than the ordinary corn for which the machine is mainly intended.

Claim.—In combination with a series of duplicate seed cups and duplicate stops, arranged substantially as above specified, the employment of the partial stop *z*, arranged and operated substantially as and for the purpose herein set forth.

No. 42,179.—GEORGE W. BROWN, Galesburg, Ill.—*Corn Planter.*—April 5, 1864.—This invention consists in providing the seed tube, through which the grain falls in its passage, from the hopper to the furrow, with a transverse partition in connexion with a vibrating lever valve, which partition is so arranged in relation to the cells in the seed-distributing disk above as to divide the seed thus delivered by the disk, causing a portion to pass down on each side of the partition, for the purpose of effecting a proper distribution of the seeds in the hill or furrow, and preventing the stalks from crowding.

Claim.—In combination with duplicate seed cups i1 i2 and a vibrating valve N, operating substantially as described, the employment of the partition or division M *m* in the seed tube, adapted to serve substantially in the manner and for the purpose herein specified.

No. 42,180.—Robert N. Eagle, Washington, D. C.—*Riding Stirrup.*—April 5, 1864: antedated March 21, 1864.—The nature and object of this invention are explained by the claim and engraving.

Claim.—First, a stirrup frame of wood bent as described, with arms meeting below their upper ends, and continuing upward in the form of a web or neck to afford means of applying or attaching the suspending strap in any manner, substantially as described.

Second, a stirrup frame bent in proper form, with arms meeting at or near their upper ends and suspended by a strap, or its equivalent, passing through a slot or slots in the frame, or applied to the exterior thereof, without the intervention of a metallic cap.

Third, an open hood or toe piece G of leather or other material formed by pressure upon or within suitable dies, and having its lower end separate from the frame of the stirrup, and provided with a horizontal corrugation or external convexity *g*, to impart the required stiffness and strength.

Fourth, the use of one or more strengthening ribs or frames in combination with a stirrup hood or toe piece.

No. 42,181.—W. A. Flanders, Shelby, Ohio.—*Bee-hive.*—April 5, 1864.—In this hive the comb frames are hinged to the doors of a centrally divided hive by means of extension hinges in such a manner that when the parts of the hive are separated by opening on the hinges the frames of either half thereof may be thrown out together by the opening of the door to which they are hinged. The joints of the hive are made like the ordinary rule or table joint, in order to prevent the crushing of the bees.

Claim.—First, in combination with a dividing hive, constructed substantially as specified, bringing the comb frames by means of the extension hinge E F to the back or front walls, so that in opening the hive the comb frames are brought out of the hive in the manner and for the purpose set forth.

Second, so hinging the back or front of a hive, and so attaching the comb frames thereto, that on opening the hive all the frames attached to one section may be swung out of the hive together, as and for the purpose specified.

Third, in combination the curtained tube J, the division board H, tube H′, and glass H″, operating as described for the purpose specified.

Fourth, the queen and drone cages when constructed and operated as specified.

Fifth, the disk K, with the openings 1, 2, 3, and 4, in combination with the openings L, arranged and operating as and for the purpose set forth.

Sixth, forming the joints of any position of the bee-hive that opens and shuts, so that the angles and edges of the parts forming the joint or joints will not separate upon opening the hive, or impinge upon each other when the parts are being closed, substantially as specified for the purpose set forth.

No. 42,182.—Ben. Field, Albion, N. Y., and Geo. M. Pullman, Chicago, Ill.—*Sleeping Car.*—April 5, 1864.—This invention relates to that class of sleeping cars in which the seats can be converted into a continuous couch, and a second tier of couches is provided by a platform which is raised to the roof of the car when not used, and lowered to a convenient height when it is to be used.

Claim.—First, the spring catch F arranged in the edge of the back D of a car seat, and operating in combination with the notched branches e^{*} e'^{*} of the hinged arms E E′, substantially as and for the purpose specified.

Second, making the arm E′ out of two independently hinged branches e' e'^{*}, as and for the purpose set forth.

Third, the extension braces *l* and grooved guides *i* in combination with the hooks *h* and with the platform G, constructed and operating as and for the purpose described.

No. 42,183.—Clinton Foster, Prairie City, Ill.—*Road-grading Machine.*—April 5, 1864.—This invention consists in the employment of a rotating self-adjusting wheel provided with self-dumping buckets, and attached to a frame or truck which has a plough connected with it, all arranged in such a manner that as the machine is drawn along, the buckets of the wheel will, as the latter rotates, consecutively receive the earth thrown up by the plough and convey it around and discharge it at the desired point.

Claim.—First, the rotating, adjustable, and inclined wheel E provided with self-discharging buckets F, in combination with a plough I, said parts being attached to a framing A, and all arranged to operate substantially as and for the purpose herein set forth.

Second, giving the wheel E its self-adjusting movement by attaching the same to a bar C connected to the framing A by means of a hinge B, substantially as herein described.

Third, giving the buckets F of the wheel E a self-discharging movement by attaching them to the arms *b* of the wheel by means of hinges or joints *d*, and connecting the buckets by chains F, or their equivalents, to cranks *f* at the outer end of said rods G, the inner ends being provided with cranks *i′*, over which a cap H, provided with a groove *k* and recess *l*, is fitted, substantially as herein set forth.

No. 42,184.—George Fowler, Waterbury, Conn.—*Cloth Holder for Sewing Machines.*—April 5, 1864.—The object of this device is to insure the accurate sewing together of two or more pieces of cloth in a sewing machine, and also to overcome the liability of the piece upon which the feeding device comes in contact being fed faster than the others. Two teeth or hooks are employed, which penetrate the several pieces of cloth and keep them equally distended while the sewing takes place, and during the operation a rod A lies upon the bed plate, and is guided by means of a handle *a*. In sewing a long seam, after the portion between the teeth has been sewed, it is taken off the teeth and the next unsewed portion put on.

Claim.—The seam holder composed of a rod A and two teeth or hooks *b c*, one or both of which are adjustable upon the said rod, substantially as and for the purpose herein specified.

No. 42,185.—George P. Ganster, Waterbury, Conn.—*Percussion Fuze for Shells.*—April 5, 1864.—This invention consists of an outer screw tube or shell, in the rear of which is inserted a small tube *a*, the front or outer end of which is provided with a closing cap. In the smaller portion of the interior of the outer tube or case is fitted an annular plunger of lead or other soft and heavy metal, and has attached to its front end a thin metal tube *f*, of a calibre to fit the exterior of the small tube *a*, its front end nearly touching the cap of the projectile. Fitting loosely within the tube *f* is a capsule enveloped in a small quantity of loose cotton or other soft material, in which are introduced a few grains of fine gunpowder, and the space between the tubes *f* and outer casing is filled with shot or granular material.

Claim.—A percussion fuze composed of a screw tube A, closing cap B, tube *a*, thin tube *f*, with attached annular plunger *b*, globule C, soft material *j*, and shot or granular material *g*, the whole united in the manner herein shown and described.

No. 42,186.—John F. Griffin, New York, N. Y.—*Preserve Can.*—April 5, 1864.—This invention consists in making the can of metal or other opaque material, and the cover or stopper of the same of glass or other transparent substance.

Claim.—The combination of a glass or other transparent stopper, with a metallic or other opaque can or jar, substantially as described for the purpose set forth.

No. 42,187.—George W. Griswold, Abington, Penn.—*Metallic Boot, Shoe, or Sandal.*—April 5, 1864.—This invention consists in making the whole shoe or sandal of metal, or the sole and so much of the upper as shall protect the foot and hold the shoe or sandal to the foot. The shoe may be of cast iron and made in one or two pieces; and if in two pieces, a joint is made at the heel so as to yield to the motion of the foot.

Claim.—A shoe or sandal made of metal, substantially as and for the purpose herein described.

No. 42,188.—Edward Hamilton, Chicago, Ill.—*Closing or Stopping Bottles.*—April 5, 1864.—This invention is designed as an improvement upon a patent previously granted to the said Hamilton. The claims mainly describe the nature of the invention. The stopper consists of an elastic ball which is forced into the bottle, and when fixed in its seat in the neck of the same is made to close the bottle.

Claim.—First, the method herein described of bottling liquids, or of stopping bottles containing liquid, by the employment of an elastic impervious ball of a specific gravity greater than that of the liquid, in combination with recessing or contracting the neck of the bottle in such manner that the ball when let from within the bottle into the neck will be held therein by pressure upon its circumference.

Second, the method of bottling still liquids, or of stopping or closing the bottles containing or designed to contain liquids not charged with gases, or liquids charged with gases whose pressure is inadequate to effect the closing of the bottle automatically by the expansion of the gases within it, by forcing an elastic impervious ball which the bottle contains into its seat in the recessed or contracted neck of the bottle by suction.

Third, in bottles to be closed from within by means of a ball, forming the seat of the ball in the neck of the bottle by so contracting the outlet as to present a conical, spherical, or other impinging annular surface or surfaces to the ball.

Fourth, combining with an internal stopping ball a bottle with a short and recessed or contracted neck; that is to say, a neck whose recessed or contracted ball seat is as near to the rim or outlet as practicable in view of the strength requisite.

Fifth, closing bottles containing an elastic impervious ball lighter than the liquid to be bottled by filling such bottles with the liquid and by then forcing air or other gaseous fluid into them.

No. 42,189.—O. J. Harrington, Manchester, Penn.—*Railroad Car Brake.*—April 5, 1864.—This invention consists in the arrangement of levers, pulleys, chains, and shafts, in connexion with the brakes, so that the same shall be automatic in their operation, the force of the brakes being applied to the inner sides of the car wheels by the action of cams. The brakes are so arranged that they may be independent of each other in their operation.

Claim.—First, the combination of the friction pulley *m* and shaft 2, lever *o*, drum *n*, pulley *g*, and chains *r* and *y*, when used in connexion with car brakes, arranged and operating in the manner herein described and set forth.

Second, the use of the chain *y*, adjustable pulley block 6, and chain *h*, when used in combination with a lever for each brake, and so arranged that the brakes will act independent of each other, as herein described and set forth.

Third, the arrangement of the pulleys *t*, *z*, and *g*, chain or cord *s*, chain *r*, lever *o*, shaft 2, friction pulley *m*, drum *n*, chains *y* and *h*, adjustable pulley block 6, levers *g*, furnished with cams 10, and brakes *k*, arranged and operating substantially as herein described and for the purpose set forth.

No. 42,190.—Louis Hein, New York, N. Y.—*Construction of Vessels.*—April 5, 1864.—This invention consists in constructing a vessel of flanged metallic ribs in combination with a water-tight wooden casing, the ribs being protected and strengthened by an external planking or sheathing.

Claim.—A vessel constructed with ribs B *a b* of angle iron, a water-tight wooden casing C strengthening and protecting the said ribs, and an external planking or sheathing D, all as herein specified and for the purposes explained.

No. 42,191.—Isaac V. Holmes, New York, N. Y.—*Slide Valve for Steam Engines.*—April 5, 1864.—The object of this invention is to provide a slide valve which will present a full opening for the induction and eduction of steam with the least possible amount of motion in the valve, and its novelty consists in providing double ports both for the ingress and egress of the steam. The cut-off valve is placed directly upon the back of the main valve, and is so arranged as to open the two induction ports at one and the same time, the said ports extending through the valve seat and communicating with the cylinder. The arrangement of the eduction ports is the same; and it is alleged that by this arrangement a sufficient area of opening is made with about one-half the amount of motion ordinarily imparted to such valves.

Claim.—First, the combination with a slide valve, which is double ported both for steam and exhaust, of a cut-off valve or valves riding directly on the back thereof, substantially as herein specified.

Second, the construction and arrangement of the several ports of a double-ported valve, substantially as described, whereby the steam exhausted through two of the exhaust ports *e e'* may pass the inner steam ports *b b'* on its way to the main exhaust port, substantially as herein described, and all the steam ports are brought into the back of the valve, so that a cut-off valve or valves may be applied to ride directly thereon, substantially as herein specified.

No. 42,192.—Augustus Hoffman, Half Day, Ill.—*Grain Drill.*—April 5, 1864.—This invention consists in the combination of a series of levers with a plate, supports, and cam wheel, so arranged as to admit of the operating mechanism to be readily thrown in and out of gear.

Claim.—The lever Y in combination with plate *q*, supports U and V, branch lever O, and wheels R, the whole constructed and operated substantially as herein described.

No. 42,193.—William S. Hudson, Paterson, N. J.—*Mode of Connecting Trucks to Locomotives.*—April 5, 1864.—This invention consists in the employment of devices specified in the claim for the purpose of enabling the trucks of locomotives to run more readily upon curves in the road, the lateral movements of the truck not being confined to one point alone.

Claim.—First, an arm B extending rearward from the truck, and confined between limits so as to allow a slight freedom for the swivelling motions of the truck, substantially as and for the purpose herein set forth.

Second, in combination with the above the employment of the link G pivoted to the rear end of the arm B' and to a fixed point H upon the body of the locomotive, and arranged to operate substantially in the manner and for the purpose herein set forth.

Third, in combination with the limited freedom for vibrations of the arm B' the employment of the cross parts *m* and N, adapted to allow a limited freedom for vertical vibrations or oscillations of the truck, substantially as and for the purpose herein set forth.

Fourth, in locomotives the employment of the intermediate piece C, or its equivalent, connected by a swivel joint to the truck, and arranged to operate substantially as and for the purpose herein set forth.

No. 42,194.—Henry Jacob, Loretto, Penn.—*Standard for Lumber Cars.*—April 5, 1864.—This invention consists in pivoting or hinging the standards to the side or sides of the car, so that when not in use they may be swung or folded down out of the way, and when required for use may be instantly raised up in position.

Claim.—Hinging or pivoting the standards to a lumber or platform car so that they may be raised up into place when required, and swung or folded down out of the way when not required, substantially as herein described.

No. 42,195.—Daniel Jones, Boston, Mass.—*Steering Apparatus.*—April 5, 1864.—This invention is designed as an improvement upon an apparatus for which a patent was granted to the said Jones on February 21, 1860. Attached to the deck are two bits which support the journals of a shaft and screw extending from one to the other. On the end of the said shaft is a spur wheel, which meshes into and drives a pinion on the end of the screw, and on the latter is placed a travelling nut, which is pivoted to a sleeve that slides upon the tiller. Attached somewhat loosely to the main tiller by a band passing around its head is an auxiliary tiller, which may be used as a main tiller when required by attaching it rigidly to the rudder post.

Claim.—First, the combination of the shaft G, wheel *i*, pinion *i'*, screw H, nut *f*, and sleeve *g*, in the manner and for the purpose specified.

Second, the auxiliary tiller S, constructed and operating substantially as described.

No. 42,196.—Samuel F. Jones, St. Paul, Ind.—*Corn Planter.*—April 5, 1864; antedated April 2, 1864.—This invention consists in operating the seed slide by means of a crown wheel secured to a shaft, on the end of which is slipped loosely a lever that rests in the cogs of the crown wheel, its outer end projecting beyond the wheel so as to extend over a vibrating slide far enough to strike an adjustable pin plate. On the front end of the vibrating slide is a spiral spring and a lever *o'*, to which latter is attached the forward end of an agitator below the vibrating slide. When corn is to be sown the reach is removed, and a hub T, provided with arms, put in its place.

Claim.—First, operating the seed slide S' through the medium of the crown wheel C, movable lever *a*, adjustable pin plate *n'*, vibrating slide *b*, spiral spring S, and lever *o'*, the whole being constructed and arranged to act conjointly as shown and described for the purpose set forth.

Second, the agitator *n*, when constructed and operated as shown and described.

Third, the hub T, with arms 4, 5, 6, when used in connexion with the crown wheel C as shown and described, for the purpose set forth.

No. 42,197.—W. H. Jordan, Roseville, Ind.—*Harvesting Machine.*—April 5, 1864.—This invention consists in so arranging the cutting mechanism in relation to a threshing apparatus as to admit of the machine cutting the grain and at the same time threshing it. The threshing apparatus may also be used separately when required.

Claim.—The arrangement of the cutting mechanism, apron R, and arms *h*, with the threshing cylinder T, apron V, and shoe Y, all in the manner herein shown and described.

No. 42,198.—John H. Kinsman, Westchester, N. Y.—*Window Blind and Curtain Fixture.*—April 5, 1864.—This invention consists in arranging a cam or eccentric in such a manner that when moved in the proper direction by the cord or cords which sustain the curtains, windows, &c., the latter are firmly sustained at any desired height by the pressure of the eccentric or cam upon the cord or cords.

Claim.—The combination of the eccentric C, acted upon by the cord A O through the medium of the lever D, or its equivalent, the elastic opposing surface B, the spring E, for the purpose of retaining in position the cam C, either when the said cam is retaining the cord in place or allowing it to pass, as and for the purpose specified.

No. 42,199.—George G. Larkin, West Amesbury, Mass.—*Carriage Circle Coupling.*—April 5, 1864.—This invention consists in providing the upper circle with a stop to operate in combination with shoulders formed by a depression in the back part of the lower circle, so that in turning the vehicle the stop will come in contact with one or other of the shoulders, and thus prevent the wheels from coming in contact with the sides of the carriage.

Claim.—Connecting the two side arcs J J of the lower circle by means of the depressed arc K, in combination with the stop M, substantially as set forth and for the purpose described.

No. 42,200.—Hervey Law, Chatham, N. J.—*Machine for Cutting Paper.*—April 5, 1864.—This invention consists in the employment of a straight knife arranged to operate with a drawing or oblique cut, and through the medium of a lever operated by a rack and pinion instead of a cam, as is usual. In connexion with which is used a clamp so arranged as to be capable of being readily and easily adjusted to hold the paper firmly in position while it is being cut. A gauge is also arranged in such a manner as to enable the operator to adjust the same from the front side of the machine.

Claim.—The combination of a lever F with the knife and the rack and pinion, substantially in the manner and for the purpose herein shown and described.

No. 42,201.—A. B. Lawther, Stonington, Conn.—*Clamp Milling Machine.*—Aprll 5, 1864.—This invention relates to a machine which is commonly used for "sizing" such articles as gun screws and barrels, centre pins for pistols, &c., and other round work which requires to be duplicated, and which does not specially require to be turned in lathe centres. The improvement consists of an adjustable holding rest and a stationary centre so arranged that the upper surface of the centre shall always point towards the angle of intersection of the two planes of the rest and at the same time, so that a line projected from the edge of the centre through the axis of the rod which is being turned will meet the slightly inclined lower face of the rest in a direction perpendicular thereto.

Claim.—First, the combination of the cutter C and rest D, constructed, arranged, and operating substantially as and for the purpose set forth.

Second, the rest D having its surfaces $d\ e$ arranged substantially as herein described in relation to each other and to the line of motion of the cutter, substantially as herein specified.

Third. the surface f of the rest arranged relatively to the cutter, substantially as and for the purpose herein specified.

No. 42,202.—ROBERT H. LECKY, McClure, Penn.—*Truck for Street Railways.*—April 5 1864.—This invention consists in an arrangement of parts for adjusting the position of the wheels to the curves of the track. The car is made to swing around on the truck in the usual manner, with an improved method of holding the car in the desired position, so that it may be readily reversed by the driver. The brakes are made to press against the inner surface of the wheels in such a manner as to operate readily when passing over curves.

Claim.—First, the combination of the swivel bearings 6 and 20 when used in connexion with the axles l, wheels J, disks m, connecting rod 19, levers s and t, and shaft r, constructed, arranged, and operating substantially as herein described and for the purpose set forth.

Second, securing the tongue a to the bottom b by means of the flanged tube XI and support X, as herein described and for the purpose set forth.

Third, the use of the catch 17 and guide g when used in combination with the tongue a, flanged tube XI. bottom b, and lever b', arranged, constructed, and operating substantially as herein described and for the purpose set forth.

Fourth, the arrangement of the brakes z, cups w, plungers v, and levers 9, 8, 18, and 12, arranged, constructed, and operating substantially as herein described and for the purpose set forth.

No. 42,203.—ROBERT H. LECKY, McClure, Penn.—*Steam Wagon.*—April 5, 1864.—This invention consists in arranging the running gear of steam wagons in such a manner as to relieve the driving gear from any undue strain caused by the jarring or concussive action of the wagon when running over rough or uneven roads. The wagon wheels are provided with swivel bearings, the axis of which is placed centrally to the periphery of the said wheels, so that they may be turned sideways to any desired angle without any backward or forward revolution of the said wheels other than that imparted to them by the engine and driving gear. The wagon is turned by means of tiller ropes attached to the axles of the wheels and operated by means of a shaft and wheels.

Claim.—First, the use of the swivel bearings w, or their equivalents, with their axis placed central to the periphery of the wheels, so that said wheels may be turned sideways without any back or forward motion other than that imparted by the engines and driving gear, as herein described and set forth.

Second, the arrangement of the wheels a, 1, 2, 3, 4, 5, and 6, endless chains 16, crank shafts 8, spring bars b', and elliptic springs o, arranged and operating substantially as herein described and for the purpose set forth.

Third. the arrangement of the shaft 18, furnished with drums $u'\ y'$ and wheels o', wheel 17, swivel heads z, and tiller ropes A, B, C, D, and E, when used in connexion with the axles v, swivel bearings w, and wheels a, arranged and operating substantially as herein described and for the purpose set forth.

No. 42,204.—JOHN G. LEFFINGWELL, Newark, N. J.—*Burner for Oil Lamps.*—April 5, 1864.—This invention consists in swaging out the base of an ordinary wick tube so that it will fit into the collar of the lamp, forming thereby the shell of the burner and affording room for the ratchet wheels inside the tube; the object being to cheapen the construction of lamp burners.

Claim.—First, expanding the bottom end of a wick tube so as to make the outside shell of a burner and wick tube of one piece of metal, as described.

Second, expanding the bottom end of a wick tube so as to enclose the ratchet wheel of a burner, as described.

No. 42,205.—SILAS F. LEFLER, Racine, Wis.—*Grain Separator.*—April 5, 1864.—In this machine the sides of the lower screen are provided centrally with projections for the purpose of giving the said screen a peculiar vibrating movement when used in connexion with a special arrangement of levers and connecting rods. At the rear of the machine is a detachable inclined board so arranged as to separate certain qualities of grain delivered from the rear of the sieves, the said board extending to the floor. A removable frame provided with two boards, one of which is adjustable in the frame, is placed between the sieves in the shoe and the lower screen for the purpose of directing the flow of the grain from above, and the air from the fan blast from below. Upon the inside of the shoe, under the forward end of the movable frame, are arranged oblong, eccentrically pivoted buttons, by which the inclination of the frame can be readily adjusted.

Claim.—First, the segment projections or rockers $j\ j$ attached to the sides of the screen F, in combination with the rods $g\ h$ and lever H, the latter being operated by the connecting rod G, crank pulley d, from the fan shaft a, all arranged substantially as and for the purpose set forth.

Second, the inclined board N applied to the case, A as and for the purpose herein specified.

Third, the combination of the cleets $g\ g$, connecting board M, and sliding board M′, constituting a movable frame applied beneath the riddle O, in the manner and for the purposes described.

Fourth, the adjustable buttons b', secured within the shoe L, for the inner end of the board M′ to rest upon, for the purpose specified.

No. 42,206.—WILLIAM H. LIVINGSTON, New York, N. Y.—*Cotton Gin.*—April 5, 1864.—In this machine a revolving pin at every revolution strikes a projection on the plate c, that receives the ginned cotton from the ginned cylinder, in such a manner as to detain the mass or roll of cotton, and swings it outward from the roller, thus withdrawing the teeth from the plate o, and its further outward movement causes the plate b, also to move outward and drop the roll. This has hitherto been effected by allowing the plate to move away from the roller only as the accumulating mass of cotton acquired sufficient weight to actuate it.

Claim.—Actuating the board or plate that receives the ginned cotton from the ginning cylinder automatically and positively, in order that it may be drawn or swung away from said cylinder at regular intervals for allowing the accumulated cotton to pass away, as specified.

Also a row of teeth or pins combined with the ginning roller, when the said pins are retracted at the time of delivering the cotton, as specified.

No. 42,207.—HENRY LOEWENBERG, New York, N. Y.—*Postage and Revenue Stamps.*—April 5, 1864.—This invention relates to a stamp which, having been cancelled by over-printing or in any other way, will not permit the removal of such cancellation without destroying the print, as mainly explained by the claim.

Claim.—A postage, revenue, or other stamp produced by printing on size, applied to paper or other material to prevent the penetration of the ink, and applying the adhesive material to the opposite side of the paper, so that when the said stamp has been attached to a letter or other document, and cancelled by over-printing in the usual way, the cancellation marks cannot be removed without destroying or effacing the print.

No. 42,208.—HENRY LOEWENBERG, New York, N. Y.—*Labels intended for Second Use.*—April 5, 1864.—This invention consists in coating paper, cloth or other material, with wax or rosin, or any similar material which is impervious to the gum or mucilage used in attaching labels to articles of commerce, &c. The label thus made is readily detached and may be repeatedly used without being destroyed.

Claim.—An adhesive label formed of paper or cloth prepared in the manner described to prevent the penetration of the adhesive substance by which the label is to be attached, and thus adapt the said label to be applied and removed as often as desired without destroying it.

No. 42,209.—JAMES B. LYONS, Milton, Conn.—*Curd Cutter.*—April 5, 1864.—This device is composed of a rectangular box, the bottom of which is provided with two series of thin knives set upright and placed at right angles with each other; underneath these knives is arranged a sliding frame having wire cords attached to its upper side. The curd being placed in the box is pressed down by a follower, and as it is forced through the bottom is cut into small strips, which are again cut transversely by the wires on the reciprocating frame, the latter being operated by means of a crank and pitman.

Claim.—The vibrating cutters $b\ b\ b\ b$, in combination with the stationary right angle cutters $a\ a\ a\ a$, and the compresser or hand follower C D, operating substantially in the manner as and for the purposes herein set forth.

No. 42,210.—SAMUEL MARTIN, Parshallville, Mich.—*Apparatus for Upsetting Tires.*—April 5, 1864.—This apparatus consists of two heavy blocks upon which the tire is to be clamped lying horizontally side by side, which are drawn together to reduce the diameter of the tire by means of an eccentric working in a stirrup formed on the projecting end of a strong bar, which, passing through one of the blocks, is rigidly attached to the other. The length of the stirrup and the consequent movement of the clamping blocks are adjusted by means of a series of thin blocking pieces which may be inserted as required behind the stirrup key against which the eccentric acts.

Claim.—The use of a fulcrum key c' and one or more filling pieces $c\ c\ c$, in combination with a cam or eccentric, for the purpose of graduating and limiting at pleasure, by a fixed scale, the movement of the cramping blocks or hold-fasts A and B of a tire-upsetting machine, substantially as is herein set forth.

Also the combination of a shaft H, and eccentric S, with the cramping blocks A and B of my improved tire-upsetting machine, when said blocks A and B are made to operate conjointly by means of a coupling bar D, constructed substantially in the manner and for the purpose herein set forth.

No. 42.211.—**Gordon McKay**, Boston, Mass.—*Channelling Machine.*—April 5, 1864.—This invention consists in applying a feeding device to the upper surface of the sole to be channelled and also to the edge of the same, in combination with a serrated feed-wheel. Combined with the edge-roll, feed-wheel and channelling cutter is a presser bar which serves to hold down the edge of the sole to the action of the channelling tools.

Claim.—Applying a feeding device to operate against the edge of the sole, in combination with a feed-wheel or wheels which operate against one or both surfaces of the sole, substantially as set forth.

Also so combining the presser bar N with the presser roll and with the feed-wheel, that the operation of the presser bar will be substantially as described.

No. 42,212.—**Henry Millingar**, Pittsburg, Penn.—*Manufacture of Siding.*—April 5, 1864.—This invention relates to the manufacture of siding for frame buildings, and it consists in grooving the boards or planks of a suitable size at each edge and slitting them obliquely so as to form a rebate at the lower edge of each piece of siding which laps over the upper edge of the piece below it, the whole siding abutting against the studs.

Claim.—The method herein described of producing rebated siding boards, which consists in first grooving both edges of the stuff and then slitting it obliquely between the grooves, all as set forth.

No. 42,213.—**James Molyneux**, Bordentown, N. J.—*Apparatus for forcing Oil from Wells.*—April 5, 1864.—This invention consists in combining an inner pipe with an artesian oil well, a space being left between the two, so that by forcing compressed air or steam down the inner pipe the oil will be expelled through the outer pipe.

Claim.—The combination with the pipe D of an artesian oil well, of an internal pipe C, between which and the pipe D intervenes a space, when the said pipe D is so connected with a pump or engine as that compressed air or steam may be introduced and oil thereby expelled from the inner pipe, all substantially as shown and described.

No. 42,214.—**Oscar F. Morrill.**—Chelsea, Mass.—*Vapor Stove.*—April 5, 1864.—This invention consists in surrounding the conduit tube near the vaporizing tube with an insulator of wood or other non-conducting substance, for the purpose of preventing the said conduit tube from becoming overheated. The stove is constructed with perforations in the lower part of the casing, the top of the same being composed of a series of rings, removable independently, so as to afford boiler holes of various sizes.

Claim.—The combination of the insulator E with the conduit D and the stand A of the apparatus.

Also, the improved apparatus for supporting vessels or articles to be heated by the aero-vapor burner, the same consisting not only of the removable boiler supporter K, with series of cap rings and cover, but the stand A, as made with the perforated casing I, the whole being arranged substantially in the manner as described.

No. 42,215.—**J. V. Murray**, Brooklyn, N. Y., and **Charles Borst**, New York, N. Y. *Porthole Closer.*—April 5, 1864.—This invention consists in the application to a porthole shutter of a hinged lever provided with a lip or stop to retain it in position at right angles with the surface of the shutter, in combination with a rope, which serves to raise the shutter, in such a manner that by pulling the said rope the lever is first raised to a position at right angles with the surface of the shutter, and a purchase is obtained whereby the shutter can be easily started from the vertical position and readily brought up and closed.

Claim.—The application of the lever E, provided with a lip d and loop e, or their equivalents, to operate in combination with the rope D and shutter C, in the manner and for the purpose substantially as herein shown and described.

No. 42,216.—**Wm. T. Nicholson**, Providence, R. I.—*File-cutting Machine.*—April 5, 1864.—The nature of this invention will be understood from the claim. The object of the inventor is to overcome the obstacles found to exist in accomplishing uniform work, owing to the irregular form of the blank, the four faces of which, during a portion of their length, are more or less curved, and also to provide a means for compensating the force which the spring shall impart to the cutter. The invention does not admit of a brief description.

Claim.—First, the method, substantially as described, of imparting motion to the feeding mechanism in a file-cutting machine by the combination of a pawl and ratchet gear, or its equivalent, with the bands $f\ f$, operated by the revolution of the main shaft, in the manner substantially as specified.

Second, the combination of the feeding mechanism and the movable carriage upon which the blank is held during the cutting operation in a file-cutting machine by the means substantially as described for the purposes specified.

Third, imparting a variable rate of motion to the carriage upon which the blank is held by the method and on the principle substantially as described and for the purposes specified.

Fourth, the combination of the spring or springs O', which can be torsionally strained, as shown, with the mechanism for varying the tension of the same, substantially as described for the purposes specified.

Fifth, the combination of a spring or springs O', which can be torsionally strained, as shown, with the mechanism consisting of the slotted arm O'' and the worm gear $k\ m$; or the equivalent of the same, for adjusting the tension of the spring or springs within limits which will best give the proper degree of impulse to the cutting chisel, substantially as described.

Sixth, the combination of a spring or springs O', which can be torsionally strained, as shown, with the carriage B' B' or other device which carries the cutting chisel, substantially as described.

Seventh, the method of arresting the action of the cutting chisel at any previously determined point in the progress of the blank under the cutter by the combination of a spring stop, (Fig. 5,) substantially as described, with an adjustable inclined plane upon the movable carriage, as herein specified.

No. 42,217.—**Wm. T. Nicholson**, Providence, R. I.—*File-cutting Machine.*—April 5, 1864.—In this machine the rocking bed designed for the blank has attached to it at one end a segment of a worm-wheel, whose threads gear with those of a screw-threaded shaft which passes transversely through one end of the sliding carriage. The two projecting ends of this shaft are each furnished with a milled button, by which they may be turned and regulated, and also with a coiled spring interposed between the button and the side of the carriage, in order that whenever, from inequality of the surface of the blank, or other cause, the bed may have been tipped over towards either side, the springs will tend to force it back to the position in which it was originally adjusted so soon as those causes shall have ceased to operate.

Claim.—The method, substantially as described, of regulating the position of the rolling bed of a file-cutting machine by means of equalizing springs, or their equivalents, applied and operating substantially as herein specified.

No. 42,218.—**Lewis F. Noe**, New York, N. Y.—*Street Pavement.*—April 5, 1864.—This invention consists in the application of nails or spikes to a Russ or block pavement, for the purpose of giving greater security of footing to horses in passing over the same.

Claim.—The combination and arrangement of the nails or spikes B with the stones or blocks A of a Russ or block pavement, substantially as and for the purpose set forth.

No. 42,219.—**Edward F. Olds.**—Lyon, Mich.—*Ladder.*—April 5, 1864.—This invention consists in constructing a ladder in sections, so as to admit of its being folded or extended, and connected with the same is a platform, to be used in washing windows and painting houses, &c.

Claim.—First, the sections A and B B, when united by the splice piece F and secured in an extended form by the round E, as specified.

Second, the extension brace G H, when used in combination with the sections A B, as and for the purpose set forth.

Third, the platform O, when constructed and used as described.

No. 42,220.—**S. J. Olmsted**, Binghamton, N. Y.—*Plough Handle.*—April 5, 1864.—This invention consists in making the curved part of the handle of cast iron or other metal, secured by means of a socket to the lower part of the said handle, and provided with a hole above the socket, through which the reins of the team may be passed and secured within convenient reach of the operator.

Claim.—The metallic hand handle for ploughs and other agricultural implements having a rein hole therein, and constructed substantially as herein recited.

No. 42,221.—**John Park**, Joliet, Ill.—*Cooking Stove.*—April 5, 1864.—Reference to the description and drawings of this device will be necessary for an understanding of the invention in view of the claim.

Claim.—As a new article of manufacture, the cooking cupboard herein described, all constructed and arranged substantially as herein specified and shown.

No. 42,222.—**Abram Perrin**, Cleveland, Ohio.—*Planking Screw.*—April 5, 1864.—This invention relates to a device for bending planks so as to fit them to the ribs of a vessel in order to secure them to the same by spikes, and it consists of a bar of iron with both ends turned at right angles. To one arm is attached a self-adjusting fulcrum provided with a spur, which is placed against the side of a rib, and pivoted to the said fulcrum is also a lever provided with a dog screw, the outer end of which is furnished with spurs or teeth, which are pressed into the ribs of the ship so as to hold against a pressure outward. At the end of the opposite arm is also a screw provided with a nut, and on the inner end of the said screw is a face plate to be placed in contact with the plank which is being bent to the curve of the vessel.

Claim.—The bar A, arms B B', fulcrum C, lever E, screws F and H, the several parts being arranged and operating as and for the purpose specified.

No. 42,223.—**Peter Philip**, Hudson, N. Y., and **P. J. Stophilbeen**, Schodack, N. Y.—*Baling Press.*—April 5, 1864.—This invention consists in the arrangement of a series of devices named in the claim for the purpose of elevating the plunger at the commencement of its work, the levers at the same time being nearly or quite in a horizontal position. Attached to the plunger at the two opposite sides are two strips or bars which work in slots in the sides of the press box to prevent the plunger from tilting. The top of the press box is hinged to the upper part of the framing, and is secured, when closed, by a fastening.

Claim.—First, the employment or use of a pendent pulley or bracket H, or its equivalent, arranged relatively with the plunger B, rope I, levers C C, and the pulleys F F, or equivalent rope guides, so as to throw up the plunger B when the latter is at the bottom of the press box and the levers C C in a horizontal position, as set forth.

Second, the strips or bars *d d* attached to the plunger B at two opposite sides thereof, in combination with the vertical slots *c′ c* in the sides of the press box A, all arranged substantially as and for the purpose herein specified.

Third, the combination of the box A, head or top K, hinge L, and fastening N, all constructed, arranged, and operating as specified.

No. 42,224.—**Joseph F. Pond**, Cleveland, Ohio.—*Roller for Wringers.*—April 5, 1864.—This invention consists in covering India-rubber rollers of wringing machines, when new or when injured by use, with strong canvas, for the purpose of making them more durable and causing them to adhere more closely to the shafts.

Claim.—The application of canvas cloth or other material for the purpose of repairing, covering, and protecting torn, defaced, and soiled India-rubber clothes-wringer rollers, and to prevent the shaft from turning or getting loose in the roller, as and for the purpose herein set forth.

No. 42,225.—**John S. Reid**, Muncle, Ind.—*Heater.*—April 5, 1864.—This invention consists in a modification of the interior of a heating drum through which the products of combustion pass on their way to the chimney. The upper and lower plates of the drum are perforated to receive tubes through which air is conducted to an upper apartment. A deflector is so arranged within the drum as to cause the products of combustion to take a circuitous course.

Claim —In the described combination the heat reservoir E, air chamber F, air inlets G, oblique air ducts H, and conical deflector J, as herein described.

No. 42,226.—**J. F. Rich**, Chatham Run, Penn.—*Wool Flannel.*—April 5, 1864.—This invention consists in the manufacture of a flannel in which hard-twisted yarn is presented in one surface for wear, and a softer yarn to the other surface for warmth, such flannel being made by using a harder or more twisted yarn for the warp and a softer or less twisted yarn for the weft, and weaving it in such a manner as to throw the greater portion of the warp on one side and the greater portion of the weft on the other.

Claim.—As an improved article of manufacture, a flannel composed and made in the particular manner herein set forth.

No. 42,227.—**A. H. Rowe**, Hartford, Conn.—*Breech-loading Fire-arm.*—April 5, 1864.—This invention relates to a method of withdrawing the cartridge shell in a breech-loading arm where the barrel rotates upon a longitudinal pin, by means of a projection on the retracting slide working in a spiral groove on the supporting longitudinal pin as the barrel is rotated, a special spring attachment of the said projection and a side groove being so connected with the spiral groove as to admit of the cartridge being readily inserted. The free end of the trigger guard, acting as the retracting spring of the hammer, is extended so as to throw it slightly back immediately after striking.

Claim.—The combination and arrangement of the switch groove 2, and its projection connecting the two grooves 1 and 3, and operating therewith and with the ejector *l m n*, as herein described and represented, for throwing out the empty cartridge case in the act of turning the barrel to reload it, as set forth.

Also, the prolongation of the trigger guard, as shown at *i*, for the purpose of forming and inserting it as a spring between the hammer and breech-piece to start back the hammer after the discharge, in the manner and for the purpose described.

No. 42,228.—**Benjamin D. Sanders**, Wellsburg, West Virginia.—*Elastic Cushion for Piercing Instruments.*—April 5, 1864.—This device consists of a piece of India-rubber of cylindrical form, having a metallic cap on one or both ends, with a perforation through the rubber and cap of sufficient size to admit of the passage of the nib or pointed end of any instrument which it is intended to receive and retain thereon, the object being to enable the piercing instruments to be self-retracting from substances into which they may have been driven by a sudden blow.

Claim.—As a new article of manufacture, an elastic cushion for piercing instruments, substantially as and for the purpose described.

No. 42,229.—**O. P. Scaife**, Pittsburg, Penn.—*Roof of Railroad Cars.*—April 5, 1864.—This invention consists in a method of applying rods, angular knees, and T supports placed in the centre of connecting rods to support a corrugated iron roof for railroad cars. The rods extend from side to side of the car near the base of the roof, and are intended to strengthen the car and also to form a support for the roof.

Claim.—First, the means substantially as described and represented for sustaining the arched corrugated metallic roof A and connecting the same to the car body, the whole being arranged as herein represented.

Second, the combination of angular knees, tie rods, adjustable T struts, corrugated roof and car body, substantially as described.

No. 42,230.—**George A. Shelley**, Madison, Conn.—*Square and Bevel combined.*—April 5, 1864.—This invention consists of a square attached to an ordinary slotted stock by means of a screw pivot in such a manner that said square can be turned on the pivot and set in any desired position in relation to the stock, and either arm of the square can be used to draw lines in an oblique direction to the edges of the stock; or, if desired, the square can be converted into and used as a T-square.

Claim.—The combination of the square B, screw pivot *e*, and slotted stock A, all arranged and operating substantially as and for the purpose herein shown and described.

No. 42,231.—**Edwin L. Simpson**, Bridgeport, Conn.—*Water-proof Compound and Varnish.*—April 5, 1864.—This invention consists in boiling linseed oil first with "dryers" and then with a small amount of sulphur, which treatment is designed to change the oil into a material resembling rubber varnish, to be used in rendering cloth water-proof and giving leather a finish like "patent leather."

Claim.—The varnish or compound produced by combining sulphur with vegetable oil (made drying in the manner substantially as described) substantially in the manner and for the purpose as herein specified.

No. 42,232.—**Seymour Sloan**, Kewanee, Ill.—*Cultivator.*—April 5, 1864.—This invention consists in a combination of devices named in the claim for raising the shares from the ground and for moving the inner shares laterally at the will of the driver from his seat.

Claim.—The combination of the beams B B C C, connecting bars D D′ E F G, levers *c c*, treadles H, and bent levers H′, all constructed, arranged, and operating in the manner and for the purposes herein specified.

No. 42,233.—**Alba F. Smith**, Norwich, Conn.—*Locomotive Steam Engine.*—April 5, 1864.—This invention is designed for use in cities and places where noise consequent upon the escape of steam would be productive of injurious results, and it consists in placing upon the crank shaft friction wheels, and upon another shaft placed parallel with the above named and with its journals in the same pedestals a larger pair of friction wheels, the peripheries of which are of V-shaped form, for the purpose of increasing their contact surface. The connecting rods for propelling the engine extend from these last-named larger friction wheels to the driving wheels, which serve also as bearing wheels. By this means a rapid motion may be imparted to the pistons and through connexions to the crank shaft and to the smaller friction wheels without imparting too great a velocity to the engine upon the track, by which it is claimed that greater facility in stopping and starting is obtained and liability to accidents lessened.

Upon the outside frames of the engine is placed a narrow tank, several feet in height and extending the whole length of the engine, the said tank being filled with water for condensing the steam, a condenser being arranged between the driving wheels of the engine and nearly on a line with the axis of the cylinder, into which condenser, as it receives its supply of water from the side tanks, the steam from the cylinder is condensed and the water resulting is returned to the boiler, which is vertical and located between the tanks.

Claim.—First, in locomotives, transmitting motion from the crank shaft A to the bearing wheels R, through the medium of the friction wheels V T, so arranged as to be both out of contact with the rails, as herein set forth.

Second, in connexion with the above, mounting the bearings of the driving axle A in the same pedestals with the bearings of the driving axle T, in the same pedestals with the bearings of the driven axle *t*, substantially as and for the purposes herein set forth.

Third, the employment in locomotives of a slight clip or catch Z, arranged relatively to separate hand levers J *j*, or their equivalent, connected each to the same starting and controlling mechanism substantially in the manner and for the purpose herein set forth.

Fourth, in locomotives, so constructing and arranging the tanks W W′ that they are of little width, but greatly extended in longitudinal and vertical dimensions, and are rigidly framed together and to the framing Q Q, or its equivalent, substantially as and for the purposes herein set forth.

Fifth, in locomotives, so constructing and arranging the said tanks W W′ that they are of little width, but greatly extended in longitudinal and vertical dimensions, and are mounted outside of the working gear, substantially as and for the purposes herein set forth.

No. 42,234.—A. B. **SPENCER**, Rochester, N. Y.—*Car Ventilator.*—April 5, 1864; antedated March 28, 1864.—This invention consists in the employment, in a car ventilator, of a dust pan or cinder collector, in the shape of a rectangular drawer, so that it may be readily removed when necessary; its sides are rounded, and it terminates in a curved form, so as to produce a deflecting surface. The pan is partially filled with water, and has a cloth stretched across it. The mouth of the ventilator is of rectangular form, and its body and face, underneath the mouth, are made wedge-shaped, or with inclined sides.

Claim.—First, the dust pan or cinder collector, constructed and operated as shown by Fig. 4, and herein described.

Second, the arrangement of the rectangular mouth *b* with the deflecting surfaces *f* and *g*, as described.

No. 42,235.—**EDWARD SPENCER**, St. Louis, Mo.—*Registering Dies.*—April 5, 1864; antedated March 23, 1864.—This invention consists of a series of cylindrical dies, provided with appropriate figures and letters raised on their respective peripheries, and arranged in a block or frame so as to bring all the peripheries on a common plane and on the same plane with the letters or figures that may be cut or raised on the face of the die; the object being to stamp upon a card or ticket the name or number of the train, the name of the station, and the day of the month and year, by a simple adjustment of the dies.

Claim.—First, in combination with the stationary die which is called the block or frame R, the movable monthly registering die A and the two movable dating dies B B, substantially in the manner described.

Second, in combination with the stationary die R the movable numbering die or dies D, whether there be one, two, or three of said dies, to mark the number of trips, as set forth.

Third, in combination with the stationary die R the movable or adjustable die C, which marks the year, substantially as set forth.

Fourth, the combination of the monthly registering die A, the numbering dies D, and the dating dies B B, with the stationary die R, substantially as described.

Fifth, the combination of the die C, which marks the years, whether it be movable or stationary, with the numbering dies D, the monthly die A, and the dating dies B B, arranged in a stationary die as in the block R, substantially as set forth.

No. 42,236.—**ANSON P. STEPHENS**, Brooklyn, N. Y.—*Vice.*—April 5, 1864.—In this vice the stationary jaw is secured to one end of an oblong box, open at one side, and having mortises through the ends in a vertical plane with the centre of the stationary jaw, through which mortises a ratchet bar is made to pass, having the sliding jaw attached to its outer end. Into this ratchet a toothed dog is made to gear, abutting in the back of which is one end of the bar of a toggle joint, the corresponding end of the other bar abutting against the end of the box. This toggle joint is operated by a horizontally moving cam pressing against and straightening it, and thereby thrusting forward the dog and ratchet, which is in contact therewith, and serves to tighten the jaws; a movement in the opposite direction serves to release and open the same.

Claim.—The toothed bar C, with jaw D, attached in connexion with the toggle G, toothed bar H, and the lever B, and cam E, or their equivalents, for operating the toggle, all arranged substantially as and for the purpose set forth.

Also, the hook F on the lever B, when used in connexion with the toggle G and toothed bars C H, for the purpose specified.

Also, the hook projections *g g* on the part *d* of the toggle, in connexion with the projections *h* on the part d' thereof, for the purpose set forth.

No. 42,237.—**CURTIS STODDARD**, North Brookfield, Mass.—*Channelling Machine.*—April 5, 1864.—This invention consists in so applying the channelling cutter to a head in which the pressure roll is journalled that the contact of said roll with the surface of the sole serves to gauge the depth of the cut of the said channelling tool; the feed wheel is so constructed that its teeth are kept from contact with the edge of the sole.

Claim.—So applying the channelling cutter to the head N, in which the pressure roll I is journalled, that the contact of said roll with the surface of the sole shall gauge the depth of cutting action of said channelling tool.

Also, the construction of the feed wheel C, whereby, from the disposition of the teeth *a*, they are kept from contact with the edge of the sole, as set forth.

No. 42,238.—**ALMON SWIFT**, East Elmore, Vt.—*Butter-worker.*—April 5, 1864.—This invention consists in fitting a conical roller on a shaft so that it can be readily made fast to the same, and be used as a scraper or lever, or left loose upon the shaft, so that it may be used as a roller for the purpose of readily adapting the machine to the condition of the butter to be worked.

Claim.—The combination of the shaft B, conical roller C, and a fastening *g*, or its equivalent, so arranged as to render the roller C fast or loose on the shaft B at pleasure, substantially as described.

No. 42,239.—**CHARLES R. THORN** and **ALFRED LEIGH**, Clinton Station, N. J.—*Wrench.*—April 5, 1864.—This invention consists of a wrench provided with a double set of jaws, one for right and the other for left handed work, or one for tightening and the other for unscrewing a nut or screw, in combination with a ratchet wheel, pawl, and handle, in such a manner that the operation of tighlening or unscrewing a nut or screw can be performed with the same wrench and without removing the jaws from such nut or screw until the operation is finished.

Claim.—First, the double set of jaws *b* b^* applied to the disks B B', in the manner and for the purpose substantially as specified.

Second, the disks B B', each provided with a stationary jaw *b*, and with a movable jaw b^*, moving in an oblique recess *c*, in combination with the ratchet wheel D, handle E, and pawl *g*, constructed and operating in the manner and for the purpose substantially as shown and described.

No. 42,240.—**ALBERT H. TINGLEY**, Providence, R. I.—*Heat Governor for Stoves.*—April 5, 1864; antedated March 30, 1864.—This invention consists in the employment of a self-acting governor for stoves and hot-air furnaces, which will admit of being adjusted in such a manner as to govern the heat according to the state or temperature of the weather, and which may be adjusted properly to thus act or operate by any person of ordinary ability.

Claim.—First, the expansion tubes F, and their enclosed rods H, in connexion with a lever J, or any equivalent device, for operating a valve or damper N, for the purpose specified, by which the latter is adjusted solely by the expansion and contraction of the tubes F, no counterpoise or weight being employed.

Second, the lever-plate I connecting the two rods H H, when used in connexion with the tubes F, for the purpose specified.

Third, the adjustable bar K, or its equivalent, interposed between the lever J and rod L, for the purpose of controlling the action of said lever on the rod L and valve N, as set forth.

Fourth, the employment or use of the valve N, interposed between the ash-box and a passage communicating with the smoke-pipe, and placed within a suitable box B, provided with opening b', substantially as shown, or in any equivalent way, to operate as set forth.

Fifth, placing the arm *s s* of the valve between the plates *u* u', substantially as shown, for the purpose of facilitating the adjusting of the valve N in the box B.

Sixth, adjusting the bar K through the medium of the arbor P, index Q, and graduated dial R, as set forth.

Seventh, the adjustable plate S, placed on the arbor P, when used in connexion with the index Q, as and for the purpose specified.

Eighth, the partition plate *a* in the valve box B, in connexion with the slot c' in the valve N, whereby one valve is made to answer for both compartments of the box B, as set forth.

No. 42,241.—**WILLIAM TODD**, Barnesville, Ohio.—*Cane Stripper.*—April 5, 1864.—This invention consists in stripping the leaves from the stalks of sorghum or sugar cane by compressing firmly a quantity of canes into a large bundle, and pulling one stalk after another out of the bundle, the pressure being kept up continually by means of weights, or their equivalent, so that by the act of pulling out the stalks the leaves are stripped off, and the operation of stripping off can thus be readily performed.

Claim.—The within described process of stripping the leaves from the stalks of sorghum or sugar cane by compressing a quantity of cane by means of ropes *b* and weights *c*, or their equivalents, and drawing one stalk after the other out of the bundle, substantially in the manner shown and described.

No. 42,242.—**WILLIAM L. R. VALENTINE**, Fort Edward, N. Y.—*Water Wheel.*—April 5, 1864.—This invention consists in the employment of two sets of buckets, constructed of such a form and combined with a scroll in such a manner as to obtain a large increase of power from the action of the water. In connexion with the scroll, and arranged within the same, is a wicket or gate so as to admit of the escape of drift, mud, or other solid substances which may pass into the scroll, thereby avoiding the breakage of the buckets.

Claim.—The wheel D, constructed with two sets of buckets F F', one set being above the other, and the upper set, F, formed at their face sides with a straight triangular surface d' and a concave surface *d*, and the lower set, F', formed with concave face sides, in combination with the conical lower plate *a* of the wheel and the scroll A, all arranged as herein set forth.

No. 42,243.—**H. N. WATERS**, Hartford, Conn.—*Water Heater for Steam Boilers.*—April 5, 1864.—This invention consists in the arrangement of pipes for conducting the exhaust steam and the water into a vessel, provided for the purpose, in such a manner that the water is delivered in the form of spray, or as nearly so as possible, directly beneath the open mouth of the exhaust pipe, thus bringing the water in this finely comminuted condition in direct contact with the steam; the object being to heat the water used for supplying steam-boilers to a much higher degree than usual by the use of the exhaust steam from the engine.

Claim.—The arrangement of the tank A with the exhaust pipes E and D, and the distribution of the water through the cone-shaped attachment in juxtaposition to the exhaust pipe D.

No. 42,244.—PETER WELSH, Oswego, N. Y.—*Machine for Sawing Heading for Barrels.*—April 5, 1864.—This machine is designed for cutting blanks for heading to barrels from blocks, and it consists of a block-holding device, or dogs, and their operating mechanism, by which the block is held while being fed to the saw, the carriage that carries the block and the operating mechanism arranged in such a manner as to perform the work automatically, and saw the block into blanks after it is placed upon the carriage and the machine is put in operation.

Claim.—First, the combination of the shaft S, pinions V and W, (with their clutch jaws a and d,) double clutch b c, fork lever g, and racks e and f, substantially in the manner and for the purpose described.

Second, the feed mechanism of the carriage y, consisting of the racks i, pinions j, ratchet wheel j', pawl arm m, and guide n, arranged for conjoint operation in the manner specified.

Third, in combination with the carriage y, the dogs o and p, lever t, and arc v, arranged and operating substantially as set forth.

Fourth, in combination with the lever g, the hooks y and z, and the springs a' and b', arranged and operating substantially in the manner described.

No. 42,245.—JEROME WHEELOCK, Worcester, Mass.—*Piston Packing.*—April 5, 1864.—This invention consists in the employment of a segmental ring or rings, the ends of which are made to overlap each other and thus break joints, for the purpose of preventing the escape of steam; this method of construction causing the packing to be pressed out against the inner surface of the cylinder, and preventing it from expanding into the recess at the end of the cylinder.

Claim.—The segmental packing rings D E, constructed in the manner and for the purpose set forth and described.

No. 42,246.—O. A. WHITE and J. W. BOSTWICK, Norwich, Ohio.—*Sawing Machine.*—April 5, 1864.—This invention consists in the employment of two sets of levers, which take hold of the top and bottom of the log, and are operated by a hand lever, the latter being provided with a pawl that drops into a notched bar upon a post, which securely holds the lever, and through that device the log. In connexion with the above is an arm provided at its end with a saw-guide, so arranged as to keep the saw in contact with the slide, which latter is attached to an arm that extends from the extreme end of the main arm. To the main arm is attached the device for operating, consisting of a hand lever, pulleys, and rope, for raising and lowering the saw-arm or pitman, and with it the saw and guide, so as to allow the log to be fed along for another cut.

Claim.—First, the combination and arrangement of levers D and D', F, G, and H, and ratchet E, constructed and operating substantially as specified and for the purposes set forth.

Second, the combination and arrangement of arm K, cord k, and lever L, as and for the purposes set forth.

Third, the combination and arrangement of slide O, cord P, and lever L, constructed and operating as and for the purpose described.

No. 42,247.—J. W. WILCOX, New York, N. Y.—*Paper Case or Envelope.*—April 5, 1864.—This invention relates to an envelope for filing or preserving papers and documents, and it consists in fastening to the ends of the envelope two pieces of wood, rounded at the ends for the purpose of enlarging the capacity of the envelope and preventing its ends and corners from being worn by use.

Claim.—The pieces of wood A A fastened to the ends of the envelope, as and for the purpose shown and described.

No. 42,248.—C. P. WING, Fayetteville, N. Y.—*Harvester.*—April 5, 1864.—This invention relates to a method of imparting motion to the cutter bar, which is effected by securing loosely upon one end of a shaft a crank wheel, the latter being caused to revolve by means of a pin on the said shaft coming in contact with a projection upon a wheel which is adapted to revolve independently of the shaft, so that its velocity will be increased at certain stages in the reciprocation of the cutter. To the forward end of the shoe is secured a spring, which is adapted to yield in an outward direction to the pressure of the cutter bar. The said spring encloses the end of the cutter bar and prevents the same, when advanced beyond the outer edge of the shoe, from coming in contact with and tearing or injuring the standing grain.

Claim.—First, the pins or projection S in the shaft N, in combination with the pin or projection in the wheel O, for the purposes specified.

Second, the spring guard L, for the purpose of protecting the standing grain or other material outside of the shoe B from the knife V and those following, as described and specified.

No. 42,249.—F. W. WOODWARD, New York, N. Y.—*Lantern.*—April 5, 1864.—This invention consists in connecting the cap and base of the lantern to its globe by means of screws instead of cement, as is usual. With the metal cap, the base and glass flame protector are combined guards which are attached to the cap at their upper ends and secured at their lower ends to a band which surrounds the lower part of the flame protecter, so as to admit of the screws or fastenings being readily operated.

Claim.—A lantern provided with a glass flame protector or globe, cylinder or other form, in one piece, with a metal cap and base secured to its ends by a screw or other equivalent fastening, which will not require the aid of plaster of Paris or cement of any kind, substantially as and for the purpose set forth.

Also, in combination with the mode of connecting the metal cap, base, and glass flame protector, as described, the guards D, attached to the cap at their upper ends and secured at their lower ends to the band which encompasses the lower part of the flame protector, substantially as set forth.

No. 42,250.—L. D. WYNKOOP, Owasso, Mich.—*Turning Lathe.*—April 5, 1864.—This machine consists of a frame placed upon the ways of a common wood lathe, upon which is a weighted lever. Midway between the fulcrum and end of the lever is a rod passing through the lever, and over which is a spiral spring, the lower end of the rod resting upon a pattern; to the other end of the lever is attached a tool-carrying device that works freely up and down, the tool coming in contact with the object being turned; the knife is set obliquely in its stock, causing the frame to be fed along, carrying the rod over the pattern and causing the lever to vibrate and thus cut the stick in accordance with the pattern.

Claim.—The bearing F, provided with the knives H Q, and attached to a sliding-frame D on the lathe bed C, in combination with the rising and falling bar I, to which the knife Q, is attached, the loaded lever K, connected to bar I, and the pattern N on the bed C, on which pattern the outer part of the lever K rests, all being arranged to operate substantially as and for the purpose herein set forth.

No. 42,251.—S. A. CORSER, Northampton, Mass., assignor to himself, R. G. MARSH, Holyoke, Mass.. W. R. MARSH, Northampton, Mass., and JOHN A. SIMS, Greenfield, Mass.—*Mould for Making Castings.*—April 5, 1864; antedated March 28, 1864.—This invention consists of a mould formed of a base piece supported by two axles provided with wheels. In the top surface of the base, and near its outer edge, is a concentric channel or groove for the purpose of receiving any sand that may fall through the joints of the mould; and in connexion with the above is a series of vertical ports arranged in the base of the mould for the discharge of any sand that may be thrown down in the said channel while the mould is in use.

Claim.—The mould, as constructed, with a mechanism for lowering the pattern relatively to the flask, and as provided with one or more sand-receiving grooves or recesses, and discharging outlets arranged in the base of the mould, substantially as specified.

No. 42,252.—C. S. CURTIS, assignor to himself and L. B. WOLCOTT, Farmington, Ohio.—*Sap Conductor.*—April 5, 1864.—This device consists of a metallic conductor of the form shown in the engraving, and provided with an oblique lip, plug, and channel, so that when inserted in the sap wood the cut portion of the tree is protected from the action of the atmosphere, thus causing a greater flow of sap and allowing the tree to heal more readily at the close of the season.

Claim.—A metallic sap conductor having an entire oblique lip A', plug C, channel C', and conductor B, the several parts being constructed and arranged as and for the purpose specified.

No. 42,253.—ROBERT HENNING, assignor to J. D. CATON, Ottawa, Ill.—*Telegraph Register.*—April 5, 1864.—This invention consists in the use of a penholder, which is movable in a direction parallel with the length of the rollers, in combination with a plurality of grooves in the roller against which the pen operates instead of only one groove, as commonly used; the said grooves corresponding in number and distance apart with the writing desired to be made on the paper. The movable penholder is combined with the pen lever, and adjusted relatively to the several grooves of the roller, so that the pen is enabled to be brought exactly opposite to the said grooves, and the lines of writing on the paper are always made at equal distances apart.

Claim.—First, in combination with the many-grooved roller B, employed to support the paper against the pen or style a, the penholder D, attached adjustably to head C' so as to adapt the pen a to be moved longitudinally in respect to the roller B, substantially as and for the purposes herein described.

Second, the movable penholder D, provided with a series of holes i i, and the spring bolt j, or its equivalent, combined with the lever and the many-grooved roller, substantially as and for the purpose herein set forth.

No. 42,254.—W. H. JORDAN, assignor to himself and T. JORDAN, New York, N. Y.—*Carpet Cleaning Machine.*—April 5, 1864.—This invention consists in the employment of a series of revolving flails or beaters used in connexion with yielding cords and rollers, the latter having the carpet to be operated upon adjusted around them, and all the parts being so arranged that by turning a shaft the flails or beaters will be rotated and made to act upon the carpet while the latter is moved past the former, so that the whole of the carpet will be subjected to the action of the beaters.

Claim.—First, the employment or use of a series of flails or beaters E, attached through the medium of disks D, or their equivalents, to a rotating shaft B, and arranged in relation with the carpet E', to operate in the manner as and for the purpose herein set forth.

Second, the yielding or elastic cords G applied to the framing A, and arranged in relation with the flails or beaters E, substantially as and for the purpose specified.

No. 42,255.—W. A. Kirby, assignor to himself and D. M. Osborne, Auburn, N. Y.—*Harvester.*—April 5, 1864.—This invention relates to an arrangement of devices for raising and lowering the main frame and cutting apparatus, or for holding the same at any desired height from the ground, all under control of the driver in his seat.

Claim.—First, in combination with a stud or pin *n* upon the plate or lever A, the hinged and slotted arc N upon the main frame, for the purpose of suspending the main frame to the plate or lever at a higher or lower elevation, as may be desired, substantially as described.

Second, in combination with the lever A, stud and arc, the lever R, by which the driver, from his seat, may raise up, fasten up, or let down the main frame and cutting apparatus, substantially as described.

No. 42,256.—C. B. Loveless, Syracuse, N. Y., assignor to O. F. Morrill, Chelsea, Mass.—*Vapor Stove.*—April 5, 1864.—This invention consists in a method of combining with the stove and mixing chamber an independently acting valve-rod and gas-cock. The valve-rod which governs the supply of the fluid is made to pass through the reservoir and conduit pipe into the vaporizing or retort pipe.

Claim.—First, the stove K and chamber H, constructed, arranged and operating substantially as above described, in combination with the independently acting valve-rod *c* and gas-cock G.

Second, the valve-rod *c* passing through the reservoir and conduit into the vaporizing or retort pipe, constructed, arranged, and operating as set forth.

No. 42,257.—J. E. Lundgren, Stockholm, Sweden, assignor to himself and C. E. Habicht, New York, N. Y.—*Mode of Pulverizing and Preparing for use Coal, &c.*—April 5, 1864.—This apparatus consists of a revolving cylinder containing a number of small balls. The substance to be pulverized is placed in the cylinder with the balls, and the machine is rapidly revolved, which motion causes the balls to be carried up to the top of the cylinder, when they fall again in a constant shower, thus rubbing and triturating the material to an impalpable powder. The use of the ordinary revolving barrel and balls, which act by crushing the material, is disclaimed.

Claim.—First, the method herein described of pulverizing to any degree of fineness vegetable, mineral, or animal substances of a friable nature, or substances capable of being reduced to powder, by means of balls or the mechanical equivalent thereof in motion, in cylinders revolving upon their axes.

Second, the production of a substitute for lampblack and other similar carbonaceous matter in its various applications in the arts, by pulverizing in the manner referred to an impalpable powder, animal, vegetable, and mineral coal.

Third, the production of new articles of manufacture in which coal, pulverized as referred to, is used in lieu of lampblack and other impalpable carbonaceous matter, as one of the ingredients.

No. 42,258.—Robert Nation, Chebanse, Ill., assignor to himself and James N. Orr.—*Gang Plough.*—April 5, 1864.—The novelty of this invention consists in the arrangement of devices indicated in the claim for the purpose of adjusting the ploughs laterally and vertically, and also for raising them from the ground when necessary.

Claim.—The combination and arrangement in a gang plough of the plough beams D D, the guides F F, provided with the slots *a a*, the axle H, provided with the slots *s s*, the chains *e e*, the roller R, and lever *l*, all constructed and operating as and for the purposes herein delineated and set forth.

No. 42,259.—Nathaniel Otis, Chicago, Ill., assignor to himself and Joseph Fanyon.—*Washing Machine.*—April 5, 1864.—This machine consists of a beater having deep narrow grooves and a perforated block so arranged that the water can be forced into both. In the back part of the block is a recess, and the block is placed in an inclined position, so that the clothes will receive a rolling motion when operated upon by the beater.

Claim.—The combination and arrangement of the beater F, when provided with the peculiarly constructed grooves herein described, with the perforated block provided with the inclined face, all arranged, constructed, and operating as and for the purposes specified and shown.

No. 42,260.—L. A. Roberts, assignor to Louis Prang, Boston, Mass.—*Card-holder.*—April 5, 1864.—This invention consists in providing a paper for holding cards, pictures, &c., with a series of shallow recesses, in each of which are four slits for receiving the corners of the cards.

Claim.—An improved paper, as made with one or more recesses and with slits arranged relatively to such recess or recesses, substantially in manner and for the purpose specified.

No. 42,261.—John Thompson, assignor to E. N. Colt, Brooklyn, N. Y.—*Foot Stove.*—April 5, 1864.—This invention consists in the application to a warming pan of an air chamber with perforated or solid sides, in such a manner that the feet or other parts of the body can be warmed without coming in contact with the surface of the pan. The said pan is constructed in the shape of a T, so that in placing the feet on the two horizontal wings of the pan. the vertical wing will extend up between the legs, and thus the effect of heat from the pan will be extended over a larger portion of the body than with pans of the usual construction.

Claim.—First, a T-shaped warming pan *a b*, with or without air chambers *c h*, as set forth.

Second, the combination of the horizontal air chamber *c* and vertical air chamber *h* with the T-shaped reservoir *a b*, substantially as specified.

No. 42,262.—William Webb, assignor to the Scoville Manufacturing Company, Waterbury, Conn.—*Lamp.*—April 5, 1864.—This invention consists in extending the slot of the cone or deflector of the burner horizontally at each end, for the purpose of increasing the size and brilliancy of the flame. In connexion with the said slot is a series of openings arranged in such a manner as to obviate the conducting of the heat from the flame down to the lamp.

Claim.—The combination of the deflector A, perforated base B, and imperforate shield B′, constructed and applied as herein shown and described, and for the purpose specified.

No. 42,263.—John Abernethy and William H. White, Woodbury, Conn.—*Manufacture of Shears.*—April 12, 1864.—This invention consists in making the two limbs of the shears of sheet metal. A blank being cut of the proper shape, is afterwards swaged up in dies in such a manner as to bend the handle into a semicircular form, and that portion corresponding to the back of the blade is doubled over for the purpose of imparting additional strength at that point. A cutting face of steel is then welded upon the blade and the two halves of the shears are united by a steel bow in the usual manner.

Claim.—The manner of making shears substantially as herein described—that is to say, by first forming a blank by punching; by, secondly, shaping that blank by swaging and hammering into a form substantially as shown in the drawings; and, lastly, by uniting two shanks and blades by a steel bow riveted thereto, all substantially as described.

No. 42,264.—Samuel Aland, Rome, N. Y.—*Plough.*—April 12, 1864.—In this plough the standard of the subsoil share is attached to the cross-bar in the rear of the beam, and by means of a brace and lug is capable of being adjusted vertically as well as forward or back, and thus its depth and inclination may be readily controlled by the operator.

Claim.—The combination of the mortised cross-bar D, standard B, brace *c*, and lug G, constructed and arranged to operate as and for the purpose herein set forth.

No. 42,265.—Stephen M. Allen, Woburn, Mass.—*New Manufacture from Hemp, Flax, &c.*—April 12, 1864.—This invention consists in making cloth, felt, and felted cloth of the short fibres produced from long-staple fibre in the mode for which a patent was granted to the said Allen in January, 1864.

Claim.—First, as a new article of manufacture, a cloth, felt or yarn made from long-stapled fibre prepared in the manner herein set forth.

Second, as a new article of manufacture, cloth, felt, yarn, &c., made from long-stapled fibre prepared in the manner described and mixed with cotton or wool as set forth.

Third, as a new article of manufacture, cloth, felt, and yarn made from long-stapled fibre prepared as described, with or without admixture of cotton or wool, and dyed or printed as herein set forth.

No. 42,266.—James R. Baker, Kendallville, Ind.—*Lamp.*—April 12, 1864.—This invention consists mainly in so connecting the wick tube for which a patent was granted to the said Baker, that when the half tube is elevated the wick tube may be revolved on the axis of the ratchet wheels to a horizontal position for the purpose of enabling the wick to be readily trimmed.

Claim.—First, so combining a wick tube with a lamp burner that it may be turned outward by its thumb lever *h r g*, for the purpose of trimming the wick, or be removed therefrom for the purpose of supplying a new wick, substantially as set forth.

Second, so applying a wick tube to a lamp burner that the flame of the lamp, when the wick tube is turned outward for the purpose of trimming the wick, will be in a direction opposite to the oil supply openings of the lamp, and with an interposing portion of the lamp burner between the plane and the oil supply openings, substantially as described.

Third, the foot piece *l* in combination with the wick tube I, for the purpose set forth.

Fourth, the detent *l′* in combination with the wick tube I and foot piece *l*, for the purpose set forth.

Fifth, the tubular portion *m* of the sliding half-tube N in combination with the wick tube I, substantially as and for the purpose set forth.

Sixth, in combination with the collar D, having opening *e* therein, the sliding half-tube N, with opening *e′* therein, said parts being arranged and operating substantially in the manner and for the purpose set forth.

No. 42,267.—Harvey S. Bartlett, Smithfield, R. I.—*Self-acting Mule for Spinning.*—April 12, 1864.—The object of this invention is to produce, by means of a positive motion, through a clutch box operated by a train of gear wheels that derive motion from the main shaft, the several changes of motion requisite for the working of the machine, to wit: the running out, the putting in the standing twist, the packing off, and the running in.

Claim.—First, the mode of operation substantially as described, by means of which a disconnexion is effected at stated intervals between the cam-bearing shaft B, in a self-operating mule, and the source of motion derived from the pulley A'', when the mechanism to effect the same is combined and arranged in the manner substantially as specified.

Second, the combination of the spring D and the clutch B' with the mechanism by which the position of the lever E, with its stop F, is shifted for the purpose of restoring the connexion of the cam-bearing shaft B with the main source of motion, substantially as shown and described.

No. 42,268.—William Boekel, Philadelphia, Penn.—*Packing Projectiles for Rifled Ordnance.*—April 12, 1864.—The rear part of the projectile is surrounded by a piece of flexible metal fitting over the same very tightly and extending beyond its base. A cup-shaped disk of less diameter than the projectile bears upon the rear end of the same, and the three said parts are united together by means of a soft adhesive packing metal, thus forming a gas check, which serves to impart a rotary motion in a rifled piece with twisted grooves.

Claim.—First, the described employment of a band A, when embodied with the soft metal packing and drawn upon the body of the projectile, substantially in the manner and for the purpose specified.

Also, the use of a cup D, of any form equivalent to the one herein shown, when combined with the soft metal packing in the described manner, and bearing upon the back end of the projectile, substantially as and for the purpose set forth.

No. 42,269.—William G. A. Bonwill, Dover, Del.—*Lamp.*—April 12, 1864.—Above the shell of an ordinary burner is a detachable collar, having a series of air holes extending around it, which are regulated as to the amount of draught by means of a register, and adapted to admit of a supply of cool air to the interior of the chimney immediately above the cone or deflector, for the purpose of preventing the too sudden heating and consequent liability to fracture of the chimney when the lamp is lighted. A spring arranged and operating as shown in the engraving is employed in connexion with the spur wheels and slotted wick tube, the said spring being secured by its lower part to the floor of the shell and formed with a double coil rising in two standards embracing the shaft of the spur wheel.

Claim.—First, the collar C C c', constructed as described, with a series of apertures extending completely around it, variable in capacity by the action of the register, and adapted to admit a supply of cool air to the interior of the chimney immediately above the cone or deflector from the medium outside, (without first passing into the cup or burner,) to prevent the chimney from being cracked or broken by sudden heat.

Second, the specific combination and arrangement of the spring F, spur wheels $f\ f$, shaft F', and slotted wick tube E, when the said spring is firmly secured by its lower part f' to the floor of the shell A, is formed with a double coil $f2\ f2$, and rises in two standards $f3\ f3$, embracing the shaft F' in close proximity with the respective spur wheels ff, as herein described.

No. 42,270.—Diodor Briansky, St. Petersburgh, Russia.—*Coating and Protecting the Silvering of Mirrors.*—April 12, 1864; patented in Belgium June 17, 1863.—This invention consists in applying to the back of mirrors a succession of coatings of an elastic varnish and paint; the said coatings being formed of caoutchouc and gutta-percha dissolved in benzine, turpentine, &c., with the addition of oil, varnish, or oxides of lead and zinc, lime, cement, &c.

Claim.—The application, in successive layers, to the silvered surfaces of mirrors, in manner and for the purpose substantially as herein set forth, of plastic protective compounds, combining, like those above enumerated, the essential qualities of elasticity, tenacity, impermeability, insolubility, and adhesiveness.

No. 42,271.—Jacob Brinkerhoff, Auburn, N. Y.—*Corn Sheller.*—April 12, 1864.—This invention consists in the employment of a toothed cylinder in connexion with ties placed one above and the other below the bed-piece, the latter being provided with spiral springs, which keep it pressed against the said ties. Below the lower tie is arranged a fan blower, and underneath the cylinder is a platform.

Claim.—The cylinder E, the ties L and K, the regulators H, the bed-piece O, the spiral springs a, the fans s, and the platform P, the whole being constructed, combined, and arranged in the manner and for the purpose substantially as herein set forth.

No. 42,272.—Henry T. Carter, Portland, Maine.—*Valve Gear of Steam Engines.*—April 12, 1864.—The object of this invention is to simplify the valve gear of the steam engine, and its novelty consists in so arranging a rotary valve and connecting it directly with the main shaft of the engine as that the rotation of the shaft shall impart to the valve its required motion and enable it to control the motion of the engine. The engine is so arranged that the axis of the main shaft is at right angles to it, but parallel with the axis of the cylinder.

Claim.—The arrangement of the cylinder, the fly-wheel shaft, and the rotary valve, in manner so that the valve or its spindle shall be affixed to, and so as to be rotated with and by the said shaft, while such shaft may be in revolution.

No. 42,273.—Otis N. Chase, Boston, Mass.—*Coal Sifter.*—April 12, 1864.—This invention consists in the employment of a rocking sieve placed within an ash receiver and attached to a frame having its sides curved in the line of the motion of the sieve. Underneath the sieve are arranged two planes inclined towards the centre, below which point is a slide which admits of the ashes being dropped below. At the rear of the sieve is attached a handle, by means of which the sieve may also be rocked.

Claim.—First, the rocking sieve C, when attached to frame B, with its sides curved in the line of the motion of the sieve, substantially as described.

Second, the sieve C, in combination with the inclined planes $f\ f$ and the slide D, substantially as described, for the purpose set forth.

Third, the handle E, when attached to the sieve C, and fitted for the double purpose described, substantially as and for the purpose set forth.

No. 42,274.—John C. Clapp, South Boston, Mass.—*Numbering Machine.*—April 12, 1864.—In this machine the numbers are placed on the peripheries of a set of wheels made to rotate in consecutive order by the simple vibration of a lever, on the end of which the whole are placed, all arranged above the bed on which the impressions are to be printed.

Claim.—First, the pawl J, constructed with the steps $a\ b\ c\ d$, in combination with the notches Z in the numbering wheels, substantially as set forth and for the purpose described.

Second, the friction plates Y, in combination with the rod Q, or its equivalent, by means of which the numbering wheels are kept apart and prevented from revolving, except when acted upon by the pawl J, substantially as described.

Third, the fender-arm M, by means of which the pawl J is made to ride clear from the figures in moving backward, substantially as set forth.

Fourth, the employment of the nut S, and elastic washer R, for regulating the friction between the plates Y and the numbering wheels, in such a manner as to preserve a true register of the figures, substantially as described.

Fifth, the rod Q, to prevent the friction plates Y from moving with the numbering wheels, substantially as described.

Sixth, the combination of the arms G G, frame E E, pawl J, arms C C, and spring L, substantially as and for the purpose described.

No. 42,275.—Giles Cramton, Marshall, Mich.—*Churn.*—April 12, 1864.—Upon the shaft of the churn dasher, and above the churn box, are arranged two pinions, gearing respectively with the upper and lower edges of a partially cogged wheel, the teeth of which are in gear with but one of the pinions at the same time, so that as the wheel is rotated the dasher will be moved first in one direction and then in the other without reversing the direction of the driving wheel or changing its speed.

Claim.—The employment of the partially cogged wheel W, in combination with the pinions P1 P2 and shaft E, of any churn dasher, connected, arranged, and operated substantially as and for the purposes herein specified.

No. 42,276.—Jesse J. Deputy, Peoria, Ill.—*Saw-Mill.*—April 12, 1864.—Within a frame composed of a cap-piece, two uprights, and a wide cross-piece near the bottom, is fitted a longitudinally sliding rack, passing through the centre of which is a lever that is attached to the upper cross-head of the saw frame. The said saw frame is composed of two cross-pieces and two uprights, the cross-pieces being cut in a curve nearly corresponding with the curve in the lower cross-piece of the main frame. The lever that passes through the rack guides the upper end of the frame, and the bottom cross-piece is provided with friction rollers which traverse the curve in the cross-piece. In order to determine the angle that the stuff is to be sawed, two cog wheels are employed, one being placed upon the shaft with the wheel that works the rack, the other at any convenient point, and around these wheels is arranged an endless chain, upon which is marked a scale, which, in connexion with an index attached to the lower cross-piece of the main frame, serves to indicate the proper angle, by turning the wheel and revolving the pinion which gears with the rack operating the saw frame.

Claim.—First, combining and arranging the frame C, or its equivalent, at one end with the curved surface c and bar O, and at the other end with the rack G and pinion I, when arranged to operate substantially in the manner and for the purpose above set forth.

Second, the scale of bevels arranged on and operated by the endless chain M, substantially as above set forth.

No. 42,277.—Jesse J. Deputy, Peoria, Ill.—*Saw-Mill.*—April 12, 1864.—The object of this invention is to feed the timber in a direct or oblique line to the cut of the saw, and it consists of an upright frame, hung centrally at the top and bottom, so as to rotate to the right or left. Within this frame are arranged two other frames, one carrying the upper horizontal feed roller, and the other the lower feed roller; the upper roller remains in a horizontal position, and admits of an adjustment vertically. The lower roller is adjusted by means of a slide below the lower cross-head of the inner frame, so as to allow it to incline from a horizontal position, and is kept in place by means of a spring. Attached to the upper cross-head of the main frame are two pulleys, around which passes a belt connecting with another pulley attached to a vibrating frame in the rear of the saw, where it is hung centrally, and carries a roller on a level with the lower roller in the front frame, so that as the front frame is vibrated from a direct line with the cut of the saw, the belt over the pulleys, connecting the two frames, causes the rear frame to vibrate, thus preserving the parallelism of the rollers in the two frames and allowing the saw to cut in a direct or oblique line.

Claim.—First, the arrangement of the upper feed roller l, or the one that binds on the face of the timber, so as to be in line, or nearly so, with the centre of the wheel B horizontally, as and for the purpose above described.

Second, combining and arranging the frame M'' with the frames M and M', substantially in the manner described and for the purpose above set forth.

Third, constructing and arranging the frames M and M'' to turn on centres, substantially as described, so that the rollers $l\ l'$ and l'' may readily assume any required position to suit any direction the stuff is required to take as it is sawed.

Fourth, combining and arranging the sliding frame P with the frames M' and M'', substantially as described, for the purpose of canting the frame M' to adapt the roller l' to the timber when the edges are unequal in thickness to each other.

Fifth, combining the pulley G6 with the wheel B by means of the intermediate pulley G7, shaft F5, worm wheel i, and rack I, constructed substantially as described and for the purpose set forth.

Sixth, combining the frame H with the wheel B by the means hereinbefore specified, for the purpose of preserving the parallelism of the shaft F and F', substantially as described.

No. 42,278.—Abner Doble, San Francisco, Cal.—*Tamping Bar.*—April 12, 1864.—This invention consists in substituting for the ordinary iron head a tamp head of copper or an alloy of copper by casting the same upon the end of an iron tamping bar.

Claim.—Arming the end with, or attaching thereto in the manner herein recited, copper, or an alloy of copper, and any other metal or metals, substantially as and for the purpose herein set forth.

No. 42,279.—R. B. Douglas, Cleveland, Ohio.—*Camera Stand.*—April 12, 1864.—This invention consists in securing the table, which holds the camera, to standards, by means of hinges, which standards are also hinged to a cross-bar at their lower ends, the whole being raised or lowered vertically by means of a hinged lever in such a manner as to prevent the focus of the optical part of the instrument from being changed in the operation.

Claim.—First, the table B, standards F F' D and G, and cross-bar H, when hinged together, as and for the purpose specified.

Second, the use of the hinged lever C for giving the table a vertical motion, substantially as described.

No. 42,280.—Samuel P. Duffield, Detroit, Mich.—*Purification of Salt Brines.*—April 12, 1864.—This invention is a modification of a process for which a patent was granted to the said Duffield on March 22, 1864, and it consists in treating the wood ashes, from the fuel used in evaporating salt brines, to form an alkaline liquid, with which the alkaline earths, lime, magnesia, &c., are precipitated from the brine. The ashes are first heated in a reverberatory furnace to burn out all coloring matter.

Claim.—The application of ashes, treated as above, for the purification of salt brines or re-solutions of salts and a precipitation caused thereby of the chlorides of calcium and magnesium and of iron, the same, in order to secure success, being first treated in a reverberatory furnace, as above described, and subsequently boiled or bleached so as to secure a clear solution thereof, which is then applied or introduced into the brines or re-solutions of salts, in the proportion and manner above described.

No. 42,281.—Horatio Fairbanks, Boston, Mass.—*Lamp Burner.*—April 12, 1864.—This invention consists in the employment of an air tube, provided with openings for the admission of air, surrounding the wick tube and made adjustable vertically. Attached to the screw cap and extending below the same is a conically-shaped tube, forming a chamber with the wick tube, the said chamber being open at its upper end.

Claim.—The combination of the adjustable air-supplying tube or conduit D with the wick tube A, the said conduit being movable vertically on the wick tube, and provided with air entrance openings, substantially as described.

Also, the combination and arrangement of the air-supply tube D and its air injets with the wick tube A and the circumscribing chamber *a*, formed by the conical tube B, extending down from the screw cap C, substantially as specified.

No. 42,282.—Daniel D. Gitt, Arendtsville, Penn.—*Harvester.*—April 12, 1864.—This invention consists in combining with the pitman which moves the cutters, two rollers moving in guide ways, for the purpose of diminishing the friction in the working of the cutters. To the forward end of the draught beam is a braced bar rigidly attached, so as to overcome any side draught.

Claim.—First, in combination with the pitman A the rollers C C and guide ways D D, constructed, arranged, and operating in the manner and for the purpose set forth.

Second, the rigid bar G, constructed and applied in the manner described for preventing side draught.

No. 42,283.—Freeman Godfrey, Grand Rapids, Mich.—*Bag-holder.*—April 12, 1864.—This device consists of an inclined bench, provided with a fastening or clamp for securing the bag on the bench while the former is being filled, and also for keeping the mouth of the bag in an open or distended state so that the substance with which the bag is to be filled may be readily thrown or poured into the latter.

Claim.—First, the hoop B, attached by hinges *c* to a bench or suitable support, in combination with the bail *e*, substantially as and for the purpose specified.

Second, the inclined bench *a*, in combination with a bag fastening for holding the bag and distending the mouth of the same, substantially as described.

No. 42,284.—William O. Grover, West Roxbury, Mass.—*Sewing Machine.*—April 12, 1864; patented in England August 22, 1862.—Extending from the front to the rear of the machine is a horizontal rock shaft, supported in bearings in a bracket, and provided at its rear end with a curved slot, in which plays a pin on a rocking sector; another pin on the opposite side of the sector being attached to one end of a connecting rod, whose other end is operated by a crank pin connexion on the main shaft. The forward end of the rock shaft has also a slotted arm embracing a pin on the needle stock, the object of the devices being to give the requisite varying motions to the needle in shuttle machines.

Claim.—The combination substantially as described of a slotted arm attached to a rock shaft, a vibrating sector provided with pins, and a connecting rod acting in combination, substantially as set forth to move a sewing-machine needle, substantially in the manner described.

Also, the arrangements of these devices as described at the rear end of a bracket in connexion with the arrangement of a rock shaft extending along the bracket and carrying an arm that actuates the needle stock, in the manner specified.

No. 42,285.—William O. Grover, West Roxbury, Mass.—*Sewing Machine.*—April 12, 1864.—The object of this invention is to cause the needle-driving shaft and another shaft which gives motion to the shuttle, or other loop-securing device, to rotate simultaneously, although with slightly varying speeds, without the use of cog gearing or a belt and pulleys to connect the said shafts, thus insuring less friction and wear. The connecting rod is attached at its upper end by a crank pin to the upper shaft, and at its lower end in the same manner to the lower shaft, the crank pin of the latter playing in a slot in the lower crank, it being necessary that it should change its distance from the centre of the shaft. The fulcrum of the rod is in the form of a journal box, through which the rod slides freely, the said box being made in two pieces, one of which is secured to a pin which oscillates in a socket in a fixed bearing on the frame; and a requisite of the fulcrum is that it shall permit the endwise motion of the connecting rod and still allow it to oscillate.

Claim.—The connexion substantially such as is herein described, by which one shaft of a sewing machine causes another to revolve with it, consisting of two crank pins, a connecting rod attached to both of them, and a fulcrum, all operating in combination substantially as specified.

No. 42,286.—Joseph Grundy, Stoneham, Mass.—*Faucet.*—April 12, 1864.—In this faucet the valve is placed at the lower extremity of a vertical screw shaft. A circular groove within the screw forms the lower portion of the narrow and smooth continuation of this shaft, and into this groove is fitted the collar of a flexible washer, the flanged portion above being embraced by the cap as the latter is screwed down, so that as the liquid ascends around the screw its force will tend to keep the washer in place and thus prevent leakage.

Claim.—In combination with the plate *m* and screw rod *d*, the peculiar shaped washer ***o p*** and chamber *z*, in the screw rod *d*, as shown and set forth.

No. 42,287.—E. Hambujer, New York, N. Y.—*Street-sweeping Machine.*—April 12, 1864.—This invention consists in the employment of a weighted box, which is caused to oscillate in standards projecting upwards from the main car or platform; the oscillating motion being caused by a crank shaft and rod connected with the axle of the car. Depending from the said box is a rod having a pounder attached to its lower end, which has an up and down motion imparted to it as the machine moves along, for the purpose of pounding and levelling the surface of the street. At the rear of the platform is arranged an adjustable scraper placed obliquely across the same and used in connexion with a brush and rising and falling scoops, for collecting the dirt as the machine moves along.

Claim.—First, the oscillating weighted box F in combination with the platform A, crank shaft C, and pounder I, constructed and operating in the manner and for the purpose substantially as herein specified.

Second, the application of the oblique adjustable scraper K and brush L in combination with the rising and falling scoops M and platform or car A, all constructed and operating in the manner and for the purpose substantially as herein shown and described.

No. 42,288.—JAMES HANSEN, Saugerties, N. Y.—*Carriage Shaft.*—April 12, 1864.—On the inner ends of the thills are secured, by means of suitable clips and bolts, metallic spindles, having on their lower sides studs so constructed as to lock the spindle into a box or socket formed by cutting a recess in the end of the cross-bar which connects the ends of the thills together.

Claim.—The combination of the spindle D, having a stud E thereon, with the socket F and cross-bar G, as hereinbefore described, and for the purposes set forth.

No. 42,289.—S. HEMENWAY, Fond du Lac, Wis.—*Water Elevator.*—April 12, 1864.—The uprights in which are formed the bearings of the reel are hinged to the bottom of the curb of the well, so that they may be inclined to permit the flow of water from the bucket into the desired receptacle, the reel being set free from the control of the crank by means of a pawl upon the crank when pressed by the hand of the operator.

Claim.—The swinging windlass by means of which the bucket is thrown forward and downward and emptied without the backward motion of the crank and reel, substantially as specified.

No. 42,290.—GIDEON HUNTINGTON, Norwichville, Canada West.—*Grain Drill.*—April 12, 1864; antedated March 28, 1864.—Attached to the ends of the seed box rollers, and upon the outside of the boxes, are connecting rods, which, by means of a crank, impart a vibrating motion to the said rollers. To the hub of one of the front wheels is secured a cog wheel, engaging with another cog wheel whose shaft passes through the fulcrum of a lever G. A swivel wheel turns upon a pivot which is in the form of a cogged standard in an upright socket, the cogs being made to engage with corresponding cogs on the short arm of a lever K, the two levers serving to regulate the depth of soil as it is freshly turned upon the seed. By means of the above devices the machine may be used as a gang plough and seed sower.

Claim.—First, the combination and arrangement of the gear wheels F F, lever G, and connecting rods B B, when constructed and operating in the manner and for the purpose herein set forth.

Second, the seed roller K, provided with the coarse brushes on one side and fine brushes on the opposite side, as and for the purpose set forth.

Third, the cogged pivot standard I of wheel H, when constructed and operating in the manner and for the purpose herein set forth.

Fourth, in combination with the standard I, the lever K, when arranged and operating in the manner and for the purpose set forth.

No. 42,291.—GUSTAVUS A. JASPER, Charlestown, Mass.—*Bag Filter for Sirups, &c.*—April 12, 1864.—This invention consists in so arranging the bag filter that the liquid, in filtering, passes from the outside to the inside of the bag. The solution of sugar or other liquid to be filtered is placed in a tank, and the bags are kept distended by means of perforated tubes or standards screwed in the lower part of the tank. As the liquid filters it collects in a steam chest or receiving chamber below the tank.

Claim.—The improved arrangement and application of the bags, the cistern for containing the sirup, and the chamber for receiving it after it may have been passed through the bags, the same being such as to cause the sirup to first flow against the outside surface of each bag, thence through the sides or meshes of the bag and into the interior of the bag, and from thence out of the same or into the receiving chamber, as described.

Also, the combination and arrangement of one or more hollow foraminous standards or tubes D with one or more filter bags, and a receiving cistern A, arranged together in the improved manner, substantially as hereinbefore described.

Also, the combination and arrangement of a steam chest or receiving chamber B, with the chamber A, and one or more filter bags arranged therein, in manner and so as to operate substantially as described.

Also, the tubular bag supporter or post, as made with the bag-securing neck and with a screw arranged at its lower part, substantially in manner and for the purpose set forth.

No. 42,292.—A. F. JOHNSON, Boston, Mass.—*Sewing Machine.*—April 12, 1864.—By this invention the lock stitch formed with two threads is made in machines which sew heavy fabrics, such as leather for boots and shoes, harness, &c., which is effected by means of an awl for perforating, a hook or crotchet needle to pull one thread through the perforation, and a shuttle for carrying the other thread. The feed is effected by the awl, and is adjustable, the object being to avoid the chafing and clogging of the thread in the eye of the groove when an eye-pointed needle has been used, and which, in using waxed thread, presents a serious difficulty; also, the wedging of the doubled wax thread and needle in the cloth and the difficulty in drawing the loop of the upper thread down through the material by the mere passage of the shuttle through it. The hooked needle pulls down the loop of the upper thread through the fabric, then makes about a third of a revolution on its axis to place the loop in the path of the shuttle, which then passes freely through it with but slight strain or friction; the tightening of the stitch is effected while the hooked needle is not in the material, by means of a vibrating arm and its attachments, which arm has also previously drawn the thread from the spool and delivered it in a slack condition to the hooked needle.

Claim.—First, forming a seam or series of stitches by pulling in contradistinction to pushing a thread through the fabric by means of a hook needle, and passing another thread through the loop of the former by means of a shuttle, or its equivalent, when used in combination with the feeding mechanism of a sewing machine.

Second, in combination with a sewing mechanism operating as described, keeping the thread slack or free from tension while being drawn through the fabric by the hook needle, substantially as described, so as to prevent the great friction and strain that would otherwise occur, as set forth.

Third, such an arrangement of devices or "take-up" for tightening the stitch and supplying the needle as will operate independently of the hook needle or of its motion, so as to avoid the necessity of drawing the thread through the fabric to tighten the stitch by means of the hook needle itself, as set forth.

Fourth, giving the needle both an eccentric and rotary movement, for the purposes specified.

Fifth, the combination of an awl or other device for puncturing the fabric, an open-eyed or hook needle for seizing and pulling the thread through the fabric, and a shuttle or other device for interlocking one thread with another, the whole operating together substantially as described.

Sixth, the combination of an awl or perforating device, open-eyed or hook needle, shuttle or other device, and such an arrangement of devices or "take-up" for tightening the stitch, as accomplishes its purposes by operating independently of the action of the hook needle.

Seventh, the combination of the vibrating arm and guiding pulley, or their equivalents, the whole operating together so as to form a "take-up" which acts independently of the needle, substantially as described.

Eighth, the arrangement of the pulley W' and swivel box V', for the purposes specified.

Ninth, placing the awl in a swinging arm of the awl bar, in combination with set screws m'' n', or other equivalent adjustable devices, respectively, for regulating the length of stitch and for feeding the fabric to the needle.

No. 42,293.—WILLIAM JOSLIN, Cleveland, Ohio.—*Balanced Valve for Steam Engines.*—April 12, 1864.—The object of this invention is to produce a balanced valve for steam engines which will avoid the necessity of providing a steam-tight chest to enclose the valve. In this invention the valve is provided with a steam passage, so constructed as to have a bearing entirely surrounding it in order to prevent the escape of steam to the atmosphere, the outside of the valve being exposed to the same. Upon the top of the valve is placed the valve plate through which the steam passes to the cavities in the valve. Upon the under side of the cover is secured a flexible diaphragm, against which the upper surface of the valve plate bears. A recess is formed in the cover which admits of the entrance of steam, so as to press upon the top of the diaphragm, which in turn presses upon the valve plate, and this upon the valve, so that the pressure upward, in consequence of the steam coming in contact with the valve seat, is counterbalanced by the pressure downward.

Claim.—First, the combination of the flexible diaphragm D and valve plate C with the valve B, as above described.

Second, working the slide valve steam tight on its upper and lower surfaces by means of steam pressure, without a steam-tight box or chest, as herein set forth.

No. 42,294.—WILLIAM JOSLIN, Cleveland, Ohio.—*Slide Valve for Steam Engines.*—April 12, 1864.—This invention consists in combining with the ordinary slide valve of a steam engine a sliding plate provided with an opening, through which the steam passes from the steam entrance to the cylinder, and made to work steam tight under the slide valve box cover. Upon the top of the slide valve boxing is fastened, so as to be steam tight, a flexible diaphragm or cover, which is also secured to the under side of the sliding plate, and is provided with an opening as in the said plate for the purpose of relieving the slide valve of the steam pressure incident to the common slide valve.

Claim.—The diaphragm G G2 and plate E E2 in combination with the valve B, as above described.

No. 42,295.—HOWARD C. KEARNEY and JOSEPH W. HARRISON, Philadelphia, Penn.—*Composition for Removing Paint, Varnish, &c.*—April 12, 1864.—This invention consists in the preparation of a dough-like substance, composed of soda or potash and lime or carbonate of lime, for the purpose of removing varnish, paint, &c., from woodwork without injury to the wood.

Claim.—The use, substantially in the manner and for the purpose herein described, of a solution of sal-soda, potassa, or other equivalent alkali, in combination with hydrate or carbonate of lime.

No. 42,296.—L. G. Kniffen, Worcester, Mass.—*Harvester.*—April 12, 1864.—Between the hub of a drive or spur wheel placed loosely on its shaft and a fixed collar or flange on said shaft is interposed a loose collar or washer provided on one face with cam or wedging surfaces, which engage with similar surfaces on the face of the hub, so that by the action and friction of the parts during the forward motion of the machine, the cutters will be operated, and during the backward motion of the machine the said parts will be inoperative, and the clicking incident to the use of the common pawl and ratchet is avoided.

Claim.—The combination and arrangement with the main driving wheels of a harvester, and the cutting apparatus thereof, of the parts marked *a c* and *d*, whereby, when the machine is turned either to the right or left, the cutting apparatus will be operated without cramping either wheel, and whereby the machine can be backed without noise or operating the cutters, substantially as described.

No. 42,297.—Willard Knowles, Boston, Mass.—*Link Motion for operating Valves.*—April 12, 1864.—The object of this invention is to keep the links used in operating the valves of steam-engines in their proper position, and to prevent the wear upon their sides which necessitates their being planed, thus reducing their thickness. The invention consists in attaching to the end of the link a segment of a circle, which is caused to move through a swinging block attached to the end of the lever used for changing the position of the link. Upon this block the weight of the link, and of the rods by which it is moved, rests, the segment passing through the jaws of the block, and thus the link is supported during its entire range of motion, and the inclination to leave the sides of the link in consequence of its inclination to the sides of the block attached to the end of the rock-shaft arm, and by which the valve is moved, is avoided.

Claim.—The connexion of the link with its operative lever, the same being by means of the curved arc *k*, and the swing block *i*, or its equivalent.

No. 42,298.—William K. Leach, Boston, Mass.—*Truss Pad.*—April 12, 1864.—The pad is connected to the main spring by a ball and socket joint. The socket or the ball is scored or roughened for the purpose of preventing it from slipping, and, further, to hold the pad in position after its adjustment, a lever is brought to bear upon the ball with considerable force, the socket itself being in the short arm of the lever.

Claim.—The fastening for a truss pad herein above described, the same consisting of a ball and socket joint actuated by a lever bar, and having the surface of the socket or of the ball, or both, scored or roughened, as set forth.

No. 42,299.—William J. Lewis, Pittsburg, Penn.—*Clamp for holding Nuts and Bolts.*—April 12, 1864.—This invention consists in pivoting in the front side of the sliding frame of a screw-cutter a pair of curved levers, which are made to grip the article at their front or short end by means of a cone which is forced by a thumb-screw between their two longer ends. The jaws are caused to press against a blocking piece attached to the front side of the frame, the article held between them, its vertical adjustment being effected by means of a screw in a bracket, projecting from the front immediately below the blocking piece.

Claim.—The levers A A, furnished with jaws D D for griping the work, when operated by a wedge N and screw T, in combination with the die E and frame B for supporting the parts, the whole being constructed and arranged in the manner shown and for the purposes herein set forth.

Also, combining with the frame carrying the jaws the thumb-screw L, supported by the projecting bracket F, operating in the manner as herein set forth.

Also, the use of the springs P P, for forcing the levers against the wedge, in combination with the frame B, the jaws D D, and die E, for the purposes hereinbefore shown and set forth.

No. 42,300.—Alfred O. Lindsey, Charlestown, Mass.—*Machine for the Manufacture of Shoe Binding.*—April 12, 1864.—This machine consists in the combination of a series of endless carrying bands supported upon rotary drums with a series of rotary cutters, and a printing, marking, or stamping apparatus, composed of a series of striping rollers, which revolve within a reservoir arranged for their reception.

Claim.—The machine or combination, substantially as above described, such consisting of the endless series of carrying bands B B B, the bed drum 5, the series of rotary cutters K K K, and the striping mechanism or rollers R, and reservoir C, arranged and so as to cooperate, and supplied with operative mechanism, substantially as hereinbefore explained.

No. 42,301.—William Loughridge, Weverton, Md.—*Mode of Operating Car Brakes.*—April 12, 1864.—This invention consists in the employment of swinging standards arranged beneath the platform of the car, and provided with pulleys, over which passes a chain connected with rods at either end, and so arranged and connected with the locomotive as to be operated by means of steam-power from the locomotive or by hand, as may be required.

Claim.—The swinging standards D D, arranged with the main or continuous chain G, and combined with the rods J and chain K of the hand brake, in the manner substantially as and for the purpose herein set forth.

No. 42,302.—Samuel Macferran, Philadelphia, Penn.—*Shoe Blacking Apparatus.*—April 12, 1864.—Within a box, provided with brushes, blacking, &c., is arranged a bootjack, so that it may be used as a support for the foot during the operation of blacking, and when required to be used as a jack may readily be detached for the purpose.

Claim.—Combining the reversible bootjack C with the shoe-blacking apparatus, substantially as described, so that it may be used as a rest or support for the foot during the operation of blacking, and also as a jack, for drawing off the boots, by detaching it from the case, as above set forth.

No. 42,303.—Truman Merriam, Waterloo, Wis.—*Chopping Axe.*—April 12, 1864.—The lower part of the axe, from the poll to the edge, is made shorter and thicker than common, while the upper part is thinner and elongated, so as to cause the heel or upper corner of the blade to project outward and upward much further than common, thus making the cutting edge stand obliquely to the body of the axe.

Claim.—First, an axe having the lower part thicker and heavier than the upper part, in combination with the upper corner D projecting upward and outward longer in proportion than other axes.

Second, the slanting or oblique form of the edge of the axe, as above described.

No. 42,304.—Joseph M. Naglee, Philadelphia, Penn.—*Siphon.*—April 12, 1864.—This invention consists in constructing the longer leg of a siphon with a reservoir or enlargement below the bend, and providing the same with an opening and plug on its upper side. Near the lower end of the same leg is inserted a cock or valve for the purpose of retaining a supply of the fluid in the reservoir until the siphon is again required for use.

Claim.—A siphon having a reservoir *c*, with an opening *a* below the bend in the long leg, and a cock or valve D at or near the lower end of the same leg, all substantially as and for the purpose herein set forth.

No. 42,305.—Lucius C. Palmer, Winchester, Conn.—*Manufacture of Scythe Rods or Bars.*—April 12, 1864.—In this invention a faggot is made of three layers of equal length and breadth, the top and bottom being of iron, and the middle of three narrow bars of steel; the faggot is then heated, welded, and reduced by rolling to the proper dimension, then slit longitudinally through the middle bar of steel and cut transversely into proper lengths.

Claim.—The arrangement of iron and steel, as in piles, Figs. 1 and 7, the rolling, drawing, slitting, and working the same, as and for the purpose herein shown and described.

No. 42,306.—Owen B. Parker, Hopkinton, Mass.—*Sole-edge and Heel-shave.*—April 12, 1864.—This device is constructed with a cutting knife and an adjustable gauge; the cutting knife being formed with a rounded edge notch, so arranged in relation to the cutting edge as to prevent the latter from injuring the upper leather when pressed against the same. With the adjustable gauge is combined a scale provided with a locking stud and a series of countersinks or recesses, so that the device may be readily set and secured at any desirable gauge.

Claim.—The improved sole-edge and heel-shave, constructed substantially as above described; that is, not only with the cutting knife and the adjustable gauge, but with the cutting knife provided with the rounded edge notch, arranged with respect to its cutting edge, as specified.

Also, the adjustable gauge and its scale, as made or provided with the locking stud and the series of countersinks or recesses, arranged or applied with respect to such gauge and scale, substantially in manner and so as to operate as described.

No. 42,307.—Martyn John Roberts, Pendarren House, Wales, Great Britain.—*Spinning Machine.*—April 12, 1864; patented in England December 15, 1862.—In this machine what is termed the "dead-plate" is screwed to a stud, and on it rests the bobbin, or a cloth-washer may be interposed. A short spindle within the flyer rests loosely in its bearings, so that it may be readily removed to take off the bobbin and be free to turn in the head of the flyer; its lower end is also free to turn in a cup or bearing in the stud or pin which supports the flyer and socket, or in a cup in the dead-plate. The drag is produced by the friction of the bobbin on the dead-plate or washer.

Claim.—First, constructing such apparatus with what I have hereinbefore termed a dead-plate, acting in manner and for the purpose hereinbefore described.

Second, constructing such apparatus with spindles fitted, as hereinbefore described, and capable of running within the flyers, as described, with reference to Figs. 1, 2, 4, and 5, whether connected with the flyers by hooked arms, as shown at Fig. 5, or free, as shown at Figs. 1, 2, and 4.

Third, the general arrangement and combination of the parts of such apparatus hereinbefore described and represented at Figs. 1, 2, 4, and 5 of the accompanying drawings.

No. 42,308.—Martyn John Roberts, Pendarren House, Wales, Great Britain.—*Device for Lubricating Spindles, &c., in Spinning and other Machines.*—April 12, 1864; patented in England May 25, 1862.—The nature of this invention is mainly explained by the claim. One end of the bearing dips into the cup containing the lubricant, the said cup in some cases being stationary, and sometimes being made to revolve; the other or upper end of the aforesaid bearing passes through another cup into which any of the lubricating material that might otherwise be wasted is caught and returned to the bearing. The tops of the cups may be covered with caps or plates through which also the spindle passes. The "flash plate," so called, is designed to flash or throw into the reservoir the oil which might otherwise ascend and escape. In cases where the collar or rail traverses up or down, a tube is fixed to the lower end of the collar so as to embrace without touching the spindle, the said tube dipping into another tube of corresponding length attached to the oil-reservoir, thus preventing leakage and waste from the bottom of the bearing or exposed parts of the spindle.

Claim.—The means of preventing the escape of the oil or other lubricant in the lubrication of vertical and inclined spindles, and other vertical and inclined parts of machinery by—

First, an upper chamber or cup to receive the oil or other lubricant made to rise from a lower oil cup or vessel by the revolution of the parts to be lubricated, substantially as hereinbefore described.

Second, a tube or tubular projection on or fixed to the cover of the cup containing the oil or other lubricant, substantially as hereinbefore described.

Third, revolving cups fitted into a cover to prevent oil or other lubricant matter being thrown out, substantially as hereinbefore described.

Fourth, what I term a flash plate, substantially as hereinbefore described.

Fifth, the apparatus applicable to sliding collars, as shown at Fig. 3, and hereinbefore described.

No. 42,309.—John Robinson, Lawrence county, Penn.—*Horse Rake.*—April 12, 1864.—At the rear of the axle of the main frame is attached a hanging frame which carries a revolving rake wheel provided with two sets of tines that are caused to operate alternately. When the rake is not required for use the hanging frame may be elevated by means of a lever, under the control of the driver, and held in position by means of a sliding bar.

Claim.—The use of the revolving rake wheel, provided with two sets of tines to operate alternately, and attached to the carriage by a hanging frame, substantially as described.

Also, the use of the lever for operating the catch bar in connexion with the sliding bar for elevating and holding up the rake frame, when the rake is not in use, substantially as described.

No. 42,310.—Thomas L. Robinson, Boston, Mass.—*Apparatus for reducing Fish to Guano.*—April 12, 1864.—This invention consists of an apparatus for manufacturing guano from fish, in which is combined all the means necessary for steaming, pressing, and disintegrating the fish in a continuous process. The devices used are designated in the claim.

Claim.—First, combining in one apparatus such arrangements of mechanical devices as will accomplish the several operations of heating or boiling, disintegrating and expressing the oil from fish, as set forth.

Second, keeping the fish in such position with regard to the cutters as to cause it to be uniformly acted upon thereby by means of such feeding devices as will bring the cutters and body of the fish in proper relations to each to accomplish the desired result, as described.

Third, so constructing and operating the feeding plate *e* that it will serve both as a platen for the pressing devices to act against, and also permit the material in the heating vessel to be delivered to the pressure chamber, as described.

Fourth, the combination of a heating vessel and disintegrating devices in the same apparatus, substantially as described.

Fifth, the combination of a heating vessel and devices for expressing oil from fish in one and the same apparatus, substantially as described.

Sixth, the combination in one apparatus of devices for both pressing and disintegrating fish, substantially as described.

Seventh, the use of serrated revolving cutters, operating as described, and for the purpose specified.

No. 42,311.—Helen Rose, Milford, Mass.—*Composition for Preserving and Curing the Hair.*—April 12, 1864.—This composition consists of a decoction of black tea, chloride of sodium, carbonate or bicarbonate of soda or potassa, and French brandy.

Claim.—The composition made of the ingredients and in the manner and for the purpose substantially as specified.

No. 42,312.—Marshall D. Wellman, Pittsburg, Penn.—*Fireplace Stove.*—April 12, 1864.—In the back and side fire walls of the fireplace are a series of flutes extending from a point near the level of the top of the fuel and gradually increasing in size until they terminate at the level of the grate bars, the lower end of each flute coinciding with an opening between the grate bars. Underneath and between the bars is a series of horizontal strips or slats arranged to turn on their axes so as to close or open at will the air spaces between the grate bars. The wall of the fireplace is inclined forward over the grate from a line on a level with it, so that the fuel will not pack against the back wall, thus admitting of the passage of air between the back wall and the fire. Behind the fire back and opening into the chimney flue are arranged tubes for air and soot: and at the top of the stove is a lattice or screen, so as to prevent the soot or dust from falling into the fire grate. The air tube is covered with the same damper that shuts the throat of the chimney, thereby closing the openings between the fireplace and the chimney flue.

Claim.—First, the use, in the back and side fire walls of fireplaces, of flutes extending from a point about the ordinary level of the top of the fuel, and gradually increasing in size until they terminate at the level of the grate bars of the fire basket, the lower end of each such flute coinciding with an opening between the grate bars, for the purposes hereinbefore set forth.

Second, the use of a series of horizontal strips or slats placed underneath or between the bars and independent thereof, and so arranged as to turn on their axis, closing or opening at pleasure the air spaces between the grate bars.

Third, sloping the back or fire wall forward over the fire from a point at or below the level of the fire bed, so that the coal or fuel will not be inclined to pack down against the back wall, and thus allowing the upward passage of the air between the back wall and the fire, substantially as hereinbefore described.

Fourth, the combination of the lattice or screen *t* with the air flue *m* and dust pipe or pipes *p*, for the purpose of preventing the descent of dust or soot into the fire grate, and collecting them in a separate receptacle, substantially as described.

Fifth, the use of the sliding cap *k*, when so arranged in combination with the air flue and smoke flue as to close them simultaneously.

No. 42,313.—Joseph Wells, Hoboken, N. J.—*Machine for Making Paper Bags.*—April 12, 1864.—This invention consists of a series of devices named in the claim by which the paper is gauged to the proper size, folded and cut to form the bags, and afterwards pasted in one continuous operation.

Claim.—First, the arrangements of the folding rollers F F′, in respect to each other, in combination with the gauge plate E, as described.

Second, the combination of the folding rollers Z Z′ with the folding rollers F F′ and the gauge plate E, arranged as set forth, for the purpose specified.

Third, the carriages *b b′*, in combination with gauge plate E and the feed rollers G H, substantially as set forth.

Fourth, the arrangement of the knives O O′, in respect to each other, and in combination with the parallel bars J, as set forth, for the purpose specified.

Fifth, in combination with the guage plate E the parallel bars J, arranged as set forth, for the purpose specified.

Sixth, the combination of the vibrating shell I with the paste brush T, folding rollers *c d*, and the folding blade S, substantially as set forth.

Seventh, the general arrangement of the parts of the machine described, for performing the various operations of making the bags in the order and manner set forth.

No. 42,314.—Amos Whittemore, Cambridgeport, Mass.—*Machine for Pointing Spikes.*—April 12, 1864.—This invention consists in the employment of a series of rollers placed in the peripheries of two pairs of segments which rotate in planes perpendicular to each other. Each corresponding pair of rollers, as they come in contact with the spike which is held stationary, with the end projecting from a tapered holder, swage two opposite sides simultaneously; then the rolls or the other segment swage the other opposite sides, and so alternately until the whole series of rolls have operated and the taper of the spike is finished.

Claim.—First, pointing the spike by swaging each of its four sides, the swaging of two sides being simultaneous, and alternating with the simultaneous swaging of the other two sides by means of rolling or turning devices, the spike being at the same time held stationary.

Second, two or more pairs of rollers, or their equivalents, *b b*1 *b*2, arranged apart, on turning supports, and adapted and operated so as to swage two sides of the point of the spike simultaneously, while the other two sides are unsupported, and thus alternately act upon respective pairs of the sides so as to finish the point without "fins," substantially as described.

Third, arranging the segments F F, or their equivalents, with respect to the taper end of the spike box, and with respect to the segments D D, or their equivalents, by inclining the shafts E E, substantially as and for the purpose described.

Fourth, the construction of the taper end of the spike box and the segments F F, whereby the end of the spike rod can be acted upon by the first acting set of the rollers *d d*, substantially as described.

Fifth, making a "finless" spike by machinery constructed and operating substantially as described.

Sixth, the segments D D′, carrying rollers or rolling surfaces for pointing the spikes, in combination with side segments E E and rolling surfaces, or their equivalents, for restoring the lateral width to the spike point, arranged and operating substantially as described.

Seventh, the combination of the cutter and guide *g* g', with the oscillating carriage G', substantially as described.

Eighth, the arrangements of a striker *p* on the segment D, substantially as described.

No. 42,315.—NORMAN WIARD, New York, N. Y.—*Construction of Ordnance.*—April 12, 1864.—This invention is mainly explained by the claim. The cannon is made externally of a spherical form, the bore extending beyond the centre of the sphere. It is cast of bronze with an internal cellular structure—the interior cells to be filled with lead under hydrostatic pressure, and the exterior surface having been previously condensed by hammering. A steel lining is driven tightly into the bore, as being less expansible by heat than the metals composing the body of the gun.

Claim.—First, the within-described construction of guns of two or more metals, having different rates of expansion by heat; a hard and slightly expansible metal B being within the other, or others, and so arranged that the external metal shall support and aid in resisting the mechanical force of the gases, and also allow the expansion of the several metals as they become heated by firing, substantially as above set forth.

Second, the employment in such guns of an exterior shell A2, connected with an interior shell A, by braces A', with the intervals filled with a material C, having less conducting power, the parts being arranged substantially in the manner and for the purpose above set forth.

Third, in such guns, the mechanical condensation of the inner surface of the cylindrical shell A, and the outer surface of the spherical shell A2, in combination with the filling of the space between them with a tightly compressed material C, substantially as and for the purpose above set forth.

Fourth, in guns where a lining is applied within a strengthening shell, the employment of an intermediate bed of lead, or the like plastic material D, substantially as above set forth.

Fifth, the wheel form of the exterior of a gun adapted for use in combination with armor, substantially in the manner and for the purpose above set forth.

Sixth, in such guns the recess *a*, arranged substantially as and for the purpose above set forth.

No. 42,316.—DANIEL H. SHIRLEY, Boston, Mass.—*Skate.*—April 12, 1864.—At the heel part of the skate is arranged a sliding box provided with an upwardly projecting lip that bears against the heel of the boot or shoe. A longitudinal screw passes through the sliding box by means of which it is moved forward or backward to fasten or release the skate.

Claim.—The construction and arrangement of the sliding box *k*, with its lip *m*, and screw *d d*, the whole operating together as set forth.

No. 42,317.—WILLIAM H. STEVENS, New York, N. Y.—*Toy Spring Gun.*—April 12, 1864.—This device consists of a rod attached to a spring bow and having a receptacle for holding small projectiles or fire-crackers at its end; a whistle or musical device may be attached to the same.

Claim.—The receptacle O, constructed substantially as stated, when connected by the rod F with an archer's bow in the manner set forth, the whole constituting a toy spring gun.

Also, providing spring guns, for discharging projectiles, with a whistle or musical device, substantially in the manner and for the purpose set forth.

No. 42,318.—NESBIT D. STOOPS, Newark, N. J.—*Sewing Machine Table.*—April 12, 1864.—This invention consists in combining with a sewing machine table, cushions of rubber or other suitable material placed in the supports of the table below the bearings of the treadle and crank shaft, and above the casters or parts which rest on the floor, so as to form an elastic joint for the purpose of deadening the sound during the operation of sewing. The invention also consists in combining a skeleton frame sewing-machine table with a flanged tray and casters, so as to protect the carpets from grease and render the movements of the machine less noisy.

Claim.—First, in combination with sewing-machine tables, the rubber cushions or joints when interposed between the casters or other supporting part of the table next to the floor and the supporting frame or legs at a point or points below the treadles and crank shaft bearings, substantially as described and substantially for the purposes hereinbefore set forth.

Second, the combination of a skeleton frame sewing-machine table with a flanged tray and casters, when arranged with elastic cushions between the feet of the table and the tray, substantially as described, for the purpose of protecting the carpets from grease, and rendering the movements of the machine less noisy.

No. 42,319.—JACOB STORER, Portsmouth, N. H.—*Preparation of Vegetable Fibre.*—April 12, 1864.—This invention consists in treating the stalks of plants containing fibre, with steam charged with alkalies and other chemical substances. The stalks or plants to be treated are placed in a tank, when steam of about sixty pounds pressure and containing chemical substances is let in upon them. The steam may be charged with the chemicals by passing it through a vessel in which they are held in solution, or by placing them in a boiler in which steam is generated. The steam charged with the chemicals dissolves the silex and glutinous matters which encase and hold together the fibres.

Claim.—The use of steam and vapor of water for conveying alkalies and other chemicals, in the manner and for the purposes substantially as described.

No. 42,320.—LEOPOLD THOMAS, Allegheny City, Penn.—*Manufacture of Nuts.*—April 12, 1864.—The blanks for the nuts are cut from a bar, two corners of which have been previously bevelled, so that only two sides of the blanks remain to be bevelled after they are cut from the bar.

Claim.—Forming nut blanks, by the use of bevelled-edged bars previously prepared, substantially as described.

No. 42,321.—MARSHALL D. WELLMAN, Pittsburg, Penn.—*Cooking Stove.*—April 12, 1864.—This invention is mainly explained by the claim. The stove is designed for the use of bituminous coal, and the chief features are a back wall inclining forward over the fire at an angle of about forty-five degrees, the inclination being from the line of the grates; grooves in all the sides of the fire-chamber communicating with the air spaces below the grate, and shutters suspended below and contiguous to the grate bars, the shutters being capable of swinging upwards to close the spaces between the bars.

Claim.—The use, in the walls of the fire-chamber of cooking stoves, of flues or air passages extending upwards from the spaces or openings between the grate bars, and diminishing in size from below upwards, in combination with movable slats or strips for closing and opening the air passages or spaces between the bars, and thus regulating the supply of air between the grate bars and into the flues, substantially as described.

Also, the use, in cooking stoves, of a back wall, sloping from a point at or below the level of the grate bars, and extending upwards and forwards so as to overhang the fire, substantially as and for the purposes herein set forth.

No. 42,322.—SAMUEL JACOB WALLACE, Carthage, Ill.—*Grain Binder.*—April 12, 1864.—This invention consists of a series of devices, named in the claim, for effecting the several operations of carrying the strand around the sheaf, drawing up the block of strand, forming the fastening, and severing the sheaf from the machine by means of a lever which is moved backward and forward as the machine moves along.

Claim.—First, a rack *c*, in combination with arm D, or its equivalent, for giving motion to the fastener, substantially as described.

Second, the slotted wire-holder formed of bent plates *b b*, substantially as described.

Third, the bearing *e*, or *e* and e', for carrying the strand to the fastener and releasing the strand, substantially as described.

Fourth, the cutter *d*, attached to the compressing arm D, and operating in combination with the fastener, substantially as described.

Fifth, effecting the several operations of carrying the strand around the sheaf, drawing up the block of strand, forming the fastening, and severing the sheaf from the machine, in the manner described, by the action of the lever D' moved backward and forward, substantially as described.

No. 42,323.—WILLIAM WIBIRT, Buffalo, N. Y.—*Wood-splitting Machine.*—April 12, 1864.—This machine consists of a knife attached to a jointed pitman, which is moved up and down by a crank. The knife is made sharp and thin at the edge, and becomes thicker centrally as it rises from the cutting edge, forming an obtuse wedge so as to avoid adhering to the split piece of wood. An adjustable sliding block, provided with graduations to accommodate sticks of different sizes, is arranged underneath the knife.

Claim.—The combination and arrangement of the splitting knife H, provided with the thin or acute sides *g g* and edge *h*, for entering the wood, and the central obtuse wedge *i*, for cleaving it, with the adjustable sliding block K, provided with the graduations P *q*, substantially as and for the purposes herein set forth.

No. 42,324.—HORACE WING, Buffalo, N. Y.—*Boot-crimping Machine.*—April 12, 1864.—This invention consists in so constructing the crimping plate as to leave its front end open or unobstructed. It is pivoted at the inner end of the lower limb to a fulcrum bolt and operated by means of a gear segment attached to a lever and engaging with a corresponding gear segment on the outer end of the lower limb.

Claim.—A crimping plate F, so constructed as to leave its front end open or free and unobstructed, and operated upon a fulcrum bolt H, by gear segments I and J, substantially as described.

No. 42,325.—CHARLES WRIGHT, Newark, N. J.—*Cutting, Punching, and Bending Machine.*—April 12, 1864.—In this apparatus the band to be operated upon is passed between two rolls, the upper one of which is formed in four sections, that section at the extreme outer end being of shear form, while the two outermost of the other three carry each a series of punches, which may be projected more or less outward from the surfaces of the rolls by means of screws, whose points press against the inner ends of said punches. In order to adjust the apparatus to bands of different widths, the remaining section forms a blocking roll or collar, which may be of any desired breadth and which is interposed between the punching rolls. The lower roller is formed in three sections, two of which are placed within holes to correspond with the punches, the third serving as a blocking roll or collar, while the outer extremity of the compound roll constitutes the lower shear. After the band is sheared and punched between these rolls, it passes between others, which bend it into the form of angle iron.

Claim.—First, adjusting the punches by means of the loose ring and set screws, substantially as shown.

Second, the cutting and punching rollers, when constructed, combined, and arranged substantially as herein-above specified.

Third, the combination of the bending rollers with the cutting and punching rollers, in the manner and for the purpose specified.

No. 42,326.—PETER BAUMGRAS, Syracuse, N. Y., assignor to himself and CHARLES E. LIVINGSTON, United States army.—*Manufacture of Vegetable Fur.*—April 12, 1864.—The material to which this invention relates is known as the common "cats-tail" of the swamps, and the fur is made by coating the seed spike with a thin sheet of plastic India-rubber or other suitable substance; it may then, if desired, be backed by a woven fabric to give it the requisite strength; the spike may then be laid open by a longitudinal incision, and the fibres be readily separated from the central stem. By backing the opposite ends of the fibres with a similar skin, and then severing them, two sheets are formed from one. In order to double the size of one of these sheets, it may be so applied around a cylinder of the same diameter as the original "club," that the artificial skin shall be inwards, and another sheet of rubber is then applied to the exterior, and the inner skin separated or cut off. This enlarging process may be continued.

Claim.—First, making the seed tufts of the typha latifolia into vegetable fur upon an artificial skin by the process and in the manner which is substantially herein described.

Second, separating the downy fibres of the seed spike of the typha latifolia from its stalk or culm by attaching an artificial skin around its exterior surface and then detaching the seed tufts, as above set forth.

Third, making two artificial skins of fur from one single spike, in the manner above described.

Fourth, uniting two or more smaller skins to make one larger one, substantially as above shown.

Fifth, spreading the vegetable fur so as to be less dense and to occupy more space, in the manner described.

No. 42,327.—GEORGE F. BLAKE, Medford, Mass., assignor to himself and PETER HUBBELL, Charlestown, Mass.—*Valve of Steam Engines.*—April 12, 1864.—The object of this invention is to simplify that class of steam engines known as direct-acting engines, and used principally for pumping water; and the novelty consists in the arrangement and construction of an auxiliary cylinder for operating the valve of the main cylinder, the valve of this auxiliary cylinder being operated by the piston of the main cylinder without the intervention of levers or other mechanical devices. By the action of the last-named valve the piston of the auxiliary cylinder is controlled, and to this the valve of the main cylinder is attached, so as to be moved by it.

Claim.—First, the combination and arrangement of the cylinder A, tappet valve F, slide valve H, with their seats in the steam chest G, plunger J, and cylinder K, in the manner and for the purpose described.

Second, controlling the ports of the auxiliary cylinder by means of a tappet valve, which receives its motion from the direct action of the piston of the main cylinder without the intervention of intermediate parts, when the ports of the main cylinder are controlled by means of a slide valve attached to and operated by the plunger of the auxiliary cylinder, substantially in the manner set forth.

Third, the arrangement of the steam ports or valve seats, placed at right angles to each other, so as to allow of the working of two independent valves within the steam chest, in the manner and for the purpose specified.

Fourth, the combination of the ports *k k'* with the ways *l l'*, for the purpose of cushioning the plunger J after it has cut off the exhaust, in the manner described.

Fifth, the steam ways *m m* in combination with the spring valves *n n*, arranged and operating in the manner and for the purpose specified.

No. 42,328.—JAMES CHRISTISON, New York, N. Y., assignor to ALFRED W. CRAVEN, as trustee for the Metropolitan Fair, &c., for the United States Sanitary Commission.—*A Cap to Contract the Flame of a Night Lamp.*—April 12, 1864.—This device consists of a metal cap having a perforation in its upper side and made to fit snugly upon the wick tube of a lamp, for the purpose of contracting the flame for use at night.

Claim.—As a new article of manufacture, the within described perforated cap B C, for the wick tubes of lamps, the same being adapted to fit snugly around and upon the ordinary wick tubes, and to cling thereon, substantially in the manner and for the purpose herein set forth.

No. 42,329.—SILAS CRISPIN, New York, N. Y., (United States Army,) assignor to THOMAS POULTNEY, Baltimore, Md.—*Cartridge.*—April 12, 1864.—This invention consists in forming the cartridge-wrapper of sheet metal and paper rolled up together and having a paper or pasteboard disk or cup inserted at the bottom of the cartridge.

Claim.—The combination of thin pieces of sheet metal, with paper and a cup, to form, substantially in the manner described, a finished cartridge for breech-loaders, for the purpose set forth.

No. 42,330.—HIRAM H. GOFF, Cumberland, R. I., assignor to himself and GEORGE D. OATLEY, Smithfield, R. I.—*Mule for Spinning.*—April 12, 1864.—The object of this invention is to effect the requisite changes in the operations of the several parts of the mule, at the termination of each movement of the carriage on its railway, by means of the devices claimed; the advantages claimed being the attainment of greater certainty of action, less noise and expense of machinery, less liability of breakage of the mule-heads, and a greater yield of yarn under like velocities of spindles.

Claim.—The combination of the lever N, dagger or arm T, gear L, rack M, weight *o*, spring catch T' with its stud *k*, the latch V, the finger U, the slotted inclined plate X and its movable stud or pin *u*, the whole being applied to the cam shaft and the levers, as hereinbefore described, so as to operate substantially as specified.

No. 42,331.—L. G. KNIFFEN, assignor to himself, ALZIRUS BROWN, and THOMAS H. DODGE, Worcester, Mass.—*Harvester.*—April 12, 1864.—This invention is explained by the claim and engraving.

Claim.—A scolloped reciprocating sickle or cutter with its bar supported and working upon friction plates *f*, and separate back guides to retain the former in place, in combination with open-cap slotted guard fingers having contracted or bevelled wings or flanges *b b* to support the cutters above and permit of the free passage of dirt below, and with the angles *d e* to fit the finger bar, all as shown and described.

No. 42,332.—WILLIAM MCCLEERY, Pittsburg, Penn., assignor to SEYFERT MCMANUS & CO., Reading, Penn.—*Machine for Boring the Chambers of Cannon.*—In this machine the segment of a worm wheel is pivoted to one side of the inner end of a wide bar supported by blocking pieces, whose diameter corresponds to the bore of the cannon to be operated upon. Projecting from the periphery of the said wheel, and in the plane of the centre of the bore, is a cutter, which is fed up by the action of a screw upon the worm wheel; the shaft of the screw running parallel with the bar, on which it has suitable supports, and extending beyond the muzzle of the cannon and operated by a hand-wheel on the outer end.

Claim.—The segment D of a worm wheel, with its cutter G, and the screwed shaft E, the whole being combined with the boring bar A and applied to the finishing of the chambers of cannon, substantially as and for the purpose herein set forth.

No. 42,333.—FREDERICK H. C. MEY, assignor to himself, A. B. NIMBS, and J. C. CLIFFORD, Buffalo, N. Y.—*Grain Dryer.*—April 12, 1864.—This apparatus is provided with a furnace, the hot air produced by which is forced against a series of deflectors, and is brought in contact with saltpetre, lime, and water in separate purifying chambers; it is also subjected to a jet of steam or hot water before it reaches the drying chamber. The drying chamber is provided with a revolving perforated plate, upon which the grain is received, and a series of reversible scrapers are made to pass over its surface, retaining the grain or discharging it over the edge of the plate, according to the set of scrapers.

Claim.—First, the furnace A provided with purifying chambers B for the purposes and substantially as described.

Second, the revolving perforated table E and reversible ploughs F, in combination with either the drying or cooling chamber D, constructed, arranged, and operating substantially as described.

Third, the steam or water pipe *a*5 in combination with the furnace A and grain-drying chamber D, for the purpose of purifying the air, substantially as set forth.

Fourth, the combination and arrangement of the suction blower P', including the pipes P2 P3, with the drying or cooling apparatus as described.

Fifth, the application and use of purifying chambers interposed between the furnace and the dryer, through which chambers the hot air of the furnace must pass on its way to the dryer substantially as described.

No. 42,334.—JAMES SAMUELS, assignor to himself and WILLIAM H. GALE, Lynn, Mass.—*Machine for Shaping Heels for Boots and Shoes.*—April 12, 1864.—In this machine use is made of only one pattern for shaping a heel of any ordinary size, with which pattern is combined a cutter made adjustable in directions toward and from the heel-clamp, and also laterally, so as to adapt it to heels of different sizes. An auxiliary chisel or cutter is employed in connexion with the standard, and so arranged that while being depressed it will make a cut through the leather, which cut will be inclined to the upper service of the block for supporting the leather. The auxiliary cutter is made to shape the front portion of the heel, and is operated by a foot treadle instead of by hand.

Claim.—The improved machine as not only constructed with mechanism for supporting the leather and shaping it in the form necessary for a heel, but as having a treadle U and an auxiliary lever T arranged and combined together and with the table A and the movable standard B, substantially in manner and so as to operate as described.

Also, the improved machine as not only constructed with mechanism for supporting the leather and shaping it in the form necessary for a heel, but as having its heel pattern cam stationary, and its cutter P provided with adjusting devices, all substantially as described, whereby such cutter may be adjusted not only for heels of different sizes, but in other respects as explained.

Also, the arrangement of the cutter-carrier spring O within the lever N, and so as to bear by means of its head against and turn on the post I, substantially in manner and under circumstances as specified.

Also, the improved machine as not only constructed with mechanism for supporting the leather and shaping it into the necessary form for a heel, but as having its auxiliary cutter or chisel R so arranged and applied to the standard B that while being depressed it will make a slanting cut through the leather, or a cut inclined to the upper surface of the block for supporting the leather.

No. 42,335.—Louis D. Valetton, assignor to H. W. Hensel, Philadelphia, Pa.—*Loom for Weaving Trimming.*—April 12, 1864.—For the purpose of weaving a sort of braid or trimming having a succession of loops on one or both sides, use is made of two rods, around the projections of which the filling gimp or thread is carried, the projections being subsequently withdrawn automatically from the loop, and advanced for forming the next loop. These rods are carried backward by the woven goods as they are taken up and are made to move forward by means of springs. Each pair of warp threads, previously twisted together, passes through a hollow spindle, whence the threads separate, and each one passes through an eye in a separate rod on the spindle, which has an intermittent revolving motion of a half revolution at a time, so as to twist the warps in the fabric, and present first one and then the other to reciprocating hooked rods, which are used to open and close the shed.

Claim.—First, one or more rods K and K′, or their equivalents, arranged and operating in conjunction with the warp and weft threads of a loom substantially as and for the purpose set forth.

Second, the hooked rods *b* and *c*, arranged and operating in conjunction with the spindles I, for distending the warp threads, substantially as described.

No. 42,336.—Edward David Ashe, Brompton, England.—*Propeller Engine.*—April 19, 1864.—The principal object of this invention is to obtain a high velocity of shaft without the use of gearing, or, in other words, to obtain two or more revolutions of the shaft of an engine from one stroke of the piston; and the invention consists in the combination of two cylinders, guides, and drivers, with the shaft of a propeller, formed with a number of spiral grooves upon its periphery, in which the drivers are caused to work, and by which the shaft is rotated.

Claim.—The combination of the two engine cylinders A A′, piston rods *a a′*, guides *b b′*, drivers *h h′*, ways C C, and propeller shaft B, formed with a plurality of intersecting spiral grooves *d d*, having two or more revolutions when the said drivers *h* work on opposite sides of the said shaft B, one in each of the grooves *d d′*, and all the parts are constructed and arranged to operate in the manner and for the purpose herein specified.

No. 42,337.—Edward John Baker, Philadelphia, Pa.—*Fluid Meter.*—April 19, 1864.—This invention consists in the employment within a box or casing, to which the fluid is admitted, of two measuring cylinders, with their reciprocating pistons, together with a system of valves, valve seats, and passages for admitting the fluid to and discharging it from the cylinders. A series of devices named in the claim are also used, which do not admit of a brief description.

Claim.—First, the arrangement, substantially as described, within a box or casing to which the fluid to be measured is admitted, of two measuring cylinders, with their reciprocating pistons, and with any system of valves, valve seats, and passages for admitting the fluid to and discharging it from the said cylinders.

Second, the arrangement beneath the measuring cylinders of the slide valves J, the valve seats, and ports, substantially as specified.

Third, this arrangement, substantially as described, of the passages C and C′ and exhaust passage D beneath the valve seats.

Fourth, the side valves J J arranged in respect to each other and operated by a crank or eccentric on the central shaft L, substantially as specified.

Fifth, the two cylinders with their reciprocating pistons in combination with the shafts Q, arms S and S′, rods T and T′, arm or crank U, and central shaft L, the whole being arranged for joint action, substantially as and for the purpose herein set forth.

Sixth, the piston G, composed of cups *m* and *m′* of leather or other like material and perforated plates *n* and *n′*, all being constructed substantially as specified.

Seventh, the shaft V passing through the cover plate A′ of the box, and having an arm or carrier W in combination with the central shaft L and its arm U.

No. 42,338.—Thaddeus Beach, New York, N. Y.—*Caster Wheel.*—April 19, 1864.—The object of this invention is to reduce friction in the turning of the support of a caster wheel or roller while the latter is adjusting itself to the line of the movement of the article to which it is attached, and at the same time admit of the wheel or roller being nearer its centre of support. The fork or support of the caster wheel is attached to a circular plate having its upper surface inclined or bevelled and fitted within a circular box having the under surface of its upper side bevelled, with conical rollers interposed between the two bevelled surfaces.

Claim.—A caster wheel or roller having its fork or support F attached to a circular plate E, provided with an upper bevelled or inclined surface *d*, and fitted within a circular box A, having an inclined or bevelled under surface *a*, with conical rollers C, interposed between the inclined or bevelled surfaces *a d*, and either with or without the frame B, substantially as herein set forth.

No. 42,339.—Henry Benton, Guilford, Conn.—*Holder for Butter Knife.*—April 19, 1864.—This invention consists of a metal clasp attached to the edge of a plate with a spring socket for holding the knife in such a manner as to prevent it from slipping from the plate.

Claim.—The employment or use of the clasp B, with spring socket C, in combination with a plate A, or its equivalent, and with a knife D, substantially in the manner and for the purpose herein shown and described.

No. 42,340.—Joseph A. Bertola, New York, N. Y.—*Anti-friction Stamper for Metallic Ore.*—April 19, 1864.—The ore to be pulverized is placed in a hopper provided with a movable bottom plate and an elastic bed; one side of the hopper is formed with a shute, for receiving the ore, and at the other side is a spout, through which the stamped ore is delivered. The rod or handle to which the stampers are attached is formed of two metallic bars, having between them a roller, against which the lifting cam acts to raise the stampers, the said handle being guided by rollers between the bars.

Claim.—First, the movable bottom plate *r* and elastic bed *s* in combination with the hopper formed with a shute on one side for receiving the ores to be pulverized, and a spout on the other for the delivery of such ore, as specified.

Second, forming the rod or handle for stampers of two metallic bars, between which the roller *f* for the lifting cam is fitted, and which handle is guided by fixed rollers *g* and *i* between such bars, as and for the purposes specified.

No. 42,341.—Joseph A. Bertola, New York, N. Y.—"*Chilian Mill*" *for Pulverizing Metallic Ore.*—April 19, 1864.—In this machine the axle which carries the pulverizing rollers is attached to two chains, which are secured at their upper ends to a cross-head upon an upright shaft, the said shaft being provided at its lower end with a bevel wheel meshing with a corresponding wheel upon a crank shaft.

Claim.—The cross-head *l* on the shaft *g*, with the chains or links *m m* in combination with the axle *n* and pulverizing rollers *o o*, as and for the purpose specified.

No. 42,342.—Walter Bryent, Boston, Mass.—*Fireplace.*—April 19, 1864.—The sides and back of the fireplace are surrounded by an air space, the bottom of which is about on a line with the level of the grate, and the heated air therefrom is emitted beneath the grate along the whole line of the air space through small orifices. The air space is supplied with fresh air by means of a passage on one of its sides.

Claim.—The above-described improved open fireplace as constructed with the air-heating chamber arranged about and so as to extend above its grate and the ash pit or box, and open into the latter, in manner and so as to operate substantially as hereinbefore explained.

No. 42,343.—Henry A. Buck, Meadville, Penn.—*Car Coupling.*—April 19, 1864.—This invention consists in the employment of a suspended drop placed within the draw head and arranged in such a manner as to support the coupling pin when the latter is set or adjusted for coupling, and at the same time so arranged as to be out of the way of the link or shackle when the latter enters the draw head, and prevented from being acted upon by the link or shackle until the latter reaches the proper point to receive the coupling pin, thereby avoiding a casual dropping of the coupling pin before the link or shackle can receive it.

Claim.—The drop B, curved and fitted in grooves or recesses in the draw head A, as shown, in connexion with the coupling pin C′, and link or shackle C, all arranged to operate substantially as and for the purpose specified.

No. 42,344.—Orrin H. Burdick, Auburn, N. Y.—*Photographic Printing Frame.*—April 19, 1864.—At each end of the frame is pivoted a horizontal arm, which is made to press upon arched springs secured to the back of the frame, the said springs having one end free, so as to hold and regulate the pressure upon the back, pad, and paper covering the photographic negative.

Claim.—The combination of the bowed or arched springs on the back, with the pivoted and horizontally turning arms on the frame, both the springs and arms having at least one free end, for the purpose of holding and regulating the pressure of the back, pad, and paper to the glass in photographic printing frames, substantially as described.

No. 42,345.—Phineas Burgess.—Brooklyn, N. Y.—*Bilge Blocks for Docking Ships.*—April 19, 1864.—This invention consists in combining with the common bilge block a self-adjusting top piece, arranged transversely upon the same so that it may more readily adapt itself to the curvature of the bilge of the vessel. The upper portion of the bilge block is made adjustable by means of one or more screws working in the base portion of the bilge block.

Claim.—First, the transverse self-adjusting top piece C. arranged upon the bilge block to operate substantially as and for the purpose herein specified.

Second, combining the adjustable upper portion B of a bilge block with the base A, by means of one or more adjusting screws F, substantially as and for the purpose herein specified.

No. 42,346.—C. A. Chamberlin, Allegheny City, Penn.—*Anchor.*—April 19, 1864.—This anchor is constructed with two flukes, arranged side by side, so that both may operate simultaneously, the shank being forked and one fluke being formed upon or attached to each prong thereof. The two prongs of the shank are connected by means of a "reverser," which consists of a bow arranged opposite the flukes or across the back of the anchor and bolted to the two prongs of the shank. To the upper end of the shank is attached an "elevator," consisting of a piece of iron secured by means of a pivot, upon which it is free to work in a direction transverse to the flukes. On the back of the shank, near its upper end, is a "depresser," consisting of a flat flange rigidly secured to the shank and placed edgewise to the same. It is provided with two or more holes for the reception of a pin of the shackle by which the cable is attached.

Claim.—First, the reverser C, constructed and applied to an anchor to operate substantially as herein specified.

Second, the elevator E, applied and operating substantially as herein described.

Third, the depresser F, applied and operating substantially as and for the purpose herein set forth.

Fourth, the guard G G, applied and operating substantially as herein described.

Fifth, the combination of the two flukes A A, arranged side by side, the reverser C, elevaor E, depresser F, and guard G, substantially as herein set forth.

No. 42,347.—William H. Chappell, St. Louis, Mo.—*Wooden Pavement.*—April 19, 1864.—This invention is explained by the claim.

Claim.—The construction of wooden pavement with lumber which has been saturated with carbonic and creslic acids, or sulphate of iron and soluble glass, coated with pitchy mastic, from well oil residua, heavy oil and pitch from gas tar, and laid with cement made from sand, gravel, lime, pyrites, residuum, and soluble glass, covered with pitchy mastic, substantially in the manner as described in the specification.

No. 42,348.—George Clark, Buffalo, N. Y.—*Grain Dryer.*—April 19, 1864.—In this apparatus the grain is received from the hopper into a chamber provided with a series of horizontal triangular-shaped tubes with open bases. The sides of the tubes may be perforated or left closed; the tubes are arranged in regular series from top to bottom of the drying chamber, and the alternate tubes in each series open into the fresh air shaft which supplies hot air, and the other tubes open into the foul air shaft on the opposite side of the drying chamber, and carry off the moisture from the grain. The fresh air and the foul air shafts are supplied with blowers. The grain is discharged by means of valves which have a reciprocating movement.

Claim.—First, the formation of hot air supply and evaporation escape passage through a body of grain by means of the horizontal perforated tubes B and B′, the hot air tubes opening at one end through the kiln wall into a hot air chamber E, and closed at the other end, and the evaporation tubes opening at one end into an evaporation chamber on the opposite side of the kiln, and being closed at the other, substantially as described.

Second, in the formation of a hot air chamber E, divided into compartments by the floors E′, and the combination therewith of a hot air conducting flue H leading from the furnaces, the opening of the flue into said compartments being provided with regulating registers, substantially as described.

Third, the triangular or V-shaped tubes B B′, having open base, (with or without perforations,) for the purposes and substantially as described.

Fourth, in so arranging the alternate rows of hot air supply and evaporation escape tubes for passages that kiln will pass alternately over hot air and evaporation tubes, substantially as described.

Fifth, the combination of the hot air supplying and exhausting tubes B B′, constructed and operating as described, with the regulating valve N′, substantially as set forth.

No. 42,349.—Owen Collins, New York, N. Y.—*Construction for Defence of Ships-of-War, and of Defensive Armor for Fortifications.*—April 19, 1864.—This invention consists in the employment, in the hull and turrets of a vessel, of a frame composed of wrought-iron tubes, arranged in the form of ribs, the said tubes being also reinforced by coils of steel

wire, for the purpose of giving them increased strength and aid, by its elasticity, to increase the resisting power of the tubes. Between the tubes are placed casings of India-rubber, or any compound thereof, and combined with the tubes are plates of corrugated iron, applied in such a manner as to seam the tubes together, and to attach inner and outer skins of smooth iron plates.

Claim.—First, the employment in the hull and turrets of a vessel, or in fortifications, of a framing composed of independent tubular wrought-iron ribs B B, constructed and arranged as herein described.

Second, the external coils of steel wire *a a*, in combination of the aforesaid independent wrought-iron tubular ribs, as and for the purpose herein set forth.

Third, the employment, in combination with the independent wrought-iron tubular ribs B B, of surrounding casings *b b*, of India-rubber, or its compounds, substantially as and for the purpose herein set forth.

Fourth, the combination of the framing of wrought-iron tubes B B, inner and outer skins *c d*, and corrugated plates *e e*, substantially as herein specified.

No. 42,350.—Wheeler M. Conger, Sugar Valley, Ohio.—*Grain Drill.*—April 19, 1864.—This invention consists in so constructing the frame and arranging therewith the outer drag bars that the latter may be readily adjusted laterally to a wider or narrower breadth of tillage, as may be desired. Near the axle is attached to the frame a cross-rail, to which chains are applied, so as to dispense with a tongue, and enable the operator to more readily swing or turn the machine out of the direct line of draught. The outer drag bars are provided with a guard or fender in order to prevent the drill teeth from coming in contact with the corn or other growing crops in which it is used.

Claim.—First, the provision of nuts N N′, and fulcrums *a a′*, for adjusting the supplemental drag bars L L′, and supplemental drill teeth K′ K″, to a greater or less breadth of tillage, in the manner set forth.

Second, applying the drift chains or traces to a second cross rail A′, near the axle C, substantially as and for the purposes specified.

Third, the provision of guards Q Q′, on the supplemental drag bars L L′, for the object stated.

No. 42,351.—Edward T. Covell, Brooklyn, N. Y.—*Manufacture of Tin Cans.*—April 19, 1864.—This invention consists in turning one edge of each plate inward to a right angle simply, while the other edge is first bent inward to a right angle, and then again bent in such a manner that the direction of the marginal portion will lie in a plane parallel to the side of the can. The simple bend of one plate is lapped upon the margin of the compound bend of the other, and the joint thus formed is then soldered at the outer angle.

Claim.—Uniting the sides of sheet metal cans by means of interlocking hook-shaped flanches and solder, substantially as herein set forth; but this only when the hook-shaped flanches are completely formed upon the margins of the side sheets before the said sheets are joined together for the formation of the can; when the sides of a sheet metal can are united with each other by means of the above-described interlocking hook-shaped flanches and solder.

Also, screwing the heads of the can in proper position by means of grooves formed inside of the can for the reception of the heads, the joints being completed by the use of solder or other suitable cement.

No. 42,352.—M. C. Cronk, Auburn, N. Y.—*Washing Machine.*—April 19, 1864.—Secured to the bottom of the tub is a post, upon which is arranged, to move up and down, a sheath, attached to the rubber below and to the operating lever above. One end of the lever is pivoted to a brace attached at its upper end to a sleeve upon the main post. To the upper surface of the rubber is attached an upright I, which passes through the free end of the lever.

Claim.—The post B, the sheath D, the sleeve *h*, the upright I, the brace *g*, and the lever F, the whole arranged, constructed, and operated substantially as herein described.

No. 42,353.—H. C. Crowell, Morgan, Ohio.—*Shingle Machine.*—April 19, 1864.—This invention consists in the employment of a vertical circular saw, in connexion with a rising and falling bed, upon which the block in placed, together with a guide or gauge to govern the thickness of the shingle or heading. The block is fed to the saw by pressing it and the bed downward, so as to bring it in contact with the saw, weights being attached to the bed to assist in raising it and the block again after the cut is made.

Claim.—The adjustable gauge G, either with or without the bar H, in combination with the circular saw B and rising and falling bed D, all arranged substantially as and for the purpose set forth.

No. 42,354.—J. B. Davidson, Oberlin, Ohio.—*Churn.*—April 19, 1864.—This invention consists in the arrangement of a bar with tubular lips communicating with the external atmosphere, and attached to the centre of the inner side of the cover of a rectangular-shaped churn. The bearing of the shaft which carriers the beaters is made in two sections, one of which may be readily removed, so that the shaft and beaters may be lifted out for the purpose of being cleaned.

Claim.—The special arrangement of the break N, guards J, and lips J′, in combination with the described revolving beaters, when operating conjointly as and for the purpose described.

Also, the plate *f* and collar *d*, on the shaft *c′*, and the slide *b′*, when arranged and operating in combination with the described churn, substantially as set forth.

No. 42,355.—Frederick W. Devoe, New York, N. Y.—*Manufacture of Tin Cans.*—April 19, 1864.—This invention relates to the rib joint which forms the subject of letters patent No. 40,661, granted to H. Miller, and it consists in forming a lap at the edge of the rib by folding the margin of one plate or portion of the joint over that of the other plate or portion, and then soldering the joint at the outer angle.

Claim.—The lap 4, in combination with the inwardly projecting rib joint *a a*, substantially as and for the purpose herein described.

No. 42,356.—J. F. Dubber, Brooklyn, N. Y.—*Scoop and Funnel.*—April 19, 1864.—This invention consists in the application to a funnel of a valve which closes the nozzle of the same, and which is held closed by a spring, in combination with a trigger or handle, in such a manner that the funnel can be placed directly on the platform of a pair of scales and also used as a scoop, and when the desired quantity has been weighed the nozzle can be introduced in a paper bag, and by touching the trigger the valve is opened and the contents of the funnel are discharged.

Claim.—The application of the valve B to the nozzle *a* of a funnel A, in combination with the trigger C, constructed substantially as herein described, so that said funnel can be used in place of a scoop, and, by introducing the nozzle into a paper bag and touching the trigger, its contents can be readily discharged.

No. 42,357.—George R. Dunn, Newark, N. J.—*Snap Hook.*—April 19, 1864.—To the upper end of a hook of ordinary form is attached one end of a spring by means of a screw, the other end extending to the extremity of the curved end of the hook. Over the central part of the spring, and attached to the hook, is a socket or guard to protect the spring from injury.

Claim.—As a new article of manufacture, the snap hook hereinbefore described, consisting of a cast metal body A, a detachable spring D, screwed by a screw *d*, and passing through and protected by the socket C, all constructed and arranged as specified.

No. 42,358.—Wright Duryea, Glen Cove, N. Y.—*Machine for Removing Starch Deposits.*—April 19, 1864.—This invention consists in the employment in a starch cistern of a system of agitators secured to vertical shafts descending into the cistern at points outside of its centre, and operated by a "sun and planet" gear in such a manner that the effect of the agitators shall be equally powerful near the centre of the cistern and at the parts beyond the same, for the purpose of preventing an accumulation of deposit at the centre. Extending across the width of the cistern is a vertically adjustable scraper, which is used to prevent accumulation at any point. Above the cistern is arranged a platform and rails, by which the system of agitators may be lifted from one cistern and transferred to another.

Claim.—First, the agitators B, arranged, in combination with a cistern A, on shafts C, descending into said cistern at points outside its centre, and with a sun and planet gear *e a b c*, constructed and operating in the manner and for the purpose herein shown and described.

Second, the scraper I, in combination with the cistern A, revolving ring E, and one or more vertically adjustable bars J, constructed and operating in the manner and for the purpose substantially as set forth.

Third, the platform F and rails G, in combination with cistern A and agitating mechanism, constructed and operating in the manner and for the purpose substantially as set forth.

No. 42,359.—Robert Faries, Indianapolis, Ind.—*Balanced Slide Valve.*—April 19, 1864.—The object of this invention is to relieve the back of the slide valve of the pressure of the steam, and thus avoid a large amount of friction and wear; and its novelty consists in making the valve of an arched form in its transverse section, and fitting it with suitable packing to a stationary protecting arch or cover which extends over it from one valve seat to the other. The steam being admitted to the steam chest, fills it at both ends of the said cover, so as to press equally on both ends of the valve, but is prevented by the cover from pressing on its top; the valve thus works within the cover free from pressure, except such as is caused by the action of the exhaust and by any leakage that may occur.

Claim.—The stationary protecting cover C, of arched or other equivalent form in its transverse section, in combination with the packed valve A, having a transverse section of corresponding form, substantially as and for the purpose here specified.

Also, in combination with such valve and cover, the tube *d*, for preventing leakage of steam around the valve stem, substantially as and for the purpose herein set forth.

Also, in combination with such valve and seat, the grooves *s s* and passages *m m*, substantially as and for the purpose herein specified.

No. 42,360.—William Field, Providence, R. I.—*Rolling Metal.*—April 19, 1864.—This invention consists in rolling flat bars of metal in such a manner as to impart to the same square edges, and at the same time to compress the bar upon its edges, which is effected by so constructing the grooves that one side and one edge of the bar will be embraced by one roll, while the opposite side and edge will be embraced by the other roll; the space or groove in each roll being thus made to correspond to a right angled triangle, the hypothenuse being supposed to lie in the plane of the junction of the plane surfaces of the two rolls.

Claim.—The method hereinbefore described for rolling flat bar iron or other metal.

No. 42,361.—James Funk, Beverly, Ill.—*Oil-stone Fountain.*—April 19, 1864.—In the lid or cover of the case of an oil-stone is inserted a rectangular box, in which is pivoted a plate that is caused to vibrate in a horizontal plane. On the lower edge and near each end of the said plate is a piece of cork, and upon one end of the upper surface is a similar piece of cork, all of which cover corresponding apertures in the top and bottom of the can. Upon a shaft, provided at its outer end with a milled thumb-wheel, and which passes within the box, is a toothed wheel, each tooth, as it comes in contact with the plate, moving the latter round so as to expose the apertures, and as soon as each tooth has passed a certain point the plate, with its cork cushions, is, by means of a spring, thrown back over the aperture.

Claim.—The employment or use, with an oil-stone, of an oil fountain, provided with valves, and placed in the lid or cover of the case of the oil-stone, to admit of the stone being supplied with oil from the fountain, substantially as herein set forth.

Also, the vibrating plate H, provided with the yielding beads covered with cork or other suitable material, in combination with the revolving toothed wheel G and the holes *i i′* and *j*, made respectively in the bottom and top of the oil fountain, all arranged to operate in the manner substantially as and for the purpose herein set forth.

No. 42,362.—S. H. and C. E. Furman, New York, N. Y.—*Shirt.*—April 19, 1864; antedated April 2, 1864.—The nature of this invention is explained by the claim.

Claim.—A shirt with permanently-attached studs and closed wristbands without buttons or studs, substantially as described.

No. 42,363.—G. P. Ganster, New York, N. Y.—*Hand Grenade.*—April 19, 1864.—This invention consists in forming a chamber within the shell at one side, which chamber communicates with an inner chamber; the opening between the two being closed by a ball acting as a stopper or valve. The ball is held in its place by means of a detent, which may be released by the thumb in the act of throwing the missile, the effect of which is to open communication between inflammable compounds placed in the respective closed chambers and to cause the grenade to explode.

Claim.—The peculiar construction and arrangement of the compound chambers *c d* in combination with the ball *e*, for separating the chambers *c* and *d*, their respective chemical contents, together with the detent *f* and its mechanical arrangements, substantially as described and for the purposes set forth.

No. 42,364.—H. W. Gear, New York, N. Y.—*Machine for Grinding Oil Paints.*—April 19, 1864.—The mullers are attached to arms extending in a horizontal direction from the lower end of the vertical arbor, and are made adjustable to or from the centre. Upon the mullers are placed slip weights, by the addition or removal of any of which the pressure upon the bed-plate may be increased or diminished.

Claim.—The employment or use of one or more mullers H, adjustable on arms G, which extend in a horizontal direction from the vertical arbor C, in combination with slip weights *h* and with the stationary bed B, all constructed and operated in the manner and for the purpose substantially as herein shown and described.

No. 42,365.—Alexander Gordon, New York, N. Y.—*Drilling Machine.*—April 19, 1864.—In this machine the screw-threaded stock passes through a nut, which is shaped externally like a grooved pulley, and confined in the cross beam of the frame. In order to give more or less downward feed motion to the drill stock, this nut is either wholly or in part prevented from turning by means of two metallic rods lying in the plane of the pulley, at points opposite each other, and made to clasp it more or less tightly by means of a thumb-screw.

Claim.—The adjustable clamp and feeding nut combined with each other and with the drill spindle, to operate substantially as and for the purpose herein described.

No. 42,366.—R. E. and A. Gorton, Franklintown, N. Y.—*Snap Hook.*—April 19, 1864.—This device is in the form of a link, one-half of one side of which forms the snap, and is pivoted at its inner end. It is held in position by means of a spring pressing against a shoulder on the same, and keeping it in contact with a projection on the hook.

Claim.—As an improved article of manufacture, a snap hook made as herein shown and described, with a spring socket *e*, spring *f*, snap B, eye *g*, and projection *h*, all as set forth.

No. 42,367.—W. H. Green, Meriden, Conn.—*Coffin Plate.*—April 19, 1864.—The plate i formed by combining two pieces of sheet metal in such a manner as to leave openings or slots in the proper places to slip in the necessary movable letters forming an inscription, such as the name, age, &c., which are fastened by means of a punch, forming the period at the end of the inscription.

Claim.—The construction and attachment of a back to a coffin plate, the said back having corresponding ridges to fit the groves presented on the back of the front plate, which will admit of the insertion of any name and age requiring the ordinary number of letters or figures between it and the front plate after the two are united.

Also, the invention of the slot or opening in the end or side, and middle of the back, through which the letters and figures are inserted.

Also, sealing the line of figures or letters by striking up or punching up a period at the end, and the use of letters and figures struck up from sheet metal instead of cast ones for this purpose.

No. 42,368.—John G. F. Grote, Cincinnati, Ohio.—*Spring Mattress.*—April 19, 1864.—This invention consists in the combination of a frame of the form shown in the engraving, with a system of springs, webbing, and cords, so arranged that the bolster or head part shall be of such a form as to be adapted to the head and neck of the occupant. The springs under the head part are graduated, and made to rest partly upon the frame and partly upon a yielding band attached to the frame and lower springs.

Claim.—First, the arrangement of frame A B C C′ D E, body springs F, cording G *g′ g″*, band H, yielding head frame K, and graduated springs I I′ and J, the whole being combined and operating together as set forth.

Second, the described combination of head frame K, cords G″, and graduated springs I I′ J, resting partially upon the frame and partially upon the yielding band H.

No. 42,369.—John G. F. Grote, Cincinnati, Ohio.—*Spring Mattress.*—April 19, 1864.—This invention consists in the employment of a mattress for the body, and a detached mattress for the head, arranged so as to be adjusted to different heights by means of legs that enter a case beneath it; the same being also capable of being used as a trunk for clothing.

Claim.—The combination of the equilateral body mattress A B, base C, bolster D, and legs F *f*, constructed, arranged, and operating substantially as and for the purposes specified.

No. 42,370.—S. E. Harrington, Greenfield, Mass.—*Convertible Planter and Cultivator.*—April 19, 1864.—This invention relates to that class of seed planters used by gardeners for planting small seed, and propelled by hand, and it consists in the method of combining and arranging the seeding devices and their operating mechanism, whereby the same can be readily and simultaneously removed from the frame. The invention also consists in the employment of a spring coupling bolt by which the seed coverer and roller are attached to the frame, and by which the roller, &c., can be readily attached without removing nuts or keys, and without the liability of any of the parts being lost. The cultivator bars and teeth are made to be readily attached, so that the machine may at pleasure be converted into an implement for cultivating growing crops.

Claim.—First, in combination with the main frame of a machine, which may be used as a seeding machine or for other purposes, the hopper, agitator, measuring device, chute drill, and markers, when constructed in such a manner that they may all be removed from said main frame by one and the same operation, substantially as set forth and for the purpose described.

Second, the combination and arrangement of the hopper F, frame G, agitator K, lever *k*, and spring *r*, post H, shoe I, disk J and markers O, constructed and operating substantially as described.

Third, in combination with the main frame and drag bars of a seeding machine or cultivator, the spring bolt coupling N, constructed and operating substantially as described.

Fourth, in combination with the main frame of a machine which may be used as a seeding machine or for other purposes, and provided with a plate T, the cultivator bars P P, when crossed at their middle, and provided with clamping bolts S S, substantially as described.

Fifth, in combination with the main frame of a machine, which may be used as a seeding machine or for other purposes, the fenders E E, substantially as described and for the purpose set forth.

No. 42,371.—William H. Hepburn and G. K. Peterson, San Francisco, Cal.—*Machine for Grinding and Amalgamating Gold and Silver.*—April 19, 1864.—This invention consists in the employment of a pan, having a conical bottom and a muller, which is in the form of a corresponding conical shell, provided on its upper surface with spiral ribs or flanches, and on its under surface with shoes so disposed and arranged as to form spiral grooves. The upper part of the shaft is provided with hand wheels, a thimble and a tubular screw, so arranged as to readily regulate the distance between the muller and the pan.

Claim.—First, the conical bottom *a* of the pan B in connexion with the conical muller H in shell form, arranged substantially as and for the purpose set forth.

Second, the shoes P, provided with curved bevelled edges, and attached to the under side of the muller H, so as to form oblique curved grooves *p*, in connexion with the spiral flanges or ribs *m** on the upper side of the muller, as and for the purpose specified.

Third, the arrangement of the hand wheels O N, thimble L, and tubular screw M, substantially as described for raising and lowering the muller, as set forth.

No. 42,372.—Charles D. Hicks, Denver, Colorado.—*Ore Separator.*—April 19, 1864.—This invention consists in the employment of an oscillating separator provided with a hemispherical central cavity, sloped sides, and an annular semicircular trough, in combination with an adjustable shaft, pyramidal chutes, and common sluice, in such a manner that the small particles of quartz and gold passing through the perforated bottom of the sluice are conducted to the central cavity of the separator, and by the oscillating motion imparted to said separator, and by the action of its sloped sides, the gold contained in the quartz settles down to the bottom of the central cavity and annular trough, and the light particles are carried off by the water.

Claim.—The separator wheel C, provided with a central cavity *a*, sloped sides *b*, and an annular trough *c*, and secured to an oscillating adjustable arbor D, in combination with the pyramidal chute B and sluice A, all constructed and operating in the manner and for the purpose substantially as shown and described.

No. 42,373.—O. C. Hill, Malone, N. Y.—*Window-tightener.*—April 19, 1864.—This device consists of a stirrup set in flush with the edge of the sash and surface of the groove, but extending sufficiently deep beyond the bottom of the latter to admit of a spiral spring behind the tightening strip which plays in the groove. In the sides of the stirrups are slots for the reception of a pin, which, passing through and projecting beyond each side of the strip, supports and keeps the latter in place.

Claim.—The above-described new and improved device for holding a strip placed in a groove in the edge of a window sash for the purpose of tightening the window and supporting the sash when raised.

No. 42,374.—Henry E. Hooker, Rochester, N. Y.—*Tank for Hothouses.*—April 19, 1864.—The tank is formed of a foundation of hydraulic cement, with sides of the same material. The sides are protected by a lining of wood, which projects above the edge of the tank to support a covering and to prevent injury to the edges of the tank.

Claim.—The particular construction and arrangement of the troughs or tanks A A′, the same consisting of the simple self-supporting and insulated sides and partition *a a a* and the bottom D, of hydraulic mortar, arranged relatively with the earth E and sides and partition *a a a*, substantially as and for the purposes herein set forth.

No. 42,375.—James Howell and David Birdsall, Jersey City, N. J.—*Riveting Machine.*—April 19, 1864.—Projecting outwards from the frame of the machine, near its base, is a strong beam or arm provided on its upper surface with a sliding gauge, and near its outer extremity with an anvil die. The vertical hammer bar, which is raised by a cam and has the velocity of its descent increased by a spring in the usual manner, has a button attached to its upper end, under which a trigger may be made to catch when required to suspend the blow. The hammer and the anvil are each made concave on the face for the purpose of giving proper shape to the heads of the rivet.

Claim.—The combination of the trip-hammer D, spring *d*, dies *e f*, gauge *g h*, and the stop catch device F, when constructed and operated substantially as described.

No. 42,376.—Robert B. Hugunin, Cleveland, Ohio.—*Washing Machine.*—April 19, 1864.—In this machine the bottom of the tub is covered with a corrugated metal plate and used in connexion with a circular board, the bottom of which is also covered with a similar corrugated plate. The shaft passes through a galvanized or metal yoke, connected with which latter is a rod and lever, which in turn is connected to a metal plate securely fastened to the outside of the tub near the bottom. The movement of the lever imparts an alternate circular motion to the rubbing surfaces.

Claim.—The corrugated surfaces C and D, substantially as and for the purposes specified.

Also, the arrangement and combination, in connexion with the surfaces C and D, of the shaft B, yoke E, lever J, plate K, as and for the purposes herein shown.

No. 42,377.—R. B. Hungunin, Cleveland, Ohio.—*Corrugated Metal Plates.*—April 19, 1864.—This invention consists in the employment of two conical rollers provided with ribs or projections on their surfaces and attached to the ends, respectively, of two shafts placed at an angle with each other. The shafts are set in plates and boxes provided with collars, and have each attached at their centres bevel wheels, by means of which motion is imparted from one to the other.

Claim.—The arrangement of the cones A A, as and for the purposes herein shown.

Also, the arrangement and combination of the plates C C, gears F F, boxes D D D D, collars E E E E, and cones A A, as and for the purposes herein described.

No. 42,378.—D. F. Hunt and F. S. Lyon, South Norwalk, Conn.—*Washing Machine.*—April 19, 1864.—This machine consists of a rectangular frame, in which revolves a fluted roller, and in another frame, hinged to the former at one end, is a series of small fluted roll ers bearing upon the first named roller. The shafts of the small rollers are fitted in segments, which are connected together by means of links so that they may be made to press down upon the large roller and yield to its form with the clothes to be washed.

Claim.—The fluted roller D, placed in the frame A, which is attached to the wash tub B by clamps or any suitable fastenings in combination with the small fluted rollers F, having their shafts *a* fitted in segments G, which are connected together by pivots *b*, and connected to the hinged frame H, all arranged as shown to form a new and improved washing or rubbing attachment, for the purpose specified.

No. 42,379.—B. F. JOSLYN, Stonington, Conn.—*Revolving Fire-arm.*—April 19, 1864.—The revolving cylinder is composed of two pieces, the inner one of which is shorter than the outer and is attached to the recoil shield. By means of a rack and lever the barrel with the outer part of the cylinder is moved forward and away from the parts above mentioned, for the purpose of removing the cartridge shells and reloading.

Claim.—First, making that portion of the piece E′ which penetrates the portion E shorter than the case of the cartridge, so as to prevent the accumulation of dirt between the two parts of the cylinder, as set forth.

Second, the piece E′, with the plate *a* and radial ribs *a*, and recesses for the reception of the heads of the cartridges, the whole being constructed substantially as and for the purpose set forth.

No. 42,380.—K. P. KIDDER, Burlington, Vt.—*Apparatus for Fumigating.*—April 19, 1864.—This invention consists of a chamber containing a removable case for the reception of fire and substances for producing fumes. At each end of the said chamber is attached a tube; that at one end to be connected with any blowing apparatus, and the other to conduct the fumes to any place where insects or animals may be lodged, the object being to smoke out animals from their holes or hollow trees, stupify bees, &c.

Claim.—A fumigator composed of a box or case, provided with a fire chamber or perforated partition, substantially as and for the purpose herein set forth.

Also, the elastic tubes C D in combination with the case A, substantially as and for the purpose specified.

No. 42,381.—CHRISTIAN KNISELY, Chicago, Ill.—*Caster.*—April 19, 1864.—This invention consists of two tubes set one within the other, through which the rod to which the roller is attached passes; the caster is secured to the leg by a pin fitting in a groove, so that it is readily attached to the same and prevented from dropping out when the furniture is raised.

Claim.—The two tubes A C in combination with the rod B, caster wheel E, and with or without the yielding pin F and groove *b′*, all arranged substantially as and for the purpose herein set forth.

No. 42,382.—CHRISTIAN KNISELY, Chicago, Ill.—*Caster.*—April 19, 1864.—This invention consists in having an oil chamber in the frame of the caster wheel into which the lower part of a rod that is driven into the leg is fitted, and on which the rod of the frame of the caster wheel is allowed to turn freely, the end being provided with a cap which covers the oil chamber and a spring catch employed to hold the caster-wheel frame on the rod.

Claim.—The oil chamber E, in the frame C of the caster wheel D, in combination with the rod A secured in the leg, to which the caster wheel is applied and fitted in the oil chamber, substantially as and for the purpose set forth.

Also, in combination with the rod A and oil chamber E, the yielding pin *d*, fitted in the frame C, and the groove *c*, in the rod A, for the pupose specified.

Also, the plate B on the rod A, provided with an annular groove *a* in its under side, in combination with the flange *b* at the upper end of the oil chamber E, as and for the purpose herein set forth.

No. 42,383.—A. T. LACKLAND, St. Charles, Mo.—*Steam Boiler.*—April 19, 1864.—The object of this invention is to provide a portable or other boiler that shall present a large amount of heating surface in proportion to the weight of material used in the construction. The novelty consists in providing a semicircular flue, which extends entirely through the boiler, and in the front end of which the grates are placed. After passing through this flue the products of combustion return to the front end of the boiler through two smaller flues, and thence pass to the pipe for conducting them off. A water jacket is made to pass entirely round all of these flues, so that their entire surface is exposed to the action of the heat.

Claim.—The arrangement of the furnace flue *d*, return flues *b b*, and the water jacket surrounding the furnace, substantially as shown and described.

No. 42,384.—L. L. LEE, Milwaukee, Wis.—*Alarm Steam Gauge.*—April 19, 1864.—This device consists of a group of floats attached to arms secured to the lower end of a screw rod. The end of the long arm of the lever is provided with a yoke fitting upon the screw and adjusted higher or lower, by means of a nut. Over the short arm of the lever is arranged a collar, which is provided with adjusting pins and a guide to insure the steady movement of the said collar.

Claim.—First, a cluster or group of floats, consisting of three or more, in combination with the yoke J and lever C, substantially as and for the purpose described.

Second, the yoke J, in combination with screw N, for the purpose of adjusting the floats, substantially as described.

Third, the collar E, in combination with the adjusting pins F F and guide R, substantially as and for the purpose described.

No. 42,385.—WILLIAM LOUGHRIDGE, Neverton, Md.—*Method of Applying Steam-power to Car Brakes.*—April 19, 1864.—This invention consists in a certain combination of valves, a steam chest, and cylinder, with the mechanism for operating the valves, in such a manner as that the brakes shall be automatically applied and regulated by steam-power from the locomotive. To the rear end of the boiler is attached a steam chest which communicates with the steam space of the boiler and also with the interior of the cylinder; the steam chest is provided with a valve, to the stem of which is attached a rod having upon its upper end a rack that engages with a pinion attached to a sliding rod provided with a spring. To the lower end of the said sliding rod is attached a chain by which the rod is actuated, and through it the valve. The chain in connected to one end of the brake lever in such a manner as that when the train "stretches," in consequence of the action of the brakes, the motion is communicated to the sliding rod, and through it to the valve, and thus the amount of steam admitted to the cylinder is controlled. The cylinder is placed underneath the footboard of the engine, and to its piston rod is attached the chain for actuating the brakes.

Claim.—The steam cylinder O and steam chest I, provided, respectively, with the piston Y′ and valve J, and communicating with each other and the boiler A, substantially as described, when said parts are applied to or connected with a car brake, to operate in the manner substantially as and for the purpose set forth.

Also, the connecting of the stem K of the valve J with the bar E, provided with a spring D, the latter being connected with the brake cam Z and piston rod Y, to operate as described.

Also, the particular manner of connecting the valve stem K with the bar E, by means of the wheel F and rack L, in connexion with the lever G for raising the valve J, and the notched bar H for holding said lever, for the purpose herein specified.

Also, the escape valve V applied to the cylinder O, substantially as shown, when used in connexion with the foot-rod X, and for the purpose herein set forth.

Also, the arrangement of the lever U, pulley *m* at the end of the piston rod Y, rod T attached to one end of lever U, and the brake chain Z attached to the opposite end and passing around the pulley *m*, substantially as and for the purpose set forth.

No. 42,386.—IRA LYNDE, Marathon, N. Y.—*Drying Fruit.*—April 19, 1864.—This invention consists of a case provided with shelves, and having the front and back sides formed of strips, or wire cloth, to admit of the circulation of air; the front side is hung on hinges, as a door, and when the shelves are filled with the fruit to be dried, the door is closed and fastened, and the case may be placed in any position, and changed in position from time to time, as may be necessary for the drying process.

Claim.—A device for drying fruit, composed of a shallow box A provided with shelves or partitions *e*, and having its broad sides or top and bottom formed of strips *b*, of cane or other material, or of wire rods or wire cloth, substantially as herein shown and described.

No. 42,387.—F. A. MAXFIELD, East Spring Hill, Penn.—*Fruit-gatherer.*—April 19, 1864.—This device consists of a sheet or piece of canvas attached to rods, and arranged in such a manner that it may be made to encircle the trunk of a tree and receive the fruit as it drops from the tree; the sheet or canvas is supported at its edges by stakes driven into the ground, and is provided with a hole through which the fruit escapes into a basket or other receptacle.

Claim.—The sheet or canvas A, provided with a cut *g* and a hole *i*, and having rods B attached to its sides, which are fitted upon and supported by stakes *d*, substantially in the manner as and for the purpose herein set forth.

No. 42,388.—EDWARD MAYNARD, Washington, D. C.—*Metallic Wad for Cartridges.*—April 19, 1864.—In the front end of a metallic cartridge case is inserted a metallic cup-shaped wad, having a split cylindrical rim, which is discharged from the piece behind the ball.

Claim.—An improved gun-wad, formed of a circular disk, with a projecting cylindrical edge or rim, substantially in the manner and for the purpose herein set forth.

No. 42,389.—W. H. MCMILLAN, New York, N. Y.—*Steel-bladed Oar.*—April 19, 1864.—This invention consists in forming the blade of the oar of a thin plate of steel, or other metal, which is inserted into the lower end of the handle, and secured by rivets to the same.

Claim.—As a new article of manufacture, the oar herein described, consisting of a wooden handle A and metal blade B, when the said parts are constructed and combined as and for the purpose herein specified.

No. 42,390.—T. S. Mills, Iberia, Ohio.—*Grain Drill.*—April 19, 1864.—This invention relates to that class of seeding machines which can be used for distributing corn or other seeds in hills, or in drills, broadcast, and which roll the seed in the ground. The seed-distributing roller is composed of two parts, each provided with cavities, and is combined with the shaft, which is divided in halves longitudinally, one-half of the roller being secured to one part of the shaft, and the other half to the other part of the shaft, the two parts being adjusted by means of a screw. The arbor is made adjustable vertically, so that the bevel wheels will actuate the mechanism, or be readily thrown out of gear when necessary. A lever disk is used in connexion with two belts, one serving to elevate the drill-tubes from the ground and raising the rear end of the tongue at the same movement, the said disk being held in place by means of springs and a catch. With the vertically adjustable shoes is combined a flat spring drag-bar and the sectional roller.

Claim.—First, in combination with a seed-distributing roller *b*, composed of two parts b^* b^*, each provided with cavities 7 7′, shaft *d* divided longitudinally in a plane or planes coincident or parallel with its axis into parts of segmental form, one attached to each part of the roller *b* for moving the same, substantially as herein described.

Second, the vertically adjustable arbor *h*, and bevel gears *f f′ g g′*, in combination with roller D and seed-distributing roller *b*, constructed and operating as and for the purpose set forth.

Third, the lever disk K, with belts K^* K^*, in combination with the hinged draught-pole L, rocking roller J, belts G^*, and shoes G, all constructed and operating in the manner and for the purpose specified.

Fourth, the combination of the spring-bars I with the vertically adjustable shoes G and sectional roller D, as and for the purpose described.

No. 42,391.—Francis Milo, Kingston, Canada West.—*Implement for Transplanting.*—April 19, 1864.—This device consists of a flexible metal case, having a vertical opening on one side, which opening is wider at bottom than at top; over the edges of the opening is turned a lip, upon which is a sliding clasp provided with an upwardly projecting rod or handle, so that by pushing the latter down the bottom of the case is contracted, thus compressing and holding the earth about the roots of the plant to be removed. In connexion with the above is a circular slide, formed of two semicircular disks cut out at their centres, and each provided with an upwardly projecting handle or rod, so that they may be held upon the earth attached to the plant when the case is withdrawn.

Claim.—The case A, constructed so as to be expanded and contracted by the movement of the slide B, in combination with the plates D D, all arranged substantially as and for the purpose set forth.

No. 42,392.—F. A. Morley, Sodus Point, N. Y.—*Ore Separator.*—April 19, 1864.—This invention consists in forcing a current of water, in a horizontal direction, over a series of receptacles for the purpose of conveying materials of different specific gravities into the same, by means of a water-wheel, or other equivalent device.

Claim.—The use of a horizontal current of water, produced by the water-wheel D, or its mechanical equivalent, for the purpose of conveying materials of different specific gravities into different receptacles, substantially in the manner and for the purpose described.

No. 42,393.—Nathaniel Norcross, Livermore, Maine.—*Cheese Press.*—April 19, 1864.—This invention consists in arranging within the same frame two or more sets of presses, each press being composed of a press beam, double racks in connexion with double pinions, and a friction shaft.

Claim.—The combination of the press beam D, double racks H, double pinions F, and friction shaft G, when constructed and arranged substantially in the manner and for the purpose described.

Also, arranging two or more sets of presses within the same frame, when each press is composed of the press beam D, double racks H, double pinions F, and friction shaft G, as herein set forth.

No. 42,394.—James O'Kane, New York, N. Y.—*Needle Threader.*—April 19, 1864.—This device consists of a small metallic block provided on one side with a groove having inclined sides and end for receiving the needle and determining the position of the eye, at right angles with which is a tapering hole through which the thread is passed to the eye of the needle. Combined with the said groove is a spring guide and holder.

Claim.—First, the groove *c*, with the inclined sides and end, receiving the needle and determining the position of the eye, in combination with the tapering hole *b* for the thread, as specified.

Second, the spring guide and holder *e*, in combination with the groove *c*, for the purposes and as specified.

No. 42,395.—Jason Palmiter, Jamestown, N. Y.—*Machine for Dressing Staves.*—April 19, 1864.—This invention consists in the use of stationary curved knives, in connexion with fluted feed rollers, that force the stave between the knives, by which the stave is properly shaved and sized, and brought to the proper curved form in a transverse direction. The upper feed roller works over the undressed stave, and is secured to a shaft fitted in a sliding box, so as to accommodate the roller to the varying thickness of the stave, a loaded lever being used to keep the roller to its work.

Claim.—The two knives K K, in combination with the feed rollers D D and the loaded lever H, when used in connexion with a rocking bearing *a′* fitted on trunions *c c*, all arranged for joint operation as and for the purpose set forth.

No. 42,396.—James Perkins, Newark, N. J.—*Preserving Eggs, Meats, &c.*—April 19, 1864.—This invention consists in coating the material to be preserved with shellac varnish, in combination with gums or balsams.

Claim.—The application and use of lac varnish, in combination with gum-arabic, substantially in the manner and for the purposes described.

No. 42,397.—Daniel Peters and W. D. Wilson, Keokuk, Iowa.—*Whitening Currier's Slicker.*—April 19, 1864.—This invention consists in inserting the blade of the tool in the handle of the same in such a manner that the blade may be oscillated or moved in the handle, and assume an angular position therewith at either side of it.

Claim.—A slickering tool for currier's use, provided with an oscillating or adjustable blade, substantially as herein shown and described.

Also, the bolt or latch C, fitted in the handle A, and arranged in connexion with the blade B, to operate substantially in the manner herein described.

No. 42,398.—Julius R. Pond, (Bakerville P. O.,) New Hartford, Conn.—*Apparatus for Concentrating Milk.*—April 19, 1864.—This invention consists of a jacketed pan, to be heated by steam, with a system of rotating curved steam pipes to heat and agitate the milk, and a steam or hot air coil, having numerous perforations, placed immediately above the surface of the milk in the pan, the latter being provided with a proper eduction pipe.

Claim.—The combination of the rotating curved pipes *d d d*, of unequal length for stirring and heating the milk, a perforated helical pipe *f* for distributing heated air over the entire area of the vessel, and an eduction pipe *a*, all substantially as herein described and for the purpose specified.

No. 42,399.—Garret S. Quick, Auburn, N. Y.—*Machine for Finishing Leather for Cotton or Woollen Cards.*—April 19, 1864.—This machine consists of two series of rubbers placed one above the other, and kept pressed together by means of springs attached to their projecting shafts. At one end of the machine are two rolls which serve to draw the leather through and between the two series of rubbers.

Claim.—First, the stationary rubbers (two or more) pressed together by means of springs, or their equivalents, as above described.

Second, in combination with the rubbers above described, the two rolls S and T, for drawing the leather through between the two series of rubbers.

No. 42,400.—Cornelius M. Radcliff, Piermont, N. Y.—*Car Coupling.*—April 19, 1864.—This invention consists in the employment of a compound latch, one portion of which takes the link, while the other portion prevents the main latch from rising, and thus disconnecting the coupling. When the cars are to be uncoupled, the secondary latch is first raised, and then the main latch, which releases the link.

Claim.—The compound coupling formed of the latches *h* and *l*, constructed and acting substantially as set forth.

Also, the chain or rope *m*, passing from the latch *l*, through the eye 3 and along the front edge of the platform, in combination with the said compoud coupling, for lifting the same, as set forth.

No. 42,401.—Daniel Rhodes, Pawtuxet, R. I.—*Plough.*—April 19, 1864.—This invention consists in the employment of a vertically moving frame arranged upon the front end of the plough beam, and operated by means of a lever extending back to near the plough handle, under control of the operator of the plough, for the purpose of varying the line of draught so as to cause the point of the share to penetrate the ground at a greater or less depth, and thereby regulate the depth of the furrow as may be desired.

Claim.—The arrangement of the vertically moving frame H, arms *f*, roller R, and loop E, with the clevis I, beam A, lever F, and guide G, all in the manner herein shown and described.

No. 42,402.—G. Adolph Riedel, Philadelphia, Penn.—*Car Spring.*—April 19, 1864.—The nature and object of this invention are explained by the claim and engraving.

Claim.—First, constructing the plates A and B, with the circular recesses *a a a a*, or with conical holes *a′*, for the purpose of receiving the ends of the springs C, substantially in the manner and for the purpose set forth.

Second, combining the springs F with the springs C and the plates A and B, substantially as described and shown.

Third, surrounding the springs F with the spring G, for the purpose of giving greater strength to the nest of springs, and also to preserve their perpendicular position, substantially as described.

Fourth, constructing the springs C, and the springs F, of wire which has two acute angles, which in the formation of the springs constitute the extreme top and bottom parts of the folds thereof, the top and bottom edges of the folds being parallel, and their perpendicular sides also parallel to each other, substantially as described and for the purposes above set forth.

Fifth, constructing the top and bottom edges of the folds of the springs G with a V-depression in one edge and a corresponding elevation on the other, substantially in the manner and for the purpose set forth.

Sixth, the buttons or clamps D, in combination with the tubes E, when arranged and operating in relation to the plates A and B, substantially as set forth.

No. 42,403.—Thomas Robjohn, Mott Haven, N. Y.—*Band Ruffle.*—April 19, 1864; antedated February 19, 1864.—The ruffle is formed by doubling the material in the direction of its length and securing its edges between the turned-in edges of a folded band or on the turned-down edges of a single band.

Claim.—A banded ruffle, whether crimped, fluted, ruffled or shirred, when said ruffle is made of two thicknesses of goods, substantially as herein described.

No. 42,404.—Thomas Robjohn, Mott Haven, N. Y.—*Apparatus for making Fluted Collars.*—April 19, 1864.—The material to be ruffled is cut into strips of proper width and conducted through flattened tubes toward the fluting rollers so as to deliver the material duplicated wholly or partially, as desired. Two ridged rollers placed one above the other, and meshing together, serve to draw the fabric through. A flat groove, somewhat deeper and much wider than the longitudinal grooves, surrounds each roller at a point central to the strip, the said strip being flattened by a metal spring into the groove in the upper roller, while the spring itself rests in the corresponding space in the lower roller, by which means a firm plait is formed which preserves the shape of the ruffle without other means of attachment. At the rear the end of a metal blade rests in the groove of the lower roller and the blade inclines at a proper angle to take the product from the ruffler as it is completed.

Claim.—First, the combination with a fluting machine of a folding guide constructed and arranged to deliver a strip of muslin or other fabric to the fluting rollers and to fold and double the said strip as it is drawn through it by the said rollers, substantially as and for the purpose herein specified.

Second, the combination with the fluting machine and the folding guide of an interposed pressing guide, substantially as herein specified.

Third, forming the said interposed pressing guide as part of a socket which receives and holds in place the folding guide, substantially as herein specified.

Fourth, the combination with a fluting machine of the folding guide C′, constructed to turn in the two edges of a strip of muslin or other material toward each other on the same side of the strip, substantially as herein specified.

No. 42,405.—Richard H. Rogers, New York, N. Y.—*Ink for Hand Stamps, &c.*—April 19, 1864.—This invention consists in combining ink, such as is commonly used for hand-stamps, with fibres or dust of leather and finely reduced cork or paper so as to be used without a pad.

Claim.—The admixture with a coloring matter and a menstruum of the fibre or dust of leather to produce a "pulp ink," substantially as herein described.

Also, in combination with the use of the fibre or dust of leather in an ink, the use of finely reduced paper or cork, or both of those ingredients, substantially as herein specified.

No. 42,406.—Louis Rothschild, New Haven, Conn.—*Apparatus for Sponging Cloth.*—April 19, 1864.—This invention consists in the use of a perforated cylinder made of sheet metal and covered with woollen cloth, into which is closely rolled or wound the cloth to be sponged or shrunk. It is then covered with cotton flannel or canvas and mounted vertically on a suitable boiler, so that when steam is generated in the same it will pass into the central portion of the cylinder, whence it will escape through the perforations in its surface and saturate and sponge or shrink the cloth, leaving its lustre unimpaired.

Claim.—The use of a perforated and covered cylinder, standing vertically and stationary, in combination with a boiler, for the purpose of sponging and shrinking cloth, when the whole is constructed, combined, and used substantially as herein described.

No. 42,407.—Robert Rowland, New York, N. Y.—*Manufacture of White Lead.*—April 19, 1864.—In this process granulated lead is placed in a revolving cylinder and then subjected to the action of oxygen, acetic acid in vapor, and carbonic acid. The sides of the cylinder are made partly of glass, so that the sun-light will assist in bringing about chemical action. The vapors and gases are conducted to the cylinder through separate tubes, so as to regulate the supply of each.

Claim.—The manner herein described of converting granulated lead into white lead by subjecting it, while in a state of agitation, to the action of oxygen, acetic acid, and carbonic acid, substantially in the manner and for the purpose herein described.

Also, inducting the gases used in the carbonization of lead into a revolving drain by means of separate pipes or tubes, provided with stop-cocks, so that the supply of each of the gases can be regulated independently of the other, substantially in the manner and for the purpose herein described.

No. 42,408.—Andrew Safley, Mount Vernon, Iowa.—*Harrow.*—April 19, 1864.—This invention consists in the arrangement of two vertically adjustable harrows guided by vertical bars, and suspended from a frame which is supported by two wheels in such a manner that the said harrows are brought close to the team, and that either harrow can be raised or lowered independently of the other and adjusted to any desired depth, each harrow being correctly guided and kept square to the team, thus causing each tooth to do its proper work.

Claim.—First, the combination of the two vertically adjustable harrows E E, the guide bars *i i* attached thereto, the draught rods *j j′*, frame A and wheels B B, all as herein shown and described.

Second, in combination with the above the rotary segments F F′, hand levers H H′, spring dogs *d d′*, serrated bars *e e′* and chains *c c′*, all constructed and operating in the manner and for the purpose specified.

No. 42,409.—Benjamin D. Sanders, Wellsburgh, West Virginia.—*Grain Separator.*—April 19, 1864.—This invention relates to that class of separators in which the operation of separating the grain is effected by a suction blast. The machine is provided with one or more passages, each passage having an independent hopper placed one above the other, so that the grain will pass from the upper to the lower hopper, and in its passage from the different hoppers is acted on by separate blasts of air in the different passages of the spout. The bottom of each hopper is provided with a screen, either perforated or imperforated, the said screens being so arranged in relation to each other and the ends of the passages of the spout that an unobstructed passage above the hoppers for the flow of air into the ends of the passages of the main spout is obtained.

Claim.—First, constructing the spout G with two or more passages varying in length, whether said passages be enlarged upward or are of equal dimensions throughout, substantially as and for the purpose described.

Second, so constructing and arranging a spout with two or more passages that independent currents of air have a free access into their lower ends at different elevations, substantially as and for the purposes described.

Third, so constructing one or all of the passages of a spout G and furnishing a hopper to one or all of the passages, that the grain shall enter the spout at a point above the lower end of each respective passage, substantially in the manner and for the purpose described.

Fourth, so applying independent hoppers to two or more passages of a spout G that the grain from the highest hopper falls upon a lower hopper, and in its passage from the different hoppers is acted upon by separate blasts of air in the different passages of the spout, substantially as and for the purpose set forth.

Fifth, so arranging perforated or imperforated hoppers with respect to one another and the termini of the passages of the spout that an unobstructed passage above the hoppers for the flow of air into the ends of the passages of spout G is obtained, substantially as and for the purposes set forth.

Sixth, a separating machine having a spout and hoppers constructed and operating so as to control the grain and air, substantially in the manner set forth.

No. 42,410.—Jacob Seibel, Manlius, Ill.—*Harvesting Machine.*—April 19, 1864.—This invention consists in the combination of the endless apron and binder's platform, with a lever and cord connected with two ratchet levers that engage in notches or teeth in vertically sliding posts, to which the wheels are attached, so that the driver from his seat can raise and lower the endless raking apron and cutting apparatus to cut the grain at any desired height.

Claim.—In a reaping or harvesting machine the combination of the endless apron M, the binding attachment A A′, and the lever *i*, cord *f*, ratchet levers *m m′*, and the sliding posts S S′, arranged and operating substantially as and for the purposes delineated and described.

No. 42,411.—James Sheridan, St. Louis, Mo.—*Snow Plough.*—April 19, 1864.—This invention consists in a combination of devices named in the claim for attaching the snow plough to the car, whereby the plough is allowed to yield to obstructions upon the track. The plough is also allowed to yield under a vertical movement of the car, or a variation of the height of the same caused by the play or elasticity of the car springs under different loads. It is also capable, from its mode of attachment, of being readily raised from the rail at the will of the driver or attendant. The parts of the plough are so constructed as to admit of being readily removed and replaced by new ones when worn or otherwise injured.

Claim.—First, the spring E attached to the shaft C in connexion with the spring H, or an equivalent projection also attached to shaft C and the stop I attached to the under side of the platform or bottom of the car, and the plough or scraper G attached to the spring E, all arranged either with or without the link J, substantially as and for the purpose herein set forth.

Second, constructing the plough or scraper G of a triangular portion *e* of wood covered with sheet metal *f*, and provided at its lower end with a curved projecting front piece *f'*, an adjustable plate K, and spur or guard L, substantially as herein set forth.

No. 42,412.—George Sibbald, Philadelphia, Penn.—*Magic Lantern.*—April 19, 1864.—The lantern is so constructed as to exhibit pictures upon a screen by reflected light, by which means opaque pictures, such as engravings, drawings, paintings, and photographs, can be exhibited, thus saving the expense of painting on glass as in the usual way. Two strong lights are arranged within the chamber in front of concave mirrors, which reflect the light upon the picture, and the lens tube projects back between and beyond the lights so as to admit no direct light through the lenses.

Claim.—First, a magic lantern producing on a screen outside the lantern, by reflection, an image of a picture of any desired description placed in the lantern, substantially in the manner herein specified.

Second, the picture-holder *b c d*, or its equivalent, arranged in that side of a magic lantern A, opposite the lens tube E, in combination with one or more lamps B and reflectors D, constructed and operating in the manner and for the purpose substantially as herein shown and described.

Third, extending the lens tube E far enough in the interior of the lantern so that the lens *f* at its inner end is not exposed to the direct rays of light emanating from the flames of the lamps B, as and for the purpose specified.

Fourth, the stems *d'* projecting from the backs of the reflectors D, and provided with flanges *e'*, in combination with the lantern A, constructed and operating in the manner and for the purpose substantially as set forth.

The hinged wings *e* in combination with the plate *d* and slide *a*, constructed and operating substantially as and for the purpose described.

No. 42,413.—Edward A. Smith, St. Albans, Vt.—*Burning Lime.*—April 19, 1864.—This invention consists in the application of a heated blast to ignited anthracite coal in a kiln having a cylindrical cone-shaped cupola combined with a boiler plate, room being provided in the base for the fire chambers. The throat of the boshes is provided with a lime-pit and door so as to assist in the rapid delivery of the lime and to form a gauge or measure by which the amount drawn can be ascertained.

Claim.—First, the application of the heated blast to ignited anthracite coal in a kiln having a cylindrical cone-shaped cupola combined with a boiler plate providing room in the base for the fire chambers, all constructed and arranged as herewith described.

Second, the lime-pit and door in the throat of the boshes providing for the more rapid delivery of the lime, and forming a gauge or measure by which to ascertain the amount drawn and to be drawn in the practical working of the kiln, all constructed as herein described.

No. 42,414.—G. H. Snow, New Haven, Conn.—*Match Safe.*—April 19, 1864.—This invention consists in the employment of a sliding box provided with a fixed rod and fitted in a case in such a manner that by forcing down the sliding box a match will protrude through the top of the box, so that it may be grasped by the thumb and finger and readily abstracted from the box.

Claim.—The sliding box B in connexion with the stationary box A, the rod C, and spring D, or its equivalent, all arranged to operate substantially as and for the purpose herein set forth.

No. 42,415.—Leander R. Streeter, Chelsea, Mass.—*Elastic Roller.*—April 19, 1864.—This invention consists in filling a flexible cylinder or case either wholly or in part with disintegrated caoutchouc for the purpose of rendering the same elastic.

Claim.—Constructing elastic rollers by filling a flexible cylinder or case wholly or in part with disintegrated caoutchouc, whether damaged by use or not, for purposes and substantially as described.

No. 42,416.—Benaiah Titcomb, Baltimore, Md.—*Harvester.*—April 19, 1864.—This invention consists in attaching a friction roller to the side of the frame directly under the vibrating arm of the rock shaft. The frame and yoke are constructed in one continuous piece.

Claim.—First, attaching the friction roller B, Fig. 4, to the side of the frame D, directly under the vibrating arm of rock shaft C, Fig. 5, in the manner and for the purpose specified.

Second, the construction of the frame D and yoke D' in one continuous piece, in the manner and for the purpose substantially as set forth.

No. 42,417.—James Tomlinson, Racine, Wis.—*Pump.*—April 19, 1864.—This pump is composed of a stationary piston having a globular expansion at its lower extremity, in which is a ball valve, in combination with a reciprocating chamber which encompasses the said piston, and is provided with a caged ball valve above the limit of its movement upon the piston. The reciprocating chamber terminates in a goose-neck curve for the discharge of the water, and is operated by an ordinary hand lever.

Claim.—The stationary piston A, with globular chamber C and valve D, in combination with the reciprocating cylinder E, globular chamber F, valve G, ascension pipe H, and hand lever I, all constructed and operating in the manner and for the purpose herein shown and described.

No. 42,418.—Edward Town and James L. Chichester, Buffalo, N. Y.—*Paper-ruling Machine.*—April 19, 1864.—For a description of this invention reference must be had to the specification and drawings.

Claim.—First, the mechanical combination described in this specification, and designated as the "gauging device," meaning and intending to include in this claim any combination whatever of any of the parts or elements which constitute this device, amounting to a mechanical equivalent of the same; and this we claim, whether such combination is used in single or double machines either for ruling or printing, or whatever may be the design or purpose for which this combination is used to gauge or regulate the run of paper on a machine.

Second, also, the mechanical combination described and designated in this specification as the "striking device," or any combination constituting a mechanical equivalent of the same.

Third, also, the shaft F, with all the cams and devices connected therewith, designed to connect all the parts of the two devices above specified and claimed, and to operate the same in connexion with each other and with the other parts of the machine, as described and set forth in this specification, meaning and intending to include in this claim any device or arrangement constituting substantially a mechanical equivalent thereof.

No. 42,419.—S. A. Traugh, Cincinnati, Ohio.—*Slides and Guides for Flasks for Moulds*—April 19, 1864.—In this invention the slide or dowell, instead of being permanently attached to the cope, is formed of a flat bar having a cam operating upon a short shaft by means of a thumb-piece across the surface at the upper end, which lying between two permanent lugs projecting from a plate attached to the cope, is secured temporarily between them by means of the cam pressing against one of the lugs and forcing the bar in an opposite direction against the corresponding lug. The guide on the lower part of the flask consists of a plate with two sliding lugs adjustable in position by means of set screws to suit the slide or bar passing between them.

Claim.—The employment or use, with flasks for forming moulds for casting of detachable slides and adjustable guides arranged and applied to the flask, in the manner substantially as and for the purpose herein set forth.

No. 42,420.—W. O. Tubbs, Spring, Penn.—*Harvester.*—April 19, 1864.—This invention consists in fastening the inner or heel end of the finger-bar in its socket in the sustaining shoe by means of a bent lever attached to the shoe. The rocking-beam, which imparts motion to the cutters, is thrown in and out of gear with the cam wheel by means of a bent lever and pitman combined with the sliding-head, and by means of another bent lever, indicated by *b* in the engraving, combined with the driver's seat; the latter may be adjusted to the different degrees of inclination of its supporting frame.

Claim.—First, fastening the heel end of the finger-bar in its socket in the sustaining shoe by means of the lever *e* combined with said shoe, substantially in the manner and for the purpose shown and described.

Second, the arrangement of the bent lever *s* and pitman D, in combination with the sliding-head H and rocking-beam G, for the purpose of throwing said beam in and out of gear with the cam wheel E, and firmly bracing the same when in gear, substantially as described.

Third, the employment of the bent lever *b*, in combination with the driver's seat Y and its support, in the manner and for the purpose described.

No. 42,421.—Joseph Wadsworth, Marple, England, and James Wadsworth, Salford, England.—*Gas Burner.*—April 19, 1864.—This improvement consists in having the nipple made of one piece of sheet metal spun in, so as to form the neck, leaving the cavity the same size above the neck as below.

Claim.—An improved gas burner, manufactured of sheet metal, having the nipple made of one piece and knurled, milled, or spun in, so as to form the neck, leaving the cavity of the same size above the neck as below it, substantially as and for the purpose set forth.

No. 42,422.—William B. Waldo, Johnsville, N. Y.—*Gate.*—April 19, 1864.—This invention consists in the employment of two rings, to which are attached levers, and used in connexion with ropes, operated in such a manner as to admit of a gate being readily opened and closed from either side by a driver from a vehicle or a rider on horseback without alighting.

Claim.—The arrangement of the rings E, levers D D', and ropes F F', with the lever C, post G, and pendent catches H, all constructed and operating in the manner herein shown and described.

No. 42,423.—Preston Ware, Jr., Boston, Mass.—*Composition Soles, and Moulds for the same.*—April 19, 1864.—This invention consists in making vulcanized rubber soles for boots and shoes with the holes to receive nails or rivets for attaching them to the uppers, countersunk so as to imbed the nail or rivet heads. The pins in the moulds for forming these holes are not permanently attached to the bottom of the mould, but are inserted after the mould is filled with the composition through holes in the bottom of the mould.

Claim.—First, a vulcanized rubber sole, or made of any suitable composition whether vulcanized or not, in which the holes designed to contain the nails or rivets, whereby it is fastened to the boot or shoe, are countersunk, so that the heads of the nails, rivets, &c., may be beneath the surface of the sole, substantially in the manner and for the purposes set forth.

Second, forming such holes by means of pins of the form, and inserted in the moulds in the manner described.

Third, the method of moulding rubber or composition soles provided with holes by first filling the moulds with the compound or composition in its plastic state, and by subsequently forming therein the holes by driving the pins or cores into the moulded mass, as described.

No. 42,424.—T. W. Watts, Rushville, Ill.—*Grain Drill.*—April 19, 1864.—This invention relates to a method of sowing the seed broadcast, and also of sowing grass-seed simultaneously with grain. The improvement consists in the arrangement of devices named in the claim, having reference to the seed-distributing device and to the scattering board.

Claim.—The arrangement of the seed-box A, shaft B, arms i, plates *c c*, triangular openings *b d f*, spouts F G H, and scattering board E, all constructed, combined, and operating in the manner and for the purposes specified.

No. 42,425.—Henry Wilkins, Brownsville, Penn.—*Alarm Gauge-Cock for Steam Boilers.*—April 19, 1864.—This invention consists in combining an ordinary gauge-cock or suitable valve, applied to the boiler just below the extended water lever, with a cam operated by a clock movement or other device for producing rotary motion, in such a manner that the said cam shall cause the opening of the said cock or valve periodically, and so indicate by the sound of the issuing water or steam whether the water is above or below the said cock.

Claim.—Combining a gauge-cock or valve, applied to a steam boiler, with a cam, or its equivalent, operated by a clock movement or other device for producing rotary motion, in such manner that the cam or equivalent shall produce the periodical opening of the said cock or valve, substantially as and for the purpose herein set forth.

No. 42,426.—James Yocom, Jr., Philadelphia, Penn.—*Apparatus for Moulding Pulleys.*—April 19, 1864.—This apparatus consists of a follow board, having an annular groove cut through it, corresponding in width and diameter with the desired thickness and diameter of the rim of the pulley. The half pattern of the hub and arms of suitable length is laid centrally on the fan plate, and in order to mould the rim, a cylinder filling the annular opening is raised from below until it projects sufficiently to form one-half the width of the rim; upon this is placed one part of the flask and the half mould formed, when the cylinder is lowered and the flask removed, the process being repeated to form the other half.

Claim.—First, the vertical cylinder D, arranged in respect to the plates A and C, and for operating in conjunction with the said plates, substantially as and for the purpose herein set forth.

Second, the combination of the pattern *h*, vertical cylinder D, and plates A and C.

No. 42,427.—Sigismund Zeno, New York, N. Y.—*Nursing Bottle.*—April 19, 1864.—This invention consists in the use of a flexible tube placed between the nursing bottle and mouth piece, instead of having the mouth piece rigidly attached to the bottle, as usual.

Claim.—The application of a flexible connecting tube C between the spout and body of a nursing bottle, substantially as and for the purposes shown and described.

No. 42,428.—William H. Beach, Chicago, Ill., assignor to J. S. Beach, Ballston Spa, N. Y.—*Steam Bell-ringer.*—April 19, 1864.—The object of this invention is to provide an automatic bell-ringer for ringing the bell of locomotives without the necessity of the particular attention of the person in charge. The invention consists of a wheel with suitable floats placed in a casing, to which steam is admitted by a small pipe from the boiler to act upon the floats, and from which, after acting upon the buckets to produce a rotary motion of the wheel, it escapes by another pipe or opening to the atmosphere; the shaft of the said wheel being furnished outside of the steam casing with a crank, which is connected by a rod either with a rocker, to which the bell is attached, to produce the swinging of the bell itself, or with the clapper, so that by the rotary motion of the crank the ringing of the bell is effected.

Claim.—The combination of the wheel A, steam casing B, shaft *a*, and crank *b*, with a bell, substantially as and for the purpose herein specified.

No. 42,429.—Louis Billon, assignor to himself and John Foggan, Brooklyn, N. Y.—*Steel Shirt Collar.*—April 19, 1864.—This invention consists of a shirt collar made of steel, painted white and varnished, and indented in imitation of stitching. It is provided with a stud on the inside of one of the ends, which passes into a hole or eye in the other end, and also with elastic loops or rings by which it is secured to the shirt.

Claim.—A steel shirt collar made with indented edges, concealed stud *b*, eyes *e f*, and flexible loops or rings *g*, in the manner herein shown and described.

No. 42,430.—James E. Boyle, Brooklyn, N. Y., assignor to himself, Dudley Kavanagh, and George Stevenson, New York, N. Y.—*Gas Regulator.*—April 19, 1864.—In this device there are two diaphragms of unequal diameter, and the valve-stem is made hollow, so as to afford free communication between the inlet pipe and the space above the upper diaphragm. The lower diaphragm being of larger diameter than the upper one, as the pressure in the outlet pipe is increased the larger surface of the lower diaphragm lifts the valve and shuts off the gas until the pressure in the outlet pipe is relieved, when the valve will open again.

Claim.—The hollow valve-stem and valve and two diaphragms of unequal diameter combined in a gas regulator, substantially as and for the purpose specified.

Also, the opening and closing of the valve of a gas regulator by the pressure of the gas upon the surface of two diaphragms of unequal diameter, substantially as described.

No. 42,431.—Hartzell H. Center, assignor to himself and Theodore Marsh, Cincinnati, Ohio.—*Self-sustaining Window Frame.*—April 19, 1864.—This invention consists in the employment in each side of the window frame of two strips, having behind them spiral springs resting in sockets, by which they are pressed against the edges of the sash for the purpose of holding them steadily in place.

Claim.—The combination of the four separate flat-faced strips G G′ G″ G‴, springs I I I I, and sockets H H′ J J′, all constructed, arranged, and operating in the manner and for the purpose herein specified.

No. 42,432.—Addis E. Chamberlain, assignor to Chamberlain & Co., Cincinnati, Ohio.—*Cooking Stove.*—April 19, 1864.—This invention consists in constructing the deflecting plate or screen with cheeks at the ends, a flange on the lower edge, and projections or ears at the ends of the upper side, the said screen being secured within the fire-chamber.

Claim.—The deflecting plate or screen F, constructed as described with cheeks G G′, flanges H, ears J J, and a register K, the said screen being secured within the fire-chamber, as herein specified and for the purpose set forth.

No. 42,433.—Andrew B. Clemons, assignor to himself and Royal M. Bassett, Derby, Conn.—*Roller for Rolling Iron.*—April 19, 1864.—In this machine the upper roll is caused to approach the lower one by the action of two cams arranged upon a rocking shaft above the said roll. At the end of this shaft is a toothed segment and an idler pinion attached to a vibratory arm, to which motion is imparted by a pinion upon the driving shaft. The said idler pinion may, at the pleasure of the operator, be thrown in or out of gear with said segment, and the cam shaft being thus partially revolved, will cause the cams to act upon the sliding journal boxes of the roll.

Claim.—In combination with the rolls so arranged as to admit of the distance between their faces being varied, a mechanism substantially such as described for operating upon the roll, in the manner and for the purpose described.

No. 42,434.—Alexander Douglas, English Neighborhood, N. J., assignor to himself and Samuel S. Sherwood, Aquackanonck, N. J.—*Cuff-fastener.*—April 19, 1864.—This device consists of a metallic wire or pin extending across the cuff through the eyes of its buttons to serve as a stay to the cuff; one end of the pin is bent over, and provided with a recess for the shank of the button, which prevents the pin from slipping in either direction.

Claim.—The fastener C constructed substantially as described—that is to say, one end thereof being formed into a spring link, to secure it from displacement by interlocking with the eye of a button, in the manner set forth, and the other end extending from the link so as to be capable of securing other buttons in their proper places, substantially as set forth.

No. 42,435.—Thomas Gibson, assignor to the Star Arms Company, Yonkers, N. Y.—*Locking the Cylinder of Revolving Fire-arms.*—April 19, 1864.—The locking dog underneath the cylinder, the front part of which is thrown up by a spring, is operated by a pin on the lower part of the hammer which bears against the bevelled rear end of the locking bolt, thus releasing it at the proper time. The said pin is also the fulcrum for the revolving pawl.

Claim.—The arrangement and combination of the bolt E with the fulcrum pin *a* of the pawl or finger D, in the manner and for the purpose herein shown and described.

No. 42,436.—David E. Hall, assignor to himself and James H. Beardsley, Brooklyn, N. Y.—*Spring Pen-holder.*—April 19, 1864.—A portion of the pen-holder forming a spring extends from the cylindrical part of the holder to the pen socket, where it is bent and returned within the cylinder.

Claim.—The spring portion *b* of the pen-holder, extending from the cylindrical part *a* to the pen socket *c*, and returned within the cylinder *a*, as and for the purposes specified.

No. 42,437.—H. H. HENDRICK, assignor to himself and J. J. RIDDLE, Cincinnati, Ohio.—*Air-pump.*—April 19, 1864.—This invention consists in the application of a cone valve made of or covered with India-rubber, leather, or other flexible material, in combination with a common hard metal valve seat and a reciprocating piston, the valve being held up in its seat by a spiral spring, so that any impurities, such as hairs and fibres, which may detach themselves from the packing of the piston and lodge between the valve and its seat, will not prevent the valve from closing down air-tight or interrupt the operation of the pump.

Claim.—In air-pumps of the construction specified, the combination of the elastic valve D with the seat E, spring F, cylinder A, and piston B, all arranged and operating as described.

No. 42,438.—JULIUS JEFFREYS, Upper Norwood, England, assignor to R. L. JEFFREYS and LINDSAY WILSON.—*Sun-blinds.*—April 19, 1864; patented in England January 28, 1860.—This invention consists of a series of frames made of wire and suspended by straps from a frame placed outside of a window. Canvas or other suitable fabric is attached to the outer edge and sides of each frame, and also secured to the inner edge of the frame next above. The blinds are raised by cords, and are folded up within the frame or case outside the window, when not in use.

Claim.—Combining the parts *c d e f h i* in a case *a b*, substantially as above described.

No. 42,439.—S. F. JONES, assignor to himself and E. L. FLOYD, St. Paul, Ind.—*Water Elevator.*—April 19, 1864; antedated April 8, 1864.—This invention consists in the employment of a wheel and two spools, over which the chain with flattened links is made to pass between flanges so as to prevent the bucket from turning as it rises. The weight of the bucket is counterbalanced by a weight on the spool.

Claim.—A water elevator, comprising the wheel G, spool H, spool I, chain L, weight C, and bucket B, all substantially as arranged and combined.

No. 42,440.—W. H. KIRBY, Auburn, N. Y., assignor to himself and D. M. OSBORNE.—*Harvester.*—April 19, 1864.—This invention consists in the employment of an adjustable clearing rod attached to the frame in front of the raking apparatus and extending to the cutting teeth, in combination with an adjustable reel and rake so arranged as to admit of the cutting, gathering, and delivering of ordinary as well as short crops. The rake head is so constructed as to enable the rake to be set forward or back thereon as circumstances may require. The cogged wheel J is provided with radial slots, and carries an arm with a spring-bolt for operating the rake; and, by means of a wedge or trigger near the upper part of the wheel, the two are disengaged at every revolution of the wheel.

Claim.—First, the clearing rod B, constructed, arranged, and operating as and for the purpose described.

Also, the combination of the adjustable clearing rod, adjustable reel, and adjustable rake, for the purpose of adapting the machine to the cutting, gathering, and delivering of ordinary as well as short crops, as herein described and represented.

Also, the rake head *k*, so made as that the rake may be set forward or back thereon, in the manner and for the purpose described.

Also, in combination with an intermittent rising and falling and sweeping rake, the overpoised switch and cam ledge for actuating the same, as set forth.

Also, in combination with the wheel J, and its radial slots, and the arm L, with its spring bolt for operating the rake, the wedge or trigger 5, for disengaging the two at every revolution, substantially as described.

No. 42,441.—L. G. MARSHALL, assignor to himself and ANDREW COCHRAN, New York, N. Y.—*Desulphurizing Metals and Ores.*—April 19, 1864.—This invention consists in mixing petroleum with water or steam, and introducing the mixture, together with proper fluxes, into a blast, smelting, or roasting furnace.

Claim.—The use of petroleum oil intermingled and combined with the heated water, borax, sal ammoniac or prussiate of potash, to be applied in a fluid state, through a pipe or pipes, to my tubular furnace, or any other furnace for desulphurizing ores.

No. 42,442.—B. G. MARTIN, assignor to W. SANFORD, J. L. SEABURY, and J. TRUSLOW, New York, N. Y.—*Steam Cooking Apparatus.*—April 19, 1864.—A water space or boiler, set over a fire-chamber, encloses an oven, into which are introduced several pipes which are connected with a main pipe communicating with the steam space of the boiler; the object being to cook provisions either by the direct application of heat from the fire to an oven, or by the application of heat derived from water and steam combined, which surround the heating chamber, or by the action of steam brought in contact with the articles to be cooked.

Claim.—The pipe *c* with branch pipes *c′*, in combination with the heating chamber A, jacket B, and steam space *b*, constructed and operating in the manner and for the purpose substantially as herein shown and described.

No. 42,443.—C. M. MILES, assignor to himself and C. F. JONES, Vineland, N. J.—*Steam Boiler.*—April 19, 1864.—This invention consists in a combination and arrangement of fire and smoke or gas boxes, water, gas or smoke tubes and water spaces, in such a manner that the flame and gases are caused to pass upward through tubes to the smoke and gas chamber located in the upper portion of the boiler, the whole exterior of which is heating surface, and is surrounded by water; from thence the heated gaseous products of combustion pass down through tubes to the chamber at the bottom of the boiler, and thence to the chimney through an annular chamber which surrounds the boiler and consists of a casing of sheet metal terminating at the top in the smoke pipe.

Claim.—The combination of the fire-box B, the chamber D, the short ascending flues or tubes *d d*, the long descending flues or tubes E *e e*, and surrounding water tubes G and *f f*, and lower chamber F, substantially as herein specified.

Also, in combination with the parts above specified, the casing I, applied substantially as described.

No. 42,444.—J. B. RAND, Fishersville, N. H., assignor to himself and JASON SMITH, Bennington, Vt.—*Soap Composition.*—April 19, 1864.—This composition consists of water, whiting, carbonate of soda, alcohol, spirits of turpentine, aqua ammonia, Brown's bleaching compound, borax, and alum.

Claim.—The combination and process of mixture and incorporation of the ingredients above mentioned, for the purpose herein set forth.

No. 42,445.—WILLIAM REID, assignor to himself and THOMAS REID, West Hebron, N. Y.—*Manufacturing Casks.*—April 19, 1864; antedated April 15, 1864.—This invention consists in the employment of a hollow rotating cylinder provided at one end with teeth or cutters, the spaces between which are filed or cut so as to form grooves with feather edges at their outer ends, and the teeth project beyond the periphery of the cylinder, with a spiral flange attached to the latter. Combined with the above is a sliding clamp and feeding device.

Claim.—First, the hollow or tubular cylindrical and rotating cutter C, in combination with the sliding clamp D, arranged substantially as and for the purpose set forth.

Second, the particular manner of constructing the cylindrical cutter C, to wit: by having the spaces *c* between the teeth *a* filed or cut to form grooves with feather edges at their outer ends, and having the teeth *a* project out beyond the periphery of the cylinder with a spiral flange *b* attached to the latter, as and for the purpose herein described.

No. 42,446.—F. M. RUSCHHAUPT, assignor to A. J. FLEURY and J. G. KERSHAW, Philadelphia, Penn.—*Puddling Furnace.*—April 19, 1864; antedated April 16, 1864.—The nature and object of this invention are explained by the claim.

Claim.—The application of the cinder or waste of puddling and other furnaces, pulverized and solidified with clay and lime, to the protection of puddling and other furnaces, substantially as and for the purpose described.

No. 42,447.—F. M. RUSCHHAUPT, assignor to A. L. FLEURY and J. G. KERSHAW, Philadelphia, Penn.—*Apparatus for Generating Carbonic Acid and other Gases.*—April 19, 1864; antedated April 9, 1864.—This apparatus consists of a vessel provided with an air-pump for imparting pressure to the interior of the vessel, and having at one side a cylinder attached to the cover of the vessel and extending to within a short distance from its bottom, and at the other side a reservoir extending partly down into the vessel and communicating with the said cylinder by means of a pipe; the apparatus being also provided with a proper system of pipes and cocks.

Claim.—The vessel A with its air-pump or other device for imparting pressure to the interior of the vessel, the cylinder G and reservoir H, or their equivalents, and the system of pipes and cocks, or their equivalents, the whole being constructed substantially as and for the purpose herein set forth.

No. 42,448.—T. SHAW, Philadelphia, Penn.—*Steam Boiler.*—April 19, 1864.—The object of this invention is to prevent water from being carried from a boiler to the cylinder of a steam engine in the event of the priming of the boiler, and the invention consists in placing a cylinder of wire gauze in a vertical position inside a vertical boiler, so that the steam generated in the boiler will be made to pass through the meshes of the gauze cylinder for the purpose, as alleged, of arresting any globules of water that may be intermingled with the steam, and causing them to flow down the sides of the cylinder to the water in the boiler.

Claim.—A gauze cylinder, when constructed so as to surround the opening for the passage of the steam.

No. 42,449.—ROSEWELL THOMPSON, Boston, Mass., assignor to ALFRED B. ELY.—*Sewing Machine.*—April 19, 1864.—The nature of this invention will be understood from the claim and engraving.

Claim.—First, making the shuttle stitch by means of a double revolving hook, so constructed as to close together when entering the loop formed by the needle, and spread the thread or loop apart wide enough during its revolution to encompass a commercial spool, substantially as described.

Second, the spool case R, so constructed that its lower end may rest upon its centre only, to facilitate the passage of the thread under and around the same, substantially as described.

Third, the hinged wire T, in combination with the spool case R, constructed and operating substantially as described.

Fourth, the shield W, combined and arranged substantially as set forth, for the double purpose of protecting the cast-off thread from the revolving hooker, and causing the under thread to draw perpendicularly from the centre of the spool case.

No. 42,450.—George E. Van Derburgh, Mamaroneck, N. Y., assignor to C. E. Hodges and William B. Newbery, Dorchester, Mass., N. B. Silsbee, Roxbury, Mass., and John Richardson, Boston, Mass.—*Sizing Paper.*—April 19, 1864.—This invention consists in mixing with paper pulp, or paper in the process of manufacture, a solution of an alkaline silicate. The pasty silicate of 35 to 40 Baume is diluted with twelve times its weight of water, and this dilute solution used at the rate of about three gallons to one hundred and fifty pounds of pulp for brown paper, and from six to nine gallons for white paper.

Claim.—The application of sizing of soluble alkaline silicate, substantially as set forth.

No. 42,451.—Andrew West, Canton, Ohio, assignor to himself and John Staub, Sparta, Ohio.—*Lasting Pincer.*—April 19, 1864.—This device consists of a spindle provided at its upper end with a left-handed screw thread, and at its lower end with a right-handed screw thread, to work through a hinged fulcrum, the ends of which pass through slots made in the lower ends of the jaw arm, and are then hinged to the upper ends of the short jaw arms. By turning the spindle, and pressing down the head, the jaws will close firmly upon the leather.

Claim.—As a new article of manufacture, a pair of boot and shoe lasting pincers, constructed substantially as above described and as shown in the accompanying drawings.

No. 42,452.—Germond Crandell, Washington, D. C.—*Holder for Car Doors.*—April 19, 1864.—This invention consists in providing a series of indentations or depressions in the track upon the car door slides, into which the rollers that support the doors will drop as the door is moved, thus enabling it to retain its position, whether open or closed, or partially so.

Claim.—The combination of a sliding door supported on wheels or rollers, with an indentation, depression in, or removal of the track d d at the points c c c, in which to admit the wheels b b to adjust themselves, when the door is either open or closed, arranged to operate in the manner and for the purposes herein set forth.

No. 42,453.—Thomas Allin, New York, N. Y.—*Hardening Cast Iron.*—April 26, 1864.—This invention is explained by the claim.

Claim.—The process, substantially as above described, of hardening cast iron by plunging it in a bath of acid and water when it is about a blood-red heat, substantially as set forth.

No. 42,454.—N. Allstatter, Hamilton, Ohio.—*Rake for Harvesters.*—April 26, 1864.—This invention relates to the raking attachment of that class of harvesters in which the rake is made to move or sweep forward and backward over the platform in the arc of a circle, and it consists in an arrangement of devices, designated in the claim, for imparting the necessary rising and falling motions to the sweep rake, and for holding the same upon the platform with a yielding pressure while the grain is being removed therefrom.

Claim.—The rake shaft C, provided with a crank c, in connexion with the sliding clutch thimble I, provided with the arms m m', oblique plates n n' on the segment plate E and the curved plates K K′, all arranged for joint operation as and for the purpose herein set forth.

Also, in combination with the parts specified in the foregoing, the flexible or jointed rake-head, arranged to operate substantially in the manner as and for the purpose herein set forth.

No. 42,455.—Joshua E. Ambrose, Jersey City, N. J.—*Coal Oil Lamp.*—April 26, 1864.—This invention relates to a coal oil lamp which is designed to be used without a chimney. The oil-fount is provided with an outer rim and with perforations for the admission of air. Over the burner and oil-fount is a cone, consisting of two pieces and made to cover the perforations in the oil-fount. Around the cone is placed a globe resting upon a perforated base-piece for the admission of air, the globe being designed to shut off the cold air from the flame.

Claim.—In combination with the burner, constructed as shown, and composed of the parts E F G H H2 L and M, the use or employment of the cone N and N2, fount B, and chimney Q R, for the purpose or purposes herein fully described.

No. 42,456.—James Bardsley and Allen W. Gordon, Willimantic, Conn.—*Picker-fastener for Looms.*—April 26, 1864.—This device is formed of one piece, and slides over the top of the staff, being secured thereto by means of a set screw, so as to admit of the adjustment of the fastener either upwards or downwards. The part designated by C, having its bearing point upon the staff only at the edge of the slanting portion b, the tightening

of the set screw causes the edge of the slanting portion to act as a fulcrum, thus allowing the lower portion of the picker to be firmly held against the staff by a single screw, although the same be placed at the extreme upper end of the picker and out of the range of the shuttle.

Claim.—The picker fastener, constructed with a slanting portion b, and fitted with a set screw D, operating substantially as herein specified.

No. 42,457.—Charles H. Bassett, Derby, Conn.—*Japanning Corset Steels, &c.*—April 26, 1864.—The nature of this invention is explained by the claim; the object being to prevent the collection of a dross, or any superfluous particles, of the japanning solution at the end or edges of corset steels or other similar articles during the operation of dipping or japanning.

Claim.—The method, substantially as described, of japanning or coating steels and other articles by dipping them into the japanning solution and withdrawing them at a velocity less than that at which the japan flows off of the article.

No. 42,458.—Alfred Berney, Jersey City, N J.—*Destroying Forts, &c., by means of Inflammable Liquids.*—April 26, 1864; antedated April 19, 1864.—In this invention use is made of a liquid described in letters patent granted to the said Berney November 11, 1862, which is to be projected by any suitable forcing mechanism, and projected through a tube provided with a suitable nozzle, the liquid being inflamed by a match or torch at about the point at which it leaves the nozzle. After the flame is started, it is proposed to throw on crude petroleum, or other inflammable oil, to sustain the fire which has been originated by the said liquid, for the purpose of reducing the danger of accidents to troops using the same.

Claim.—The above-described means of inflicting injury upon an enemy by employing the liquid referred to, or any equivalent therefor possessing the properties above enumerated, in combination with suitable machinery for projecting the same to a distance, substantially as set forth.

Also, using only the said crude petroleum, or said oil, or any other imflammable oil, for the purpose specified, after flame has been originated, in the manner substantially as set forth.

No. 42,459.—O. B. Buttles, Milwaukie, Wis.—*Drum Stove or Radiator.*—April 26, 1864.—This invention consists in arranging within the space between the stove and an outer casing surrounding the same a series of inclined or roof-shaped deflectors, so that the products of combustion, as they pass through the said space, will be thrown against the outer cylinder, while the shape of the deflectors will cause the soot to fall from their sides and thus prevent choking of the flue.

Claim.—The arrangement of the inclined or roof-shaped deflectors in the flue space of a radiating cylinder, for the purpose and in the manner herein described and represented.

No. 42,460.—Smith Collins, New Haven, Conn.—*Corset.*—April 26, 1864.—This invention consists in combining in the manufacture of corsets the following peculiarities, viz: busks behind, held by folding the outer thickness of the fabric inward and stitching it down back of the busk on one side, and on the other side providing for a lappet by securing a separate piece of fabric to the edge of the corset by two or more rows of stitching on the lappet thus formed; and, secondly, a stay in front, commencing at the top of the corset, under the arm and back of the upper gore, and running diagonally down to the front of the lower gore.

Claim.—A corset having the diagonal stays D, arranged relatively to the stays B C and the busks c c, inserted and secured in the manner described, and for the purpose specified.

No. 42,461.—George Crompton, Worcester, Mass.—*Let-off for Looms.*—April 26, 1864.—In this device a tension roller, supported in a weighted swinging frame, extends across the machine, all the warps passing under it and over a similar roller in a similar frame not weighted; to each of the two arms of this latter frame is attached a friction strap which passes over the grooved heads of the yarn beam and is fastened at its other end to the frame. As the weaving progresses, the weighted frame is gradually drawn up by the warp so as to relieve the pressure thereof upon the friction roller, and thus cause the loosening of the friction straps, so that the weight is allowed to draw off more warp from the beam, and at the same time to lower itself again so as to tighten the friction straps and hold the beam firmly until more warp is wanted.

Claim.—The combination of the tension and friction rollers or bars and their respective frames, the tension weight and warp beam with the warp, as described.

Also, the combination of the tension and friction framed levers and rollers, or bars therein, and the tension weight with friction on the beam head or heads, as described.

Also, the combination of the weighted tension framed lever and roller, or bar therein, with the warp beam, as described, for the purpose of producing tension on the warp and friction on the beam.

Also, diminishing or increasing the pressure of the tension frame roller or bar, through the warp, upon the friction frame roller or bar by the tension weight, for the purpose of relieving or holding the friction on the warp beam.

No. 42,462.—Peter Conover, Franklin, Ohio.—*Mode of Attaching Singletrees.*—April 26, 1864.—This invention consists in the employment of two metallic disks or stay plates, one of which is rigidly secured to the top of the shaft bar, and the other to the bottom of the singletree, in such a manner that their central apertures receive the same bolt which secures the singletree, and on which it vibrates; from the stay plates project flanges, which serve to limit the vibrations of the singletree.

Claim.—The combination of the lugs G G with the plates D E, flanges H H, shaft bar A, singletree B, and king bolt C, when the said parts are all constructed and arranged, and operate in the manner and for the purposes herein specified.

No. 42,463.—Isaac Cook, St. Louis, Mo.—*Flour-packer.* -April 26, 1864.—This invention consists in a flour-packer, the spout of which is made of wood and provided at its lower end with an auger chamber and auger, rotating in a vertical shaft, in combination with a rising and falling barrel platform, which is forced up by a weight, and the strain exerted by this weight on the platform is regulated according to the increasing quantity of flour in the barrel, by means of a sliding weight and friction brake, in such a manner that the flour throughout the whole barrel is compressed with uniform density by the automatic action of the packer. As the platform descends to its lowest point a tappet strikes the end of the rod connecting with the weight cover, and throws the driving shaft out of gear with the auger shaft.

Claim.—The weighted lever F, hooked rod P, and stop *u*, in combination with the tappet *v* on the platform B, and with the sliding box *s* of the driving shaft, constructed and operating in the manner and for the purpose substantially as set forth.

No. 42,464.—E. Hall Covel, New York, N. Y.—*Apparatus for Disinfecting Vessels.*—April 26, 1864.—The vessel or chamber to be disinfected is closed, and two pipes leading to and from a heating apparatus communicate with the said chamber or hold of a vessel. The air is forced through the heater by means of a fan, and it is alleged that the heat imparted to the air in passing through the heater will destroy the infection with which the chamber may be charged.

Claim.—Disinfecting vessels, chambers, &c., by forcing the highly heated air into and circulating it through them, substantially as herein set forth.

No. 42,465 —Henry Davies, Portsmouth, Ohio.—*Capstan.*—April 26, 1864.—This invention consists in the employment of a pair of rollers inclined obliquely from the perpendicular in opposite directions, the said rollers having a series of parallel grooves, in combination with the spindle, a cogged wheel that engages with the cogs upon the rollers, and the cap at the upper part of the spindle.

Claim.—The pair of rollers A A, inclined obliquely from the perpendicular in opposite directions, each of the said rollers being provided with a series of parallel latitudinal V-shaped grooves, in the described combination with the spindle C, wheel D, and cap E, all constructed, arranged, and operating in the manner and for the purpose herein specified.

No. 42,466.—Wm. H. Elliot, Plattsburg, N. Y.—*Hay-loader.*—April 26, 1864.—This invention consists in the employment of a crane in combination with the rack of a hay wagon, the crane being furnished with a swing cord, to which a hay fork is suspended, and so constructed as to be capable of revolving horizontally, and of working by the weight of the load upon the fork, in convenient positions for swinging the fork up to that part of the rack where the load is to be deposited, and when relieved of its load, the arm of the crane will be unlocked and at liberty to swing freely around.

Claim.—First, the employment of a crane in combination with a hay rack and hay fork, for the purpose herein specified.

Second, the employment of swing cord *t* in combination with a hay fork when said cord is attached to some fixed point above, and operated in the manner and for the purpose herein set forth.

Third, the employment of swing cord *t* and a hay fork in combination with a crane, the arm of which may be locked at certain points, as and for the purpose herein specified.

Fourth, so constructing the locking devices that they will lock the arm of the crane in certain position while the weight of the fork load is acting upon the swing *t*, and will unlock the arm and leave it at liberty to swing around freely when there is no load upon the fork, as herein set forth.

No. 42,467.—Felix A. Finn, New York, N. Y.—*Stare-jointing Machine.*—April 26, 1864.—This machine is composed of an endless chain of beds upon which are placed the staves to be jointed, where they are held by inserting one end under a projecting lip over which and the staves passes a roller attached to a weighted lever. By revolving the endless chain the stave is brought in contact with two circular saws placed one on each side of the roller, and so disposed as to joint staves of different widths, the saw mandrels being so hung as to admit of adjustment nearer to or further from the roller.

Claim.—The endless chain of beds, substantially as described, in combination with the circular bevelling saw, substantially as and for the purpose set forth.

No. 42,468 —Willis Glaze, Rochester, Ind.—*Self-acting Brake.*—April 26, 1864.—This invention consists in connecting the brake bar with the whiffletrees of the vehicle, and also with the breast straps or neck yoke of the team, in such a manner that the brakes will be applied to the wheels when the vehicle is passing down or over descending ground, or whenever the speed of the team is checked, to stop or retard the movement of the vehicle. When the draught power is applied to the vehicle, the brakes are moved or thrown off from the wheels.

Claim.—The combination of the hook *h*, rods M and K, projection *f*, guides *e e*, levers L *e c*, shaft J, chains *g g*, and whiffletrees H H, all constructed and operating in the manner and for the purpose specified.

No. 42,469.—Jonathan Griffin, Meriden, Conn.—*Apparatus for Vaporizing Hydrocarbon Liquids for Illuminating.*—April 26, 1864.—This invention relates to a method of distributing the air under the surface of the naphtha, so that vaporization may take place more quietly and uniformly than when freed in a considerable body underneath it, and to prevent bubbling as it rises through the liquid. A bright metal condensing plate is employed for collecting the impurities and the drip from the regulator so as to carry them back to the apparatus. In the chamber through which the gas must pass from the vaporizing apparatus is placed a sponge or other porus elastic substance, which is compressed by any sudden flow of gas, so as to cause the gas to pass less freely and the pressure or flow to be equalized.

Claim.—The submerged perforated chamber B, for the purpose of more equally and quickly diffusing the atmospheric air through the whole of the liquid, substantially as and for the purpose described.

Also, in combination with the submerged perforated chamber B, the submerged plate C, to prevent bubbling or agitation of the liquid, substantially as described.

Also, the interposition of a bright metal condensing plate C between the liquid in the apparatus and the regulator or equalizer, for the purpose of collecting and returning the impurities and drip, substantially as herein described and represented.

Also, in combination with a vaporizing apparatus, a dome or chamber located between the liquid hydro-carbon and the lights or burners, said dome containing an elastic porous substance that will contract and expand under the varying force of the passing volume of vapor or vaporized air through it, and thus act as an equalizer of the flow of gas, substantially as described.

No. 42,470.—Eliphalet Hall, Moriah, N. Y.—*Smelting Furnace.*—April 26, 1864.—This apparatus consists of an oven constructed with double walls, and containing a feeding chain. At the rear end of the smelting furnace is a vertical pipe, in the back of which is placed a tongue inclining downwards, and used for the purpose of conveying, in connexion with a blast of air, the escape heat to the oven. The gas eliminated from the wood and the heated air conveyed from the stack are forced into the smelting furnace by means of a tuyere and pipe arranged for the purpose.

Claim.—First, in combination with the furnace A, the fuel department or oven B, containing a feeding chain *c*, the whole being constructed and arranged to operate substantially in the manner therein set forth.

Second, in combination with the oven B, constructed with double walls in the manner described, the pipe E and tongue E3, adapted to be employed in connexion with a blast of air to convey the escape heat to the oven B, for the purpose set forth.

Third, forcing into the smelting furnace A the gas eliminated from the wood and the heated air conveyed from the stack E by the employment of the tuyere E and pipe F′, substantially as and for the purpose explained.

No. 42,471.—George Hancock, Providence, R. I.—*Breech-loading Fire-arm.*—April 26, 1864.—This invention consists in combining with a pivoted breech, swinging on a transverse horizontal axis in the frame or stock, a bottom spring wedge, so as to close tightly the pivoted breech against the rear of the barrel. In the rear of the chamber of the said pivoted breech is a breech-pin, with an interior enlargement, so as to form a tight joint, which at the same time is allowed the necessary play for expelling the spent cartridge.

Claim.—First, so hanging the chamber block that it will partially rotate within the recess in the breech on a fixed pin passing through the lower central portion of said block, in combination with the peculiar spring and wedge *n f*, substantially as described for the purpose specified.

Second, forming the breech-pin with a bevelled shoulder in combination with a bevelled surface at the bottom of the chamber, a spring *s*, and a projecting nut *w*, arranged substantially as described to effect the purpose specified.

No. 42,472.—John Harrar, Philadelphia, Penn.—*Skate-fastening.*—April 26, 1864.—This invention consists of a hollow metallic cylinder, having screw-threads on its outer surface and an elongated aperture at the lower opening of the circular cavity, the said aperture being made to fit a nipple attached to the skate. The cylinder is screwed into the heel of the boot by turning the skate, and the latter is secured to the heel by the nipple passing through the aperture into the cavity.

Claim.—The combination of a metallic cylinder, Fig. 3, screw thread *t t*, notches *v v*, and cavity *c*, which were employed instead of the flat plate shown at Fig. 1, but having a like elongated aperture *d* opening into the cavity *c*, will obtain for the said elongated aperture a more ready adjustment, graduation, removal, and require less space, substantially for the purpose described.

No. 42,473.—JOHN HARTMAN, Jr.—Philadelphia, Penn.—*Crutch.*—April 26, 1864; antedated December 22, 1865.—This nvention consists in forming the rest for the armpit of a tube of India-rubber or other yielding substance, which is secured to the jaws of the frame by means of conical screws in each eind of the said tube.

Claim.—First, constructing and combining with the staff or frame of the crutch a tube of gutta-percha, or other equivalent substance, to form a yielding and easy rest for the armpit, substantially as described.

Second, the combination of the tube A with the jaws B B by means of the conical screws C C, or their equivalent, substantially in the manner and for the purpose above set forth.

No. 42,474.—H. A. HARVEY, New York, N. Y.—*Apparatus for Arranging and Distributing Screw Blanks.*—April 26, 1864.—This apparatus consists of a circular pan having its bottom pierced radially with four narrow openings, the intervening spaces being elevated and inclined towards the openings. From its centre projects upward a cylindrical pillar cut through to correspond with the openings in the bottom, in each of which openings is fitted a vertically slotted bar, carrying upon its inner end a perpendicular, solid projection, which occupies the open space on one side of the pillar, while its outer end passes underneath the curb of the pan, where it is pivoted to a short section of a permanently inclined way. A vertical bar fitted to slide up and down underneath the centre of the pan is divided near its upper end into four slightly branching arms, each of which passes up into and is pivoted to a depending portion of the slotted bar; the vertical bar thus sliding up and down causes each of the slotted bars to vibrate, and the blanks which hang by their heads in the slotted bar will slide off underneath the curb to the permanently inclined way.

Claim.—An apparatus substantially such as herein described, whereby blanks deposited in a pan may be arranged and forwarded or supplied to various machines for operating thereon, said apparatus consisting of a pan, a series of vibrating arrangers, and a series of forwarding ways, constructed, combined, and acting together substantially as herein set forth.

No. 42,475.—H. A. HARVEY, New York, N. Y.—*Wood Screw.*—April 26, 1864.—This invention consists in cutting the thread deeper near the point and next the neck than midway between the two parts, thus leaving the forward part of the body or barrel of the screw of a bulbous shape, while the periphery of the thread is of the same diameter throughout, except that it decreases when near, and terminates entirely before reaching the point which is a perfect cone. On the under surface of the head are formed ratchets in such a position that their inclined surfaces slide over and compress the wood as the screw is driven home, with the square surface abutting against it when the direction of motion was reversed.

Claim.—First, a bulbous-pointed screw, substantially such as is herein described.

Second, a bulbous-pointed screw with the thread projecting unequally, so that its periphery will occupy the same position that it would in a screw of the ordinary form of barrel, substantially as described.

Third, a bulbous-pointed, ratchet-headed screw, constructed and having the mode of operation herein set forth.

Fourth, a bulbous-pointed screw provided with a centre point, without any thread on the extremity thereof, substantially such as is herein specified.

No. 42,476.—H. A. HARVEY, New York, N. Y.—*Apparatus for Arranging and Distributing Screw Blanks.*—April 26, 1864.—This apparatus is provided with a long rectangular inclined hopper, having slots in its bottom which conduct the screw blanks that are suspended therein by their heads downwards until the lowermost one of the column abuts against the edge of a circular disk which lies in a plane coinciding with that of the bottom of the hopper. This disk has a slot cut across and through it, which, by means of a ratchet and pawl, is made to connect successively each one of the several slots in the bottom of the hopper at its lower end with each one of a series of corresponding slots in permanent ways leading to several different machines. A revolving sweep or brush extending across the hopper prevents the blanks from passing out of the hopper unarranged, and serves to assist in their arrangement by constantly throwing them back as they roll down against it.

Claim.—First, a receptacle having an inclined bottom composed of a series of ribs in combination with a sweep, the two being constructed and operating substantially as described, and constituting an arranging apparatus.

Second, in combination with an arranging apparatus, operating as described, a plate arranged as described for discharging unarranged blanks and preventing them from obstructing the operations of the apparatus, as specified.

Third, in combination with an arranging apparatus constructed and operating substantially as described, an oscillating, receiving, and distributing apparatus, acting substantially as set forth.

Fourth, imparting proper motions to an oscillating distributing apparatus by means of a spring, or its equivalent, an impelling pawl and cams, the whole acting as a combined contrivance, substantially as set forth.

Fifth, in combination with an arranging apparatus, substantially such as described, a series of forwarding ways, the combination being and operating substantially as described.

Sixth, mounting an arranging apparatus whose bottom is composed of inclined ribs in such manner, substantially as described, that the inclination thereof may be varied for the purposes described.

Seventh, in combination forwarding ways, or a set or series thereof, an oscillating receiving and distributing apparatus, and an arranging apparatus, all operating substantially as described, whereby blanks may be arranged and distributed to several machines for performing useful operations thereon, substantially as herein set forth.

No. 42,477.—H. A. HARVEY, New York, N. Y.—*Apparatus for Arranging and Distributing Screw Blanks.*—April 26, 1864.—This apparatus consists of a circular pan, through the bottom of which is cut a series of curved radial slots of a width corresponding to the diameter of the body of the blank, its central portion being removed, and a separate circular disk having one radial slot cut in its edge and fitted to revolve snugly therein. A short section of a straight inclined way is attached by one end to the under side of the said disk—the two slots coinciding—its other end being connected with another disk, to which an intermittent movement of rotation is imparted by a pawl and ratchet wheel in such a manner that the short inclined way will successively lead from each one of the different slots in the bottom of the pan to each one of several different permanent ways leading to as many different machines. On the bottom of the pan is a dome-shaped cap of sufficient diameter to cover the disk, and the slots in the bottom of the pan near its junction with the cap are of sufficient width to permit the head of the suspended blank to sink downward, and thus pass under the edge of the cap. A vertical shaft passes up through the barrel shaft which carries the ratchet wheel, and also loosely through the intermittingly rotating disk and the dome cap; the said shaft carries upon its upper end a series of curved sweeps, the curvature being the reverse of that of the slots in the bottom of the pan.

Claim.—First, the combination of a pan having the distinguishing characteristics substantially as specified, with revolving sweeps, operating substantially as described.

Second, the combination of a pan and sweeps constituting an arranging apparatus, operating substantially as set forth, with a receiving and distributing apparatus having a mode of operation substantially as herein described.

Third, the combination of a set or series of inclined forwarding ways with a receiving and distributing apparatus, the combination operating substantially as described.

Fourth, an arranging mechanism for arranging screw blanks in rows in combination with a distributing apparatus and a set or series of forwarding ways when the combination operates substantially as described, whereby a single arranging apparatus can arrange blanks and forward them to several machines, performing useful operations on the blanks forwarded by said ways.

No. 42,478.—J. L. HASTINGS, Towanda, Penn.—*Governor for Steam Engines.*—April 26, 1864.—This invention consists in placing upon the belt which drives the governor a pulley which revolves upon a shaft secured to an arm of a tumbling shaft, upon the opposite end of which is another shorter arm provided with a groove or slot, in which works the connecting rod that controls the motion of the governor valve. In the event of the breaking of the belt or its slipping from the pulley, the weight of the latter upon the belt carries it down, thus raising the short arm of the tumbling shaft which carries up the connecting rod between the governor and the valve, and thus destroys the connexion, so that the position of the regulating valve, and consequently the speed of the engine, is not affected by the falling of the balls of the governor. A chain is also connected to the short arm of the tumbling shaft and to the arm of the valve spindle in such a manner that when the belt breaks and the long arm of the tumbling shaft lever falls a certain distance, the valve is wholly or partially closed, and the injurious effects of a large increase of speed in the engine avoided.

Claim.—Resting and supporting the wheel, pulley, or its equivalent, upon the belt that drives the governor, so that if said belt should part, break, or slip off from its pulleys, the dropping of said wheel and its connected arm will disengage the valve rod from the governor, and thus avoid any injury incident to such casualty, substantially as herein described.

Also, in combination with the arm *g* and the connecting rod M the chain T, for moving the valve and closing or partially closing the ports when said rod M is disconnected from the governor, or for the purpose of stopping or checking the engine, substantially as described.

No. 42,479.—SAMUEL HAWKSWORTH, Doncaster, England.—*Floor-cloth.*—April 26, 1864.—In this invention the wool or other fibrous material is passed through a carding engine, and the loose sheets which come from the same are laid one on the other until a sufficient thickness is obtained. The accumulated sheets are then consolidated with a cementing composition applied evenly over the uppermost sheet.

Claim.—The new manufacture of floor-cloth herein described, composed of a base fabric of consolidated fibrous material and of surfacing material combined, substantially as set forth.

No. 42,480.—Wells Hendershott, Batavia, N. Y.—*Railroad Chair.*—April 26, 1864.—This invention consists in constructing a rail chair and coupling for railroads with a hinge or hinges at the bottom in connexion with inclinations above and below the base of the chair, so that the weight of the cars upon the rail will serve to hold the rails firmly, and when the weight is removed the rails will be allowed to expand and contract. The chair or coupling is placed within a box having an opening in the centre of its bottom part, into which opening extend projections below the chair.

Claim.—First, making a rail chair and coupling for railroads connected by a hinge or hinges at the bottom with the inclined planes *b b* and *f f*, so that the pressure and weight of the cars will firmly hold the rails, and when the weight is removed the hold will be relaxed and allow the rails to expand and contract, for the purposes described and in the manner as substantially set forth.

Second, the inclined planes in combination with the hinge, for the purposes described and as set forth.

Third, the hinge connecting the two parts of the chair and coupling, for the purposes described and substantially as set forth.

Fourth, the inclined planes, for the purposes described and as set forth.

Fifth, in combination with said rail chair and coupling, a rail that may be turned over, with both the top and bottom sides alike.

Sixth, in combination with said rail chair and coupling the supporter for the middle of the rail, constructed in the manner and for the purposes described.

Seventh, the projections *d d* extending below the chair into the opening *c* in the bottom of the box upon which the chair rests, for the purposes described and substantially as set forth.

Eighth, the box *a a*, in which the chair or coupling is placed, for the purposes described and substantially as set forth.

No. 42,481.—A. E. Hewett, Homer, N. Y.—*Churn.*—April 26, 1864 —This invention consists in providing the dasher shaft with two pairs of semicircular beaters or wings, each wing being attached to the shaft obliquely in a direction opposite to its fellow. The wings are provided with concentric curved slots having their inner sides inclined and the upper and lower surfaces chamfered. Upon the inner sides of the churn box are secured vertical ribs, by which the cream is prevented from rotating with the dasher, it being forced in a vertical current downward at or near the edges of the dasher and upward at the side of the churn box.

Claim.—The blades *b* attached to the shaft *a* obliquely in pairs and provided with concentric curved slots *c*, having their inner sides *c′* inclined, and the upper and lower parts of the blades having chamfered surfaces *d e f*, substantially as shown, to form a new and improved churn dasher, as set forth.

Also, the vertical ribs *i* at the inner side of the churn box A, in combination with the rotary dasher B, for the purpose set forth, constructed and operating as above described.

No. 42,482.—Edward Holbrook, Jr., Louisville, Ky.—*Sheet Tobacco Press.*—April 26, 1864.—This press is composed of two movable side walls and an upper wall, in connexion with a follower, for compressing leaf tobacco into compact sheets of uniform thickness preparatory to being subsequently cut into lumps of any desired size. Outside of the side walls are arranged rolls which ascend with the follower and serve to brace the walls while pressing. The side walls are operated by means of a shaft having at each end respectively a right and left hand screw passing through vertical standards. The follower is provided with a set of self-adjusting wheels or rollers.

Claim.—First, the movable walls A A′, in combination with the upper wall A and follower A2, arranged and operating in manner substantially as specified.

Second, the rolls G G, adapted to ascend with the follower A2 and brace the walls A′ A′, substantially as and for the purpose set forth.

Third, the combination of the follower A2 and receiver F, when employed in connexion with the press A′ A′ A′, as and for the purpose explained.

Fourth, the right and left screws C C, employed in connexion with the crank D, to open and close the walls A′ A′, as described.

Fifth, in combination with the follower A2, the self-adjusting wheels or rollers *a*, arranged and operating substantially as and for the purpose set forth.

No. 42,483.—Edward Holbrook, Jr., Louisville, Ky.—*Sheet Tobacco Cutter.*—April 26, 1864.—This invention consists in the employment of two rolls covered with felt, or other suitable material, to absorb a lubricating substance to be applied to a knife which is made to rise and fall vertically between the rolls by means of arms and a series of gearing which operate the rolls simultaneously with the knife. In the rear of the above-named rolls are two

rolls placed one above the other, the lower one being partially sunk in the table, and of a larger diameter than the upper one, for the purpose of feeding the tobacco to the action of the knife. At the rear end of the table are inserted two cams, which, as they turn, serve to raise the sheet of tobacco from the table and assist in feeding it towards the cutter.

Claim.—First, the combination with the knife B of the rolls D D, the latter being covered with felt or analogous material to adapt the knife to be lubricated, substantially as and for the purpose set forth.

Second, the combination of the arms E, crank wheels F, wheel G, and gearing H I, constructed and arranged as herein shown and described, and employed to operate the knife in the manner specified.

Third, the roll J, employed in connexion with the roll K, for feeding the tobacco to the action of the knife, substantially as set forth.

Fourth, in combination with the cutting apparatus, the cams M M, adapted to assist the feeding of the tobacco, substantially as described.

Fifth, in combination with the table A, the wheels or casters *a*, arranged and operating substantially as and for the purpose specified.

No. 42,484.—Edward Holbrook, Jr., Louisville, Ky.—*Lump Tobacco Cutter.*—April 26, 1864.—This invention consists in a series of circular cutters secured to a shaft and entering a deeply grooved roller above; the cutters are made to pass into a lubricating substance placed in a trough below, and also pass through slots in an inclined table on the delivery end of the table. The grooved roller is kept from clogging by means of scrapers, and it is also combined with a felted roll which is saturated with a flavoring liquor. Slabs of tobacco are fed in at one side of the machine, and in passing through are cut into lumps of the required size.

Claim.—The roll C, provided with knives or cutter *c*, and operating in connexion with the roll E, substantially as and for the purpose specified.

Second, the lubricating of the knives *c*, in manner substantially as herein described and for the purpose set forth.

Third, in combination with the rolls C E, the inclined slotted table B′ and roll F, to prevent the adhesion of the gummy matter of the tobacco, as explained.

No. 42,485.—Edward Holbrook, Jr., Louisville, Ky.—*Lump Tobacco Machine.*—April 26, 1864.—This invention consists in a method of laying the leaves of tobacco in a flat form between movable boards or plates, by which they are compressed into thin sheets. Combined with the feed table are one or more adjustable stops or gauges to arrest the motion of the feeding boards when passed into the press. Feeding wheels or rollers are introduced into the tables for the purpose of facilitating the movement of the boards with the tobacco. The feeding table is formed in two or more sections of unequal heights, so that several workmen can be employed at the same time.

Claim.—First, forming tobacco sheets from the leaves by laying the leaves in flat form between movable boards or plates and pressing, substantially as set forth.

Second, a feeding table formed in two or more sections A A′, arranged at different heights, substantially as and for the purpose explained.

Third, the wheels or rollers *a*, in combination with the table A A′, adapted for use substantially as and for the purposes described.

Fourth, in combination with the aforesaid feeding table, one or more adjustable gauges E2, employed in the manner described to regulate the introduction of the press.

No. 42,486.—E. S. Howell, Hope, N. J.—*Wringing Machine.*—April 26, 1864.—This invention consists in the employment of two wedges, placed one over the other and moved by a lever, so as to graduate the pressure upon the rollers. On each side of the machine is an upright, bevelled at its inner side and operated by a lever in such a manner that by one motion the machine may be secured to the tub.

Claim.—First, the two wedges C C, placed one over the other, connected with a lever F, arranged relatively with the roller B, and with or without the spring E, to operate substantially as and for the purpose herein set forth.

Second, the uprights G G′, bevelled at their inner sides and connected to the frame of the machine, as shown, in combination with the lever J, all arranged to operate substantially in the manner as and for the purpose herein set forth.

No. 42,487.—Felix Hoyos, Paris, France.—*Stove.*—April 26, 1864.—Patented in England March 16, 1863.—The grate in this stove is of annular form, and the pipe for the passage of the products of combustion is attached to the centre of the grate, so as to be surrounded by the fire. The draught is downward through the fuel, and the smoke and gases pass through the grate and are discharged from thence into the central smoke pipe, whence they pass to the flue or chimney.

Claim.—The herein described improved construction, arrangement and operation of stoves or fire grates whereby the air is caused to descend and pass through the fire therein and then upwards and escape through the centre of the stove, thus effectually consuming the smoke and rendering the stove available for various useful purposes.

No. 42,488.—William H. H. Hunter, Versailles, Ind.—*Rake for Harvesters.*—April 26, 1864.—In this machine the rake is caused to traverse the platform by means of a nut connected with the rake-head, working backward and forward upon a screw shaft which is driven through the intervention of a toggle joint shaft provided with a spur pinion, which latter may be moved by means of a shipping lever under the control of the attendant, so as to cause it to engage with either of two oppositely rotating spur wheels, whereby the screw shaft is caused to rotate in opposite directions in order to impart the necessary backward and forward motions to the rake.

Claim.—First, the combination of screw M and nut O with shafts L and K′, by toggle joint, in the manner and for the purpose herein described.

Second, the combination of the wrists with their springs N N, nut O, and tubular rake head P, arranged and operating with the mechanism for tilting the rake teeth, substantially as and for the purpose described.

Third, the combination of the stirrup lever U with the auxiliary shaft K′, slotted rest A′, gears *b*′, and gear wheels on shafts J K, arranged, connected, and operating as described for the purpose set forth.

No. 42,489.—John Charles Johnson, Oil City, Penn.—*Pipe Wrench.*—April 26, 1864.—This invention consists in hinging the two arms of a forked swinging jaw respectively to the ends of an oval-shaped nut upon a handle, and forming the permanent jaw by bevelling and serrating the inner end of the handle, the latter having upon a portion of its length a screw thread which engages with a corresponding threaded hole in the nut.

Claim.—Constructing gas tongs substantially as described, by pivoting the hoop or movable jaws directly to a nut, screwed into the handle, the upper part of which, above the nut, forms the other jaws of the tongs.

Also, in combination with the gas tongs constructed as described in the first claim, making the face of the jaw at the end of the handle inclined towards the point of the hook, so as to enable the tongs to be adapted to holding tapering surfaces.

No. 42,490.—Josee Johnson, New York, N. Y—*Washing Machine.*—April 26, 1864.—This machine consists of a V-shaped tub or vessel, in which two pounders are made to work alternately, being operated by a vibrating lever; to the pounders are attached ordinary hand washboards.

Claim.—The combination of two pounders E′ E2, and washboards *e e*2, arranged to operate in combination with the vibrating frame C, and with a suitable tub or vessel, substantially in the manner and for the purpose herein set forth.

No. 42.491.—Henry D. Justi, Philadelphia, Penn.—*Moulding Artificial Teeth.*—April 26, 1864.—This invention will be understood by reference to the claim and engraving.

Claim.—Moulding the cavities *c*, required in the blocks of porcelain teeth and gums by means of cores *b*, constructed and applied substantially in the manner described and set forth, for the purpose specified.

Also, in combination with each of the said cavities *c*, the tapering curved projection *e* around the same, as described and set forth for the purpose specified.

No. 42,492.—Martin R. Kenyon, Providence, R. I.—*Lamp.*—April 26, 1864.—This invention consists in combining with a hinged cone and chimney holder a horizontal thumb-piece or lifter in connexion with a two-coil spring, so that by pressing the two together the spring is released and the chimney readily tipped.

Claim.—The combination of the aforesaid hinged cone and chimney holder, the thumb-piece or lifter S, and the two-coil spring *t*, when the whole are constructed, arranged, and used for the purpose and effect herein described and set forth.

No. 42,493.—John P. Lean, Altoona, Penn.—*Brake Block for Car Brakes.*—April 26, 1864.—This invention consists in the employment of an adjustable brake block so constructed as to admit of ready removal when required, being attached to the shoe by a dovetail and secured by a single bolt.

Claim.—The construction, arrangement, and combination of the block and shoe, with their devices G E J H and L, as constructed, arranged, and combined for fastening more securely the brake shoe to the brake block and more easily replacing a worn-out shoe, as herein described.

No. 42,494.—John Lewis, Elizabeth, N. J.—*Rudder.*—April 26, 1864.—This invention consists in the employment of wings or subsidiary rudders so attached to the surfaces of the common rudder, by means of ropes or chains or jointed arms, that as the helm is up or down one of these wings unfolds from the rudder by the action of the water, and the wings and rudder surface separate, the object being to increase the steering surface by the unfolding of one or the other of the wings.

Claim.—Wings on each side of the rudder, acting substantially in the manner and for the purposes specified.

Second, wings attached by hinged or jointed arms for the purposes specified.

Third, attaching the arms of the wings to the rudder by the chains or ropes for the purposes specified.

No. 42,495.—John L. Lewis, Pittsburgh, Penn.—*Rolling Angle Iron.*—April 26, 1864.—This invention consists in the employment, in rolling angle iron, of rollers, one having flat faces and a central triangular ridge or groove, and the other a corresponding projection, so that the bar from which the angle iron is to be rolled can be introduced between the rollers flat instead of cornerwise, and both sides of the angle iron when finished will run parallel with the original layers of the bar, and not crosswise, as is the case with one side of angle iron rolled in the ordinary manner.

Claim.—So constructing rolls for rolling angle iron as that the "pile" constructing the fagot shall be caught between the rolls flat instead of cornerwise, and so rolling as that one half of both sides or wings shall remain parallel with the face or top of the pile until very nearly reduced to its proper thickness, when, by passing it through a plain rectangular groove in said rolls, the wings or sides shall be turned up and finished with the grain conformable to the layers of the original bar.

No. 42,496.—Thomas A. Mann, West Greenville, Penn.—*Chimney Top.*—April 26, 1864.—This invention consists of a chimney top cast in one piece, of an ornamental shape, and having a gutter around the flue opening, the said gutter being perforated, so as to allow the rain-water to run off upon the roof below.

Claim.—The ornamental chimney top, as herein described and for the purposes set forth, as an article of manufacture.

No. 42,497.—William M. Marshall, Philadelphia, Penn.—*Preparing Mica for making Reflectors, Mirrors, &c.*—April 26, 1864.—This invention consists in coating the surface of mica, when used for reflectors, mirrors, &c., with a metallic surface adhering thereto, or placing the mica over a metallic surface.

Claim.—The use of mica for the purpose of making reflectors, when it is coated with a metallic surface adhering thereto, or the placing it over any metallic surface used for a reflector, for the purpose of protecting it.

No. 42,498.—William G. Merrell, Auburn, N. Y.—*Raking Attachment to Harvesters.*—April 26, 1864.—This invention relates to certain details of construction and arrangement of the parts of the raking attachment designated in the claim, which do not admit of a brief description.

Claim.—The combination of the slotted crank arm S, bevel pinion T, and cam wheel U, substantially in the manner and for the purposes described.

Also, providing the cam wheel U with the legs *h* in combination with the recess *i* in pinion T, for the purpose of carrying the cam wheel over the dead points, substantially in the manner and for the purposes described.

Also, the combination of the cam wheel U, pinion T, pivoted cam wheel shaft V, centre shaft W, and rake arm supporter X, substantially in the manner and for the purpose described.

Also, securing the rake head Z to the rake arm Y by means of pivot-joint plates *k* and *n*, having circular bearings *l* and *m*, and constructed and arranged substantially in the manner and for the purpose described.

Also, the lug *w* on shaft W, in combination with the lip on shaft V, substantially as and for the purpose set forth.

Also, the combination of the adjustable frame D with the base plate C attached to the platform A, in the manner shown and described and for the purposes set forth.

No. 42,499.—J. F. Murdock, Wareham, Mass.—*Stove-pipe Elbow.*—April 26, 1864.—This invention consists of an elbow cast in one piece, with suitable shoulders or beads for use with ordinary stove-pipe.

Claim.—The stove-pipe elbow B B, made of cast-iron, substantially as shown and described, as a new article of manufacture.

No. 42,500.—A. W. Olds, Green Oak, Mich.—*Fruit Ladder.*—April 26, 1864.—This invention consists in the attachment to the sides of the ladder of compound adjustable braces, in connexion with universal joints placed near the top of the ladder, so arranged that the latter will maintain a proper position at whatever angle the braces may be placed. An adjustable platform is also adapted to the ladder by means of rods and end-pieces, so arranged as to be readily raised or lowered and held in position by the weight of the person standing upon the same.

Claim.—The compound braces F G, in connexion with the universal joint E, arranged and operating as and for the purpose specified.

Also, the platform H, rods I J, and end-pieces K L, arranged and operating as set forth.

No. 42,501.—C. D. Page, Grand Rapids, Mich.—*Lime Kiln.*—April 26, 1864.—In this kiln the fire chambers are provided with spiral flues, so arranged upon each side of the cupola that the flame is caused to penetrate every part of the interior in a spiral curve. Below the furnace is arranged a drop slide for the purpose of discharging the burnt limestone and keeping the cupola tightly closed when not being discharged, and below the drop slide is a car by which the burnt limestone is removed from the kiln.

Claim.—The herein-described fire chambers G G, with spiral flues, which are so arranged upon each side of the cupola that the flame is caused to penetrate every part of the interior in a spiral curve, as and for the purpose specified.

Second, the drop slide E, for discharging the burnt limestone and keeping the cupola tightly closed when not being discharged, the same being constructed, arranged, and operating as and for the purpose specified.

Third, the car F, in combination with the drop slide and kiln, arranged and operating as set forth.

No. 42,502.—Charles Parham, Philadelphia, Penn.—*Sewing Machine.*—April 26, 1864.—By this invention either a button-hole stich or the ordinary shuttle stich may be made on the same machine. To the feed wheel is imparted, when desired, a lateral motion, so as to feed the cloth sidewise as well as forward when sewing a button-hole, and by means of an automatic gate, which prevents the shuttle at every alternate descent of the needle from entering the loop of the needle thread, the second loop of the upper thread passes through this first loop, which is at this stage distended by a looper, and the shuttle passes only through this second loop. The action of the gate, looper, and the lateral play of the feed wheel may be suspended at any time, when the ordinary shuttle stitch is made.

Claim.—First, the looper *u*, constructed and operating, in connexion with the needle and shuttle thread, substantially as herein described and represented, to form a button-hole stitch.

Also, a gate or cut-off, placed in the race of the machine, for shutting off the shuttle from the needle loop, to prevent the former from passing through the loop of the latter at every alternate throw, substantially as and for the purpose described.

Also, the opening of the gate or cut-off by the action of the hook while it is closed by a separate mechanism, substantially as described.

Also, in combination with the looper, the wheel *z*, with its ratchet and elevations and depressions for operating and holding at intervals said looper, substantially as described.

Also, hanging the feed wheel in a pivoted frame, so that the wheel and frame may be moved towards and from the needle or sewing line to form a button-hole, substantially as described.

Also, in combination with the feed wheel and its pivoted frame, the rod B′ and spring *p*, for giving them their lateral and adjustable movement or for suspending their movement, substantially as described.

Also, in combination with the feed wheel and its pivoted frame susceptible of a lateral movement towards and from the needle or sewing line, an independent mechanism, such as described for turning said feed wheel at stated intervals upon its journal or axle to feed the material along, substantially as described.

Also, a rotary feed wheel that has two motions communicated to it at one and the same time, viz., a rotary motion around its axle and a laterally reciprocating motion around a pivoted point, substantially as and for the purpose herein described.

Also, the arrangement of the gears G H and double cam I, so that there shall be two actions of the needle to one action of the lateral feed, and for getting the correct time and movement of the lateral feed, as herein described and represented.

No. 42,503.—Edmund Pepple, New Carlisle, Ind.—*Wind-wheel Pump.*—April 26, 1864.—This invention consists in attacking the upper end of the piston of an ordinary pump to a crank shaft, which is provided at one end with a wind wheel, and at the other end with a balance wheel, over which latter is a brake suspended from the arm that supports the vane, and arranged in such a manner that the brake will be brought down upon the periphery of the wheel by the action of the wind upon the wind wheel.

Claim.—The combination and arrangement of the shaft D, wheel M, brake arm P, and brake N, in the manner and for the purpose set forth.

Also, the general arrangement of the pump and wind wheel, substantially as described.

No. 42,504.—Luther E. Phillips, Bristol, N. Y.—*Machine for Cutting Tapering Forms.*—April 26, 1864.—This machine is designed for cutting or sharpening piles, fence posts and stakes, so that they can be easily driven into the ground, and the invention consists in the employment of a revolving, hollow, conical tube, with a cutter or cutters projecting into the interior of the tube, so that the posts, &c., introduced into the said tube will be sharpened at their ends.

Claim.—The conical tube *c*, when constructed with strengthening and balancing bars *d*, in combination with the arrangement of the feeding carriage H and its holding device, when constructed to operate as and for the purpose substantially as set forth.

No. 42,505.—Charles L. Pierce, Buffalo, N. Y.—*Sawing Machine.*—April 26, 1864.—This machine is designed for sawing logs of wood into bolts for the manufacture of shingles, and the invention consists in the employment of a circular saw working between the two parts of a divided feed table, which is supported and held together by means of arched standards slotted so as to allow the saw to work freely in the reciprocating movement of the feed table. The said table is operated by a friction roller coming in contact with a compound friction roller composed of a projecting rim and a central roller, between which is a movable roller, which is caused by a lever attached to its shaft to come in contact with the outer rim or central portion of the compound friction roller, and thus cause the feed table to reciprocate at will.

Claim.—First, the compound friction wheel K K′, shaft L, and pinion L′, in combination with the friction wheel N, shaft N′, pulley P, and shifting lever O, for the purposes substantially as described.

Second, the planks F F′, connected together by the arched standards G G′, which planks and standards form a movable table for carrying the shingle block to the saw, substantially as described.

Third, the dog Q R, supported and operated upon the cross-piece H, for the purposes and substantially as set forth.

No. 42,506.—James Pine, Troy, N. Y.—*Harvester.*—April 26, 1864.—This invention consists in the employment of two driving wheels, one being placed in the rear of the other, on the opposite side and of a smaller diameter, and attached to a shaft, on the other end of which is a bevel gear wheel connecting with the larger wheel and attached to the main frame. The finger bar is connected to a bar F under the forward part of the frame by means of a joint, the bar F being attached to a pendant of the frame by a similar joint.

Claim.—First, the two driving wheels B D, of different diameters, connected with the main frame A, as shown, and connected by suitable gearing with a shaft C on said frame, substantially as and for the purpose herein set forth.

Second, the bar F and finger bar J connected together by a joint *j*, as shown; and the former attached to the pendant *g* of the frame A by a joint *f*, in combination with the two driving wheels B D and the frame A, all constructed and arranged in the manner and for the purposes set forth.

No. 42,507.—Julius H. Pratt, New York, N. Y.—*Ivory-covered Books.*—April 26, 1864.—This invention consists in the employment of scroll-cut ivory veneers instead of the thicker pieces heretofore used as applied to the mill-board covers of books in combination with clamping binding.

Claim.—First, applying seamless or unbroken sheets of scroll-cut ivory to the mill-board covers of books, in combination with the clamping binding *e e*, substantially as and for the purposes described.

Second, the scroll-cutting and binding processes combined, substantially as and for the purposes described.

Third, the method, substantially as set forth, of manufacturing seamless covers for books from scroll-cut ivory.

Fourth, as a new article of manufacture, a seamless scroll-cut ivory-covered book, substantially as described.

42,508.—J. C. Raake, Brooklyn, N. Y.—*Apparatus for Making Brush Hats.*—April 26, 1864.—This invention consists in the employment of an inverted cone covered with cloth, and having an elastic band around its larger end. Over this cone is drawn the hat body, having its edges fastened to the elastic band, which yields when the hat shrinks. This cone is inserted in a vessel of heated water, and is attached at its upper end to a shaft, by which it is rotated. A series of inclined brushes surrounds the cone, so as to press upon the hat body from top to bottom, and as the cone is revolved the nap is brushed out.

Claim.—A brushing mechanism constructed substantially as described, and operating in hot water in the manner and for the purpose set forth.

No. 42,509.—Thomas Webster Rammell, London, England.—*Pneumatic Railway.*—April 26, 1864; patented in England February 10, 1860.—This invention is explained by the claim.

Claim.—First, a pneumatic railway or tube in which the carriages are placed inside the tunnel or tube, but are independent of the tunnel or tube, and are wholly supported and in their motion are guided and directed by two or more rails, grooves, or trams, and in which the pneumatic pressure is applied over the whole or transverse area of the carriage.

Second, the contrivance for filling up with soft material the space between the interior of the tunnel or tube and the outside of the carriage as applied to pneumatic railways and tubes, as above described.

Third, the use of several smaller or branch air passages leading into the tube at different points, either with or without self-acting valves, so as gradually to reduce the velocity of the carriage as applied to pneumatic railways and tubes, as above described.

No. 42,510.—Thomas Robjohn, New York, N. Y.—*Fluted Ruffles.*—April 26, 1864.—In forming this ruffle between fluting rollers, or otherwise, a ridge is pressed longitudinally upon it in such a manner as to convert the ruffle along such ridge into a plait so compactly as to preserve the ruffling for use without the application of sized thread or other adhesive material.

Claim.—A fluted ruffle in which the flutes are retained in place without the use of an adhesion thread by pressing them flat along any portion of the width of the ruffle, substantially as herein specified.

No. 42,511.—Cyrus W. Saladée, Paducah, Ky.—*Stirrup.*—April 26, 1864.—In this stirrup the upper part of the guard B is secured to the same by a screw passing through a shoulder, just below the strap-slot, into the stud of the guard. The lower end of the guard is flared out so as to form a broad flat shoulder plate, through which pass screws that secure the lower part of the guard to the under side of the bottom of the stirrup.

Claim.—The combination and arrangement of the stirrups A, guard B, toe-piece C, screw D, and shoulder plate E, the whole being constructed, arranged, and operating in the manner hereinbefore specified.

No. 42,512.—Cyrus W. Saladée, Paducah, Ky.—*Stirrup.*—April 26, 1864.—This invention consists in attaching to the under side of the stirrup a guard formed of a rod or plate curved upwards in such a manner as to prevent the foot from passing too far through the stirrup.

Claim.—As a new article of manufacture the guard B, constructed, operating, and attached substantially as set forth.

No. 42,513.—S. W. Slocumb and E. Phillips, Fulton City, Ill.—*Cultivator.*—April 26, 1864.—This invention relates to that class of cultivators which straddle the rows and pass over growing plants, the shovels being so arranged that they can be readily adjusted to cut more or less deep by the operator pressing upon stirrups with his feet, or move the ploughs from one side to the other.

Claim.—First, the stirrups *h h*, arranged as herein described, and employed to enable the operator to move the inner ploughs laterally and independently by the direct application of his feet, as specified.

Second, in combination with the loosely shackled standards F F′ F* F′*, constructed and arranged as herein described, the chains *a a′ a* a′* b b′*, eye-bolts H H′ H* H′*, and thumbnuts *a*2, as and for the purpose set forth.

No. 42,514.—J. D. Smith, Peoria, Ill.—*Cultivator.*—April 26, 1864.—This invention consists in an arrangement of devices, designated in the claim, for the purpose of adjusting the position or inclination of a forward frame carrying the cultivator shares and pivoted to a rear frame, which latter is arranged to be tilted by the weight of the driver, so as to raise or lower the forward frame at pleasure. A pair of rotating shields are used which are provided with projecting teeth on their periphery, said shields being made adjustable laterally upon their axles, for the purpose of protecting the young plants from clods and at the same time clearing the shovels of weeds and trash, and also permitting the finer earth to pass between said teeth around the roots of the plant.

Claim.—First, the combination of the carriage swinging frame *b b*, driver's seat A, hinged shovel carrying frame *d*, vibrating shovel standards *g g*, (connected to rock-shafts,) stop-pins *p p*, adjusting chain *n* when the frame *d* with the shovels is entirely forward of the axle of the frame *b b*, and the standards of the shovels are connected together at their upper extended ends by an adjustable bar *h*, and operated by the single pivoted handle C from the driver's seat; all in the manner and for the purpose herein described.

Second, the arrangement of the rear wheeled frame *b b*, front cultivator frame *d*, seat A, shovels *g*, rock-shafts *g′ g′*, bar *h*, lever C, stop-pins *p p*, chain *n*, tongue B, and oblique laterally adjustable guards D D, all for united use in a machine adapted for cultivating growing crops, as set forth.

Third, the arrangement of the chain connexion *n*, stop-pins *p p*, in combination with the hinged forward shovel frame and the rear wheeled frame, when the said frames are constructed and operated in the manner herein described, and all adapted for the purpose set forth.

No. 42,515.—Edward Spellerberg, Philadelphia, Penn.—*Artificial Arm.*—April 26, 1864.—This invention is explained by the claim and engraving.

Claim.—First, the described method of actuating the hand mechanism by a pressure pad attached to the inner side of the arm beneath the shoulder joint, and deriving its action from pressure of the upper arm against the side, substantially as and for the purpose specified.

Second, the employment of a bell-crank M at the elbow-joint, for transmitting motion from the pad to the hand mechanism and *vice versa*; the fulcrum-pin or pins *l* of said bell-crank being confined in slots *m* in the elbow-piece B, the whole operating substantially in the manner and for the purpose set forth.

Third, disconnecting the pressure pad from the hand mechanism by means of the latch *r*, operating as described, or in any manner equivalent thereto, for the purpose set forth.

No. 42,516.—Charles F. Taylor, New York, N. Y.—*Exercising Machine.*—April 26, 1864.—This invention consists in combining with a couch or lounge a pair of sliding bars arranged one on either side, and having attached to their forward ends a foot-rest. To the other ends are attached a cord and weighted segment, so that when the foot-rest is pushed out by the feet it will be drawn back by the weights.

Claim.—The sliding bars B B, connected with weights, or their equivalents, to offer a resistance to the action of the feet of the patient, in combination with a couch or lounge A, all arranged to operate in the manner substantially as and for the purpose herein set forth.

No. 42,517.—Charles F. Spencer, Rochester, N. Y.—*Lacing Shoes.*—April 26, 1864.—At the sides of the slit of the shoe are placed a series of bearings, around which the lacing cords are passed alternately from side to side, so that the slit can be readily closed by a single drawing action at the top. The bearings are formed of a sheave attached to a stem, which is secured to the upper and under sides of the leather by means of shoulders or flanges.

Claim.—The combination of a lacing cord or cords E with bearings D D, or equivalent, and sides C C of the slit B of a shoe, said cord or cords passing alternately from side to side around the bearings, and closing the slit by a single drawing action at the top, substantially as herein set forth.

Also, the construction and arrangement of the stem *a*, sheave *b*, shoulders or flanges *c c′*, when the same are combined with the leather C in such a manner as to allow the sheave a free turning action and to secure the device firmly to the leather, as herein specified.

No. 42,518.—Maurice Vergnes, New York, N. Y.—*Portable Piano Forte.*—April 26, 1864.—The novelty of this invention consists in placing a spring hammer on the under side of the key, so that its momentum will be sufficient to strike the sonorous body, the spring being sufficiently strong to lift the hammer after the blow is struck. The damper is also fastened to the lower side of the key so as to operate on its rising to its place of rest.

Claim.—First, producing the tone of a sonorous body by the stroke of a hammer thrown by its momentum, in the manner described.

Second, attaching the damper firmly to the key in the manner described.

No. 42,519.—Ulysses B. Vidal, Philadelphia, Penn.—*Car Spring.*—April 26, 1864.—This invention consists in the arrangement of a series of pyramidal or spiral springs standing in alternate inverted positions. One side of the box containing the springs may be divided into as many movable parts as there are tiers of springs.

Claim.—The arrangement of the pyramidal springs B B′ to stand in alternate inverted positions, in the manner and for the purpose herein shown and described.

Also, having one side of the box divided into as many separate movable parts A′ A″ as there are tiers of springs, as and for the purpose herein shown and described.

No. 42,520.—William Westlake, Milwaukie, Wis.—*Lantern Guard.*—April 26, 1864.—The nature of this invention is explained by the claim.

Claim.—Attaching the lantern guard to the lantern so that, as a whole, and without any hinging or separating of its parts, it may readily and speedily be removed from the lantern, substantially as herein set forth.

No. 42,521.—Cyrenus Wheeler, Jr., Poplar Ridge, N. Y.—*Raking Attachment to Harvesters.*—April 26, 1864.—This invention relates to an arranging of parts for adapting a sweep rake, supported on the main frame, to conform to the vibrations of the hinged platform upon which it operates; also, to certain means for controlling the motions of the rake, the frequency of its vibrations, &c.

Claim.—In combination with a platform having a hinged connexion with the main frame so connecting the rake to vibrating plate G, and mounting it on plate F rigidly connected to the main frame, that the rake in sweeping across the platform shall follow its surface and deliver the grain in the rear of the main frame, and in a position nearly at right angles to that in which it falls upon the platform, substantially as described.

Also, in combination with the rake, spring Q and chain Z, so arranged as to give the rake increased force as it falls, and hold it firmly to the platform during the first part of its sweep, substantially as described.

Also, in combination with a catch piece *b′*, for sustaining the rake when elevated, the stop R, controlled by the operator for releasing the rake at pleasure, substantially as described.

Also, the combination and arrangement of the self-acting devices for throwing the rake out of gear and stopping it in an elevated position after removing the grain, substantially as described.

Also, the combination of the device for stopping the movements of the rake, with the devices for releasing the catch piece *b′* which supports the rake when elevated, and so arranged as to be under the control of the operator, substantially as described.

No. 42,522.—Joseph P. Williams, Somerville, Mass.—*Stove Cover Lifter.*—April 26, 1864.—This device consists of a curved iron prong connected to a wooden handle by a metal ferrule which is perforated with numerous holes to admit of the passage of currents of air for the purpose of cooling the lifter. The bottom of the prong is also grooved to allow a current of air to pass up towards its heel, a hole being made in the said heel at the termination of the groove.

Claim.—The combination of the perforated insulator C, with the handle B, and the prong A, the same being arranged and constructed substantially as described.

Also, the combination of the perforated insulator C, with the handle B, the prong A, and the shank or screw-rod f, or its equivalent, the whole being arranged as specified.

Also, the prong as channelled or grooved, and made with the lateral opening or passage, the same being as explained.

No. 42,523.—**Oren Williams**, Governeur, N. Y.—*Device for Operating Blinds.*—April 26, 1864.—This invention consists in forming the lever-hinge of the blind of a semi-spherical socket, provided with an internal gear, into which a screw meshes or works, the screw being on a shaft which is fitted in a tubular shaft, the latter passing horizontally through the jamb of the window frame, and having a pinion upon it which gears into a segment rack at one end of a lever, the latter being attached to the slat-rod of the blind, and all arranged in such a manner that the blind may be opened and closed from the inner side of the window without raising the sash, and the blind slats also opened and closed.

Claim.—The semi-spherical socket a, provided with teeth a', and the screw b attached to the shaft E, or other equivalent gearing for turning the blind, the pinion G on said shaft and the lever H attached at one end to the slat-rod I of the blind B, and provided at its opposite end with a segment rack p, with which the pinion G gears the shaft D E, being connected and disconnected and the pinion G connected with and disconnected from the shaft E as shown, and all arranged to operate substantially as and for the purpose specified.

No. 42,524.—**Thomas E. Wood**, Boston, Mass.—*Photographic Camera.*—April 26, 1864.—The nature of this invention is explained by the claim, the object being to provide an easy mode of adjusting the lens-tube to cover the different parts of the plate, using for the purpose two vertical slide-bars with a rack and pinion movement, operated by milled heads.

Claim.—The construction of a thin piece of board, square or otherwise, with a circular or other opening for the purpose of admitting the lens or tube, in which said board are cut two vertical dovetailed notches, inserted in which dovetailed notches are two vertical bars, which said vertical bars are fastened at top and bottom to two horizontal bars or pieces tongued and inserted in grooves, so as to work or slide freely; said bars and board being so arranged as to be moved by means of pinions and racks in a continuous vertical or horizontal direction.

No. 42,525.—**James S. Brown**, Pawtucket, R. I., assignor to **Joseph R. Brown** and **Lucien Sharpe**, Providence, R. I.—*Friction Clutch.*—April 26, 1864.—The rim of the pulley in this clutch extends over upon one side, on the inner surface of which the clutching device is made to bear. This clutch is formed of two segments, sliding freely in guides formed in a guide plate, and operated by means of two straight levers swinging upon two fulcrum pins in lugs of the segment plate, and passing through and bearing against the edge of the sliding plates through the medium of a sliding wedge collar upon the shaft.

Claim.—The combination and arrangement of the segments E E, the segment plate D, and levers G G, with the wedge collar F, and pulley P, substantially as described, for the purpose specified.

No. 42,526.—**Myron E. Brown**, assignor to himself and **Frank O. Drullard** and **Amy C. Hubbard**, Buffalo, New York.—*Locomotive and Furnace Grates.*—April 26, 1864.—This invention consists in placing in front of an oscillating grate and between it and the doors of a locomotive or other furnace a transverse perforated plate of iron, which receives the cinders and refractory matter raked off from the grate, and which is made to dump the same by suitable levers.

Claim.—The perforated dumping plate in combination with the oscillating grate, when the plate is placed in front of and transversely to the grate, substantially as described and for the purposes set forth.

No. 42,527.—**Abraham Campbell** and **Charles B. Hardick**, assignors to themselves and **Albert B. Campbell**, Brooklyn, N. Y.—*Direct-acting Engine.*—April 26, 1864.—This invention consists in the method of arranging the link motion for communicating motion from the cross-head of a direct-acting engine to a crank on the fly-wheel shaft. To the frame of the engine are attached hangers, extending downwards, in the part of which is a shaft placed at right angles with the plane of motion of the piston; to each end of this shaft is attached a short crank, and to the outer end of the crank are attached the levers, which at their upper ends are connected to the cross-head, from which they receive their motion. The fly-wheel is located immediately underneath the pump cylinder, the connecting rod from which is attached to the levers midway beneath their point of connexion with the cross-head and with the crank, and receives the motion from them and imparts it to the fly-wheel. The crank is placed at the lower ends of the levers, so as to allow for the vertical motion caused by the reciprocating of the cross-head.

Claim.—The arrangement of the levers i, link k, and connecting rod m, to the crank of the fly-wheel shaft, for the purposes and as specified.

Also, the boxes 2 2, fitted in and forced together by the tapering jaws and confined by the screw 8, for the purposes and as specified.

No. 42,528.—**Orlando Clarke**, assignor to himself and **Isaac Utter**, Rockford, Ill.—*Cider Press.*—April 26, 1864.—This invention consists in making the hoop or curb in two parts or sections, and in forming the latch which secures the two sections together with bevelled faces so that it may be securely locked in position by a bevelled eccentric or latch lever, which, when turned up, holds the entire hoop firmly together, but when turned down to release the hoop, the eccentric passes under the latch and forces off the staple.

Claim.—The sectional curb or hoop D, when fastened and released by the eccentric, and constructed, arranged, and operating substantially in the manner and for the purpose described.

No. 42,529.—**Jarvis Davis**, assignor to **Patrick Smith**, Buffalo, N. Y.—*Breech-loading Fire-arm.*—April 26, 1864.—This invention relates to the class of breech-loading fire-arms provided with hinged gate or breech block, and it consists in so applying a spring to the squared end of the hinge of the swinging breech-block that it serves to retain the same in either a closed or open condition.

Claim.—The spring A, constructed and operating upon the hinged abutment F, substantially as bereing described.

No. 42,530.—**Benjamin Day**, Hoboken, N. J., assignor to **W. G. Lord**, **C. Ponomareff**, and **J. S. Talbot**, New York, N. Y.—*Relief Printing Plates.*—April 26, 1864.—This invention consists in the preparation of a surface of chalk or clay with drawing or writing ink which will not spread or penetrate, but will harden, so that the surface not covered may be brushed away, thus forming a raised printing surface. Glue, sugar, and coloring matter mixed with water are deemed superior to the silicates of potash or soda hitherto used for this purpose.

Claim—Preparing a surface of chalk, clay, or similar material with an ink that does not penetrate, but adheres to the said surface, and protects the same while brushed or rubbed for producing a relief printing surface, as specified.

No. 42,531.—**Nicolas de Telescheff**, St. Petersburg, Russia, assignor to **Ezra Jenks Coates**, London, England.—*Machine for Punching and Cutting Metal.*—April 26, 1864.—Patented in England January 24, 1863.—This apparatus is composed of an upright stock or support, through which pass transversely two levers supported by, and on opposite sides of, one and the same fulcrum pin, their short limbs being connected respectively with a shear stock and a punch stock. The levers effect the operation of the shear and punch through the instrumentality of a shaft provided with right and left-handed screw-threads, which pass through the opposite or long limbs of the levers, and serve, when turned by a hand wheel or otherwise, to draw together or separate from each other the two levers, and thus effect corresponding movements of the shear and punch.

Claim.—The application to the construction of punching and cutting machinery of the levers $f\,f'$, in combination with the slide bars $d\ e$ and the screw $i\ i'$, the whole arranged and operated in connexion with the auxiliary mechanism, in manner substantially as herein set forth.

No. 42,532.—**John H. Elward**, assignor to himself and **W. H. W. Cushman**, Ottawa, Ill.—*Harvester.*—April 26, 1864.—The claim mainly explains the nature of this invention, which does not admit of a brief description.

Claim.—The application to harvesting machines of hinged finger bars, bent at right angles, in which the horizontal part constitutes the finger-bar proper, while the vertical part serves the purpose of a lever and reel stand, substantially in the manner and for the purposes described.

Also, in combination with a bent finger bar herein described, the shoe F, when constructed with the rear flange B' and with the standards G' and bottom plate F, substantially in the manner herein described.

Also, the method herein described of raising the inner end of the finger bar within the standards G' of the shoe F, for the purpose of adjusting its position, as well as to give it free play in passing over obstructions, substantially as herein described.

Also, the application to harvesting machines of lozenge-shaped, hollow sickle blades, having cutting edges at their front and rear, and provided with inner cutting edges, substantially in the manner herein described.

Also, in combination with the hollow lozenge-shaped cutter blades attached to the vibrating sickle bar, similar formed sickle blades attached to a stationary sickle bar, substantially in the manner and for the purpose set forth.

Also, in combination with the vibrating and stationary sickle bars and sickles herein described, the guard finger n, closed at the top and having a hollow space at the lower part for the escape of the grass or other material which might choke the cutters, substantially in the manner herein described.

Also, the screws *d*, in combination with the flanges *e* of the shoe L and the finger bar D, for raising the outer end of the finger bar, substantially in the manner herein described.

Also, in combination with the shoe F. substantially as herein described, the arms G and bracket H, for the purpose of securing and adjusting the same to the frame, substantially in the manner and for the purposes herein described.

No. 42,533.—Oscar Falke and Philip Schrag, New York, N. Y., assignors to themselves and Thomas A. Jenckes, Providence, R. I.—*Fabric Manufactured from Caoutchouc, &c.*—April 26, 1864; antedated April 12, 1864.—This invention consists in the manufacture of a substance composed of India-rubber, gutta-percha, or other vulcanized gum, and sulphur, in proper proportions, and, when incorporated, subject to a high degree of heat. Other ingredients may be used in the preparation if considered desirable.

Claim.—The new manufacture or substance hereinabove described, and possessing the substantial properties herein described, and composed of India-rubber, gutta-percha, or other vulcanized gum, and sulphur, in the proportions substantially such as described, and, when incorporated, subjected to a high degree of heat, as set forth, and whether other ingredients be or be not used in the preparation of the manufacture, as herein described.

No. 42,534 —Caleb Goodwin, assignor to himself and J. C. W. Bailey, Chicago, Ill.—*Lamp.*—April 26, 1864.—This invention consists in making the wick tube of corrugated or other analogous form, so as to admit of the air passing from the lower to the upper part of the tube and discharging at the base of the flame. The wick tube is surrounded by a cone connected with an open burner.

Claim.—First, the wick tube B, either corrugated or otherwise, so constructed as to admit of sundry air passages extending from its lower part to the top, and discharging the air immediately at the base of the flame, substantially as and for the purposes set forth.

Second, the combination and arrangement of the wick tube B, the open burners C, and the cone A, when constructed and operating substantially as and for the purpose herein described.

No. 42,535.—J. H. Jackson, U. S. A., assignor to himself and Mahlon M. Wombaugh, Cincinnati, Ohio.—*Portable Baker.*—April 26, 1864.—This invention consists in a combination of several pans fitting into each other for transportation; when in use one of the pans is supported upon legs within the outer pan and covered by two platters, which are so shaped as to leave an air-space between them.

Claim.—The portable cooker and mess kit, composed of the exterior pan A, having ears D D′ B B′, for convenient suspension and for attachment of a cover F E E′, the interior pan G insulated from the pan A by projections H H′ H″, I I′ I″, and the interior elevated cover or canopy J, the whole being combined and operating in the manner set forth.

No. 42,536.—G. J. Nolty, assignor to himself and D. Robertson, New York, N. Y.—*Fountain Pen.*—April 26, 1864.—This pen is provided with a movable plug, capable of being turned in the barrel below the reservoir for ink. At the lower end of the reservoir there is a partition, with an aperture on one side, which meets a similar aperture in the movable plug, by means of which the supply of ink can be readily regulated.

Claim.—A fountain pen provided with a movable plug C, which has a central channel *c* and groove *f*, and works in the socket B against the partition *b*, which is provided with a hole *e*, substantially in the manner herein specified, so that by turning the plug in the socket the supply of ink in the pen can be regulated.

No. 42,537.—S. Richard, assignor to himself and W. C. Barnes, Southbridge, Mass.—*Shoe-knife.*—April 26, 1864.—The blade of the knife is of trapezoidal form, and arranged in such a manner as to enable the cutting edge to be brought near to the handle, and to be more easily sharpened. The handle is provided with a shank, having an opening in which the blade is allowed to slide freely. At the rear end of the shank is a screw thread, on which is a nut, by turning which latter the blade can be drawn into a ferrule slit and securely fastened in position by the slit of the shank.

Claim.—The improved form of knife blade, substantially as shown and described.

Also, the manner of confining the knife to the handle and allowing it to be adjusted or removed by means of the slotted shank, as set forth.

No. 42,538.—John R. Sees, New York, N. Y., assignor to W. F. Weaver. Philadelphia, Penn.—*Feed-water Heater.*—April 26, 1864.—Within the smoke box of the engine is placed a hollow water-tight diaphragm made of corrugated plates. The interior of the diaphragm communicates, by a pipe at the bottom, with the valve chamber of the feed pump, and at the top with the water space of the boiler. From the upper end of the valve chamber a circulating pipe passes to the water space of the boiler, so that the water is made to pass through the valve chamber into the interior of the diaphragm, and thence into the water space of the boiler.

Claim.—The corrugated diaphragm feed-water heater, attached in the manner and for the purposes herein set forth.

No. 42,539.—John R. Sees, New York, N. Y., assignor to W. F. Weaver, Philadelphia, Penn.—*Feed-water Heater for Locomotives.*—April 26, 1864.—This invention consists in surrounding portions of the feed-water heater with annular bands, for the purpose of interrupting the progress of the products of combustion in their ascent from the tubes, so that more heat will be imparted to the coil.

Claim.—Surrounding portions of the feed-water heater with the annular bands, as and for the purposes herein set forth.

No. 42,540.—John R. Sees, New York, N. Y., assignor to W. F. Weaver, Philadelphia, Penn.—*Steam Gauge.*—April 26, 1864.—The steam space in this device is formed of several cup-shaped disks with central openings, the openings being extended by flanges forming short tubes, and all united to form a continuous chamber or steam space. On the upper closed end of the chamber is a head piece in which is pivoted a lever, having attached to its long arm a rod, the lower end of which is connected to a crank or shaft by a segmental toothed wheel. To the solid rim plate of the gauge is affixed a plate having an arm which may be adjusted to or from the pivoted point of the lever, so as to adapt the gauge to high or low pressure.

Claim.—First, constructing the steam or pressure chamber of the gauge of the disks, said steam space or pressure chamber being free from solid substances therein, and the lever on the upper end thereof having both of its ends free, the parts being arranged substantially in the manner and operating as herein set forth.

Second, the arrangement of the lever *i*, and the other devices, as herein recited, for communicating and indicating the pressure.

Third, the plate *t* and its arm *u*, for adjusting the gauge to high or low pressures.

No. 42,541.—John R. Sees, New York, N. Y., assignor to W. F. Weaver, Philadelphia, Penn.—*Check Valve.*—April 26, 1864.—This valve is made cylindrical, and is provided with recessed ends and with a groove or depression around its central portion, for the purpose of giving an increased surface for the water, the recessed ends serving as cushioning surfaces. The upper seat is turned to fit the shell of the valve, and admits of being removed at pleasure, for the purpose of turning the ends, or packing under it, so as to alter the lift of the valve.

Claim.—The valve *g*, with recessed ends *h* and *i*, and with a groove or depression *j*, and susceptible of being operated substantially as herein set forth.

Also, in combination with a check valve, constructed as herein described, the movable seat, for the purposes herein recited.

No. 42,542.—Isaac Smith, assignor to himself, C. B. Debaren, and John B. Morrell, New York, N. Y.—*Breech-loading Fire-arm.*—April 26, 1864.—This invention consists of a safety bolt arranged to work transversely of the hammer, and operated by means of an eccentric wrist on the rear end of the movable breech piece, so as to prevent the hammer from coming down and firing the cartridge while the breech piece is open. The invention also consists of a cartridge extractor, operated by a spring catch or link engaging a projection or arm of the retracting dog, which spring link is connected to the hinged breech block by a pin, so as to be drawn by it when opened.

Claim.—First, the safety bolt D, arranged as described, to work transversely to the hammer, and operated by means of an eccentric wrist *f* on the rear end of the pin *b* of the breech piece, substantially as herein specified.

Second, the cartridge-extractor E, swinging horizontally about a pin *g*, furnished with a tooth *j*, and actuated by means of a hook *k*, which is combined with a transversely swinging breech piece, the whole arranged and operating substantially as herein specified.

No. 42,543.—Orrin H. Burdick, assignor to himself and D. M. Osborne, Auburn, N. Y.—*Fastening for Flasks or Moulds.*—April 26, 1864.—In this device the plate usually attached to the cope and carrying a dowel or steady-pin, is supplied, instead of the latter, with a tongue of a convex form on its inner surface, the plate on the dowel having a lug with a corresponding groove. The tongue on the former has across its convex surface a groove, a portion of which, when the two parts of the flask are united, passes sufficiently far below the square lower side of the lip or lug on the lower plate to admit of the entrance of a narrow key or nail between the two parts, and, when slightly driven, holds the two securely together. The lower plate being convex on its inner surface, can, by means of set screws, be readily adjusted to suit the warping or twist of the flask.

Claim.—First, making the part E of a two-part fastening for flasks, convex, substantially as and for the purpose described.

Second, in combination with the two parts E and D, the recess in the one and the corresponding tongue in the other, substantially as and for the purpose described.

Third and lastly, the combination of the tongue, the corresponding recess and the key or pin for locking and holding together the different parts of a flask, substantially as and for the purposes described.

No. 42,544.—**Nathaniel Gear**, Indianapolis, Ind.—*Boot-leg Stiffener.*—April 26, 1864.—This invention consists in the application of jointed metallic bars or stiffeners to the legs of boots, so as to keep them up and prevent them from wrinkling, while they are free to conform to the joints of the wearer.

Claim.—The application of jointed metallic bars or stiffeners to the legs of boots, so as to keep them up and prevent them from wrinkling, while they are free to conform to the joints of the wearer, making them very comfortable and easy, and avoiding chafing of the feet, substantially as described.

No. 42,545.—**Charles Allardice**, Cohoes, N. Y.—*Knitting Machine Burr.*—May 3, 1864.—In this burr the sinkers or blades are removable, and the invention consists in the combination of a chamber in the hub with the dovetail tongues on the sinkers and a shoulder formed on the bush, by which the blades are held firmly in place.

Claim.—The combination of the chamber e in the hub, the dovetail tongues n on the sinkers, and the shoulder s on the bush, substantially as and for the purpose herein set forth.

No. 42,546.—**Alvin Allen**, North Brookfield, Mass.—*Tool for Channelling Soles.*—May 3, 1864.—This invention relates to a tool for forming channels in shoe soles for the reception of the stitches, and it consists in the combination of two knives, one of which cuts the slit only, while the other removes a strip of the material, leaving a groove. The said knives are so arranged as to be relatively adjustable to each other, and the holder of the knives is so constructed as to properly gauge the cut as it is formed.

Claim.—The employment of a channelling knife and grooving knife applied to a stock to operate together, substantially in the manner and for the purpose specified.

Also, so applying the knives to the stock or holder that they can be adjusted with respect to each other, or separately removed for repairs or other purposes, as set forth.

Also, constructing the stock or holder with the surface t and lips or guides h, whereby the depth of cut of the channel and its distance from the edge of the sole is gauged, as set forth.

No. 42,547.—**Cyrus Avery**, Ashtabula, Ohio.—*Camp Kettle.*—May 3, 1864.—This invention consists in constructing the handle of the pan or kettle, so that it can be used as an ordinary handle, or be folded over and be made to secure the articles placed therein for transportation. The handle is hinged at one side of the pan and at its centre, the other end having a hook that engages with an ear on the pan.

Claim—The herein-described combined pan and kettle, when the several parts are constructed, arranged, and operating as and for the purpose herein specified.

No. 42,548.—**Joel Baxter**, North Greece, N. Y.—*Machine for Pulling Beans.*—May 3, 1864.—This invention consists of a machine in which are employed a series of fingers or pullers, arranged to be rocked on a horizontal lateral axis, so that they will be caused as the machine moves along to seize the plant and close upon it by the action of a cam, by which it is lifted from the ground and then carried forward and backward over the machine, and deposited in a receptacle in the rear.

Claim.—First, the employment in bean harvesters of the pullers G, having a horizontal, lateral axis upon which they may be rocked.

Second, attaching the axial shaft J of the pullers G to the periphery of the wheels D and D', substantially in the manner and for the purposes set forth.

Third, the combination of the cam C with the pullers G and spring e, or its equivalent, they being constructed, arranged, and operating substantially as and for the purposes set forth.

Fourth, the combination of the setting bars f and f', latch h, and spring n, with the compressing cams T, arranged and operating substantially as set forth and for the purpose described.

Fifth, closing the pullers G, as seen in Fig. 3, by means of the spring S', or its equivalent, bars f and f', arranged and operating in combination with the lug v, substantially as shown and described.

Sixth, the arrangement of the reel P so as to operate in combination with the revolving pullers G, substantially in the manner and for the purpose set forth.

No. 42,549.—**Robert A. Betts**, New York, N. Y.—*Box for Mustard and other like Articles.*—May 3, 1864.—This invention consists in making the box of paper or pasteboard instead of metal, and attaching to one end a metallic flanged base for the purpose of strengthening it.

Claim.—The box of paper or pasteboard with an inner end b of similar material and enclosed by the metallic flanged base or end c, as set forth.

No. 42,550.—**Reuben Bloss**, Rochester, N. Y.—*Mortise and Draw-bore Delineator.*—May 3, 1864.—This invention consists in an arrangement of devices whereby mortises and draw-bores can be truly and quickly laid out, which is effected by attaching to a bed plate a movable slide with adjustable gauges and spurs, so that the mortises and draw-bores in small frames can be readily laid out at any desired point.

Claim.—The combination and relative arrangement of the system of mortise and draw-bore spurs a b c and e, substantially as specified, when they are used in combination with the heel A and the sliding frame.

No. 42,551.—**J. J. Bradner**, Pine Creek, N. Y.—*Grain Sieve.*—May 3, 1864.—This invention consists in covering the spaces at the front end of a gang of sieves where the blast enters between them with an inclined wire gauze, when the sieves are so arranged that each succeeding sieve in the series is set a short distance back of the one above.

Claim.—The inclined meshes a a, covering the end spaces between the screens, in combination with said screens arranged as a compound sieve, and having the bevel G, the whole arranged relatively to the blast substantially as described, and constituting a new article of manufacture.

No. 42,552.—**James Brett**, Mattewan, N. Y.—*Many-barrelled Gun Battery.*—May 3, 1864.—This invention relates to that class of field-pieces in which a row of barrels is so arranged as to be loaded and fired simultaneously; and the improvement consists in the combination of a removable transverse chamber block, containing as many separate chambers as there are barrels, with a vertically sliding, continuous breech block provided with spring pins for discharging the series of charges; and also in a transverse hammer bar striking the said series of spring pins. A series of devices, named in the claim, are also used for cocking and liberating the hammer.

Claim.—First, the vertically sliding breech piece and chamber block C, applied in combination with each other and with the barrel block B', substantially as and for the purpose herein specified.

Second, the spring G, applied in combination with the movable breech piece D, and with the pins E E, substantially as and for the purpose herein specified.

Third, the combination of the single hammer F, and a series of pins E E, corresponding with the number of barrels, substantially as herein specified.

Fourth, the combination of the hooked levers N N and loaded levers P P with each other, and with the hammer F, substantially as herein set forth.

Fifth, the shaft L, and its arms M M, applied in combination with the hammer F and levers N N P P, substantially as herein described, to serve the two purposes of cocking and liberating the hammer.

No. 42,553.—**Darius C. Brown**, Lowell, Mass.—*Wire Heddle for Looms.*—May 3, 1864.—The object of this invention, which is explained by the claim, is to avoid the liability of catching up or interfering with the warp threads next adjacent to that which is in the eye of the heddle, such liability being consequent upon the twist of the wire and the ordinary flattening in one direction only.

Claim.—An improved loom harness or heddle metallic eye, as made of two round wires twisted together and coudensed in their twists, not only in the continuation of the planes of the sides of the eye, but in directions in other respects, substantially as set forth.

No. 42,554.—**Andrew Buckham**, Newark, N. J.—*Breast-strap Slide.*—May 3, 1864.—This invention consists in providing the slides of the breast straps for harness with two ribs forming a part of the same, for the purpose of securing the ring in its proper position on the slide. A tongue or stud is also provided to fit in a hole in the breast strap to prevent the slide from slipping.

Claim.—In combination with a breast strap slide the ribs R R' and tongue S, all constructed and arranged as described.

No. 42,555.—**Benjamin Q. Budding**, Milford, Mass.—*Machine for Polishing the Heels of Boots and Shoes.*—May 3, 1864.—This machine is composed of a table, having two standards united at their upper parts, and bearing a horizontal shaft provided with a leaf spring. At one end of the said shaft is a polishing tool, to which a rotary motion is imparted. Parallel to this shaft is another shaft bearing an arm, projecting towards the front end of the other shaft, at the end of which arm is attached a plate to which the shoe is secured by means of a strap in connexion with a pawl and ratchet. This plate is so arranged as to bring the heel of the shoe directly under the polisher, and can be turned at any angle or inclination. The heel is held against the polisher by means of a cord attached to an arm extending down, and operated by the foot of the attendant, and can be turned by hand in all directions necessary for bringing every part of the same in contact with the polishing tool.

Claim.—In combination with a polishing tool, which has a vibratory movement imparted to it, a mechanism which allows the shoe to be freely turned by hand in every direction necessary to bring all parts of the heel to be operated upon into contact with the polishing tool.

Also, the construction of the plate r with the shoulder v, ratchet or ratchets z, pawl c', and strap w, or their equivalents, substantially as set forth.

No. 42,556.—**James D. Butler**, Brooklyn, N. Y.—*Locomotive Truck.*—May 3, 1864.—This invention consists in arranging between the main and truck frame of a locomotive, connexions composed of levers and slotted bars, for the purpose of regulating the movement of the truck while passing over curves.

Claim.—First, combining two or more connexions, J I H and E K Z, or their equivalents, between the main and truck frames of a locomotive, substantially as described.

Second, the combination with the notched bar D, or its equivalent, of the pins L and Q, and the spring B, or their equivalents, substantially as described.

No. 42,557.—LYSANDER BUTTON and ROBERT BLAKE, Waterford, N. Y.—*Steam Fire Engine.*—May 3, 1864.—This invention consists in the arrangement of a water and steam cylinder having double pistons attached to two rods working one within the other. In both the steam and water cylinders the pistons work in opposite directions at the same time. The valve for the induction and eduction of steam is constructed in such a manner that both pistons will be operated upon in opposite directions at the same moment. This valve has two induction and two eduction ports so arranged that the steam is admitted to and exhausted from each end of the cylinder and outside the pistons, and also to the centre of the cylinder between the pistons, thus working them in both directions, and this motion is communicated to the pistons of the water cylinder by means of the piston rods.

Claim.—The combination of two pistons moving in opposite directions at the same time in one steam cylinder, operating two pistons in one water cylinder (in opposite directions,) connected by two piston rods, one working within the other. The motions of which are governed by a double crank, having direct connexion with the piston rods, substantially in the manner and for the purpose described.

Also, the construction of the single valve, having openings and chambers for the admission and exhaustion of the steam at the ends and centre of the cylinder, so constructed as that both pistons are operated upon in opposite directions at the same moment.

No. 42,558.—NICHOLAS CARPENTER, Ellenville, N. Y.—*Machine for Cleaning and Separating Ore.*—May 3, 1864.—In this machine the hutch is made of tapering form from the top downwards, and is combined with a plunger constructed in such a manner as to admit of the ingress and egress of air around the plunger. At one side of the machine is arranged an endless elevator for supplying the hopper with the ore to be operated upon.

Claim—First, a hutch, which is made tapering from the top towards the bottom, substantially as and for the purposes set forth.

Second, so constructing and combining the plunger and hutch as to admit of the ingress and egress of the air around the plunger (or in any other manner,) as and for the purpose described.

Third, the combined arrangement of an elevator or conveyor R with the hopper I and any suitable screen, as and for the purpose hereinbefore set forth.

No. 42,559.—HENRY CARSE, Pittsburgh, Penn.—*Bottling Soda Water under Pressure.*—May 3, 1864.—This invention is explained by the claim and engraving.

Claim.—The application and use of a fluid chamber attached to the charging cylinder of a bottling machine, for the purpose of saving the surplus sirup and water passing off while filling one bottle, and forcing it into the succeeding bottle in advance of the fluid that comes from the reservoir, substantially in the manner and for the purposes herein set forth.

Also, the combination of the faucet *c* and escape valve *t* with the fluid chamber A and pipe L, when arranged and operating as hereinbefore stated, for the purposes set forth.

No. 42,560.—JOHN C. CHAPMAN, Charlestown, Mass.—*Ratchet Drill.*—May 3, 1864.—In this apparatus the drill carries two pawls, which respectively impart rotation to the stock, and to a cylinder D surrounding it, from the handle upwards. Another cylinder, C, sliding within the cylinder D, but prevented from turning therein, has a female screw cut upon its inner surface for the reception of a male screw cut upon the upper portion of the stock. Upon vibrating the handle a less amount of motion will be lost to the cylinder than to the stock owing to the greater number of teeth upon its ratchet wheel, and this difference in the velocity of rotation is made available in a corresponding degree to thrust upwards the cylinder C with its cone point against the support, and consequently to press the drill down upon the plate which is being operated upon.

Claim.—First, a self-feeding ratchet drill, in which the feeding shaft G is thrust out from an exterior sleeve D by revolving the sleeve by a ratchet and pawl operated by the hand lever A, substantially as set forth.

Second, the hollow sleeve D and feeding shaft G, sliding therein with a spline and feather, in combination with the screw shaft E, operating in the manner and for the purpose substantially as described.

No. 42,561.—JAMES V. COLLINS, Georgetown, D. C.—*Floating Derrick.*—May 3, 1864.—This invention consists in the employment of two hulls or floats, from each of which rises a series of standards or derricks securely supported and braced. The hulls are connected by means of arched pieces of wood or iron. The derricks are connected by means of cross-pieces at their tops, and are also securely braced by strong truss frames, which are also strengthened by cross-ties. In connexion with the arches are arranged two grappling hooks and two sets of tackle.

Claim.—First, in combination with the hulls or floats I J the abutments A A and connecting arches C C, constructed and arranged substantially as herein shown and described.

Second, the derricks A in combination with the truss frames D D and brace rods or ties *i i′ m*, the whole being constructed and arranged in the manner and for the purpose set forth.

Third, in combination with the above parts, the tackle *l* and grappling hooks *x x*, arranged and operating substantially in the manner described.

No. 42,562.—HENRY D. COOPER, Boston, Mass.—*Steam Boiler.*—May 3, 1864.—The object of this invention is to prevent the deposit of sedimentary matter upon the bottom of steam boilers. Its novelty consists in placing a fan-shaped wheel longitudinally through the boiler so arranged as to be nearly in contact with the lower inner surface of the latter, and imparting to the said wheel, by a suitable means, a rotary motion, by which means the sedimentary matter which usually collects on the lower portions of the boiler will be kept in a state of suspension in the water until blown out through the cock provided for that purpose.

Claim.—The combination and arrangement of the fan wheel or rotary scraper with the boiler, substantially as and for the purpose specified.

No. 42,563.—ALBERT W. COX, Dublin, Ind.—*Ditching Machine.*—May 3, 1864.—This invention relates to that class of excavating machines which contain a plough for opening the ground and a series of elevators for removing the dirt from the ditch and depositing it at one side thereof, and the novelty consists in the arrangement of the several parts designated in the claim for graduating the depth of the excavation and expeditiously removing the excavating mechanism and again depressing the same without disarranging the adjustments.

Claim.—First, the arrangement of the parts N O *o* P Q R *r* S T U U′ *u u′* V V′ W 1, or devices substantially equivalent, whereby the ploughs and elevator are capacitated for simultaneous elevation and depression while preserving their proper relative positions and the continuity of the driving mechanism, substantially as set forth.

Second, the devices G H H′ I J K L M, or their equivalents, for enabling the sudden elevation of the excavating mechanism out of the ground and its restoration to the working position without disturbing the adjustment, as herein explained.

No. 42,564.—THOMAS CURTIS, New Hudson, Mich.—*Harvester.*—May 3, 1864.—This invention consists of a mechanism to be attached to and operated by a grain reaper, and which is designed to rake and bind all kinds of grain as it is cut by such reaper, and which will hold and carry along on an extended part of such machine the bundles after they have been bound, and when a sufficient number of the same are gathered they will be deposited together to be set up in a shock, the machine thus forming a combined grain rake, binder, and gatherer.

Claim.—The combination and arrangement, in connexion with a grain reaper, of the rake Q Q, binder H H′, and carrier P, constructed and operating severally and in combination with each other, substantially as set forth, whereby the grain, as fast as it is cut, is carried by the rake to the binder, by which it is bound into bundles and then delivered on to the carrier, by which the bundles are carried along with the machine until a bunch or shock is gathered, when they are deposited together on the ground, the rake, binder, and carrier being operated by the reaper, and the action of the whole machine being substantially as described.

No. 42,565.—THOMAS CURTIS, New Hudson, Michigan.—*Step Ladder.*—May 3, 1864.—This invention consists in so constructing the ladder that it may be compactly folded, and when expanded the feet and supports shall be spread out in the form of a tripod for the purpose of giving it an enlarged base or support so as to render it more steady and secure.

Claim.—The combination of the standards B B, pendent brace C, roller E, or its equivalent, and folding braces D D′ D″ D″, arranged, connecting and operating substantially as described, so that as the standards B B are carried backward from the ladder, they will also, at the same time, by the action of the braces D″ D″, be expanded at their lower ends, substantially as and for the purposes set forth.

No. 42,566.—JAMES B. EADS, St. Louis, Mo.—*Operating Ordnance.*—May 3, 1864.—The object of this invention is to direct heavy guns by raising or lowering their supporting carriages, while the muzzle of the gun is retained at or near the same point (for avoiding an enlargement of portholes;) and the novelty consists in providing a lever beneath the carriage, or its sliding frame, which lever is pivoted to a downwardly projecting bracket and connected by a link to the cascabel or breech of the gun, so as to act as a "parallel movement" when the outer or free end of the said lever is tripped by a stationary arm suitably disposed.

Claim.—The use of the lever G, and the way or slide I, for the purpose of retaining the muzzle of a gun in a horizontal line intersecting the centre of the porthole whilst the gun is being raised or lowered for the purpose of aiming it.

Second, the use of the stationary guide or director K, for the purpose of returning the gun to a convenient level for loading.

Third, the devices as substantially herein described.

No. 42,567.—M. C. Davis and L. C. Keith, Folsom, Cal.—*Washing and Pressing Machine.*—May 3, 1864.—This invention consists in the arrangement of a furnace, hot-water tank, and pump, in combination with a sprinkler and reciprocating pressure board, operated by a hand lever connecting with toggle arms, in such a manner that by the action of the hand lever the pump is set in motion, and a quantity of water from the tank is forced up on the sprinkler, and discharged on the clothes hung under said sprinkler and between it and the pressure board; and at the same time a gradually increasing pressure is exerted on the clothes, thus alternately charging them with hot water, and squeezing them dry, until all the dirt has been completely removed from the same.

Claim.—First, the tank B′ and furnace A, in combination with the pump C, sprinkler D, and pressure board F, constructed and operating substantially as and for the purpose herein shown and described.

Second, the pressure board F and pump C, in combination with the hand lever l, constructed and operating in the manner and for the purpose substantially as specified.

Third, the hinged sprinkler D, in combination with the rabeted frame E and rob r, constructed and operating substantially as and for the purpose set forth.

Fourth, the perforated trough f, in combination with the pump C and sprinkler D, constructed and operating as and for the purposes specified.

No. 42,568.—M. B. Dodge, Black Hawk Point, Colorado.—*Machine for Amalgamating.*—May 3, 1864.—This invention relates to an arrangement of the rotary shoes of the machine, whereby the outer ones, which are subjected to the most wear in consequence of having the greatest speed, may always be adjusted so as to run in contact with the bottom of the pan, and the wear thereby compensated for. In the ordinary amalgamating machines the outer shoes, in consequence of being subjected to more wear than the inner ones, soon become comparatively useless.

Claim.—The employment or use in an amalgamating machine of adjustable shoes attached to or connected with supplemental bars or arms, which are arranged with springs and with the main or principal rotating arms to operate in the manner substantially as and for the purpose herein set forth.

No. 42,569.—James Eaton, Boston, Mass.—*Spindle Lubricator for Spinning Machines.*—May 3, 1864.—In carrying out this invention the detached steps are dispensed with, and the lower end of the spindle is supported by a suitable metallic guide-plate, which keeps it in place while the base of the spindle projects below the guide plate. and rests upon a thin steel plate, imbedded in a strip of felt or other fibrous substance, which is saturated with oil or other lubricating material. A longitudinal slot or cavity is made in the top of the lower rail of the frame, and receives the hardened steel bearing or guide plate. The said slot extends the whole length of the rail without any partitions or divisions. In order to prevent the oxidization of the spindles their lower ends are electroplated with any metal which will be less liable to be corroded than the steel of which they are made.

Claim.—An elongated box or receptacle, formed in or upon the lower rail of mules or spring frames to contain a lubricating substance, and at the same time afford a suitable support or continuous bearing for the spindle, substantially as herein set forth.

Also, the combination of a thin coat of non-oxidizable metal with the spindle, the same being applied at its bearing surfaces, substantially as herein described.

No. 42,570.—Alexander H. Everett, New York, N. Y.—*Smelting Lead Ores.*—May 3, 1864.—This invention consists in the use of refuse scraps of tin plate in a proper reverberatory furnace for assisting the reduction of lead from the sulphuret of lead to the metallic state.

Claim.—The improved process herein described for smelting or reducing sulphuretted ores.

No. 42,571.—George H. Ferris, Utica, N. Y.—*Construction of Ordnance.*—May 3, 1864; antedated April 19, 1864.—The nature of this invention is explained by the claim.

Claim.—The manufacture of improved cannon by the combination of a series of metallic disks, which are formed by coiling up and welding ribbons or bars of metal whose quality increases in hardness and temper from one end to the other, placing the softest quality in the centre of the coil, all substantially in the manner and for the purpose herein set forth.

Also, when a gun is constructed of a central core, and encircling bands or rings, substantially as herein described, securely retaining said rings in their proper positions upon the core by means of key rings, sprung into grooves formed upon the periphery of the core, constituting retaining shoulders thereon, substantially in the manner herein set forth.

No. 42,572.—A. J. Fullam, Springfield, Vt.—*Device for Shearing Sheep.*—May 3, 1864.—This invention consists in combining flexible tubes with a small steam-engine and a cutting device, to which is attached a handle. The cutting device is operated by the steam-engine, and the operator by simply passing the cutters over the sheep is enabled to shear them expeditiously.

Claim.—As an improved article of manufacture, a sheep-shearing device composed of a cutting apparatus combined with a steam-engine provided with flexible induction and eduction pipes, substantially as herein shown and described.

No. 42,573.—John Goulding, Worcester, Mass.—*Breech-loading Fire-arm.*—May 3, 1864.—This invention consists in the employment of an eccentric or cam-like bolt for locking and tightening a hinged breech block in position, having also the function of a hammer stop or guard when turned so as to release the said breech block. A spring pin is employed within the hinged breech block for holding the same in an open position when the arm is moved or turned to throw the discharged cartridge shell.

Claim.—The combination of the cam D and lever E with the hinged breech piece C, when constructed and operated substantially in the manner and for the purposes described.

Also, in combination with the hinged breech piece C, the friction piece m, for the purpose of preventing the hinged breech piece from closing when the gun is turned on one side to discharge the empty cartridge, substantially in the manner herein described.

No. 42,574.—John Graham, Ceresco, Mich.—*Hitching Horses to Vehicles and Ploughs.*—May 3, 1864.—This invention is designed more particularly for two-horse vehicles, and it consists in dispensing entirely with the ordinary whiffletrees and hooking the outer traces to the end of a curved double-tree or equalizer, the inner traces being connected with the ends of a short leather strap which passes half round a vertical roller, or the tongue or pole of the vehicle.

Claim.—The employment of the modified double-tree D, in combination with the hitching strap S and roller R, arranged and operated substantially as and for the purpose herein specified.

No. 42,575.—James Greenhalgh, Pascoag, R. I.—*Harness Motion of Power Looms.*—May 3, 1864.—This invention relates to that kind of harness motion for fancy or figured weaving in which the opening of the shed is effected by the action of "knives" upon hooks attached to jacks, with which the harness is connected; the action of the said knives being controlled by means of a studded pattern chain or cylinder. The rockers which operate the knives are made fast upon one shaft, one of the said rockers being longer than the other, so as to give the proper inclination to the knives, adapted to the distance of the several heddles from the filling point, and thus obtain an uniform opening when the shuttle passes through.

Claim.—First, the projections $i\ i'$ upon the hooks D D, in combination with the knives $d\ d'$. whereby the knives, besides opening the shed in the usual manner, are made to produce the closing of the shed, substantially as herein described.

Second, the upright connexions $f\,f$, applied between the lower jacks and the upper parts of the hooks D D, and arranged between the hooks and the loom framing, substantially as and for the purpose herein specified.

Third, operating the knives by means of the rockers $k\ k'$, which are fast upon the same rock shaft l, and one of which is longer than the other, substantially as and for the purpose herein described.

No. 42,576.—William O. Grover, West Roxbury, Mass.—*Sewing Machine.*—May 3, 1864; antedated April 26, 1864.—This invention consists in the combination of a stationary cam to give the needle bar its variable motion, with a rotating slot to give it a reciprocating motion, and a crank arm to connect the needle bar with the actuating slot and guiding stationary cam.

Claim.—The combination of a stationary face cam and a revolving slot with a crank pin, substantially in the manner described, to control the movements of the needle bar in sewing machines.

No. 42,577.—Thos. C. Hargrave, Boston, Mass.—*Car Axle Lubricator.*—May 3, 1864.—This invention consists in the arrangement of a spring, upon the outside of a journal box, that controls the movement of a lever, to which a wheel is attached in the said box, so that the lubricating wheel will always be kept in contact with the axle.

Claim.—The combination and arrangement of the outside spring f, the rod e, the support d, and the lubricating wheel or roller c, with the journal b and housing j, substantially as and for the purpose set forth.

No. 42,578.—Thomas C. Hargrave, Boston, Mass.—*Car Axle Lubricator.*—May 3, 1864.—This invention consists in the combination of a bent spring and lubricating wheel or roller, with the journal and housing, in such a manner as not to require any adjustment, and so that the bent spring, with the lubricating wheel or roller, does not require to be attached to the housing.

Claim.—The combination and arrangement of the bent spring d and lubricating wheel or roller c with the journal b and the housing g, substantially as and for the purpose set forth.

No. 42,579.—J. A. Hadley, West Waterford, Vt.—*Sheep Shears.*—May 3, 1864.—This invention consists in the arrangement, upon the blades of the shears, of a plate, secured to the under side of one of the blades, the other blade being provided with a slot, through which a screw passes, so as to prevent the blades from spreading or cutting over the wool when they become dull. From this plate extend one or more rods or guards to the point of the shears, for the purpose of preventing the operator from cutting or injuring the animal.

Claim.—The employment or use of one or more rods or guards E, attached to a plate D, which is secured by a pivot or screw a to one of the blades A of a sheep shears, and is connected to the other blade A′ by means of the slot b and screw c, all arranged substantially as and for the purpose herein set forth.

No. 42,580.—J. F. TH. HOLBECK and MATTHEW GOTTFRIED, Chicago, Ill.—*Mode of Pitching Barrels.*—May 3, 1864.—The object of this invention is to prepare casks for receiving pitch, or other melted substance, previously to the filling of said casks with spirituous or volatile liquids; and the invention consists in the employment of an apparatus for subjecting the casks to blasts of highly heated air. Heated air from a furnace is forced, by means of blowers or otherwise, through a tube secured to a covering plate that is used to close an opening made in the head of the cask. The contracted end of a removable pipe is made to enter the said tube.

Claim.—First, the application of heated air, under blast, to the interior of casks, by means substantially as described and for the purposes set forth.

Second, the use of a removable conductor E, in combination with a furnace and blowing apparatus, arranged and operating substantially as described.

Third, the tube-holding plate i, in combination with the removable pipe E and blast furnace A, substantially as and for the purposes described.

No. 42,581.—BENNET HOTCHKISS, New Haven, Conn.—*Trip Hammer.*—May 3, 1864.—In this machine the hollow cylinder to which the hammer is attached is operated by a piston, the rod of which passes through a stuffing box in the upper end, and is fastened to a cross-head which receives motion through a pitman from the fly wheel shaft. The hammer, when elevated, is held stationary, by means of a catch, until the cross-head, after descending some distance, operates a latch or trigger which forces back the catch and releases the hammer, whose descent is accelerated by the compression of the air by the previous descent of the piston.

Claim.—Arresting the stroke of the hammer by means of the latch L, or its equivalent, when the said latch is arranged in combination with the hammer and cross-head, to operate automatically in the manner and for the purpose substantially as described.

No. 42,582.—DANIEL HOWELL, Jr., and MOSES K. KELLAM, New York, N. Y.—*Mitre Box.*—May 3, 1864.—This invention consists in arranging the saw guides upon adjustable arms, which are connected together by levers that operate to turn the arms to any desired angle, which latter is determined by a graduated plate and index under the arm, so that one set of saw guides will enable the operator to saw the given angle of a joint, while in the other set the reverse will be sawed.

Claim.—First, the combination of the upright gauging rollers upon adjustable arms B and C, with the facing-board F, and the bed-board to make an adjustable bevel jack, in the manner substantially as above described.

Second, the construction of the combined arms H and I, Fig. 4, plate 1, to form the proper opposite angles for sawing the mouldings of any regular figure, in the manner described.

No. 42,583.—L. T. AUGUST LEURS, Liege, Belgium.—*Saddle.*—May 3, 1864.—This invention relates to that class of saddles which are provided with self-adjusting pads, so that the same may adapt themselves readily to the motion of the horse or to the changes in the shape or form of its body. In this instance the saddle bears upon four adjustable pads, which are placed two in front and two in the rear, and suspended from side bars by means of straps; they are also provided with recesses to receive swivel props. The invention consists in the combination of the adjusting straps with the props, pads, and side bars. The bow and cantel are made of malleable iron, and are strengthened by means of braces in the rear of each attached to the saddle-tree and provided with flanges.

Claim.—First, the combination of the adjusting straps e with the props g h, pads D E, and side-bars of the saddle-tree A, constructed and operating in the manner and for the purpose specified.

Second, the malleable iron bow and cantel B C, with braces b c and flanges b' c', in combination with the saddle-tree A, constructed and operating in the manner set forth.

No. 42,584.—FRANCIS LONGHURST and ALBERT L. MURDOCK, Boston, Mass.—*Manufacture of Enamelled Leather, Cloth, &c.*—May 3, 1864.—The nature of this invention is explained by the claim.

Claim.—To apply, as a first coat, to leather or cloth, in the process of patenting or enamelling, a soluble elastic paste or fluid, composed of variable proportions of rosin or pitch, candle pitch, naphtha or bituminous coal, sulphur, lampblack, litharge, gutta-percha, and India-rubber, vulcanized or pure, and linseed oil, prepared and treated substantially as and for the purposes herein described.

No. 42,585.—WILLIAM S. LOUGHBOROUGH, Rochester, N. Y.—*Grooving or Panel Plough.*—May 3, 1864.—The plane stock in this device is made of cast-iron, and the arms of the fence are securely fastened at any desired point by a single screw operating a wedge that presses upon the upper ends of two oblique bars by which they are forced down upon the arms, so as to firmly clamp them in the plane stock.

Claim.—First, the above described panel plough or plane, when constructed, arranged, and combined in the manner and for the purposes specified, as a new article of manufacture.

Second, securing the gauge of the fence B at any desired point by operating a single screw E, substantially in the manner specified.

No. 42,586.—WILLIAM S. MALLORY, Batavia, N. Y.—*Railroad Support.*—May 3, 1864.—The nature and object of this invention are fully set forth in the claim.

Claim.—First, the construction of a rail chair, or support to the rails, having adjustable jaws that can either be attached to the sleepers or to a base plate, and the latter fastened to the sleepers, when said jaws or one of them is held and retained in position by means of corrugations upon the bottom portion of them fitting to corresponding corrugations upon the base plate, and made adjustable by means of a set screw and slot in the jaws, and, when the upper and inner ends come in contact with the rails, are furnished with rollers, in the manner and for the purposes set forth.

Second, the construction of a shoe for the reception of the rails with flanges on each side thereof to prevent lateral movement, on one of which flanges a bar extending across the joints of the rails in which rollers are placed to prevent friction, said shoe, or the flanges of the rail, if desired, when no shoe is used, being held in position upon the chair or sleeper by means of screws or spikes, with rollers in the head thereof, so adjusted as to hold either the shoe or the rail, in the manner and for the purpose set forth.

Third, placing a roller or rollers in the sides of the rails and also in the bottom of the same, arranged and constructed as described and for the purpose set forth.

Fourth, supporting the ends of the rails and connecting them together by means of hollow tubes, slotted or otherwise, and secured to the rails by rings, or in any suitable manner, constructed and arranged substantially as described and for the purposes set forth.

Fifth, supporting and connecting the ends of rails by means of side pieces on each side, extending across the joints, with rollers inserted therein, and bolts passing through slotted holes in the said side pieces and also in the rails, constructed and arranged as described and for the purposes set forth.

Sixth, securing and holding rails fast to a cross tie at the ends, and also near the longitudinal centre thereof, by means of the arms s, bolted through the rail and secured to the tie, as described.

Seventh, making the bottom shoe with or without vertical flanges, and holding the rails thereto by means of the said side pieces, a cross-plate under said shoe, with bolts passing through holes in the same near each end, with nuts under the bottom, forming a kind of stirrup, and said bolts passing up through the shoe, one of said bolts being in the form of an elbow, passing through said pieces and rails and an eye upon the top of the other bolt secured by a nut, said bolts having rollers on the side bearing against said side pieces, and also bolts passing through the shoe, with or without the said cross-piece, upward between the side pieces and the rails, with rollers on the same, with two eyes on the top, through which a cross bolt passes on a roller and secured by a nut, and thus allowing free action, but still holding the rails firmly to the shoe; and, also, the means of tightening the same by the set screw n, the whole combined and arranged as herein set forth and described.

Eighth, the combination and use of rollers, balls, and wheels, with the rails and side pieces, bases or supports, for the purpose herein set forth and substantially as described.

Ninth, sustaining the ends of the rails by the jogs on each end thereof, in combination with the side pieces and the bolts and fastenings u u, substantially as described and for the purposes set forth.

No. 42,587.—JOHN MATTHEWS, jr., New York, N. Y.—*Soda Fountain.*—May 3, 1864.—This invention consists in combining with the iron and enamel composing a soda fountain, paraffine, which, when melted, shall be capable of saturating or permeating the pores of both the iron and the enamel, and, when cold, shall adhere to the sides and effectually close them both against the escape of gas and the action of the liquid on the iron.

Claim.—Combining with the iron and the enamel a third substance, of the character and for the purpose substantially as set forth.

No. 42,588.—MATTHIAS MEAD, Lowell, Mass.—*Parlor Cook Stove.*—May 3, 1864.—In this stove the fire-pot is partly surrounded by a hot-air chamber, and over the fire-pot is the smoke chamber, forming the top of the stove. Below the ash pit and the fire-pot is placed the oven, beneath which is a circuitous draft passage. The ash pit opens into a vertical passage between the descending flues, and is continued down past the oven through the bottom plate of the stove. Fresh air is supplied to the oven by means of two pipes extending up between the two descending flues and a ventilating tube within the rear discharging flue, thus conducting the air into the ash pit to supply air to the fire. The novelty consists in the arrangement of the several parts.

Claim.—The above described arrangement of the fire-pot A, the boiling or smoke chamber

E, the ash chamber B, the oven C, the descending smoke flues G G, and the base chamber D, and the ascending smoke flue H.

Also, the arrangement of the hot-air chamber K, fire-pot A, smoke chamber E, ash chamber B, oven C, descending smoke flues G G, and ascending smoke flue H.

Also, the arrangement and combination of the air induction and eduction pipes L M, the oven C, the smoke flues G G H, the ash chamber B, and the fire-pot A, the whole being substantially as described.

Also, the arrangement of the descending ash and air conduit I, the ash chamber B, oven C, the descending smoke flues G G, and the base chamber D.

No. 42,589.—**Henry Myers**, Hyde Park, Penn.—*Concrete Pavement.*—May 3, 1864.—This invention relates to a composition designed more particularly for sidewalks, cellar floors, &c., and it consists of a mixture of sawdust, pulverized clay, coal ashes, sand, and coal tar, spread on a foundation prepared of iron slags, cinders, coarse gravel or other indestructible material, and cemented together by coal tar.

Claim.—A concrete pavement composed of the ingredients above specified, and mixed together in about the proportion set forth, in combination with the foundation, prepared as described.

No. 42,590.—**William Miller**, Boston, Mass., and **Hamilton E. Towle**, New York, N. Y.—*Railroad Car.*—May 3, 1864.—This invention consists in connecting the traction chain rod or hauling bar of the car with a ratchet, or its equivalent, upon an axle or wheel of the vehicle by means of a lever and a pawl or catch, in such a manner as to secure an increased leverage to overcome the existing resistance, by which means a less tractive or motive force is required to start or increase the velocity of the car.

Claim.—First, the combination of a lever and pawl and ratchet with the draught bar, in the manner and for the purpose specified.

Second, starting a car with mechanism, substantially as described, in such a manner that the first draught of the tractive force operates to turn the wheel with a leverage greater than its radius.

No. 42,591.—Mrs. **S. A. Moody**, New York, N. Y.—*Combined Abdominal Supporter and Corset.*—May 3, 1864.—This invention consists in constructing stays or corsets in such a manner that they will, when applied to the wearer, be made to answer as an abdominal supporter and a truss, and be capable of being adjusted and applied so that a requisite pressure may in all cases be exerted upon the abdomen of the wearer.

Claim.—A pair of stays or corsets A, provided with an extended front, or one projecting down to the lower part of the abdomen, and having elastic plates *b b* inserted or fitted in it, in connexion with the side lacings *c* and air bag B, all arranged substantially as and for the purpose set forth.

No. 42,592.—**S. A. Morse**, East Bridgewater, Mass.—*Collet.*—May 3, 1864.—In this device the holding jaws, both of which slide in a transverse groove in the face of the collar or chuck, are formed, at their inner ends, one with an inverted V-shaped groove in it, and the other with a corresponding V-shaped projection upon it. Attached to the outer movable ring of the collet are cams, whose differently inclined interior surfaces operate against the outer ends of the jaws and force them towards each other in such a manner that the article held between them will always be exactly in the centre of the collet.

Claim.—In combination with the movable jaws, cams and ring, the conjoined action and use of the V-shaped end of one of the jaws, and the single point of the opposite jaw, by means of which the drill is held firmly at three bearing points, which are always equidistant from the centre, whether the drill shank be large or small.

No. 42,593.—**L. H. Olmsted**, Newark, N. J.—*Oil Can.*—May 3, 1864.—This invention consists in attaching to the tube, near its lower end, a circular collar for the fingers to rest against when the can is in use. The bottom of the can is made semi-spherical, and the top is raised at its central part. The bottom part is also weighted to enable the can to maintain a standing position when not in use.

Claim.—First, the attachment of a collar to the tube, for the purpose specified.

Second, combining a raised and round top with a semi-spherical bottom, as shown and described.

Third, combining the semi-spherical bottom and weight with the flexible top, as shown.

No. 42,594.—**Robert W. Park**, Pittsburg, Penn.—*Connexion for Floating Barrels.*—May 3, 1864.—This invention consists in attaching to the ends of the barrels lugs or ears, which hook under the stave at each end, and are secured together by means of a bolt passing through an ear on the upper side of each of the lugs longitudinally with the barrel. The lugs are provided with eyes or rings, through which ropes may be passed to secure the barrels together. On either side of the barrels are screwbolts, which pass through ears in the clamps, and, in combination with a board, serve to connect a series of barrels together at their ends.

Claim.—The combination and arrangement of the lugs or ears T T with the eyes or rings S S, long bolt R, ears C C, and hooks N N, of a clamp for holding floating barrels, constructed and operating as herein shown and set forth.

Also, securing the barrels together by means of the screw bolts L L passing through the lugs or ears of the clamps, in combination with a board, or its equivalent, placed between the heads of the barrels, held and supported in the manner as herein set forth.

No. 42,595.—**F. B. Perkins**, Roxbury, Mass.—*Hoisting Machine.*—May 3, 1864.—This invention relates to a means for operating the platform on which the articles to be elevated or lowered are placed; and it consists of racks attached to vertical posts, between which the platform works, in combination with worm-wheels and screws, which are connected to the platform, and are put in motion by an endless belt.

Claim.—The employment in a hoisting machine of racks and pinions, having teeth of the character shown in the drawing, and which gear with each other in combination with a platform and with worm screws and worm wheels, or their equivalents, the mechanism being actuated by an endless belt or chain, or by other equivalent means of imparting motion, and being constructed and operating substantially as described.

No. 42,596.—**Herman Pietsch**, New York, N. Y.—*Ore Separator and Amalgamator.*—May 3, 1864.—This apparatus consists of a series of pans, each provided with a toothed top and plain bottom, and revolving in opposite directions, in combination with a zig-zag channel, forming the communication between the succeeding pans in such a manner that the ore and water, while passing through the several pans, are thoroughly agitated and gradually freed from the heavy particles which precipitate upon the bottoms of the different pans. Two pans are also used, containing mercury, and communicating with each other through a central channel, in combination with suitable rotary agitators, causing the ore to enter the mercury pans, and to be distributed and spread within the same in such a manner that all the heavy parts of the ore will be retained, and all the particles of the precious metals contained therein be saved.

Claim.—First, the employment or use of a series of pans, $d\ e\ f\ g$, revolving on a shaft G, in combination with a similar series of pans $d'\ e'\ f'\ g'$, revolving on a shaft H in a direction opposite to the first pans, and arranged in such relation to the same that the bottoms of one series form the cover of the other series, substantially as and for the purpose herein specified.

Second, the zig-zag channel k', formed by the rims of the pans $d\ e\ f\ g$, $d'\ e'\ f'\ g'$ rising alternately on the inner and outer peripheries, substantially as and for the purpose specified.

Third, the combination of the stationary mercury-cups $m\ s$, agitators J L, tank A, and rotary pans $d\ e\ f\ g$, $d'\ e'\ f'\ g'$, all constructed and operating in the manner and for the purpose substantially as set forth.

No. 42,597.—**Martin Reed**, Rochester, N. Y.—*Machine for Crimping Barrel-hoops.*—May 3, 1864.—This machine consists of a revolving cylinder, having short spurs inserted in its periphery, which take hold of the hoop and carry it into the machine between a feed-roller and the cylinder. Under the cylinder is a concave bed, made adjustable by springs and set screws, and the hoop, as it is passed through the machine, is crimped on one side so as to be easily bent to the desired curve.

Claim.—The combination of the roughing cylinder C with the notched feed board E and feed roller F, constructed, arranged, and operating substantially in the manner and for the purposes specified.

No. 42,598.—**Louis S. Robbins**, New York, N. Y.—*Preparing Barrels to Contain Petroleum, Coal Oil, &c.*—May 3, 1864.—This invention is explained by the claim.

Claim.—The combination formed by saturating the outer surface of the cask with heated oil, and the body of the staves and heads with soap-suds or an alkaline solution, substantially as and for the purpose set forth.

No. 42,599.—**W. E. Rose**, Wankon, Iowa.—*Combination of Pen-holder, Pen-case, and Money-safe.*—May 3, 1864.—This device consists of a shallow box of nearly circular form, made to hold some metallic pens, money, &c. In the side of the box is a slot to receive and hold a pen in a convenient position to write with, while small metallic knobs or bosses form rests and gauge the slope of the pen while writing. A ring may be attached to the device so that it may be suspended by a cord from the neck like an eye-glass or watch.

Claim.—A circular case or box, provided with a recess to contain a pen when not in use, and also provided with a hole to receive the pen when in use, all arranged to form a combined pen-case and pen-holder, substantially as described.

Also, the coin or money recess in said box to form a combined pen-case, pen-holder, and porte-monnaie, substantially as set forth.

No. 42,600.—**George Ross**, Newport, Conn.—*Black-washing Mould.*—May 3, 1864.—This apparatus consists of a conically-shaped plunger, fitting in the mould and forming the bottom of a perforated cup of smaller diameter. To enable it to hold the wash it is surrounded by an outer removable cylinder, having on its lower end a flange larger than the mould to be washed. In applying the wash, the plunger and cup, with its outer cylinder, are passed vertically downward through the mould until the latter, coming in contact with the flange, retains the said cylinder, uncovers and allows the perforated cup or sprinkler to take effect.

Claim.—First, the flanged casing D, in combination with the sprinkler A, constructed and operating substantially as and for the purpose shown and described.

Second, the combination of the board I with the casing D and sprinkler A, substantially as and for the purpose set forth.

Third, the head B, in combination with the sprinkler A and casing D, as set forth.

Fourth, the employment or use of the fender H in combination with the sprinkler A and casing D, constructed and operating in the manner and for the purpose substantially as specified.

No. 42,601.—Joseph Sutter, New York, N. Y.—*Folding Bedstead.*—May 3, 1864.—This invention consists of longitudinally folding side rails placed at an inclination to receive a folding bottom, and used in combination with a bedstead, table, or desk top.

Claim.—First, the folding side rails *c*, set at an inclination and formed with the ledges 6 6, receiving the slats, or folding bottom framed *d*, as specified.

Second, the table or desk-top *e*, applied as specified, in combination with the folding bedstead, as set forth.

No. 42,602.—Joseph Sutter, New York, N. Y.—*Bottoms for Chairs and Sofas.*—May 3, 1864.—This invention consists in the application of springs to the ends of interlaced webbing, so as to draw out the same when not in use and allow it to yield to any superincumbent weight.

Claim.—The springs applied to the ends of the webbing to draw the same out flat, or nearly flat, when not under strain, or to allow said webbing to yield to a weight as specified.

No. 42,603.—Wm. Salade and E. M. Luckett, Philadelphia, Penn.—*Egg-beater.*—May 3, 1864.—This invention consists in the application, on the inner side of the vessel containing the beaters, of grooves or guide pieces, and also placing upon the bottom of the said vessel a supplementary bar in which the ends of the beater shafts are set. A similar bar is also placed in the upper part of the vessel. The two series of beaters are set at alternate heights upon the shafts.

Claim.—The application of the opposite grooves or guide pieces *a*4 *a*4 on the inner side of the containing vessel A and the supplementary bar D, in combination with the beaters B B, bar *a*2, and cover *a*′, the whole being constructed and arranged to operate together substantially in the manner described for the purpose specified.

No. 42,604.—Deming W. Sexton, East Hampton, Conn.—*Call-bell.*—May 3, 1864.—This invention consists in attaching to the stem which sustains the bell a double clapper, suspended by a pivot above the bell, in combination with a doubled-knobbed finger bar.

Claim.—The combination of a double-knobbed horizontal finger-bar with a double clapper, suspended by a pivot above the body of the bell, substantially as set forth and for the purpose specified.

No. 42,605.—Abraham Skaats, jr., New Haven, Conn.—*Construction of Cog-wheels.*—May 3, 1864.—This invention consists in forming the face of the cog by describing from the pitch circle outward an arc, whose radius is equal to the thickness of the cog on the pitch lines, and whose length is determined by its intersection with a similar arc, forming the opposite face of the same cog. The shape of the inner ends of the teeth is determined by a true circle which will intersect the adjacent faces of the two teeth at the pitch line and the base line.

Claim.—Constructing the teeth or cogs of gear wheels substantially as described, so that without undue friction continuity of action of one wheel upon the other shall be effected irrespective of their relative position within the limits determined by the depth of teeth or cogs.

No. 42,606.—James L. Smith, Tuscola, Ill.—*Ventilator.*—May 3, 1864.—This device is designed to be placed within the walls of a house, and it consists of two chambers, one to receive fresh air from without and discharge it through a register into the room, and the other to receive vitiated air from near the ceiling of the room and discharge it through a pipe leading up within the wall to the top of the house.

Claim.—The compartments C and F, in combination with pipes L H E and D, the whole constructed in the manner and for the purpose herein set forth.

No. 42,607.—Charles F. Spaulding, St. Johnsbury, Vt.—*Clothes-wringer.*—May 3, 1864.—This invention consists in the combination of eccentric guides for the journals of the rollers and slotted guards, provided with springs which serve to produce friction on the rollers when in operation.

Claim.—The combination of the eccentric guides *h h* with the rollers C D and their supporting frame, the whole being so as to enable or cause the rollers to operate substantially as hereinbefore explained.

Also, the combination of the slotted guards G G with the rollers C D, the eccentric guides *h h*, and the supporting frame, the whole being arranged as specified.

Also, the arrangement and combination of the elastic springs *e c*, the eccentric guides *h h*, and the rollers C D.

No. 42,608.—Franklin J. Terrell, Ansonia, Conn.—*Machinery for Forming Hoop-skirt Clasps.*—May 3, 1864.—This invention consists in the employment, for forming the blanks after they have been cut to the required form, and have passed through the cutting die of a male-forming die made of two or more attached but independently movable parts, and a series of rotating female-forming dies, the apparatus being attached to the ordinary cutting-out press, by which the blanks are cut from the plate.

Claim.—The male-forming die *d e f*, composed of two or more independently-operating pieces in combination with a series of rotating female-forming dies *b b*, substantially as and for the purpose herein specified.

No. 42,609.—Joseph Todd, Madison, Ind.—*Gas-burner Socket.*—May 3, 1864; antedated April 1, 1864.—This invention consists in uniting the two parts of the socket together by means of a male and female screw for the purpose of rendering the elastic interior packing adjustable, and counteracting the looseness of the ordinary wear.

Claim.—Uniting the two pieces of the gas-socket by means of a male and female screw-thread by which the elastic interior packing is rendered adjustable, substantially as herein described.

No. 42,610.—W. B. Treadwell, Albany, N. Y.—*Coal Stove.*—May 3, 1864.—In this stove the fire-pot is of an annular or elliptical shape, the sides being formed of horizontal rings connected with a rim extending from the upper edge of the fire-pot to the outer casing of the stove. The base ring and brim of the fire-pot are made hollow, and are connected by tubes which pass through the above-mentioned rings, and through the said tubes, bars, and rings water is caused to circulate. The feed cylinder is made of cast iron, in two or more horizontal sections, within which is a cast-iron ring, placed at an angle so that coals may pass easily over the same, the object being to prevent too great pressure of fuel upon the ignited fuel.

Claim.—First, the fire-pot C, constructed substantially as described, to operate in the manner set forth. (See drawings, Figs. 1 and 5.)

Second, ring *n* within feed cylinder K, (drawings, Figs. 1, 2, and 3,) as described, for the purpose set forth.

No. 42,611.—Enoch Waite, South Natick, Mass.—*Felting Machine.*—May 3, 1864.—This invention is designed as an improvement upon the machine for which a patent was granted to the said Waite, numbered 40,087, and the novelty consists in the employment of a beater instead of a picker, so as to prevent the breaking and injuring the long fibres, and also of an endless batting apron instead of a perforated cylinder. A pasting brush cylinder is also used to surface the paper, which is to face the felt, and heated rollers for drying the paste and finishing the product.

Claim.—The combination and arrangement of the feeding apron B, the feed rollers C C′, the rotary beater D, the batting apron F, the roller G′, and the case E, the whole being made to operate together and with felting aprons and platens, or their equivalents, substantially in manner as hereinbefore specified.

Also, the combination and arrangement of the pasting apparatus, (viz: the brush N and its trough O,) the carrying and drying rollers P Q, and the receiving beam or roller R, the whole being as hereinbefore specified.

Also, the combination and arrangement of the rotary pasting brush N and its trough O, with the carrying and drying and finishing rollers P Q.

Also, the combination, composed not only of the carrying and drying rollers P Q, (made so as to be heated, as described,) and an apparatus for applying paste or cement to a sheet of paper, but of a set of felting aprons and platens, as described, and a mechanism for making a bat and introducing it between the felting aprons, the whole being constructed and to operate essentially as and for the purpose and objects as hereinbefore explained.

No. 42,612.—John Waterman, Keokuk, Iowa.—*Corn Planter.*—May 3, 1864.—This invention relates to that class of machines to be used as a seeder or a corn planter, and in which two kinds of seed may be sown separately. In combination with the hopper are adjustable boxes, so arranged that any desired number of hills of corn can be planted at each motion of the slide. In combination with the seeder is a series of cultivators, made laterally adjustable.

Claim.—First, the adjustable boxes I, employed in combination with the hopper E, to plant any desirable number of hills of corn at each motion of the slide, or adapt the machine to conform to the various distances at which the relative hills may be formed.

Second, in combination with a seeder, constructed as described, the laterally adjustable covers K K′ *k k*′, constructed and operated substantially as specified.

No. 42,613.—J. T. Williams, Newark, N. J.—*Machine for Twisting and Plating Cords.*—May 3, 1864.—This invention consists in the employment of an endless belt arranged alongside the twisting hooks in such a manner that the speed of the plating thread, as it moves along on the strand or cord, is regulated by the speed of the said belt, which derives its motion from the same shaft that transmits motion to the cord. An endless belt is also employed for pulling out and laying the required length of strand previous to the twisting operation, the said belt being provided with hooks for the purpose of holding the finished cord while the same is being wound upon the spool.

Claim.—First, the employment or use of an endless belt J, substantially such as herein specified, for the purpose of insuring an even distribution of the covering or plating material.

Second, the use of an endless belt, with frames O or their equivalents, as described, for the purpose of pulling out and laying the required length of strand previous to the twisting operation.

Third, the application of hooks *e* or their equivalents to the laying belt N, as and for the purpose set forth.

No. 42,614.—William S. Williams, Canton, Ohio.—*Projectile for Rifled Cannon.*—May 3, 1864.—In this invention packing rings of copper or other similar metal are employed, in connexion with a longitudinally sliding sleeve, in such a manner that when the discharge takes place the rings will be effectually forced into the grooves of the gun from which the projectile is discharged.

Claim.—The combination of the ribs *a* with the expansible ribs D D D′ and sleeves B B′, all constructed, arranged, and operating substantially as and for the purpose set forth.

No. 42,615.—George Wisler and Charles H. Peters, Cincinnati, Ohio.—*Binder Attachment for Sewing Machines.*—May 3, 1864.—In this device, instead of a doubled concave guide, one side of a sliding wedge of a concave form is employed in connexion with a single slotted piece, between the ends of which and the concave the tape passes after leaving the slots. The wedge, with its concave, tapers towards the stitching point, and a reel is connected with the whole to deliver the tape. By sliding the wedge the whole is adapted for different thicknesses of goods, the usual provision being made for different widths of binding.

Claim.—First, the combination of the convex slotted tape guide C C′, the concave-faced tapering block E, and adjustable edge turners D D′, all constructed and operating substantially as and for the purposes described.

Second, the described combination with the parts A B C D D′ E′ of the reel or tape holder I J K L, substantially as set forth.

No. 42,616.—William Wright, New York, N. Y.—*Machine for Boring Curved Cylinders.*—May 3, 1864.—This invention consists in the attachment of the cutter stock and boring cutter to one or more curved arms, which are made to swing from a shaft arranged in stationary bearings concentric to the arc of the longitudinal section of the desired bore, and in obtaining a rotary motion of the cutter stock by a belt and gearing from the aforesaid shaft, and also obtaining the feed of the said cutter stock by a movement of its supporting arm or arms about the axis of the said shaft, produced by a screw or other means.

Claim.—First, the combination of the main shaft C, the arm D, the cutter stock E, and the gearing or its equivalent for driving the cutter stock, the whole arranged and operating substantially as and for the purpose set forth.

Second, the feed screw P, nut N, swinging socket Q, and feed shaft M, the whole applied in combination with each other and with the arm D, to operate substantially as herein specified.

No. 42,617.—Martin W. and John Zimmerman, Earl Township, Penn.—*Pump.*—May 3, 1864.—This invention consists in operating a lift pump by a water wheel at a distance from the same by means of a single wire, a rock shaft being arranged near the wheel, and another near the pump, each being weighted in such a manner as to cause a reciprocating movement as a crank connected with the water wheel imparts motion to the near rock shaft.

Claim.—The use of a single wire in combination with the regulating screw *y*, burrs *v v*, rocker shafts and arms B H R, weights L, operated by a water wheel and crank in the manner and for the purpose specified.

No. 42,618.—William Billings, Brooklyn, N. Y., assignor to Abraham W. Godfrey, New York, N. Y.—*Pegging Jack.*—May 3, 1864.—This invention consists of a swinging bar, the gudgeons of which are made adjustable in different notches in the edges of the uprights which form their bearings, in combination with an adjusting screw passing through the standard, which supports the heel end of the last, in such a manner that, by means of said movable passage and adjusting screw, the swinging bar can be readily adjusted for the lasts of different sizes and shapes, the lasts being firmly supported at the heel and at the toes.

Claim.—The adjusting screw C in combination with the standard B, swinging bar, and adjustable gudgeons *c*, all constructed and operating in the manner and for the purpose substantially as herein shown and described.

No. 42,619.—Joseph Burrill, assignor to A. S. Moore and J. A. Johnson, Lynn, Mass.—*Process for Treating Leather, Paper, &c.*—May 3, 1864.—In this process gelatine is first dissolved in a weak solution of hemlock bark, nut-gall, or other substance containing tannin. This solution is strengthened until the mixture is brought to the proper consistence, and to this mixture is added a quantity of soap and water in which the leather is saturated when it is immersed in a solution of bark, alum, and water.

Claim.—The within-described process of treating leather or paper by exposing it to the solutions herein set forth, and mixed together substantially in the manner and about in the proportion specified.

No. 42,620.—Simeon Goodwin and John A. Emery, assignors to Charles A. Shaw, Biddeford, Maine.—*Compressor for Flyers in Spinning Machines.*—May 3, 1864.—The nature of this invention is set forth in the claim.

Claim.—Changing the direction of the thread of roving being wound on the bobbin, at or near the heel or flyer end of the compresser, from a spiral movement around the body of the same, to a horizontal direction or movement along the back or outside of the body of the compresser, and conducting the said thread (when such a change is made in the direction of its movements at that point) along the body of the compresser protected from both heads of the bobbin, substantially in the manner and for the purposes specified.

No. 42,621.—Benjamin Lilly, assignor to Henry Charlton, Birmingham, England.—*Nipple Guard for Fire-arms.*—May, 3, 1864; patented in England May 12, 1863.—This invention consists in forming the protecting cap or guard for the nipple in two or more parts, one part being held firmly within the other, but capable of being rotated for the purpose of adapting it to the relative positions of the nipple and hammer when sprung.

Claim.—The improvements in the construction of snap caps or nipple protectors for fire-arms, substantially as herein described.

No. 42,622.—Gordon McKay, Boston, Mass., and Lyman R. Blake, Quincy, Mass., assignors to said Gordon McKay.—*Sewing Turn.*—May 3, 1864.—This invention relates to a process of sewing turned shoes by machinery, so that without any groove or channel in the sole, any desired distance of seam from the edge of the sole may be attained; and the invention consists in the employment of a temporary pattern upon the sole in connexion with a guide projecting above the general surface or bed which supports the shoe, the pattern being on that surface of the sole which is innermost in the sewing process, and outermost when the shoe is turned to be finished.

Claim.—The process herein described, the same consisting in the employment of a pattern in connexion with a ring gauge or guide operating substantially as and for the purpose described.

No. 42,623.—J. R. Miller, assignor to himself and Joseph W. Wayne, Cincinnati, Ohio.—*Coal Hod.*—May 3, 1864.—In the construction of this device the body is turned inward to form a ledge, and the bottom is composed of a wooden slab of corresponding contour to the lower portion of the body and a plate of sheet-iron or other metal, which covers the top of the slab, and is bent over the upper edge thereof. The upper edge of the foot is turned outward to fit the lower portion of the body exteriorly, and the body and foot being correspondingly perforated are secured to each other and to the bottom by nails which, traversing the foot and body, pass into the wooden portion of the bottom, and are thus securely united.

Claim.—The combination with the body A and the foot F, of the bevel-edged slab C and metal plate D, upset over the edge of the said slab when the compound bottom thus formed is applied within the downwardly-converging portions of the body A and foot F, in the manner herein shown and explained, so that any depression of the bottom will tend to lock the whole more firmly together without strain upon the nails.

No. 42,624.—John W. Millet, Batchellerville, N. Y., assignor to himself, Isaac Noyes, jr., and T. C. Fanning.—*Mode of Manufacturing Tin Cans, Caddies, &c.*—May 3, 1864.—In this invention the strip of metal which is to constitute the cylinder is first brought to a proper width and corrugated, so as to form a groove near its edge of a width equal to the thickness of the bottom or top piece; it is then bent tightly around the circular bottom or top piece, and whilst held in that position the two ends of the corrugated piece are soldered together.

Claim.—A mode or process of manufacturing boxes, cans, and caddies by first coiling, crimping, and beading the rim, then inserting the top or bottom, after which the rim is clamped or held around the top or bottom while it is being soldered or otherwise fastened.

No. 42,625.—Martin Robbins and Charles Heery, Cincinnati, Ohio, assignors to the said Charles Heery.—*Circular Brush.*—May 3, 1864.—This invention consists in the employment of a series of nuts, washers, and a central hub or stem by which the bristles are enabled to be strongly secured and readily replaced. The washers are provided at equal distances with apertures or niches for the insertion of numerous small bundles of bristles, which, being bent around the marginal portion of the washer, are temporarily secured by wire lashings that are taken off after the brush is put together.

Claim.—As an improvement in the manufacture of brushes, swabs, emery wheels, and analogous articles, the combination of the bristle washers D, substantially as described, with screw clamps of any suitable form, either with or without central stems or intermediate washers.

No. 42,626.—THOMAS HARRISON, Tudnoe, England.—*Mode of Cutting Coal and other Minerals.*—May 3, 1864; patented in England December 2, 1863.—The nature and object of this invention are explained by the claim.

Claim.—The combining a turbine with a truck trolly, or other carriage, substantially as described, and the combining therewith rotating cutters, so arranged that the carriage can be caused to travel gradually forward as the work progresses, and the cutters set to cut a greater or less distance into the coal mineral or stone, as required, substantially as above described.

No. 42,627.—THOMAS SHAW, assignor to himself and P. S. JUSTICE, Philadelphia, Pa.—*Gauge for Measuring the Pressure of Explosive Gases.*—May 3, 1864.—The object of this invention is to measure sudden pressures, more particularly the explosions of gases, &c., and also to measure slow hydraulic pressures; and the invention consists in the employment of a gas chamber composed of two hemispherical parts screwed upon a hollow cup, and provided with a valve on its upper side. To the upper end of this chamber is attached a curved pipe communicating with the gauge, and containing glycerine, for the purpose of keeping the gum disk on the bottom of the plunger in a cool state, and preventing any injurious chemical effects on the same. The gauge is provided with a faucet having a rotary plug, which may be operated by a handle.

Claim.—First, the employment of a chamber Y, when provided with a valve *a*, and in combination with a gauge, for the purpose specified.

Second, the employment of glycerine in combination with the gauge, for the purpose specified.

Third, the employment of the metallic disk S in combination with gum disk *m*, for the purpose specified.

Fourth, the employment of faucet M in combination with valve *i*, for the purpose specified.

No. 42,628.—HENRY B. THOMAS, assignor to HENRY F. HART, Chicago, Ill.—*Grain Separator.*—May 3, 1864.—This invention consists in providing the exterior surface of a moving body, whether the same be cylindrical or plane, with cells or cups of such size that, when brought in contact with the mass of mixed grain, the said cells shall receive the grains or kernels of wheat and remove them from the mass, the oats being too long to lie down in and be taken up by the said cells, and are therefore left as the cells move forward. Directly over each cylinder is arranged a revolving circular brush for the purpose of clearing the said cylinders of any oats which may adhere to them as they revolve. In the frame beneath the cylinder is mounted a shoe provided with chute boards and screws.

Claim.—First, the separation of mixed grains by means of the cells *a*, when the same are applied to the exterior surface of cylinders or their equivalents.

Second, the cylinders A A, provided with the cells *a a*, substantially as shown.

Third, forming the cells upon the surface of the cylinders A by means of the narrow strips of metal, bent as shown and described, or by any equivalent means.

Fourth, one or more brushes B, used in combination with a surface provided with the cells *a*, substantially as and for the purpose set forth.

Fifth, in combination with the cylinders A A, or their equivalents, the shoe E, provided with the screens *f* and *h* and the return boards *e* and *j*, when constructed substantially as shown.

No. 42,629.—JAMES M. THOMPSON and GEORGE P. FRENCH, Stoneham, Mass., assignors to SETH D. TRIPP, Lynn, Mass.—*Polishing and Grinding the Edges of Heels for Boots and Shoes.*—May 3, 1864.—This invention consists of a mechanism by which the shoe is held and its heel pressed up to a rotary grinding or polishing wheel. The machine is provided with a standard supporting a horizontal shaft which has a driving pulley at its centre and a grinding and buffing wheel at either end. The grinding wheel has an edge so formed as to operate in the concavity of the heel. With the said wheel are combined two holders, one of which is pivoted at the lower end so as to be capable of turning horizontally and in a direction toward the heel or away from it. These holders form a frame and are connected by toggles at their lower ends, and are also provided with a spring. Connected with the main frame is another horizontal frame provided with toggles operated by means of a treadle. When in operation one set of toggles is moved so as to cause the heel to be ground, and then borne away from the wheel; and by still further pressing down the treadle the other set of toggles will be moved so as to cause the clamps to separate and allow the shoe to be removed, when the heel is subjected to the action of the buffing wheel.

Claim.—The combination of the rotary clamps F G with the turning and vibrating holders H I.

Also, the oscillating frame, as composed of the holders H I, the actuating spring L, and the toggles O P, arranged and combined substantially as specified.

Also, the combination of the slider or sliding bearing *g*, the toggles O P, the spring R, and the treadle M.

Also, the combination consisting of the rotary clamps F G, the turning and vibrating holders H I, the actuating spring L, the toggles K K, the slider or sliding bearing *g g*, the operating toggles O P, the spring R, and the treadle M, the whole being arranged, constructed and applied to a grinding or polishing wheel D, so as to co-operate and operate therewith, substantially as specified.

Also, the arrangement of the cleansing wheel E with the grinding wheel D, and the mechanism, as described, for holding, operating, and guiding the shoe, or the heel thereof, to be ground.

No. 42,630.—SARAH WARD, New York, N. Y., administratrix of JAMES H. WARD, deceased, late of the United States navy.—*Operating Ships' Guns.*—May 3, 1864.—This invention consists in supporting the chassis or slide upon which the gun-carriage runs, near its centre, on transverse rollers, in such a manner as to render it capable of being tilted slightly as the weight of the cannon rests on either end; and in combination therewith, of a removable extension tail-piece for facilitating the running of the gun-carriage upon the slide. An independent railway turn-table is also employed in connexion with the above for conveniently transferring the gun-carriage to different points, as may be desirable.

Claim.—So applying the rolls and supports underneath the slide, rails or ways, on which the gun and its carriage runs in and out and is trained, and at or near the centre thereof, as that the ways shall tip when the excess of weight is on either side of said rolls or central support, substantially in the manner and for the purpose set forth.

Also, in combination with the tipping side ways, or rails, on which the gun and carriage are worked, the tail-piece connected thereto, but removable at pleasure, said tail-piece resting upon the gun deck when in use, for the purpose of readily mounting the gun and carriage on the slide, substantially as described.

Also, in combination with the breeching or breech tackle, for catching and restraining the recoil of the gun, the elastic ring, for gradually checking the strain on the breeching, substantially as described.

Also, in combination with the tipping slide and tail-piece, a turn-table for turning and shifting the gun from one port to another, or from one side of the ship to the other, substantially as described.

No. 42,631.—F. F. CARY, New York, N. Y.—*Plough.*—May 3, 1864.—This invention consists in introducing, in place of the mould board, a roller placed nearly or quite in a vertical position, the same being smaller at the centre and expanding at both ends, the lower end being as large as or larger than the upper end, and spreading out so as to cut the furrow wider than the wing of the share. This roller may be in one piece or divided transversely at its smaller diameter.

Claim.—First, the roller D, when the diameter at the lower end is equal to or greater than the upper end, as shown and described, and composed of one piece or divided transversely near the middle or smaller diameter, said roller working upon a vertical or nearly vertical spindle S, substantially as and for the purpose described.

Second, the roller D, as described, in combination with the toe C, scraper G, and one or both of the wheels or disks F and F′, arranged and operating substantially as set forth.

No. 42,632.—H. A. AYLING, Boston, Mass.—*Product from Caoutchouc, &c.*—May 10, 1864.—The nature of this invention is explained by the claim.

Claim.—The improved product resulting from the contact of caoutchouc with a mixture of carbon spirits and chloride of sulphur, substantially as specified.

No. 42,633.—H. A. AYLING, Boston, Mass.—*Process of Changing, Curing, or Treating Caoutchouc, &c.*—May 10, 1864.—The nature of this invention is explained by the claim.

Claim.—The within-described process for curing caoutchouc and its compounds, the same consisting of their immersion in, or their contact with, a mixture of carbon spirits and chloride of sulphur, and afterward allowing them to dry, substantially as and for the purpose specified.

No. 42,634.—S. P. BARCOCK, Jordan, N. Y.—*Harness Hook.*—May 10, 1864.—This invention consists in providing the harness hook with two lips or guards applied to the shank of the hook, and opposite to the point of the same, whereby the ring can only be fitted in the hook when the former is turned edgewise, and thus prevented, when in the hook, from being casually detached therefrom.

Claim.—A harness hook having its shank *a* provided with lips or guards *d d*, arranged relatively with the hook *c*, substantially as and for the purpose herein set forth.

No. 42,635.—G. B. BAILEY, Greenfield, Ind.—*Grain Screen.*—May 10, 1864.—This invention consists in the employment of a rotary screen in connexion with a sectional fan and a disk provided with one or more openings. In one of the sides of the screen is arranged a valve, provided with a curved plate, by which the grain, when properly cleansed and screened, is readily discharged from the screen.

Claim.—First, the rotary screen B in combination with the fan F and disk B, provided with one or more openings, all arranged to operate substantially as and for the purpose herein set forth.

Second, the valve K fitted in one of the sides of the screen B, provided with a curved plate *j*, substantially as and for the purpose specified.

No. 42,636.—Sidney A. Beers, Brooklyn, N. Y.—*Railroad Rail.*—May 10, 1864; antedated May 3, 1864.—This invention consists in making the web or shank of the rail of an irregular form, so that it will, in a measure, be compressible and act as a spring of more or less elasticity in proportion to the extent of departure from a direct or vertical line, the object being to promote elasticity between the base and face of the rail.

Claim.—The manufacture and use of compressible railroad rails, such compressibility resulting from the irregular form of the web or shank of the rail, which thus becomes a spring of more or less elasticity, in proportion to the extent of departure from a direct or vertical line, as set forth, or by the use of any other form which will secure or promote elasticity between the base and face of the rail.

No. 42,637.—George W. and William H. Bowlsby, Monroe, Mich.—*Photographic Printing Frame.*—May 10, 1864.—The frame of this apparatus is made in three pieces, hinged together and fastened by catches, and provided with springs, for the purpose of holding all the accessories in making vignette prints of different sizes. Both sides of the negative are cushioned instead of one only, as is usual. The opening in the screen is provided with rings, which are secured in place by pivoted fastenings, and serve as protectors.

Claim.—First, the protector rings D D, with their fastenings I I I.

Second, the pocket F.

Third, the combined latches L L L, catches *m m m*, and springs S S.

Fourth, the screen S C, with the ways W W, made substantially in the manner described.

Fifth, the cushioning of both sides of the negative instead of one only, as heretofore done, and which is here complete, as shown at C C C.

Sixth, we also claim the combination of all the devices for the purposes set forth, in the manner herein above shown.

No. 42,638.—Patrick Boylan, Gloucester, N. J.—*Let-off Mechanism for Power-looms.*—May 10, 1864.—The object of this invention is to secure a positively acting let-off which shall be self-regulating, and in which the tension of the warps is kept uniform whether there be more or less yarn on the beam, thus dispensing with friction springs, brakes, detent levers, &c. When more yarn is required to be let off, its pressure on the whip-roll raises a lever *r*, rod *s*, and plate *p*, thus permitting that part of the plate which has kept the pawl out of action upon the ratchet to come into action and operate the worm gear which gears with the warp beam.

Claim.—The combination of the yarn beam H, the worm gear *m n*, the bevel gear ratchet wheel *k l i*, and the oscillating plate *p*, the same working on the shaft *o*, and being connected with the balanced levers *r r* and whip roll *g*, all arranged and operating in the manner as described, for the purposes herein specified.

No. 42,639.—Cornelius L. Campbell, Binghamton, N. Y.—*Hollow Augers.*—May 10, 1864.—This invention consists in inserting in a dovetailed groove in the face plate a slide provided with inclined slots, to which slides are attached the cutters, and working in the said slots are two studs, which are secured to a movable disk, so that by rotating the latter the studs will operate the slides and adjust the cutters; the disk is held in place by a set screw upon the main face plate. The object is to adjust the cutters so as to cut a larger or smaller tenon as desired.

Claim.—The arrangement of the slides S S and knives or bits *k k*, operated and adjusted by the lever B and clamp screw *p*, in combination with the frame A and tube P, as and for the purpose set forth.

No. 42,640.—Albert M. Comstock, Old Lyme, Conn.—*Paddle Wheel.*—May 10, 1864.—The floats of the paddle wheel are supported upon three rims, the two series thus forming an angle with each other and presenting their points outwardly and their hollow ends towards the axis of the wheel. They are firmly secured at their joints by means of plates and bolts.

Claim.—The flat V-shaped floats, deepest at the angle of the V, applied to the paddle wheel with their points outward, and their hollow edges toward the axis of the wheel and strengthened at their joints by plates *c c* and bolts *l l*, as herein described.

No. 42,641.—E. Hall Covell, New York, N. Y.—*Coffin.*—May 10, 1864.—This invention consists in introducing cold dry air into the coffin, so as to come in contact with the surface of the body and then pass out. The air passes out through passages surrounding an ice box in the top of the coffin without coming in contact with the ice. Within the coffin is arranged a water jacket in combination with a coating of felt, wood, or other non-conducting substance for the purpose of aiding the preservation of the body.

Claim.—First, the water jacket as arranged, for the purpose of preserving the body of the dead, in combination with the coating of felt, wood, or other non-conducting substance.

Second, passing a current of external air, which has passed the cold tubes or ducts, over the body and in direct contact with it for the purpose heretofore named.

Third, the air duct *f*, or its equivalent, when used for the purpose herein described.

Fourth, the detachable ice chamber *a*, in combination with the lid of the casket.

Fifth, the ventilating pipe *d*, or its equivalent, in combination with the outlet *e*, or its equivalent, as arranged.

No. 42,642.—Samuel F. Covington, New Albany, Ind.—*Steering Apparatus for Steam Vessels.*—May 10, 1864.—This apparatus consists in the employment of one or more screws placed transversely in the "rake aft" of the vessel. The shaft by which the screws are actuated passes outside of the vessel to gearing on the deck of the same, connecting the propelling apparatus with a steering wheel; thus the propelling apparatus can be applied to vessels of the common construction, it being designed as auxiliary.

Claim.—An auxiliary steering apparatus for steamboats or vessels, consisting of one or more screws placed transversely under the rake aft of the boat, and constructed and operated in the manner described.

No. 42,643.—John Coy, Oswego, N. Y.—*Casting Drain Tiles.*—May 10, 1864.—This invention consists in forming drain tiles, &c., of a composition of coal tar and sand by casting the same while in a heated state in an iron mould, the surface of which having been previously lubricated with soap or tallow mixed with clay or sand.

Claim.—Casting drain tiles from a mixture of coal tar and sand in an iron mould, substantially such as herein described, coated on its inner surface with a composition of soft soap and sand, tallow and sand, or clay and tallow, in the manner specified.

No. 42,644.—Seneca S. Davis, New York, N. Y.—*Knife for Cutting Tobacco.*—May 10, 1864.—This invention consists in the employment of a double-edged serrated knife, constructed in such a manner as to cut up in fine portious leaf tobacco in order to prepare it for smoking.

Claim.—The improved method of cutting or granulating leaf tobacco to make what is known to the trade as "Kinnikinnic Smoking Tobacco," by cutting it at one operation with a double-edged serrated knife, as hereinbefore described.

No. 42,645.—H. G. Dayton, Maysville, Ky.—*Heating Stove.*—May 10, 1864; antedated May 2, 1864.—Within the upper part of the stove or furnace is arranged a water vessel, surrounded by an air chamber for the supply of heated air, which is conducted by suitable tubes or pipes to the various apartments; a pipe is also arranged for the supply of cold air to the air-heating chamber; outside of the stove is also arranged a water vessel communicating by a pipe at its lower end with the interior water vessel.

Claim.—First, the employment or use in a stove or furnace of an internal air-heating chamber F, provided with a water vessel I, and provided with one or more hot air conducting pipes and a cold air duct *a*, all arranged substantially as and for the purpose herein set forth.

Second, the outer water vessel J, in combination with the inner water vessel I, when connected together or made to communicate with each other, as shown, and both arranged in relation with or applied to the stove as and for the purpose specified.

No. 42,646.—E. M. Dever and Ira C. Pratt, Peoria, Ill.—*Cultivator.*—May 10, 1864.—At the lower end of the stock, which is secured to the front part of the frame, are attached rollers used in connexion with the forward inner cultivator teeth; below the driver's seat is one end of a lever which is fulcrumed upon the axle and extends forward beneath a cross-bar, so as to enable the driver to operate the cultivator by his feet as required.

Claim.—First, the rotary guards *a a* mounted upon the stock P and employed in combination with inner cultivators *k k*, in the manner and for the purposes described.

Second, the foot lever V fulcrumed upon the axle and extending forward beneath the bar *m* and backward into convenient proximity with the seat F, as and for the object specified.

No. 42,647.—William W. Draper, Greenfield, Mass.—*Tool-holder.*—May 10, 1864.—In this device a shank inserted in a handle is slotted longitudinally on one side nearly its whole length outside the handle. Within this slot is a lever attached at about its centre to a fulcrum pin supported in lugs projecting upwards on each side, the outer end of the lever forming a serrated jaw. The tool is inserted in the outer end of the slot under the jaw, and a binding screw operating on the opposite end of the lever forces it down against the tool.

Claim.—The bed-piece B and lever C, in combination with and operated by screw D, substantially as shown and for the purpose set forth.

No. 42,648.—William H. Elliot, Plattsburg, N. Y.—*Many-barrelled Fire-arm.*—May 10, 1864.—This invention relates to that class of fire-arms having several stationary barrels to be discharged in succession by a hammer acting on a revolving point or pin; and it consists in arranging the hammer so as to be automatically thrown back to a "half-cock" immediately on striking its blow, and in providing an independent cocking lever for the purpose both of setting the hammer and revolving the hammer-pin, by which the blow of the hammer is transmitted to each of the cartridges in the stationary barrels.

Claim.—First, so constructing and arranging the sere and tumbler in relation to each other that when the hammer is thrown back a little by the power of the lock after falling upon the charge the sere shall fall into the half-cock notch, as and for the purpose herein specified.

Second, the employment of a cocking lever in combination with the hammer and firing point, for the purpose of giving motion to the two latter devices, as specified.

Third, the employment of spring v, for throwing the lever out of the way of the hand while the hammer remains at full cock, when said lever is so arranged that when it is depressed its thumb-piece occupies a portion of the handle of the pistol, as herein shown.

No. 42,649.—Wm. H. Elliot, Plattsburg, N. Y.—*Many-barrelled Fire-arm.*—May 10, 1864.—This invention relates to that class of fire-arms in which several stationary barrels are successively discharged by a single hammer provided with movable or adjustable points of contact; and the invention consists in the employment of two longitudinally alternating dogs separate from the hammer, but operated by the cocking of the same, so that the projecting heads of the said reciprocating dogs shall be in a condition alternately to fall upon and discharge the cartridges of the several barrels in succession, when struck by the hammer.

Claim.—First, the employment of a cam or cams for giving motion to one or more firing points, so as to change the position of said points from one charge or chamber to the other, as herein set forth.

Second, so constructing and operating the hammer and firing points in relation to each other that the point which occupies a middle position between the chambers shall not be driven forward by the hammer, as herein specified.

No. 42,650.—G. Alexander Emery, Boston, Mass.—*Photographer's Head-rest.*—May 10, 1864.—This invention consists in the employment of a cross-head secured to two standards, and so arranged as to be capable of ready adjustment, and in positions not seen in the picture.

Claim.—The stand, composed of two flat standards A A, and a cross-head B, in which the said standards are adjustable, substantially as and for the purpose herein specified.

No. 42,651.—J. B. Tinkelpaugh, Hastings, Minn.—*Hames Fastening.*—May 10, 1864.—This invention consists of a metallic tubular support, in one end of which is inserted, so as to move freely, a rod provided with a hook on its outer end. On the inner end of the rod is a series of notches in which a spring pawl is made to catch so as to adjust the length of the rod. At the opposite end of the tube is a hook which is secured by means of a screw on its inner end, so that it can be easily removed when necessary.

Claim.—First, the tubular support A, in combination with the notched rod c, substantially as and for the purpose described.

Second, a metallic tube A, for the purpose of a support and protection to the operative parts of a hames-fastener, substantially as described.

Third, the removable hook b, in combination with the tube A, substantially as described.

No. 42,652.—John Flock, Newark, N. J.—*Collice.*—May 10, 1864.—This invention consists of an instrument for polishing or smoothing the sides of boot and shoe soles. It is composed of a handle, provided with a support, having a central opening for a screw-thread, and resting upon this support is a block on which is a scale corresponding to the different sizes of the soles, and provided with a mortise for the reception of a convex guide, which can be adjusted to any line upon the scale.

Claim.—The convex guide F, constructed substantially as shown, when combined with the block C, constructed substantially as shown, handle A, and support B, as and for the purpose specified.

No. 42,653.—J. R. Gill, Charleston, Ill.—*Washing Machine.*—May 10, 1864.—This invention consists in the employment of an oscillating shaft, with a presser and springs, and connected with the presser, outside the box, is a "toggle lever," combined with a sliding box and set screw, in such a manner as to admit of the motion of the presser being readily adjusted.

Claim.—First, the oscillating shaft C, in combination with the presser D, arms b, and spring arm b', constructed and operating in the manner and for the purpose set forth.

Second, the toggle lever F, in combination with the set screw e', sliding box h, spring g, oscillating presser D, constructed and operating in the manner and for the purpose substantially as shown and specified.

No. 42,654.—A. B. Glover, Yonkers, N. Y.—*Machine for Making Nuts.*—May 10, 1864.—In this apparatus the length of the blank is determined by a projection against which the end of the heated bar is thrust; the blank is then cut off by a reciprocating cutter, by which it is also moved forward upon a sliding carriage, whence it is carried to the die to be punched and swaged. After being forced out it is loosened from the die by means of a sliding finger and allowed to fall upon the floor.

Claim.—First, in combination with the dies, the stationary and movable cutters E1 E2, gauge n, carrier F, and guide p, the whole constructed and arranged relatively to each other and to the dies, and operating substantially as herein specified.

Second, the tongue f on the bar C4 and longer mortise g in the front die slide C3, the projection h on the bar C4 and stop h' in the frame, and the spring k, or their equivalents, all in combination with each other and with the front and back dies, substantially as and for the purpose herein set forth.

Third, the combination of the shaft B, cams C D E, dies C1 C2, punches c D1, rod D4, sliding bar E3, die-block G, and cutters E1 E2, all arranged and operating substantially as specified.

No. 42,655.—W. A. Greene, Troy, N. Y.—*Blacking Brush.*—May 10, 1864.—This invention consists in connecting two brushes by a hinge, and forming their backs so as to contain a box of blacking, and enclose the same when the brushes are folded together.

Claim.—The hinged blacking brushes a a, when constructed so as to enclose a blacking box, in the manner substantially as herein fully shown and for the purposes as described.

No. 42,656.—John Griffin and N. B. Weeks, Buffalo, N. Y.—*Piling old Railroad Rails.*—May 10, 1864.—This invention consists in forming a pile or fagot of old rails from which a portion of one or both sides of the bottom flange has been sheared off, so as to allow any desired number to be piled in a compact mass. In combination with the above, extra pieces, of proper form, are used to fill out or "square" the pile.

Claim.—First, forming a pile or fagot of rails whose flange or flanges have previously been sheared off, substantially as described for the purposes set forth.

Second, the combination with a pile of rails so sheared and interlocked, of extra or special pieces, of proper form or forms to fill out or square the pile, substantially as set forth.

No. 42,657.—Frank Henry, Bridgeport, Conn.—*Corder for Sewing Machines.*—May 10, 1864.—The nature and object of this invention is explained by the claim.

Claim.—First, attaching the cord guide K to the presser foot or presser bar of a sewing machine so that it shall rise and sink therewith, to automatically adjust itself to the thickness of the goods being worked, substantially as herein set forth.

Second, the employment of a swivel joint G between the cord guide K and the presser foot or presser bar, when the cord guide K is carried vertically with each movement of the presser bar, as herein set forth.

No. 42,658.—W. H. H. Hinds, Groton, Mass.—*Lantern.*—May 10, 1864.—This invention consists in the application to hand lanterns of a tube and spring to raise the candle as it is burned. The tube is encircled by a sleeve attached to a standard which serves as a support to the lantern.

Claim.—The application to hand lanterns of a tube B to support the candle D and the spring f, enclosed within the tube, for the purposes herein described.

Also, the standard P and sleeve E for the support of the lantern, as above set forth.

No. 42,659.—Thomas Holmes, M. D., Washington, D. C.—*Coffin.*—May 10, 1864.—This invention consists in arranging and distributing several deodorizing vessels in the interior of the coffin, each of which vessels is furnished with numerous perforations opening into the coffin, and a pipe leading to the external air. The gases from the body pass through the deodorizing chambers and out into the air freed from unpleasant odor.

Claim.—The arrangement and construction of the deodorizing cases, with their pipes, arranged and constructed in the inside of a coffin, as herein described and for the purposes set forth.

No. 42,660.—B. B. Hotchkiss, Sharon, Conn.—*Time Fuse for Shells.*—May 10, 1864.—This fuse is ignited by a percussion striker placed in a head chamber of the fuse stock, and acting by the shock of the initial discharge; and the novelty consists in the adaptation of the striker employed for permitting the escape of the gases of combustion through its central opening, between projecting lugs on its top, and through side openings in the head chamber or fuse cap.

Claim.—In connexion with the fuses of time shells, the time composition C, fulminate F, striker G, interior communicating passages G′, and exterior lateral discharge passages I, combined and arranged substantially as and for the purpose herein set forth.

No. 42,661.—T. D. Hotchkiss, Guilford, Conn.—*Spinning Wheel Head.*—May 10, 1864.—This invention consists in applying springs to the standards of a spinning wheel head in such a manner as to cause them to be pressed upwards so as to maintain a proper tension of the pulley band, thus rendering the same self-adjusting.

Claim.—So applying a spring or springs, in combination with the standards H H of a spinning wheel head, as to exert an upward pressure on the said standards, and preserve a proper tension of the band b without the use of screws or any other manual adjustment.

No. 42,662.—Wm. S. Hudson, Paterson, N. J.—*Truck for Locomotives.*—May 10, 1864.—This invention consists in the employment of devices, designated in the claim, for the purpose of equalizing and distributing the weight of the locomotive upon the truck. On the forward part of the train is arranged a bushing in such a manner as to admit of a vertical movement of the same, and connected with the bushing is a rubber spring.

Claim.—First, in locomotives, disconnecting the forward pair of drivers G from the equalizing mechanism which connect the drivers E and F, and equalizing between the drivers G and the bearing wheels of the truck, so as to form independent equalizing devices, the forward one of which includes the forward drivers and the truck, substantially as and for the purpose herein set forth.

Second, the transverse bearing bar J and lever K, in combination with the forward pair of drivers G and two or more truck wheels H, and arranged relatively to each other and to the other parts, substantially in the manner and for the purpose herein set forth.

Third, the bushing L, adapted to move vertically through the framing B, and arranged relatively to the truck frame C and equalizing lever K, substantially as and for the purpose herein set forth.

Fourth, in combination with the last, the rubber spring M, arranged relatively to the bushing L and to the bearing piece N, substantially as and for the purpose herein set forth..

No. 42,663.—Liveras Hull, Charlestown, Mass.—*Thread-tension and Delivery Mechanism for Braiding Machines, &c.*—May 10, 1864.—In this apparatus the rod which is lifted by the weight, as it rises and unlatches the spool to allow the letting off of more yarn, is passed through a hollow support upon the spool frame. The weight is arranged in such a manner as to have a greater traverse than usual for the better accommodation of elastic threads.

Claim.—The combination and arrangement of the guide roller *d*, the frame C, the bobbin A, (or the spindle B,) the rod E, and the weight F.

No. 42,664.—Charles Jennings, Easton, Conn.—*Horse Rake.*—May 10, 1864.—In front of the driver's seat are arranged two rocking levers, with the lower end of one of which is connected a rod, the rear end of the said rod being connected to the rake head, and all so arranged that the driver may, from his seat, raise the teeth from the ground to discharge the load, and also regulate the pressure of the rake teeth upon the ground.

Claim.—The arrangement of the rocking levers F G and rod H with each other and with the rake head D and seat I, in the manner herein shown and described.

No. 42,665.—H. C. Johnson, Philadelphia, Penn.—*Ships' Sails and Rigging.*—May 10, 1864.—The object of this invention is to enable the operations upon the sails to be performed mainly upon the vessel's deck, and for this purpose spilling lines and brails are made to pass through the end of a yard and underneath it to its centre and thence to the deck. Above the lower yard the sails are of triangular shape, to be hoisted and lowered from the angles of the sails aloft. The top, topgallant, and royal sails are so formed that they can all be attached at their lower outer corners to one yard.

Claim.—First, spilling lines and brails, arranged in respect to the sails substantially in the manner described, so that the latter can be reefed or taken in from the deck of the vessel, substantially as and for the purpose set forth.

Second, the top, topgallant, and royal sails, when so formed that they can all be attached at their lower outer corners to one yard, substantially as set forth.

Third, the rods 11, when arranged in respect to the truss 12, as and for the purpose set forth.

No. 42,666.—Algernon K. Johnston and Lorenzo Dow, New York, N. Y.—*Applying Percussion Priming to Cartridge Cases.*—May 10, 1864.—This invention consists in forming a metallic cartridge in two parts, a cylindrical body and a base, the latter being in the shape of a flat cup designed to embrace a flange spread out at one end of the open cylinder constituting the body, and folded or swaged down over it so as to securely connect the two, the ordinary fulminating paste being first placed between the disk of the cup and the flange to which it is attached.

Claim.—The application of a cup or cap to the flange of a cylinder with fulminating powder between, substantially as above described, the whole forming a percussion cap or base for a cartridge.

No. 42,667.—A. K. Johnston and L. Dow, New York, N. Y.—*Applying Percussion Priming to Cartridges.*—May 10, 1864.—This invention consists in placing the ordinary fulminating paste between two disks, one of which, having a flange turned up around its edge, is made to fold over the other disk, and thus form a kind of primed metallic wafer. A central aperture is previously made in one of the disks, for transmitting the flame to the cartridge, which aperture may be provided with a small cylindrical burr or projection, for riveting it to the opening in the base of the cartridge if desired.

Claim.—The use of a disk in connexion with a cup, and held in close juxtaposition to its base by turning the edges of the cup, substantially as above described, together with a tube communicating with the fulminating powder on the disk at the base of the cup, either through that or through the disk, in the manner above set forth.

No. 42,668.—Algernon K. Johnston and Lorenzo Dow, New York, N. Y.—*Fabric for Envelopes of Cartridges.*—May 10, 1864.—This invention is explained by the claim.

Claim.—The application to the fabric or tissue forming the covering of cartridges of a substance or preparation which shall thoroughly fill the interstices thereof, and render it firm and impenetrable to the burning gases within the chamber of the gun at the instant of discharge, using for that purpose the aforesaid substances as above described, or any other of similar nature which will produce the intended effect.

No. 42,669.—R. H. Lamborn, Altoona, Penn.—*Coal-mining Apparatus.*—May 10, 1864.—This invention consists of a steam or compressed air engine, supported upon a truck and arranged in such a manner as to cause the piston rod, to which the cutting chisel is attached, to move at an angle with the face of the coal to be mined. The force of the blow is regulated by means of adjustable stops upon a valve rod which works in the cross-head. The track upon which the engine runs is made in sections, the forward movement of the truck upon which is effected by means of pinions and cog wheels in connexion with a valve rod and lever.

Claim.—First, the arrangement and combination of the cylinder D, with the truck C, in such a manner as to give the piston rod E (to the end of which the chisel is attached) an angle with the face of the coal, the force of the blow given by said piston rod being regulated by the connexion of said rod with cross-head L, valve rod I, and adjustable stops *e f*, as set forth.

Second, in combination with the foregoing, the sectional tracks, constructed, secured, and employed as and for the purpose herein specified.

Third, the combination of wheel *h*, pinion *g*, and cog wheel B′, with the sectional tracks constructed as herein described, to give the necessary forward movement to the truck by their connexion with valve rod I and lever K.

Fourth, the employment in an apparatus such as described of the exhaust air or steam to keep the channel clear of chips and dust, in the manner described.

No. 42,670.—Henry T. Lee, Jersey City, N. J.—*Trunk.*—May 10, 1864.—This invention consists in constructing the trunk with protecting caps produced by stamping from a piece of metal without seam, and attached to the corners of the trunk, the object being to produce a "barrel-stave" trunk, and resembling in form an ordinary sole-leather trunk. The caps used ordinarily in trunks for protecting the corners are made of sheet metal with open seams.

Claim.—The projecting caps D, when constructed in the manner herein shown and described, and combined with the corners of the trunk, as set forth.

No. 42,671.—Sylvester Lewis, Rochester, N. Y.—*Deodorizing Petroleum, &c.*—May 10, 1864.—The nature and object of this invention are explained by the claim.

Claim.—The use and application of the above ingredients, to wit, ashes and charcoal, for the purpose of deodorizing petroleum and kerosene oils, naphtha, benzone, and benzine, and the process of filtering the same through the above ingredients as above set forth, without reference to the exact proportions of such ingredients, which vary somewhat, depending upon the state of the oil to be deodorized.

No. 42,672.—B. L. Mack, Essex, Conn.—*Stop-motion for Knitting Machines.*—May 10, 1864.—This invention consists in the employment of a locking device in combination with the belt-shipper, whereby the yarn in passing from the bobbin to the conductor of the machine is caused to hold up the said lever and make it lock the shipper in condition to keep the machine running; but when the yarn gives out or breaks, the said lever being no longer held up, is acted upon by gravitation, in such a manner as to unlock the shipper and allow the machine to be put out of gear by a spring or its equivalent provided for the purpose.

Claim.—The locking lever F, having a heavier arm to be supported by the yarn and a lighter toothed arm in combination with a notched lever E, connected with a spring shipper, all substantially as and for the purpose herein described.

No. 42,673.—Richard Magee, Philadelphia, Penn.—*Letter Paper.*—May 10, 1864; antedated May 2, 1864.—This invention consists in making the fourth or last page of each sheet of letter or note paper opaque, or so that the matter which may be printed or written on any of the other pages thereof cannot be read through the said opaque page when the letter or note is folded in the usual manner for addressing.

Claim.—Letter or note paper coated as described, for the purpose specified, as a new article of manufacture.

No. 42,674.—Albert G. McWhirt, Galesburg, Ill.—*Strap-fastener.*—May 10, 1864.—The object of this invention is to dispense with the use of buckles in fastening the ends of straps, and using instead thereof a flattened metallic bar or double loop of the same width as the strap, and thick enough to admit of the same being wound around the bars and then drawn tightly down.

Claim.—A band or double loop with a bar which is used for fastening one end of a strap without sticking-buckles or knots, as described in specification herewith filed, and is described as follows: A flattened metallic bar or double loop, the sides perpendicular to the top and bottom the width to be equal to the width of the strap to be used, and about three times its thickness, the narrowest sides projecting beyond one end to receive and support a bar around which the strap passes.

No. 42,675.—HENRY MELLISH, Walpole, N. H.—*Hollow Wooden Ware.*—May 10, 1864.—This invention consists in cutting a thin helical strip of wood from a block of slightly tapering form with a bead at its larger end, and cutting the edges to form a joint, which are secured by a clasp of sheet metal, the object being to provide a light and cheap article of wooden ware for domestic use.

Claim.—As a new manufacture, an article of hollow wooden ware made of a scroll, provided at its upper rim with a bead *a*, and there secured by a fastening *b*, all as herein described and for the purposes specified.

No. 42,676.—JOHN MILLER, Buffalo, N. Y.—*Combined Beer Faucet and Vent.*—May 10, 1864.—Between the barrel and the discharge nozzle is arranged a vertical cylinder provided at its bottom with a transverse abutment or septum, which causes the liquid to flow up and then descend to its former level. Over the ascending port is a flap valve. When the piston in the cylinder ascends the flow commences, and when it descends the valve is instantly closed; the accumulation caused by the narrowed discharge nozzle is forced out with such velocity as to excite a froth upon the liquor drawn into the receptacle. Attached to the lever operating the piston is a cord, which opens a vent in the barrel when the piston is raised, the vent closing by a spring when the cord is relaxed.

Claim.—First, the piston cylinder B, piston H, and valves G and K, constructed and operating substantially as herein described.

Second, the vent valve M, supported and operated upon by the spring N, in combination wlth a faucet, constructed as set forth.

No. 42,677.—S. A. MOODY, New York, N. Y.—*Hoop Skirt.*—May 10, 1864.—This invention consists in dividing any desired number of the lower hoops at opposite sides, and connecting them by means of loops and links, in order to make them more adjustable to various positions.

Claim.—A hoop skirt, having a suitable number of its lower hoops divided at each side and connected by loops *b b* and links *c*, all as herein represented and described.

No. 42,678.—WILLIAM C. MOORES, Bloomfield, Wis.—*Economizing Human Power.*—May 10, 1864.—This invention consists in operating a small wheeled vehicle by means of a ratchet wheel in connexion with levers and pawls. The levers are pushed forward by the feet of the operator and drawn backwards again by means of springs attached thereto, the bearing or driving wheels being moved by means of an endless band connecting with the ratchet wheel.

Claim.—First, the ratchet wheel A, with its notches cut in each direction and worked by means of the levers B B, with the pawls C C and springs D D, as described.

Second, in combination with the above, the treadles E E attached to the ends of the levers B B, constructed in box-form, as described.

Third, the seat F, constructed as described, when used in combination with the ratchet wheel A, levers B B, and pawls C C, and treadles E E, and springs G G, all arranged as set forth.

No. 42,679.—JOHN C. MORRIS, Cincinnati, Ohio.—*Apparatus for Raising Water.*—May 10, 1864.—The object of this invention is to provide a device for raising and forcing water upon the Giffard principle, and its novelty consists in providing a shield for the steam induction pipe, and combining it with the other parts composing the instrument. The shield is so constructed as to prevent the water to be raised from coming in contact with the steam pipe until it has reached the point where the steam exudes from the pipe. The steam induction pipe is provided with a conically-shaped rod running through it, around which the steam passes, and which causes the jet of steam to assume an annular form.

Claim.—The shield D, for the purposes specified, in combination with the general arrangements, all substantially as and for the purposes set forth in the foregoing specification.

No. 42,680.—DAVID MURTHA, Philadelphia, Penn.—*Brick Machine.*—May 10, 1864.—This invention consists in the employment of a series of rotating circular disks, which are made to operate upon the clay after being forced from the narrow opening of the clay receptacle, so as to cut the clay into strips of the proper width of the length of the brick. In front of the said disks is also a transverse series of similar disks, for the purpose of cutting the strips in the proper widths. The feeding table is made in sections so as to admit of being passed successively through the machine.

Claim.—First, the rotating disks I, arranged and operating in the described combination with the aperture *b*, and employed to sever the sheet of clay into strips of width equal to the length of the bricks, as set forth.

Second, the rotating and transversely moving disks J, operating to sever the strips into widths for bricks, as explained.

Third, the sectional feeding table E E′ *e*, constructed, operated, and employed substantially as and for the purpose specified.

No. 42,681.—J. P. NEVENS, Stark, Me.—*Pump.*—May 10, 1864.—At the base of the pump stock is a chest, having a plunger hinged to the centre of one of its ends. Above and below the said plunger are arranged the eduction and induction ports and valves. An oscillating motion is imparted to the plunger by means of a rod and lever arranged similarly to the common pump handle and piston rod, by which the water is raised into the pump cylinder to the proper outlet.

Claim.—The combination of the inlet ports *e e′* and outlet ports *f f′* with the oscillating plunger B, pump-box A, and stock D, all constructed and operating as and for the purposes shown and described.

No. 42,682.—FRANCIS E. OLIVER, New York, N. Y.—*Car Spring.*—May 10, 1864.—This invention consists in a combination of metal and India-rubber springs constructed as shown clearly in the drawings and explained by the claim.

Claim.—An improved spring composed of two or more metallic C-shaped plates, united at their upper and lower edges by suitable bearing caps, and combined with a central compensating spring of India-rubber, gutta percha, or other equivalent elastic material, substantially in the manner and for the purpose herein set forth.

No. 42,683.—LEWIS E. OSBORNE, New Haven, Conn.—*Letter-clip.*—May 10, 1864.—This device consists of a plate provided with lugs to which are attached two clamps and a lever, the clamps serving to hold the letters securely, and the lever to raise the clamp for releasing the letters.

Claim.—The combination and arrangement described of the clamps B and D, with the lever F, in the manner and for the purpose herein substantially set forth.

No. 42,684.—NATHANIEL OTIS, Cook county, Ill.—*Measuring Funnel.*—May 10, 1864.—The interior of the funnel is provided with ridges to indicate the quantity of liquid to be drawn. In the spout of the funnel is arranged a valve which is operated by means of a rod extending to the top of the funnel where it turns over, and descending on the outside is formed into a ratchet that engages with a wheel connected with a register placed under the upper part of the handle. The raising of the rod to open the valve causes the register to turn and thus indicate the number of measures that have been drawn. The rod is held in position by means of a spring on the inner side of the funnel.

Claim.—First, the register E, constructed as and for the purpose herein set forth.

Second, the slide *c*, the spring *d*, the latch *e*, the pawls I and J, and the register E, the whole arranged and constructed as and for the purpose herein set forth.

No. 42,685.—CHARLES E. PAYNE, Gardner, Mass.—*Breech-loading Fire-arm.*—May 10, 1864.—The breech-block, in this device, moves downward through a vertical mortise in the stock or frame of the arm, the barrel being in a horizontal position, and is automatically withdrawn or depressed by a spring when released by a sliding trigger rod, which latter serves, at the same time, and by the same backward movement, to push out the discharged cartridge shell from the opened breech of the barrel.

Claim.—First, throwing down the breech-block D, by means of a spring or springs released by a trigger, in the manner herein substantially described.

Second, operating the discharger F, by the trigger which releases the breech-block D, substantially in the maner set forth.

No. 42,686.—ANDREW J. REYNOLDS, Sturgis, Mich.—*Double-acting Submerged Pump.*—May 10, 1864.—This invention consists of a cylinder enclosed at the bottom and having a lateral projection at its upper and lower ends through which the water is made to pass, a ball valve being arranged in the bottom of the upper projecting apartment and also one in the top of the lower apartment. The water is raised by means of a hollow piston rod and piston, the latter provided with a ball valve having its seat alternately in the upper and lower disk of the valve, so that, in both the up and down movement of the piston, the discharge of water will be continuous.

Claim.—The cylinder A, provided with the two ball valves B and C, in combination with the water passages D D and *d*, all arranged to operate in connexion with a double-acting hollow discharging piston, as and for the purposes herein set forth.

No. 42,687.—BARTON PICKERING, West Milton, Ohio.—*Sewing Machine.*—May 10, 1864.—This invention relates to that class of sewing machines in which a circular thread case revolves in a horizontal plane just beneath the bed plate, and it embraces a variety of details having for their object the better unwinding, take up and tension of the thread, and also the mode of hanging vertically, adjusting and operating the feed wheel.

Claim.—First, for the purpose of operating the feed wheel J, the lever I, connected to the spindle hub C, by the screw *f* for its fulcrum, operating substantially as described.

Second, the combination of the screw *l*, springs *m* and *z*, the hub *u*, with a socket for the supporting piece *k*, which has a slot for the reception of an arm *j*, of the lever I, for the purpose of regulating the feed of the material being sewn, substantially as described.

Third, the bracket support O′, it being held in the socket of the hub 10, by the adjusting screw *q*, for sustaining the feed wheel J in position, as desired, in combination with the plane surface of the spindle hub C, and the spring *p*, the different parts being constructed and operating substantially as described.

Fourth, the passing of the thread from the spool L, through an eye in the lever H, thence through the slot *r*, thence between the head *s* and felt *t*, thence over the grooved arm *u*, and thence around the grooved wheel *v*, for the purpose of unwinding the thread and securing a uniform tension of the thread, substantially as described.

Fifth, the construction of a tension piece 10, Fig. 4, connected to a thread carrier (similar to that patented by Joseph Bond, jr., May 22, 1855,) by a screw 13, which keeps the said tension piece and spool 12 in position within the thread carrier, the said tension piece being constructed and operating to regulate the tension of the thread, substantially as described.

Sixth, the construction of a tension piece composed of several parts, namely, the standard *k*, the spool arm M, shaft *s*, arm *u*, and the pieces of felt *t*, in combination with the grooved wheel *v*, to aid in the operation of unwinding the thread and to give a uniform tension to the thread, the whole operating substantially as herein set forth.

Seventh, casting the bed plate A with the spindle hub C, the hub 10, and the hub 11 in one piece, the different parts being constructed substantially as herein described and for the purposes set forth.

No. 42,688.—Henry Reynolds, Springfield, Mass.—*Revolving Fire-arm.*—May 10, 1864.—This invention consists in arranging upon the stock, in the rear of the recoil shield, a pin, which is made to pass through the shield for the purpose of expelling the discharged shell of metallic cartridges without disconnecting any portion of the arm.

Claim.—The arrangement of the pin *f* upon the stock A, at the rear of the recoil shield C, so as to pass through the said shield, all in the manner herein shown and described.

No. 42,689.—E. G. Rockwood, Hillsdale, Mich.—*Buckle.*—May 10, 1864.—This invention consists in constructing the buckle of a metal loop or frame provided with two cross-bars, a fixed and a movable tongue, all arranged in such a manner that a strap may be secured in the buckle with a loop at each end of it, so as to form a combined snap and buckle.

Claim.—A buckle composed of a frame *a* provided with two cross-bars *b b′*, one of which, *b′*, has a fixed tongue *c′* and a loose tongue *c* attached to it, when the said fixed tongue is employed as the means of attaching the strap to the buckle, and all the parts are constructed and arranged in the manner and for the purposes herein set forth.

No. 42,690.—Theodore Scheffler, Paterson, N. J.—*Water Gauge for Steam Boilers.*—May 10, 1864.—This invention consists in arranging upon the outside of a boiler a vessel, the bottom part of which is in communication with the water space of the boiler, and the top part is in communication with the steam space; inside of this vessel is placed a float, suspended upon a very small wire, which passes through an opening in the cap of the vessel, and over a pulley arranged directly over the opening, and connects with a cord which passes over two or more pulleys arranged within the casing surrounding the instrument, the said cord being connected to a weight designed to counterbalance the float. To this cord is attached an indicator or pointer which rises and falls correspondingly with the water in the boiler, by which means the exact water level is indicated. The use of the attenuated wire is designed to obviate the friction of the parts carrying the float and its connexions.

Claim.—First, in water gauges for steam boilers, the slender connexion *e*, subjected to a constant tensile strain, and arranged to operate substantially in the manner herein set forth.

Second, in connexion with the above, the combination and arrangement of the guiding pulleys F H, the wire or cord *e g*, the index M, and the tension pulley and weight I J, or their equivalents, substantially as and for the purpose herein set forth.

Third, in a water gauge, the passages *b b c* and the plug D, with its several passages, combined and arranged in the manner and so as to serve the general purposes herein set forth.

Fourth, in water gauges, the tubes P P′ and the intervening space Q, arranged relatively to each other and to the slender wire *e*, substantially in the manner and for the purpose herein set forth.

No. 42,691.—Anton Schwitter, New York, N. Y.—*Rose Engine.*—May 10, 1864.—This invention consists in forming the rosette, or the cylinder which governs the chasing tool, of a series of notched rings, which, when brought together face to face, and rotating upon a common axis, may have the notches in their peripheries so arranged in relation to each other that their combined action upon the chasing tool will produce an ornament of a given pattern or form.

Claim.—A rosette A for an engine-turning machine, composed of two or more adjustable notched rings *a b c*, substantially as and for the purpose herein shown and described.

No. 42,692.—S. J. Seely, New York, N. Y.—*Corrugated Beam.*—May 10, 1864.—This invention consists in the application of corrugated sheet iron to each side of a T-shaped beam or girder, the corrugations on each side running at right angles, or nearly so, with each other, for the purpose of strengthening the beam.

Claim.—First, the combination of two or more corrugated metallic plates, having the inclination of their corrugations on opposite sides, in opposite directions, and diagonal relatively to a horizontal line, with a chord or tie, for the purpose of forming a truss beam or girder, or other similar structure.

Second, the use of T or angle iron, or any other suitable form, in combination with diagonal corrugations, for the purpose of forming a truss beam or girder, or their equivalent, constructed and operating in the manner and for the purpose above described.

No. 42,693.—William Sewell and Adam S. Cameron, New York, N. Y.—*Pump Valve.*—May 10, 1864.—This invention consists in placing in the valve, during the process of manufacture, a disk of metal, in such a manner that when the valve is completed one side of the disk is nearly flush with the face of the valve, and the gum is allowed to project enough beyond the disk to form a tight joint with the valve seat without the disk touching the seat. The seat is provided with cross-bars, so that if a heavy weight of water should rest upon the valve the disk will come in contact with the bars and prevent any injury to the valve.

Claim.—Providing or making an India-rubber or other gum valve with a disk of metal or other hard material adapted by coming in contact with the valve seat, or with a suitable guard, to limit or prevent the forcing of the gum into the aperture of the seat, substantially as herein described.

No. 42,694.—William Sewell and Adam S. Cameron, New York, N. Y.—*Direct-action Steam Pump.*—May 10, 1864.—This invention consists in providing the steam and water pistons with separate rods, the rod in the steam piston being firmly secured within a connecting sleeve, while the rod of the water piston is held in the socket in the same sleeve by a key, so that it can at any time be readily disconnected therefrom and thus allow the pump to be worked by hand, the sleeve serving as a guide for the rod of the water piston when so worked. An auxiliary rock shaft is placed across the frame at right angles with the axis of the piston rods, upon which shaft, and directly under the piston rods, is placed an arm provided with a slot, in which a sliding arm is arranged to move up into a slot in the piston rod. When it is desired to work the pump by hand the key which holds the pump piston rod in its socket is removed and the slide in the rock-shaft arm is raised into the slot in the piston rod and held in position by a set screw.

Claim.—First, the combination in direct-action steam pumps, of the separate steam and water piston rods C D, having a detachable connexion with the rock shaft H and the extensible arm G, or its equivalent, for connecting the said rock shaft with the water piston rod, substantially as and for the purpose herein specified.

Second, the socket E, connecting the steam and water piston rods for working the pump by steam, and serving as a guide to the water piston rod in working the pump by hand, substantially as herein described.

No. 42,695.—Francis Shenton, Slatington, Penn.—*Machine for making Slate and other Frames.*—May 10, 1864.—This machine consists of a frame in which is mounted a horizontal shaft having four circular saws of different diameters attached, and in the same frame are two upright adjustable shafts each with two saws of different diameters. At the sides of the frame are sliding carriages moving on adjustable ways, so that by placing the prepared stuff on the carriage it is fed to the saws and the joint is cut to the proper shape.

Claim.—The arrangement of the saws on the adjustable upright shaft *s*, the saws on the horizontal shaft, with the adjustable and sliding carriages, when constructed as described and for the purposes set forth.

No. 42,696.—Strickland Slack, Oxford, Penn.—*Car Coupling.*—May 10, 1864.—The object of this invention is to enable the cars to be coupled without the necessity of going between them, and it consists in the employment of a series of levers, by which the bolt is operated in connexion with the link and a spring that serves to keep the link in position.

Claim.—The piece B and spring *b* in combination with the levers G and K, the bolt D, and the link E, substantially as set forth and for the purpose specified.

No. 42,697.—Eben T. Starr, New York, N. Y.—*Lock of Fire-arms.*—May 10, 1864.—In the frame of this is a circular cavity for the reception of a tumbler, and a concentric bearing for one of the journals of the main spindle or arbor of the lock, bored out of the solid metal. The said cavity is also fitted with a cap to receive the other journal of the spindle or arbor, secured by screws, which also serve to secure the sere and sere-spring within the circular cavity. The trigger is composed of a straight sliding pin, which is held in place and has its movement limited by a screw entering a groove in the rear in combination with the sere and a spring.

Claim.—First, the frame having a circular cavity *b b* for the reception of the tumbler B, and a concentric bearing for one of the journals of the main spindle or arbor of the lock bored out of the solid metal, and having the said cavity fitted with a cap C to receive the other journal of the said spindle or arbor, and secured by screws *g g′*, which also serve to secure the sere and sere-spring within the circular cavity, as herein specified.

Second, the trigger composed of a straight sliding pin E, held in place and having its movement limited by the screw *z* entering a groove *l*, in combination with the sere *c* and sripng *d*, when arranged to operate in the manner herein specified.

Third, the employment for securing the cheek pieces F F to the stock of a plate G, having an annular projection *l* on its face fitted into an annular groove in the frame and cheek pieces, and held in place by a screw *v*, or its equivalent, substantially as herein specified.

No. 42,698.—Eben T. Starr, New York, N. Y.—*Repeating Fire-arm.*—May 10, 1864.—This invention relates to that class of fire-arms in which a four-chambered barrel is used, and it consists in providing the sliding and rotating plunger which explodes the cartridge with a nose, ratchet teeth, and an annular recess combined with a pawl, spring and tumbler with the hammer, so that each can be consecutively discharged. On the under side of the rear end of the barrel is a stud, which, in connexion with a sliding bolt, serves to secure the chamber to the frame when in position to be used.

Claim.—First, the sliding and rotating plunger C, provided with a nose, a ratchet teeth *c*, and annular recess *n*, and fitted to work in the frame A′, in combination with the hole *f*, pawl *d*, spring *g*, tumbler E, and hammer D, when arranged to operate in the manner described.

Second, the notched stud D, formed on the under side of the barrel B at its rear end, sliding bolt H, and spring I, in combination with the tilting four-chambered barrel B, when arranged to operate in the manner and for the purposes described.

No. 42,699.—Hannah Steiger, Washington, D. C.—*Barrel Cover.*—May 10, 1864.—This invention consists of a hinged lid attached to a frame, so constructed as to be readily secured to a barrel by means of screw bolts and nuts, and as readily detached, so that the contents of a barrel may be secured by a lock when necessary.

Claim.—An attachable and detachable lock barrel or box cover, constructed with its frame, bolts, and openings, whereby it can be attached and detached to and from a barrel or box, the whole constructed as and for the purpose specified.

No 42,700.—L. H. Thomas, Waterbury, Vt.—*Carriage.*—May 10, 1864.—This invention consists in the employment of a grooved hook, operating on a standard connected with a base or bed plate, in which is a flat horizontal adjustable spring that can be tightened or loosened when required, so that the hook can be locked or unlocked, for the double purpose of holding the harness-strap permanently in the hook, or instantly adjusted, so that the horse may be freed from the carriage, and thus be adapted to the two kinds of harness now in use—one that holds the horse securely to the shafts, and the other that allows the horse to be instantly freed the moment the traces are detached from the whiffletree.

Claim.—The arrangement, construction, and combination of the grooved hook E, flanged standard D, adjustable spring C, and dog K, when arranged, constructed, and combined as herein described for the purposes set forth.

No. 42,701.—Daniel Treadwell, Cambridge, Mass.—*Manufacture of Hoops for Cannon.*—May 10, 1864.—This invention consists in making the ring of a diameter considerably less than is required to surround the cannon, and when cold or at a temperature below the annealing point, extending, condensing, and hardening the metal by hammering or rolling, and afterwards distending the ring still further by means of swages. Prepared in this way, the ring is turned up at the proper size for giving the required compression, and at a temperature below the annealing point is driven upon the cannon.

Claim.—The method herein described of preparing hoops for hooped cannon, or other similar purposes, by condensing and hardening the material thereof, when below an annealing temperature, by means of compression or extension, or both, substantially as described; and also, in connexion therewith, in heating the same to a degree less than the annealing point for the purpose of placing them upon the gun, substantially as described.

No. 42,702.—Frederic Trulender, Salem, N. J.—*Cartridge-retractor for Breech-loading Fire-arms.*—May 10, 1864.—This invention consists in applying to a hinged or movable chambered breech a forked lever, arranged so as to catch the flange of a cartridge, and be tripped by a stationary spring-spin in the side of the stock, thus automatically acting to throw out the metallic cartridge case upon opening the breech.

Claim.—The fork lever *a*, applied to the movable breech block, and constructed, arranged, and operating substantially in the manner described.

No. 42,703.—J. H. Walker, Worcester, Mass.—*Drop for Hammering Sole Leather.*—May 10, 1864.—This device consists of a drop and block, one or both of which are to be faced with vulcanized rubber, hard leather, or other equivalent material, for the purpose of rendering sole leather upon which the drop operates of uniform thickness, as well as hardening and smoothing the same.

Claim.—Hardening, smoothing, and making of uniform thickness sole and other thick leather, by subjecting it to the action of a drop and block, one or both of which shall be faced with vulcanized rubber, hard leather, or their equivalent elastic and durable material or substance substantially as described.

No. 42,704.—Jonathan Ward, East Hardwick, Vt.—*Medical Compound.*—May 10, 1864.—This compound is designed for diseases of the kidneys, and consists of a mixture of oil of checkerberry, oil of juniper, extract of dandelion, extract of pipsissiwa, extract of mandrake, extract of logwood, and extract of scorched sugar, with a proper proportion of alcohol.

Claim.—The above-named compound in all its parts and proportions, fully prepared in the manner above specified.

No. 42,705.—John Warren, Buffalo, N. Y.—*Pumps for Deep Wells.*—May 10, 1864.—In this pump a single piston-rod is made to carry several valved pistons placed equidistantly apart. The induction ports around the lower part of the piston are covered by a sleeve as the rod ascends, but in descending they are uncovered. The space in which the sleeve moves is wider on the lower than on the upper pistons, which causes the valve of the upper pistons to close before those of the lower ones successively. In the upper stroke of the piston the liquid to be raised will be divided into equal columns, or nearly so, and thus the pressure will be lessened, causing each valve piston to perform an equal portion of the work.

Claim.—First, two or more valve pistons operated within the tube or pump barrel, when so placed or arranged that, in the upper stroke, the liquid to be raised will be divided into equal columns (or nearly so) and the hydrostatic pressure thereby lessened, and so that each valve piston will be required to do an equal proportion of the work, substantially as described.

Second, constructing and operating the valve pistons so that the valve of the upper piston will close first, and the valve of the second piston immediately after, and so on through any number of pistons which may be used, substantially as and for the purposes described.

Third, the construction of the combined valve and piston C, consisting of the hollow cylindrical part C′, provided with perforations C5 at the bottom and openings C6 at the top, and sleeve C2, operating for the purpose and substantially as set forth.

No. 42,706.—William Weitling, New York, N. Y.—*Tension Device for Sewing Machine Shuttles.*—May 10, 1864.—This device consists in the application to a shuttle bobbin of a tension spring, forming a part of, or permanently secured to, a loose frame inserted within the shuttle.

Claim.—The application to the shuttle bobbin of a sewing machine of a tension spring *a*, when said spring constitutes part of, or is permanently secured to, the loose frame A inserted within the shuttle, and constructed and operated substantially in the manner and for the purposes described.

No. 42,707.—A. E. White, Rockford, Ill.—*Boot-blacking Machine.*—May 10, 1864.—This invention consists in the employment of two curved rotating brushes, moving in reverse directions and at different rates of speed by means of wheels and pulleys, the brush applying the blacking being made to move slower than the polishing brush.

Claim.—A boot and shoe polishing machine, composed of two brush wheels D G arranged to revolve relatively, with different degrees of speed, in the manner substantially as herein shown and described.

No. 42,708.—Waldo Whitney, Manchester, N. H.—*Water Wheel.*—May 10, 1864.—This apparatus consists of a turbine wheel, surrounded by a circular basin, a curb rising from the inner part of the basin around the wheel and of an equal height with the same. From the periphery of the said basin extend transverse guides, forming chutes to conduct the water through openings in the curb against the wheel. Within the curb is a close-fitting cylindrical gate, which opens and closes all the openings when moved by a handle passing through the front of the curb, the said gate being made to traverse circularly around the wheel. The buckets radiate nearly tangentially from the wheel, but are partially concave where the water strikes them, their lower ends curving outwardly, and for a third of their length downward, where they unite with a strong hoop, which is of the same diameter as the upper part of the wheel.

Claim.—In combination with the peculiarly shaped floats F the inverted conical centre E and hoop G, to which the floats are fastened.

Also, in combination with the concave disk or basin around the wheel the stationary guides L and chutes M, to direct the water on to the wheel, substantially as described.

Also, the cylindrical gate N, arranged between the curb and the wheel, and fitted to traverse circularly around the wheel, and open and close the chutes or apertures which supply water to the wheel.

No. 42,709.—James White, Cleveland Ohio, and John Madden, Youngstown, Ohio.—*Machine for Making Horseshoe Nails.*—May 10, 1864.—This invention relates to the arrangement and operation of certain devices for making horseshoe nails, whereby a blank is cut off from a rod, the head formed, and the nail drawn out into the proper form and size. As the rod of which nails are to be formed is fed into the machine, the cutter descends, cuts off the blank, and forms the head of a subsequent nail, forming at the same time the head of the next blank, and so on. The cutter head performs two functions, that of cutting off the blanks and forming the heads.

Claim.—First, the herein described devices for cutting off the blank and shaping the head at one operation.

Second, the herein described devices for throwing the blank forward into the lip b, in the manner specified.

Third, the herein described devices for holding the nail while it is being drawn into shape, and releasing the same.

Fourth, the vibrating arms M N O P S T, in combination with the wheel B, operating as and for the purpose specified.

No. 42,710.—Geo. E. Wood, Providence, R. I.—*Car Coupling.*—May 10, 1864.—This invention consists in the employment of a bolt or pin pivoted near its centre, so that when the link comes in contact therewith its upper end is pushed forward within the draw-head, and falls by its own gravity within a slot on the under side of the draw-head, and upon resuming its vertical position, a fastening adjusts itself over the pin, retaining the link securely in position.

Claim.—The pivoted pin C, in combination with the fastening D, arranged within the draw-head A, to operate in connexion with a link or shackle B, substantially as and for the purpose set forth.

No. 42,711.—James F. Woods, 2d, Cohocton, N. Y.—*Wagon Brake.*—May 10, 1864.—Extending backwards from the forward axle is a straight lever, having near its rear end a short arm projecting at right angles from the same, and to the outer end of the said arm is attached a rod pivoted at its forward end to the wagon reach, and operating in the arc of a circle. The brake is operated by the action of the vehicle, so that in descending a hill or elevation the brakes will be automatically applied, but on level ground or in ascending a hill they will be freed from the wheels.

Claim.—The application of the straight lever D with its right angle arm d, the same being pivoted to the wagon reach and operating in the arc of a circle, in the manner as described, for the purposes herein set forth.

No. 42,712.—Homer Wright, Pittsburg, Penn.—*Jug Top.*—May 10, 1864.—This invention consists in forming the body section of a jug top with a flange projecting inwardly around the lower edge of the said section all of one sheet of tin.

Claim.—Forming the body section of a tin jug top, with the margin or rim A, figures 3 and 6, of one solid piece of sheet tin, without seam, all for the purpose herein substantially set forth.

No. 42,713.—Alexander A. Despreaux, Paris, France.—*Printing and Ornamenting Textile Fabrics.*—May 10, 1864.—This invention consists in adding metallic threads in weaving any kind of textile fabric to be subsequently embossed.

Claim.—As a new article of manufacture, fabrics with metallic threads interwoven therein, printed or ornamented in the manner substantially as hereinbefore set forth.

No. 42,714.—James Dougall, Stirlingshire, Scotland.—*Mode of Applying Lubricating Substances.*—May 10, 1864; antedated May 3, 1866.—This invention consists in the employment of hay or straw, or the same mixed together, for applying lubricating substances to axles, instead of cotton waste or sponge, which latter substances are apt to absorb and retain the oil together with dirt and sediment from the axle.

Claim.—The method herein above described of applying lubricating matters, the same consisting in using in axle boxes for railway carriages, &c., hay or straw, or both combined, substantially as hereinabove described.

No. 42,715.—James Oxley, Sheffield, England.—*Bread Cutter.*—May 10, 1864; patented in England October 30, 1862.—This device consists of a knife-blade, connected at one end with a vibrating lever working on a centre fixed to the table or a base piece, the opposite end working along an inclined slotted arm or bracket attached to the rear end of the apparatus, by which a draw cut is obtained. The loaf or substance to be cut is forced against an adjustable gauge carried by the lever handle. Connected with the knife is a bar or rib, so arranged as to separate the slices when cut.

Claim.—First, the general constructions, arrangements and combinations of apparatus for cutting, slicing, chopping, or mincing bread and other substances, substantially as herein described and illustrated by the drawings.

Second, the combination of a knife-blade with a lever and inclined slotted bracket, so disposed as to give a downward draw-cut, for the purposes hereinbefore described.

Third, the combination of a knife with two links or levers, so disposed as to give a downward draw-cut, for the purposes hereinbefore described.

Fourth, the combination of an adjustable gauge with a lever working or cutting blade, substantially in the manner and for the purpose hereinbefore described.

Fifth, the application and use of the bar or rib O, or its equivalent, combined with the knife C, for separating or clearing the slices when cut, substantially as hereinbefore described.

Sixth, the application and use of an apparatus, constructed substantially as hereinbefore described, for holding the substance to be cut firmly and moving it forward, step by step, at right angles to the knife.

No. 42,716.—T. W. Rammell, London, England.—*Centrifugal Disks revolving in Air or Water.*—May 10, 1864; patented in England November 16, 1860.—This invention consists of a wheel, formed in two parts or disks, with a space between the two, wider at the centre and converging towards the periphery, where it is open for the emission of air. Between the disks is arranged a series of radial passages or ducts formed by ribs attached to the central shaft and extending to the circumference, and extending from the circumference towards the centre is a secondary series of ribs, also forming ducts, for the purpose of increasing the centrifugal force of the revolving disk for the expulsion of air or other fluid at the circumference. The mouth of the disk is provided with air-tight collars fitting around the same and communicating by suitable tubes with a reservoir of air, water, or other fluid. The apparatus is designed to be used as a propelling power in connexion with a pneumatic railway.

Claim.—First, The arrangement in centrifugal disks, as above described, of the separate radial passages or ducts $b\ b\ b$, formed by the straight ribs $a\ a\ a$ attached to the central shaft A A′, and extending to the circumference; the said ducts having their respective sectional areas uniform, or nearly uniform, throughout, and equal, or nearly equal, to the areas of the corresponding openings which admit the air or fluid at the centre.

Second, in combination with the foregoing, the arrangement of the secondary ribs $d\ d\ d$, extending from the circumference towards the centre, and forming the secondary ducts $b'\ b'\ b'$, as above described, by means of which the centrifugal force of the revolving disk is greatly increased for the expulsion of the air or other fluid at the circumference.

Third, the improved disk, as above described, with or without a pressure chamber, in combination with the air-tight collars E E′ E″, fitted around the mouth of the disk, and communicating by suitable tubes or pipes with any reservoir of air, water, or other fluid, all arranged in the manner and for the purposes above described.

No. 42,717.—Charles W. Siemens, London, England, and Frederic Siemens, Berlin, Prussia.—*Gas Producer or Furnace.*—May 10, 1864; patented in England January 22, 1861.—This invention is designed to be used in connexion with what is termed a regenerator gas furnace, for which a patent was granted to the present patentees, in England, on January 2, 1861. The object of the present invention is to prepare from fuel, or various other bodies or matters capable of producing fuel, a combustible gas, such as may be used to advantage in the said regenerator furnace. The fuel chamber of the furnace has a back of fire-brick, supported on a metallic plate and set at a proper inclination. Below the said back is an inclined grate, formed with a series of flat steps with passages between them. At the foot of the grate is a covered water-trough, provided with a slot or opening out of its front side and just below the cover: Below the water-trough is an opening leading into an open space or chamber in the rear of the inclined back. The fuel is supplied to the proper chamber through a mouth and throat placed directly over the inclined back, being caused to gradually descend the inclined back.

Claim.—The gas producer, constructed in manner and so as to operate substantially as described.

No. 42,718 —James Thompson, Bilston, England.—*Manufacture of Gun Barrels.*—May 10, 1864.—This invention consists in rolling an ingot of metal to a proper diameter, and while hot, separating from the same with a saw a piece containing a sufficient quantity of metal for a barrel, and then driving a punch longitudinally through the blank while confined in clamps so as to prevent lateral expansion, and for the purpose of effecting a greater condensation of the metal. A mandrel being then passed through it the blank is again heated and subjected to the action of a trip-hammer, by which it is elongated, reduced in diameter, and still further condensed, after which it is passed between rolls, whose grooves are of a proper shape, and there reduced to the proper form for a barrel.

Claim.—The manufacture of fire-arms, or ordnance, of iron, steel, or other desired metal, without weld or joint of any kind, and hollow, substantially in the manner and by the means hereinbefore described.

No. 42,719.—Alexander H. Wagner, Pimlico, England.—*Safety Doors for Churches.*—May 10, 1864.—This invention consists of a double door, or a door opening both outward and inward. The main frame of the door is hinged in such a manner as to open outward in case of fire or other accident, and the outer part opens inwardly as in the usual manner. The main frame is secured by means of a lever actuating two bolts, which, when occasion requires, can readily be opened so as to swing outwardly, with an increased area for the egress of people from the building.

Claim.—The combination of a door A, opening inward, with a frame B, hung on hinges and opening outward, substantially in the manner shown and described.

Also, the application to the frame B and door A, constructed and described, of a lever D, or its equivalent, so that, by a slight touch of said lever, the frame is liberated and allowed to swing open.

No. 42,720.—J. J. W. Watson, Paris, and W. H. Smith, Nantes, France.—*Surface Condenser.*—May 10, 1864.—The object of this invention is to produce a surface condenser having a greater extent of cooling surface than is obtained by the use of tubes as usually employed, and the novelty consists in the arrangement of the parts in such a manner as to facilitate the approach to them, so that they be readily cleaned and repaired, and in filling the tubes, of which the condenser is principally composed, with wire gauze, or its equivalent, for the purpose of presenting a large amount of conducting surface.

Claim.—The use, in steam condensers, of tubes, or other vessels, filled with wire gauze or its equivalent, substantially in the manner and for the purpose specified.

No. 42,721.—Simeon W. Albee, Charlestown, N. H., assignor to himself and Henry Hodson, Charlestown, Mass.—*Apparatus for Inhaling Gas.*—May 10, 1864.—This apparatus consists of a mouth-piece formed of an elastic air cushion, capable of being inflated so as to adapt it to the shape of the mouth, and is attached to a tapering tube or conduit, which is secured to a valve case. The said case is provided with two valves, with their seats at the upper and lower ends, respectively, so as to facilitate and insure the thorough inhalation of the gas without admixture with the external air.

Claim.—The combination of the elastic, inflatable mouth-cushion C with the mouth-tube or conduit B and its valve case A, provided with valves or a valve apparatus as described.

Also, the combination and arrangement of the two valves, valve seats, and valve stem, together, and with the valve case and a mouth-tube, arranged as described.

No. 42,722.—Julius O. Baudissin, assignor to himself and S. Vangraafeiland, St. Louis, Mo.—*Hydrostatic Balance.*—May 10, 1864.—This invention consists in an application of the hydrostatic bellows to the purposes of weighing. The principal feature of novelty consists in the manner of suspending the platform by means of an elastic diaphragm of rubber and a central guide rod to prevent the platform from rocking. A vertical tube of glass connected with the liquid reservoir is furnished with a graduated scale to indicate the weight on the platform by the height of the column in the tube. A shorter vertical tube, communicating with the reservoir and closed at the top with a screw plug, serves the purpose of filling the reservoir with liquid, and also of adjustment to the zero of the scale by the movement of the screw plug.

Claim.—First, the hermetical but elastic closing of a water box by means of gutta-percha straps secured to the frame A, platform E, and guide rod B, by metallic or other rings *f e* and square pieces *d d'*, as set forth.

Second, the guide rod B and balancing rods *g g*, as set forth.

Third, the regulating screws *g* and *x*, as set forth.

Fourth, the gutta-percha bag G on top of the indicator, as set forth, all in the manner and for the purpose as specified above.

No. 42,723.—Elliot Dickerman, assignor to the Metropolitan Washing Machine Company, Middlefield, Conn.—*Washing Machine.*—May 10, 1864.—This invention consists of a vertical plunger staff suspended within a tub by means of a cord secured to the ends of two elastic standards, and adjusted higher or lower by a cross-piece which screws upon the plunger staff, and a pulley, around which the cord passes that sustains the said staff.

Claim.—In combination with the operative parts of a washing machine the plunger staff A, top piece D, and adjustable piece E, so arranged and applied as to shorten the cord C by the lowering of the adjustable piece E, and to lengthen it by elevating it to the top piece D, as herein specified.

No. 42,724.—G. E. Donisthorpe, W. Firth, and R. Ridley, Leeds, England.—*Coal Mining Apparatus.*—May 10, 1864; patented in England November 26, 1861.—This invention consists in the arrangement of a series of devices, in combination with picks and lever handles, which are operated by a compressed air engine mounted upon and carried by the same carriage as the picks, for the purpose of mining coal. Connected with the piston rod of the engine are also cutters, by which a great power of stroke can be exerted upon the coal.

Claim.—First, the combined arrangement of mechanism herein explained, with reference to figures 1 and 2 of the drawings, whereby picks with lever handles are actuated by compressed air engines mounted on and carried by the same carriage as the picks.

And, secondly, the combined arrangement of mechanism herein explained, with reference to figures 4 and 5 of the drawings, whereby cutters are connected with and moved to and fro by the piston rods of air engines mounted on carriages, as herein described.

No. 42,725.—John Gaw, assignor to himself and Henry P. Chandler, Ellicott's Mills, Md.—*Wheat-cleaning Machine.*—May 10, 1864.—This invention consists in constructing the beater cylinder with openings in its upper and lower ends, and attaching to the top of the same a bell-shaped funnel, by which the air is concentrated and directed upwards, and to the escape passages.

Claim.—The combination of the beater cylinder J, constructed with openings at top and bottom for the passage of an upward current of air, with the bell-shaped funnel K, for concentrating the draught and directing the air current, as described.

No. 42,726.—Charles Goodyear, Jr., and Leonard A. Sprague, assignors to Charles Goodyear, New York, N. Y.—*Buckle-fastening.*—May 10, 1864.—This invention consists of a lever buckle composed of two parts, having a hinged connexion on the face of the strap; the said buckles being secured to straps by means of staples, and the latter constituting one of the elements of a hinge.

Claim.—The forming of a lever buckle in such a manner that the same may be secured to leather straps or other articles by a direct hinge joint attachment, *i. e.*, without the intermediary of a connecting strap, as set forth.

Also, the combination of lever buckles when composed of two parts, as set forth, with a hinged connexion on the face of the strap, applied as shown and described, so as not to interfere with the flexibility of the strap.

Also, the method of securing or fastening lever buckles to straps and other articles by means of staples, or their equivalent clamping or clinching devices, when the said staples, or their equivalent clamping or clinching devices, constitute one of the elements of a hinge.

No. 42,727.—Frederick W. Gossling, assignor to himself, Henry F. Briggs, and Lyman Bradley, Buffalo, N. Y.—*Manufacture of Sugar.*—May 10, 1864.—This invention consists in producing sugar as an article of manufacture from corn and beets by subjecting the latter to a series of processes and chemical agents.

Claim.—As a new article of manufacture, a sugar produced from corn and beets.

No. 42,728.—Frederick W. Gossling, assignor to himself, H. F Briggs and L. Bradley, Buffalo, N. Y.—*Process of Treating Indian Corn and Beet Root to promote Sugar and Sirup.*—May 10, 1864.—This invention consists in subjecting the corn and beet root to a series of processes, for an explanation of which reference must be had to the specification.

Claim.—First, the process of making sugar from corn and beets, substantially as herein described.

Second, the process of making corn sirup from corn in each successive step thereof preparatory to its conversion into sugar, substantially as herein described.

Third, the process of making beet sirup from beets in each successive step thereof, substantially as herein described.

No. 42,729.—John Hawks, assignor to Henry Hawks, Brooklyn, N. Y.—*Tag Hook.*—May 10, 1864.—This invention consists in forming the main part of the metallic hook, to which the label is attached, of a spiral or screw shape, so that the pointed part will press the article to which it is attached between it and the spiral part, and serve to hold it more securely.

Claim.—The metallic hook attachment for tags and labels, consisting of the spiral or screw-formed portion receiving the straight or nearly straight part, as and for the purpose specified.

No. 42,730.—Alonzo Hicks, assignor to himself and Henry Lewis, Flushing, N. Y.—*Combination of Cradle and Chair.*—May 10, 1864.—This invention consists in a method of connecting a chair with a cradle, so that the motion of rocking the chair will impart a corresponding motion to the cradle. At one end of the cradle is arranged a vertical rod, which bends at right angles over the cradle, and serves as an arm to support a staple.

Claim.—First, a cradle swinging on a frame or standard, in combination with a chair rocking upon stationary feet or legs, whereby the relative position of the cradle and chair may remain unchanged, so that a connexion can be made between the chair and cradle, substantially as specified.

Second, the combination of the table *e*, on the arm *d*, with the swinging cradle, substantially as specified.

Third, the rocking chair on the legs or feet *f* in combination with the spring *l*, extending from such legs *f* to the staple on the back, as specified.

No. 42,731.—James Howden, Glasgow, Scotland, assignor to William and John Galloway, Manchester, England.—*Machine for Making Bolts and Rivets.*—May 10, 1864; patented in England February 28, 1859.—In this machine the novelty consists mainly in the arrangement of two horizontal die-tables, which revolve intermittingly, with two punches attached respectively to the two ends of a vibrating lever.

Claim.—First, the combination of two or more revolving die-tables having a vertical axis with a single lever for actuating the heading rams, when the parts are constructed and arranged as and for the purposes herein specified.

Second, in combination with the aforesaid die-tables, heading rams, and lever, the bell crank levers Y, operated in the manner and for the purposes described.

Third, the combination of the oscillating cutting levers P, eccentric O, and shaft K, when constructed and operated as described.

No. 42,732.—Edwin F. Hurlbut and Ransom S. Potter, assignors to themselves and Nathaniel S. Bouton, Chicago, Ill.—*Oil-box for Railroad Cars.*—May 10, 1864.—This invention consists in casting or fastening the door upon the oil-box, so that it may be permanently secured thereto, in combination with loose lugs or ears on the door adjusted to the cavities in the box.

Claim.—First, casting or fastening a door or lid into a frame, substantially as shown and for the purposes described.

Second, the combination of the loose lugs or ears, letter D, with the oil-box, substantially as shown and for the purposes described.

No. 42.733.—DAN W. KELLOGG and JAMES W. MCKEE, assignors to A. B. NIMBS and JOHN C. CLIFFORD, Buffalo, N. Y.—*Portable Wet Grain Elevator.*—May 10, 1864.—This apparatus is composed of a movable frame mounted on rollers or wheels; to the upper part of one end of which are attached jaws, which support the elevating legs and are arranged to oscillate, so as to accommodate the operations of the said elevator. The elevating buckets are so arranged as to be capable of extending and operating below the foot of the elevating leg, so as to be easily filled with the wet grain and passed up without clogging, the same being effected my means of a tackle in connexion with an adjusting rod arranged within the frame. In the upper part of the frame is a horizontal endless carrier for conveying the grain to the proper receptacles as it is received from the elevator. With the upper part of the elevator leg is connected a blower and an apparatus for cleaning the grain as it passes from the elevator.

Claim.—First, the oscillating jaws F, for the purpose of supporting and operating the elevating leg therein, substantially as described.

Second, extending and operating the elevating buckets below the foot of the leg so that they may easily fill with wet grain and pass up the leg without clogging when combined with the raising, lowering, and supporting tackle H H′ and adjusting rod I, substantially as set forth.

Third, the combination of the conveyor T with a portable elevator, substantially as described.

Fourth, the combination of the blower M and cleaning apparatus L with a portable elevating machine, substantially as set forth.

No. 42.734.—A. B. NIMBS, assignor to himself and J. C. CLIFFORD, Buffalo, N. Y.—*Manufacture of Elevator Buckets.*—May 10, 1864.—This invention consists in forming the bucket around its mouth of a double thickness of metal in order to impart to it a greater stiffness, and in making the entire bucket of a single sheet of metal.

Claim.—An elevator bucket, with its strengthening band, constructed and formed from one sheet or piece of metal, substantially as herein described.

No. 42,735.—C. RUBSAM, assignor to himself and CHARLES P. HALL, Newark, N. J.—*Clamp for Stopping Leaks in Hose Pipes.*—May 10, 1864.—This invention consists of a clamp, composed of two or more pieces of metal, which are fastened to the opposite ends of a piece of canvas or leather, and provided with lugs and screws, whereby the ends of the canvas can be drawn together in such a manner that, in case of a leak occurring in a hose, the clamp can be readily attached and drawn up tightly, so as to stop the leak without taking up the hose.

Claim.—An improved article of manufacture, a leak clamp for hose pipes, composed of the canvas or fabric A, with attached metallic strips B and clamping screws *b*, made and operating as herein shown and described.

No. 42,736.—LEOPOLD SANDERS, New York, N. Y., assignor to THOMAS B. DE FOREST, Birmingham, Conn.—*Hoop Skirt.*—May 10, 1864.—This invention consists in attaching the ends of the hoops to two tapes at the front of the skirt, the said tapes being placed adjoining each other, or side by side, and each having every alternate hoop permanently attached to it, while the intermediate hoops are allowed to slide freely through.

Claim.—A hoop skirt, in which the overlapped ends of the hoops are secured to tapes A′ and A″, or their equivalent, which slide freely around said hoops, substantially in the manner and for the purpose set forth.

No. 42,737.—SAMUEL A. TOOMBS, assignor to himself and SAMUEL M. PURSE, Ashley, Missouri.—*Cultivator.*—May 10, 1864.—This invention consists of a curved bar, the ends of which form the rear part, and are connected by a curved cross-bar. Longitudinal bars are pivoted to the front of the curved bar, and are provided with standards that carry at their lower ends cultivator teeth, the rear ends of the bars serving as handles to govern the cultivator.

Claim.—A cultivator frame constructed of the curved bar A, united at its rear by the curved cross-bar *b*, and provided with the stationary standards and cultivator teeth *a*, and pivoted standards for handles *d*, the whole constructed and arranged substantially as herein set forth.

No. 42.738.—ROBERT BARKLEY and LEWIS SEMPLE, Philadelphia, Pa.—*Grindstone Dresser.*—May 17, 1864.—This invention consists of a hand-tool, composed of a cast-iron wheel with chilled angular teeth, and connected with a forked handle having on one or both sides a shoulder for the purpose of enabling the wheel to be held steadily against the stone.

Claim.—A hand-tool consisting of the solid cast-iron wheel B, having chilled angular teeth, as described, in combination with the forked handle A, provided with a shoulder *x* on either one or both of its sides, the whole being constructed and combined together as described for the purpose specified.

No. 42,739.—JOHN S. BLAIR, Boston, Mass.—*Fireplace.*—May 17, 1864.—This invention consists in placing over the grate of a fireplace a metal cover, having its front part perforated and resting upon the top bar of the grate. The top of the cover extends back to the wall of the fireplace, and a portion of it is perforated and fitted with a sliding damper for the purpose of regulating the combustion of the fuel.

Claim.—First, the improved register cap as constructed of a plate C, provided with a flange *b*, as described, and not only having a series of openings *c c c*, but a register plate or valve *d* applied to such openings, the whole to be used in manner on a grate and within the open fireplace thereof, and so as to operate therewith, substantially as specified.

Second, the register cap C, constructed in manner and combined with or to be applied to a fireplace A and its grate B, and used for the purpose or objects substantially as hereinbefore explained.

No. 42,740.—CHARLES BOLLERMAN, New York, N. Y.—*Method of Securing Cloth Bushes in Holes.*—May 17, 1864.—The cloth bushes of piano-forte actions have heretofore been generally secured by glue or cement; this invention consists in securing the cloth in its place by means of a screw-thread cut in the wooden aperture and swelling the cloth into the screw-thread after insertion by the application of moisture.

Claim.—The employment or use of a screw-thread cut in the hole *a*, for the purpose of securing therein the bush *b*, of cloth or other soft material, in the manner substantially as herein specified.

No. 42,741.—L. H. BRADFORD, Boston, Mass.—*Nipple Primer for Fire-arms.*—May 17, 1864; antedated December 29, 1863.—This device is composed of a tube within which works a piston provided at its lower end with a priming wire and a collar; the piston is retained in position by means of a coiled spring within the tube, and in connexion with the same is a powder reservoir with a cap that fits over the percussion tube and a pusher and cut-off; the piston is provided with a finger by which the former may be more readily operated.

Claim.—First, the piston with priming wire and collar attached with or without the finger band, resting on a spiral or other suitable spring, in combination with a spring barrel, powder reservoir, tube cap, pusher and cut-off, as herein described, or any other device substantially the same, for the purpose specified.

Second, the pusher G and spring H, either with or without the cut-off, in combination with the tube cap, powder reservoir, spring barrel, piston, and priming wire, as herein described, or any device substantially the same, for the purpose specified.

Third, the finger band connected to the piston playing in the spring barrel, with or without a spiral spring, in combination with the powder reservoir, tube cap, pusher, cut-off, and priming wire, as herein described, or any device substantially the same, for the purpose specified.

No. 42,742.—PELEG S. BRADFORD, Bridgewater, Mass.—*Nail-plate Feeder.*—May 17, 1864.—In this machine the plate is turned by means of a cord wound around the plate carrier, the ends of the cord being attached to the two ends of a bow connected by a swivel joint to a bell-crank lever, the latter having a reciprocating movement imparted to it; the carrier is drawn back and the plate elevated simultaneously at each turning, the former by the action of an inclined plane attached to the near end of the carrier which slides against a stud projecting from the stock, and the latter by an eccentric plate fixed against a collar attached to the carrier in front of the stock; the forward movement of the carrier is produced by the cord, to which tension is imparted by each backward movement of the carrier.

Claim.—First, the combination of the cam L attached to the turning stock D, with a fixed projection *m*, or its equivalent, on the carrier C, substantially as and for the purpose herein described.

Second, the spring catches J J, applied and operating in combination with the carrier C, turning stock D, and cam L, substantially as and for the purpose herein set forth.

Third, the combination with the spring catches J J, of a wiper *l*, substantially as and for the purpose herein set forth.

Fourth, the combination of the turning stock D, eccentric K, fixed bearing *s*, arm N, and spring M, all as and for the purposes herein specified.

No. 42,743.—JAMES BRODIE, San Francisco, Cal.—*Device for Collecting the Dust from Stamp Mills and Crushers.*—May 17, 1864.—This invention consists in the application of blow-pipes or tubes so arranged in connexion with batteries or other crushing machines as to force a blast of wind into the same for the purpose of saving the fine dust arising from the crushings.

Claim.—The introduction of the wind blast through blow-pipes or tubes into batteries, or other crushing machines, (as exhibited and applied in drawings,) for the purpose of saving the fine dust arising from said crushings.

No. 42,744.—George W. Brown, New York, N. Y.—*Ice-cream Freezer.*—May 17, 1864.—This invention consists in pressing the scraper towards the inner surface of the cream-can by the leverage of the handle, and in combination therewith an arrangement of stops so applied that the cream-can and scraper can be turned together or the can be held stationary while the scraper is revolved within the can.

Claim.—Pressing the scraper to the interior surface of the cream-can by leverage derived from the handle or crank, substantially as specified.

Also, the stops *g* and *s s*, in combination with the spring cross-bar *n* and scraper *l*, substantially as and for the purposes specified.

No. 42,745.—J. S. Brown, New York, N. Y.—*Baby Tender.*—May 17, 1864.—This invention consists of a chair, couch, or hobby-horse, supported by a standard which is provided with a socket to receive a stem projecting below the said chair, &c., so as to allow it to turn freely in a horizontal direction; and in connexion with the above is a double lever arranged in such a manner that by means of a pedal attachment an easy up and down movement may be imparted to the said couch, &c.

Claim.—The use of the levers C and D, arranged with respect to each other, and attached to a frame or case, substantially as specified, for the purpose of maintaining a chair, couch, baby-jumper, and horse in a horizontal position while moving up and down, essentially as described, and in combination therewith the standard G pivoted to said levers and constructed with a socket receiving a stem *l* and cross-bar H, as set forth, for the purpose of supporting the chair, couch, and horse above the case and permitting them to be revolved.

No. 42,746.—Coles A. Carpenter, Glen Cove, N. Y.—*Dumping Cart.*—May 17, 1864.—This invention consists in the application of levers and catches to a dumping cart, arranged in such a manner that by a single manipulation the front end of the body of the cart may be liberated or allowed to tilt, and the tail-board at the same time released, so as to admit of the load being readily dumped.

Claim.—The arrangement of levers, catches, and bars or arms, applied to a cart in the manner substantially as shown, by means of which the liberating of the front part of the body of the cart from the thills, and the liberating of the bottom of the tail-board from the body, and the consequent dumping of the load, may be effected by a single manipulation on the part of the driver or attendant, as set forth.

No. 42,747.—W. C. Chamberlain, Dubuque, Iowa.—*Grain Separator.*—May 17, 1864.—This invention consists in connecting the two lower inclined screens together by means of a strap, which admits of being adjusted in such a manner as to adapt the said screens to clean grain of different qualities and quantities; underneath the lower part of the lower screen is arranged a receiving trough, and at the end of the said screen is an auxiliary discharging board; with the above is combined an upper shoe containing screens arranged in the usual manner.

Claim.—First, attaching the two screens E F together by means of an adjusting strap *g*, or its equivalent, so applied as to admit of the ready adjustment of the screen E, to adapt the machine for cleaning grain of different kinds and qualities, substantially as herein described.

Second, the combination of the two united sieves E E, with the riddles or sieves of a grain-cleaning machine and with the receiving trough D, and auxiliary discharging board J, substantially in the manner and for the purpose described.

Third, the arrangement of the three screening devices *a* E F, in a separating machine, in the relation to each other substantially as described and represented, and at the same time providing for the adjustment of the device E, so that the separating and assorting of the clean and partially cleaned grain may be effected, as set forth.

No. 42,748.—Linus N. Chapin, New Lisbon, N. Y.—*Breech-loading Fire-arm.*—May 17, 1864.—The breech block in this invention is moved obliquely downward and backward by the action of the trigger-guard lever, and is provided with grooves inclined to the direction of its movement in which the flange of the cartridge is caused to slide, so that the withdrawal of the breech block serves to retract the cartridge case when the cartridge has been discharged.

Claim.—First, the groove *e* in the breech block for moving the cartridge or blank, as herein described.

Second, in combination with the groove *e* bevelling the end or face of the hammer, as and for the purposes set forth.

No. 42,749.—Elisha Chase, Chicago, Ill.—*Parlor Cooking Stove.*—May 17, 1864.—This stove is of an elliptical shape, the lower part forming the fire chamber. In the centre of the upper part is placed the oven, by the sides of which are the flues leading to the exit pipe. Outside the oven are boiler holes which are enclosed by the swinging ends of the stove; when the latter are opened the boiler holes and sides of the oven are exposed.

Claim.—The combination in parlor cooking stoves of the following parts, constructed as above shown, namely, the flues A A, their entrances *e e*, the horizontal plate C, and the sectional doors or wings D D.

No. 42,750.—E. R. Cook, Trenton, N. J.—*Molasses Cup.*—May 17, 1864.—This invention consists in applying a slide valve to the bottom of a cup in such a manner that it may be opened readily in grasping the handle, and admit of the substance in the cup being discharged from the bottom of the latter, and cut off by releasing the valve mechanism, which is operated by a spring.

Claim.—A cup provided with a slide valve at its bottom, and arranged with mechanism in such a manner that the valve may be opened by the pressure of the thumb as the handle of the cup is grasped, and closed by a spring, substantially as and for the purpose specified.

No. 42,751.—James A. Cowles, Chicago, Ill.—*Spring for Lanterns.*—May 17, 1864.—This invention consists in the arrangement of a spring formed with a shoulder and operating in connexion with a slot and pin, so as to admit of the lower part of the lantern being readily attached to the upper part and securely held upon the same.

Claim.—The spring *d*, provided with the shoulder *e*, in combination with the slot *o* and pin *p*, substantially as and for the purposes set forth and specified.

No. 42,752.—Isaac C. Crane, Edgerton, Ohio.—*Raking Attachment for Harvesters.*—May 17, 1864.—This invention relates to that class of raking machines in which the rake is driven by an endless belt or chain, and it consists in an arrangement of devices for operating the various parts, throwing the raking attachment in and out of gear, &c.

Claim.—First, the endless chains C C, in combination with the board F, provided with grooves *f f* and rake head E, provided with the arm O, all arranged to operate substantially as and for the purpose set forth.

Second, the arm G attached to the rake head E, in combination with the upright I attached to the platform A. substantially as and for the purpose specified.

Third, the rod H, when used in combination with the rake head E attached to the endless chains C C. for the purpose described.

Fourth, the cone pulleys L L′, belt M, belt-shipper N, in combination with the endless chains C C, rake head E, and board F, provided with grooves *f f*, all constructed and arranged in the manner and for the purpose herein set forth.

No. 42,753.—J. H. Devereux, Alexandria, Va.—*Easy Chair.*—May 17, 1864.—This invention consists in attaching to an easy chair two leg-rests, one on each side, arranged with projecting cross-bars in such a manner as to be readily folded up for transportation.

Claim.—First, in combination with a folding frame and cushion, suspended at the front and back as described, the swinging leg-rests, and projecting cross-bars supporting said leg-rests, under the arrangement and for the purpose set forth.

Second, making the leg-rests in two parts, jointed or hinged together, as described, so as to allow of the folding of the same, whereby the chair may be used with or without leg-rests at pleasure, and may be folded in compact form for transportation, substantially as shown and described.

No. 42,754.—William C. Dodge, Washington, D. C.—*Adjustable Caster.*—May 17, 1864.—This invention consists in attaching caster wheels to sewing tables or articles of furniture in such a manner that by means of a connecting rod and lever the said article of furniture may be raised so as to be readily moved on the casters, or be set solid on the floor at pleasure.

Claim.—So attaching caster wheels to sewing machines, tables, and other household or musical implements, that the weight of said implements may be thrown on or off said wheels at pleasure, substantially as specified.

No. 42,755.—Cancelled.

No. 42,756.—James A. Dorman, New York, N. Y.—*Floating Mill.*—May 17, 1864.—This invention consists in the combination of one or more grinding mills, elevators, and a weighing device, all arranged on a barge or vessel in such a manner that a vessel loaded with grain may, when placed by the side of the floating mill, be unloaded, and the grain discharged into the former, weighed, and then ground into flour or meal. The elevators are placed within a swinging frame and arranged with a windlass.

Claim.—First, the combination of one or more grinding mills E, elevators G J, and weighing devices X, all constructed as specified and arranged on a barge or vessel A to form a floating mill, as herein set forth.

Second, in combination with the above the discharging elevators L, placed within a swinging or adjustable frame M and arranged with a windlass T, to operate in the manner substantially as herein set forth.

No. 42,757.—Z. S. Doty, Madison, Wis.—*Compound Paint Oil.*—May 17, 1864.—The ingredients of which this compound consists are linseed oil, Japan, alcohol, pulverized alum, litharge, red lead, rosin, burnt umber, and benzole.

Claim.—The herein described paint oil, composed of the ingredients therein named, and compounded in the manner and for the purpose substantially as set forth.

No. 42,758.—PHILIP ELEY, New York, N. Y.—*Manure Spreader.*—May 17, 1864.—This invention consists in attaching to the back part of a cart or wagon a hopper which is secured by means of a board attached to each side of the front part of the said hopper; attached to each board is a slide so arranged as to accommodate the hopper to the width of the cart or wagon, and to the lower side of the hopper are attached bars, used in connexion with guides on the under side of the bed of the wagon. The machine is designed to spread manure either in hills or drills or broadcast, as may be desired.

Claim.—First, the particular manner of attaching or applying the box or hopper B to the cart or wagon as set forth, to wit: by having a board *n* attached to each side of the front part of the box or hopper, and a slide *o* attached to each board *n*, for the purpose of accommodating the box or hopper to the width of the cart or wagon, in combination with the bars *j j* attached to the box or hopper, and the guides *k* attached to the under side of the bed *l* of the cart or wagon.

Second, the friction wheel J fitted in a frame G attached to the shaft of the cylinder E, in connexion with the belt L and cones or pulleys F L, or their equivalents, arranged substantially as shown for transmitting motion to the cylinder E, either from a wheel K of the cart or wagon, or by traction from the earth or ground, as herein described.

No. 42,759.—WILLIAM FREEMAN, New Haven, Conn.—*Shoe-string.*—May 17, 1864.—This invention is designed more especially for children's and army shoes, or those which are provided with a small number of string holes. The string is provided with a central hole or eyelet, and is applied to a shoe having three eyelet holes in the vamp and two or more in the quarter. The ends of the string are passed down through the eyelets of the quarter, and then through the outer holes in the vamp, and afterwards through the central hole of the same, and finally through the hole in the centre of the string.

Claim.—A shoe-string provided with a hole or perforation to admit of its being applied to a shoe, substantially in the manner as and for the purpose herein set forth.

No. 42,760.—A. S. GRANT, Waupun, Wis.—*Carriage.*—May 17, 1864.—This invention consists in the attachment of hooks and eyes to the rear of a buggy top and shifting rail in such a manner as to join the top to the back rail of the seat, and allow the cover to be turned down to a convenient position for being detached, and also of being readily turned up when it has been attached to the connexions. The forward part of the shifting rail is provided with gib and wedge fastenings in combination with pivoted wedge-pointed dogs and receiving loops which constitute the side fastenings for the arms of the shifting rail.

Claim.—First, combining with a detachable carriage or buggy top, and the shifting rail B thereof, hooks and eyes *b c* of such a construction as will join the top to the back rail of the seat and allow of the top or cover being turned down to a convenient position for being detached, and also of being turned up on its connexions when it has been attached, substantially in the manner set forth.

Second, in combination with the subject-matter of the first, the laterally expanding side fastenings, arranged substantially as described.

Third, the combination of the hinging hoop and eye fastenings *b c* applied to the back of the shifting rail B with the gib and wedge fastenings *g i d*, constructed and operating in the manner described.

Fourth, the pivoted wedge-pointed dogs *s s*, in combination with gib fastenings *g g* and receiving loops *d d*, the same constituting side fastenings for the arms of the shifting rail, substantially as described.

No. 42,761.—ALFRED H. GRIGGS, Newark, N. J.—*Wicket for Canal Lock Gates.*—May 17, 1864.—This invention consists in constructing the gate of two planes which are out of line with each other, and so disposed or arranged that they will close in line with each other when the wicket is shut, and its edges brought in contact with the frame in which the wicket is hung, so as to present a surface at right angles to the pressure of the water, and insure an equal balance of the wicket at both sides of its journals or bearings. A central rod is provided with a curved arm that projects downwards, and is fitted in an eye on the wicket for the purpose of opening and closing the wicket.

Claim.—First, constructing the box B of two parts *b b′*, one of which *b* is fitted in an offset *a* in the frame A, in connexion with the detachable plate C, provided with the journal *d* and fitted in offset *a′* in the frame A, substantially as and for the purpose set forth.

Second, the rod F, provided with the curved arm *k* fitted in the eye *l* attached to the wicket, substantially as and for the purpose specified.

No. 42,762.—JULIUS HACKERT, Bridgeport, Conn.—*Composition Metal.*—May 17, 1864.—This invention consists of a composition of copper, arsenic, and cream of tartar, to which a small percentage of silver may be added.

Claim.—The within-described alloy or composition metal, prepared from the material, and substantially in the manner set forth.

No. 42,763.—G. E. HARDING, Bath, Maine.—*Cotton or Hay Press.*—May 17, 1864.—This invention relates to that class of presses in which the follower is forced against the press board by the action of the levers, which are acted upon by a rope passing over suitable blocks and connecting with a windlass. The novelty consists in the combination of devices named in the claim for the purpose.

Claim.—The slide E and rod *g*, or its equivalent, in combination with the follower D. levers F G, rod *i*, press board C, and fuse *m*, all constructed and operating in the manner and for the purpose substantially as herein shown and described.

No. 42,764.—S. E. HARRINGTON, Greenfield, Mass.—*Hinge.*—May 17, 1864.—This invention is explained by the claim.

Claim.—A sliding pivot bolt, passing through and confined in two eyes or bearings attached to one of two objects to be coupled together, and held in position by a spring, in combination with two eyes or bearings attached to the other of said objects, and through which the ends of said pivot bolt are made to pass when the coupling is completed, substantially as described and for the purposes set forth.

No. 42,765.—JOHN O. HARRIS, Reading, Pa.—*Lamp Burner.*—May 17, 1864.—This invention consists in placing at the top of the wick tube a jacket of somewhat larger diameter than the tube, and surmounted by another jacket of still larger diameter, and slotted from the top; the same are connected with plates and wings, and the whole is designed to be so arranged as to burn coal oil without the aid of a draught chimney.

Claim.—The combination of the wick tube B, plates C C, wings D D, and jackets E F, arranged and operating substantially as and for the purposes described.

No. 42,766.—H. A. HARVEY, New York, N. Y.—*Machine for Threading Wood Screws.*—May 17, 1864.—In this apparatus a horizontal shaft, revolving intermittingly in sliding boxes, carries a hub from which radiate a series of arms, attached to the ends of each of which is a short tube whose axis is parallel to and coincident with the side of the arm. These tubes are brought successively to a vertical position immediately beneath the point of a screw blank, which latter is supported in an angle formed by the intersection of the upper way with a short terminal inclined way at a right angle thereto, and coinciding with the plane of rotation of the arms. When brought to this position, the shaft, ceasing momentarily to revolve, is pushed forward until the tube, still vertical, has arrived at the end of the terminal way; meanwhile a bar, lying horizontally in the plane of the latter, has followed, with a corresponding speed, the movement of the tube, and, while checking the further descent of the column of blanks, has pushed the lowermost one forward, so that when the latter is descending and passes off the end of the said way it is left hanging by its head within the short tube, its body protruding through the latter and lying in a semicircular recess formed in the surface of the arm; a backward translatory movement, succeeded immediately by a partial rotation of the shaft, then brings a fresh tube for a fresh blank.

Claim.—First, the combination of a series of sliding and rotating receivers and holders having the characteristics substantially as specified, with a socket and revolving screwdriver, the parts operating in combination as described.

Second, in combination with a revolving screwdriver, a receiver and carrier, or a series thereof, moved towards the screwdriver by a differential or fast and slow motion, substantially in the manner and for the purpose specified.

Third, a delivering apparatus consisting of a bent or curved inclined way and a slide operating in the lever or bent thereof, the whole having a mode of operation substantially as described.

Fourth, in combination with a delivering apparatus, substantially such as described, a receiver and carrier which moves as the slide of the delivery apparatus moves, so that the blank may be delivered and received under a mode of operation substantially as set forth.

No. 42,767.—H. A. HARVEY, New York, N. Y.—*Apparatus for Shaving the Heads of Screw Blanks.*—May 17, 1864.—In this apparatus a series of slotted tubes radiating from a hub which surrounds a revolving and sliding shaft are brought successively in vertical positions under the end of the conductor, where each one in turn receives a screw blank, allowing only the head thereof to protrude. The hub, by its intermittent revolving motion, brings successively each tube to a horizontal position, at which time, by means of the shaft being pushed forward, the conical end of the tube is forced into a socket, by which the several positions into which its extremity has been separated by the slots are pressed together, thus firmly grasping the blank, while at the same time its protruding head passes beyond the socket, and is brought within a revolving cutter stock, where cutters, properly adjusted for the purpose, shave the head.

Claim.—The combination of a series of receivers and holders, with a socket or griper and proper rotating shaving tools, the whole being and acting in combination under a mode of operation substantially as specified

No. 42,768.—H. A. Harvey, New York, N. Y.—*Apparatus for Nicking the Heads of Screw Blanks.*—May 17, 1864.—The operation of this machine is mainly the same as the one last described. The hub, by its intermittent movement, brings successively each tube with its blank to a horizontal position when the shaft is being pushed forward, and forces the conical end of the tube into a reciprocating socket. Another movement forward of the shaft brings the head of the blank in contact with a revolving saw, by which the nick is produced. The shaft, on being drawn back, releases the tube from the socket, while, by means of a fixed pawl catching into a ratchet-wheel attached to the hub, the latter is again partly revolved. The blank, after being nicked, falls out, and another tube with another blank is thrust into the socket.

Claim.—A series of sockets capable of receiving and griping screw blanks, as described, and having both a sliding and a rotating motion in combination with a sliding griping apparatus, acting substantially as specified.

Also, a series of rotating and sliding receivers, substantially such as are described, in combination with a sliding griping apparatus and a nicking saw, the combination being substantially as set forth.

Also, imparting the motion to a series of receivers as described, not only to grasp blanks by forcing the receivers into a socket, but also to feed the blank against a saw, or its equivalent, so as to cut a nick to the proper depth by means of a single cam acting in combination with a series of receivers and holders, substantially as described.

No. 42,769.—D. E. Holmes, Halifax, Mass.—*Pen-holder and Ink-eraser.*—May 17, 1864.—This invention consists of an ink-eraser having a file cut on one or more sides, and one or more of its sides polished for the purpose of smoothing down the roughened surface of the paper. The ink-eraser is attached to an ordinary pen-holder, which is provided with a perpetual calendar, secured by means of the eraser, and with an ordinary socket for holding a steel pen in the end opposite the eraser.

Claim.—First, the eraser C, provided with one or more toothed sides *a*, and one or more polished sides *b*, as and for the purpose set forth.

Second, as a new article of manufacture, the combined pen-holder, calendar, and eraser, constructed substantially as herein shown and described.

No. 42,770.—W. M. Horne, Boston, Mass.—*Sewing Machine.*—May 17, 1864.—This invention is designed as an improvement upon a machine for which a patent was granted to ——— Boyd, numbered 31,864; and it consists in crossing the thread for ornamental purposes on the surface of the cloth, and then stitching them thereto; also, by extending the loops in making a sort of fringe trimming on one or both sides of the binding thread. Devices are also used for intermittingly holding down the ornamenting threads between the needle and the thread-crossers.

Claim.—Combining with the thread crossers *g h* and the stitch-forming mechanism a device or devices for holding the ornamental thread or threads, so as to form the same into a series of loose loops on one or both sides of the binding thread, substantially as set forth.

Also, the mechanism for producing the movements of the loop fingers, substantially as described.

Also, operating the thread carriers by means of the diagonal slots *u* and pin *v*, in the manner specified.

No. 42,771.—John Howarth, Salem, Mass.—*Process of making Illuminating Gas.*—May 17, 1864.—This invention is explained by the claim.

Claim.—Bringing superheated steam and liquid hydro-carbons in contact with each other in such a manner as to vaporize the latter, and then passing the two vapors thus formed and combined through heated, dry carbonaceous material, as set forth.

No. 42,772.—John Howarth, Salem, Mass.—*Apparatus for Distilling off Gases and Vapors.*—May 17, 1864.—This invention consists of an apparatus composed of a double-chambered upright retort for containing carbonaceous materials, together with devices for superheating steam flues for the passage of the products of combustion, so combined as to cause the internal heat, or that produced by the superheated steam, to always predominate over the external heat, and serve to extract the liquid and other volatile products from the retort without producing destructive distillation.

Claim.—So combining devices for superheating steam flues for the passage of products of combustion, and a suitable retort, or retorts, containing carbonaceous materials, as to cause the internal heat, or that produced by the superheated steam, to always predominate over the external heat, and perform the work of extracting the liquid and volatile products from the retort, or retorts, without producing destructive distillation, substantially as described.

Also, the double-chambered upright retort, arranged and operating substantially as described and for the purpose specified.

No. 42,773.—Benjamin J. C. Howe, Syracuse, N. Y.—*Double-acting Pump.*—May 17, 1864; antedated February 4, 1864.—This invention consists in the employment of a hollow piston-rod, provided with one or more apertures or slots at its lower end, when the piston traverses it loosely between flanges, so that as the piston-rod ascends the water will flow into it above the piston, and in descending, the water flows in below the piston, thus forming a double-acting pump.

Claim.—A hollow piston-rod, having one or more apertures near the lower end, and attached to the piston in such a manner that the apertures in the side of the hollow piston-rod shall be open only to the compressed water on either side, alternately, of the piston as it is moved backward and forward in the cylinder of the pump, substantially as described.

No. 42,774.—George R. Hughes, Glasgow, Mo.—*Instrument for removing Suckers from Tobacco Plants.*—May 17, 1864.—This invention consists in applying a bit to a stock. to which are attached pulleys and a cord arranged in such a manner as to impart a rotating motion to the bit by means of a rack and pinion operated by the hand. The drill being placed upon the sucker and motion imparted to it, the sucker is at once destroyed.

Claim.—An implement for removing the buds or germs of suckers from tobacco plants, composed of a bit J, connected with a suitable stock or handle A, and arranged so as to be rotated by the action of the hand in which the implement is held, substantially as herein set forth.

No. 42,775.—James Ives, Mount Carmel, Conn.—*Rein Snap.*—May 17, 1864.—This invention consists in forming one side of the snap of a double-acting pivoted lever tongue, and providing a recess in the upper part of the snap for containing a spring to keep the tongue in position. The upper part of the said tongue is formed with a projection extending over the side of the snap, to be operated by the finger.

Claim.—First, the double-acting lever tongue *d d′* in combination with the spring *h*, substantially as and for the purposes described.

Second, forming the tongue of "a snap," with an extended finger-portion or lip *d* on it, substantially as and for the purposes described.

No. 42,776.—Arnold Jillson, Woonsocket, R. I.—*Sliding Scale for Steam Engines.*—May 17, 1864.—This invention consists in the employment of a scale or table of figures combined with the ordinary slide of a carpenter's rule in such a manner as to admit of any given velocity of the piston, the capacity of cylinder and pressure of steam, and the horse-power of a steam engine being readily calculated.

Claim.—The use of the table of figures, as herein given, in combination with the ordinary slide of a carpenter's rule, for calculating for any given velocity of piston, capacity of cylinder, and pressure of steam, the horse-power of a steam engine, substantially as herein described.

No. 42,777.—Ross Johnson, Urbana, Md.—*Letter Opener.*—May 17, 1864.—This invention consists in the peculiar construction of a knife-blade having a curved shank, a flat bottom, and a diagonal cutting edge, as shown in the engraving, for the purpose of readily opening letters.

Claim.—A letter opener, constructed with a curved shank *a′*, flat bottom blade *a*, having a blunt edge *e*, and a diagonal cutting edge *c*, substantially as and for the purposes herein described.

No. 42,778.—Henry W. Kahlke, Brooklyn, N. Y.—*Lock.*—May 17, 1864.—This lock contains three circular tumblers surrounding a central pin, which, by means of as many tubular arbors, communicating with three dial plates lying superposed upon each other, against the external face of the lock. Each tumbler is provided with a radial slot and a notched edge, against which latter bears a spring pawl, which falls into the successive notches as the tumblers are rotated. A pivoted bar carries, at its free end, a tooth which enters the slots in the tumblers, and on the opposite side a bolt, which may be passed through the hasp. In unlocking, the tumblers must be so arranged that their slots will correspond with each other and with the line of movement of the tooth, to which end the pointers must be set to the mark upon the dial previously determined upon; then by means of a lever, communicating with the outer face of the lock, the bolt may be drawn from the hasp, and the tooth at the same time be made to enter the slots in the tumblers, thus releasing the former and locking the latter.

Claim.—The tumblers B C D, three, more or less, provided each with a serrated or notched edge and a radial slot *a*, and placed on the shaft E, in connexion with the springs or clicks F, the radius bar H, provided with the bolt G and arm I, and the lever K, placed on the shaft *j*, having the arm or lever *k* at its front end, all arranged substantially as and for the purpose specified.

No. 42,779.—JOSEPH C. G. KENNEDY, Washington, D. C.—*Protecting Bound Books.*—May 17, 1864.—This invention consists in packing the space around the edges of the leaves of books, between the projecting covers, with a light, rigid material, for the purpose of protecting them from injury in transportation.

Claim.—The application of a rigid packing between the projecting edges of the covers of bound books, when arranged substantially in the manner and for the purpose herein above set forth.

No. 42,780.—JOHN A. KNIGHT, St. Louis, Mo.—*Wood Splitting Machine.*—May 17, 1864.—This invention consists in the employment of a weight or hammer which is made to fall upon a log that rests upon a stationary splitting knife. The hammer is operated by means of two cranks attached to a shaft of the driving gear, one of which cranks is fast to the shaft and revolves with it, while the other is longer and turns upon the shaft, the loose crank being carried around by means of a pin in the fixed crank. To the loose crank is attached a cord, which passes over a pulley above the hammer, and is drawn over the pulley by the connexion of the fast and loose cranks until the hammer is carried up so that the loose crank is disengaged from the connecting pin, and the hammer falls upon the log, forcing the latter upon the knife.

Claim.—The arrangement of the fixed and loose cranks J M, grooved pulley I, and bars A A′, with the supporting guide rods C, eared hammer D, springs H, and knife E, all in the manner herein set forth and described.

Also, the combination of the gear wheels O O, crank M N, and revolving lever J, when constructed and arranged as specified, and operating in connexion with the cord *b* and hammer D, in the manner and for the purpose described.

No. 42,781.—R. B. LANUM, Washington, Ohio.—*Corn Planter.*—May 17, 1864.—This invention relates to a seeding machine of that class in which the seed-dropping mechanism is operated by hand as the machine is drawn along, and it consists in the arrangement of a lever attached to the handle, to which lever is connected a cord and rod that moves the upper seed slide, and at the same time motion is imparted to the seed slide below the distributing tube.

Claim.—The lever K, cord J, rod I, and spring H, in combination with the two seed slides G O, rod P, tube L, and box N, all arranged to operate in the manner and for the purpose herein set forth.

No. 42,782.—JEREMIAH MEYER, Bay Ridge, N. Y.—*Apparatus for Bleaching.*—May 17, 1864; antedated May 6, 1864.—This apparatus consists of a vat which is divided into four compartments, two large and two smaller ones. The larger ones are provided with bars so arranged as to cause the fabric to assume a serpentine form, in order to expose it to the different liquors a sufficient length of time without interrupting the continuous motion of the parts. Above the compartments and over the vat is arranged a series of rollers that carry an endless belt, the latter being made to turn the rollers over which the fabric passes. The fabric is made to pass down through one of the larger compartments and up through one of the smaller ones successively, whence it is carried by means of rollers to a washing apparatus at the side of the bleaching vat. Over this apparatus is arranged a series of plain and fluted rollers, between which is a perforated pipe provided with spouts to throw jets of water upon the fabric as it passes from or to said rollers.

Claim.—First, the endless belt F and rollers G G′ H D D′, in combination with the compartments B C B′ C′ of the vat A, constructed and operating in the manner and for the purpose substantially as shown and described.

Second, arranging the fabric in the compartments B B′ in serpentine files, substantially as set forth, so that said fabric is exposed to the different liquors a sufficient length of time without interrupting the continuous motion of the apparatus.

Third, the application of the slide I with arms *h*, in combination with the apertures *g*, leading from the chambers C to the roller D′, substantially in the manner and for the purpose specified.

Fourth, the combination with the vat A of a washing apparatus L, constructed and operating substantially as and for the purpose shown and described.

Fifth, the pipe *k*, with jets k^*, in combination with the rollers $j\ j^*\ j'\ j'^*$, as and for the purpose set forth.

No. 42,783.—DAVID MONAT, Brooklyn, (E. D.,) N. Y.—*Device for Attaching Sails to Mast Hoops.*—May 17, 1864.—This invention consists in the employment for attaching sails to mast hoops of bow-shaped metal straps passing through eyes in the sail and around the leech thereof, and attached to the hoop by means of bands or otherwise, thus dispensing with the use of seizings, which take a longer time to apply, and are subject to chafing, by which they are liable soon to wear out.

Claim.—The combination of the bow-shaped strap C, (passing through the eye *b* around the leech *a*,) the hoop A, and the bands *e e′*, all constructed and connected in the manner and for the purpose herein specified.

No. 42,784.—JESSE L. MORRILL, New York, N. Y.—*Cork Extractor.*—May 17, 1864.—The object of this device is to remove loose corks from within the bottle, and it consists of two grooved and serrated elastic prongs attached to a shank, which latter is fitted to a handle.

Claim.—An improved cork drawer with grooved prongs, or with grooved and serrated prongs, substantially as and for the purpose set forth.

No. 42,785.—PETER NAYLOR, New York, N. Y.—*Device for Making Minie Balls.*—May 17, 1864.—This invention is designed as an improvement upon an apparatus for which a patent was granted to the said Naylor on April 1, 1862, and it consists in the arrangement in combination with the material parts of said apparatus of a vibrating cutter for cutting off the sprue or feather formed by the punch around the base of the bullet.

Claim.—An automatic vibrating cutter in combination with the die *s*, puncher die *r*, and ejecting punch 6, for the purposes and as specified.

No. 42,786.—PETER NAYLOR, New York, N. Y.—*Grooving and Sizing Minie Balls.*—May 17, 1864.—This invention consists in the employment of a horizontal revolving wheel and curved gauge adjusted at the proper distance apart, each having its working surface shaped to correspond to and form the groove in the balls as they are rolled between them. The balls are fed to the machine by a revolving platform and guide.

Claim.—The wheel *f* and gauge *g* fitted as specified for equalizing the size of Minie balls, or for simultaneously grooving and equalizing such balls as specified.

Also, the feeding plate *h* and ring *k* in combination with the wheel *f* and gauge *g*, for the purposes and as specified.

No. 42,787.—DANIEL M. NIXON, Danville, Ill.—*Harness Buckle.*—May 17, 1864.—This invention consists of a frame provided with curved ends, upon which is a bar having a cross-piece. To the centre of the frame is pivoted a tongue having a grooved end and a right angular projection extending above the curved ends of the frame, and all so arranged as to admit of the strap passing through the buckle, and being held without being bent to any extent.

Claim.—The frame A, with its curved ends and bar *a a′* and cross-bar D in combination with the tongue B, with its grooved end *g* and point B′, constructed and operating as described.

No. 42,788.—WILLIAM OSBORNE, South Adams, Mass.—*Steam Trap.*—May 17, 1864.—The object of this invention is to combine a slide valve with a steam trap in such a way as that the expansion of the induction pipe and the valve rod shall both conduce to the opening of the ports of the valve for the discharge of water. Its novelty consists in the combination of a slide valve having an eduction passage near its centre longitudinally, and a steam-tight box made to move upon friction rollers, together with an induction and eduction pipe. The induction pipe is of sufficient length to allow the difference of temperature to which it is subjected to cause the box partially to open or close the eduction aperture, and the operation is completed by the expansion of the valve rod, which is made fast to some fixed part of the device.

Claim.—First, the slide valve G in combination with the fixed post B and the longitudinally moving box D and steam pipe F, substantially as herein specified.

Second, the arrangement of the steam box C of a steam trap to run upon rollers in a direction parallel with a face of a slide valve contained in said box, substantially as herein specified.

No. 42,789.—THOMAS OXNARD, Marseilles, France.—*Apparatus for Evaporating Liquids.*—May 17, 1864.—This invention consists in the employment of a series of annular rims supported by two or more arms, by which they are secured to a rotating shaft within a semicircular pan placed below the same, so that upon rotating the said rims a portion of the liquid in the pan is taken up and caused to dip down through the open space in the centre of each rim, where it comes in contact with a current of air passing through the said open spaces.

Claim.—The employment or use of a series of annular rims A supported by two or more arms *b*, and secured by means of these arms to a shaft C rotating in a pan B, all constructed and operating in the manner and for the purpose substantially as shown and described.

No. 42,790.—HOSEA PELSUE, East Wallingford, Vt.—*Device for Chamfering Barrel Hoops.*—May 17, 1864.—This invention consists in the employment, in connexion with a barrel-hoop planer, of an eccentric wheel, so arranged that when its greatest projection is toward the planer the planing knife will be nearly in contact with its periphery, and the thickness of the hoop above the face of the table, so that when a hoop is introduced and the wheel revolves, carrying the hoop with it, the projection of the wheel becomes less until it is level with the face of the table, at which point the wheel can be stopped and the hoop withdrawn, and at the same time, by relieving the stop, a spring will turn the wheel to the place of beginning.

Claim.—The eccentric wheel A d, constructed and operating in the manner substantially as and for the purpose specified.

Also, in combination with the above, the automatic stop, composed of the bar F, upright G, and pin h, on the wheel A, arranged substantially as described.

Further, the combination of the bar D, spring E, and pin f, for the purpose of regulating the position of the wheel A, as set forth.

No. 42,791.—ALBERT PHILIPP, Appleton, Wis.—*Seeding Machine.*—May 17, 1864.—In this machine the seed cylinder is composed of three parts, with corresponding flanches and a central disk, forming two rows of seed receptacles, for the purpose of enabling two kinds of seed to be sown at the same time, or separately, as may be desired. The seed tube is formed with a flaring end, in which is placed a pointed block for distributing the seed. Attached to the slides of the seed cylinder are arms so arranged as to increase or diminish the seed apertures when necessary.

Claim.—First, the seed cylinder D, composed of three parts, with corresponding flanches, with the central disk, forming two rows of seed receptacles, whereby two kinds of seed can be sown at the same time, or separately, as shown and described.

Second, the tube $n\ i\ r$, when constructed and arranged aud employed in the particular manner herein specified.

Third, in combination with seed cylinder D D, constructed as specified, the arms Z Z attached to slides G G, by which the parts of the cylinder are operated to increase or lessen the seed apertures, as set forth and described.

No. 42,792.—LEONARD PHLEGER, Philadelphia, Penn.—*Spark Arrester.*—May 17, 1864.—This invention consists of a central pipe connecting at its base with the smoke flue of the locomotive, and surrounded at its upper part with a conically-shaped screen of wire gauze or perforated iron. Outside of the screen is a casing extending to nearly the base of the pipe, leaving a space between it and the pipe and screen, both of which it entirely surrounds, and is provided with openings in its upper surface for the escape of steam and gas.

Claim.—The arrangement of the chimney A, conical screen I, wide passages H and C, and exit pipes or passages E, as and for the purposes herein described and represented.

No. 12,793.—EDWARD S. RENWICK, New York, N. Y.—*Lock.*—May 17, 1864.—This invention consists in the employment in a lock of a series of vibrating tumblers, a series of corresponding keepers, and a yielding bolt stump. The latter is attached to the short arm of a bell crank lever, which is so arranged that if an attempt be made to push back the bolt, the tumblers, pressing against the stump, will cause the long arm to descend and rest against a stub, which prevents any further movement of the bolt. The keepers permit the tumblers to be set by the key, but catch them before the bolt stump comes in contact with them; and one of their number is so arranged that, when the tumblers are properly set to open the lock, the point of its spur will rest against its tumbler at a point between two notches on the same; thus being in a position to catch upon a slight movement of the tumbler.

Claim.—The combination in a lock of a series of movable tumblers, with a series of keepers, operating substantially as herein set forth.

Also, the combination in a lock of a tumbler, a keeper, a yielding stump, and a stop, the whole operating substantially as set forth.

Also, the arrangement in a lock of the members of a series of tumbler keepers in such manner that an engagement takes place between some one or more of them and their tumblers when the latter are properly set to permit the unlocking of the bolt, while one other or more of the said members then bear against spaces without engagement, the whole operating substantially as set forth.

No. 42,794.—H. J. ROGERS, Washington, D. C.—*Semaphore Telegraph.*—May 17, 1864; antedated January 25, 1864.—In this apparatus the signals are made by a ball or lantern, which, being concealed from view within a suitable casing or screen elevated upon a mast, is made to dip or drop below the screen by a haul-down, and to recede within the screen by the action of a spring. The times of appearance of the ball and the durations of exposure furnish the basis of the signal code.

Claim.—The combination of a ball, a spring and suspended screen, or of a light, a spring and suspended screen, with a haul-down, or equivalent connexion, for day and night signals, as herein set forth.

Also, in combination with the signal ball, the hinged arms for holding it expanded, and for admitting of its being folded up and readily packed for transportation, substantially as described.

No. 42,795.—SALOMON ROSE, Cincinnati, Ohio.—*Composition for Destroying Vermin.*—May 17, 1864.—This composition consists of a mixture of phosphorus, flour, and oil of rodium.

Claim.—The composition for destroying vermin, composed and compounded as herein described.

No. 42,796.—J. N. C. SAVELS, Stoughton, Mass.—*Last.*—May 17, 1864.—This invention consists in forming a last with a flat under surface, a protuberance at the toe, and also made flat across the top transversely at or near the ball of the foot.

Claim.—My improved last, as made with the flat under surface $i\ i'$, toe protuberance g, and the flat upper surface $h\ l$, this whole formation being in manner and for the purpose set forth.

No. 42,797.—WILLIAM SELLERS, Philadelphia, Penn.—*Machine for Planing Iron.*—May 17, 1864.—This invention consists in the use of certain devices to effect the lifting of the tool from the work on the back stroke of the planer, whatever may be the position or inclination of the slide rest, for which purpose a bell crank lever is employed, one arm of which rests against the tool apron, and the other is connected to a sliding bar which is moved in either direction, parallel with the screw of the slide rest, by means of a system of wheels, to which motion is communicated by the table, just previous to the termination of its stroke, through the instrumentality of a cord which passes over a pulley arranged within the cross-head. The slides are protected from the falling chips and dirt by extending the V-table entirely over them. Devices are also employed to effect more thorough lubrication without waste of oil.

Claim.—First, producing a motion radial to the axis of rotation of the circular piece C, for the purpose of raising the tool, substantially as described.

Second, the use of the bell crank S, or its equivalent, for the purpose and in the manner substantially as specified.

Third, providing the slides on the table with overhanging edges $g\ g$, substantially as described and for the purpose specified.

Fourth, arranging within the slides of the bed oil receptacles h, combined with the stops i', substantially as and for the purpose specified.

Fifth, arranging the outer end of the oil well so that the oil in the swinging oilers cannot touch in passing over, substantially as described and for the purpose specified.

Sixth, in combination with the channel a and stop i, the oil receptacle h, when so arranged that the oil can never rise to the level of a, substantially as and for the purpose specified.

No. 42,798.—F. J. SEYMOUR, Wolcotville, Conn.—*Apparatus for Tagging Lacings.*—May 17, 1864.—This invention consists in a method of securing upon braided or woven laces a sheet metal tag, or a blank, of sufficient length to be subsequently cut in half with the braid in separating the laces. In the operation the braid is passed off a reel through the machine; beneath it the end of a strip of sheet metal is passed and cut off; a die then presses the lace and a piece of sheet metal into a groove, bending the metal in a U-form; after this, a folding slide is brought up on one side that bends over one edge; the die comes down the second time and presses the edge of the metal tightly to its place, and the same operation is performed on the other edge of the piece of sheet metal, and the tag is completed.

Claim.—First, bending the tag blank into a U-form, and then folding over the edges successively, substantially as specified.

Second, the compressing die o, actuated substantially as and for the purposes specified.

Third, the folding slides 23 and 24, constructed and actuated substantially as and for the purposes specified.

Fourth, controlling the intermitted rotation of the shaft q by the stop 19, arm $q2$, and lever $q3$, substantially as specified.

Fifth, actuating the feeding rollers 6 and 7 by the wheel 2, with inclined grooves taking the pin in the disk 1, substantially as specified.

Sixth, the clamping lever q and cutter, applied and operating substantially as specified, to cut off the tag blank, as set forth.

Seventh, the guide eyes 20, actuated substantially as specified, to lift or depress the tag braid, for the purposes set forth.

Eighth, the holding jaws $v\ v'$, actuated substantially as specified, to clamp the braid while the tag is being put on the same, as set forth.

No. 42,799.—GEORGE L. SHEPARD, New York, N. Y.—*Artificial Leg.*—May 17, 1864.—The casing of the leg is made of sheet metal, and the motion of the knee and ankle joints are accomplished by ball and socket joints, having their lateral movements restricted. The toe joint is made by an endless band of India-rubber stretched over pins or rods extending across the foot, and arranged midway between the upper and lower surface of the foot.

Claim.—First, converting the ball and socket joint for the knee into a limited hinge joint, by means of the slot *a a* and the flanges *b b*, regulating and limiting the motion.

Second, the application of the bow or C spring D D, with its bent or bell crank lever, in connexion or in combination with the coil or watch spring, as before specified and described.

Third, the ankle joint, or connecting the otherwise more free movements of the ball and socket joint into a modified hinge joint, by the application, or by means of, first, the oblong slot, or opening above and below with the flanges, as described; second, by the pin or pivot passing through the centre of the ball horizontally from side to side; third, by the shape and form of the hole through the centre of the ball, as more particularly described in the specification and drawing herewith connected; all of which means, as combined, I claim as my invention.

Fourth, for the purposes hereinbefore specified and set forth, the application of the two jews-harp springs and standard underneath the socket, together with that of the two pins passing through the ends of the springs, as described and set forth in the specification and drawings.

Fifth, the mode or method of constructing the toe joint by the application of the India-rubber band passing around the two pins or rods, their ends riveted to the inner and outer side of the foot, as heretofore set forth and described.

No. 42,800.—W. C. SHIPHERD, New York, N. Y.—*Shoe Last.*—May 17, 1864.—This invention consists in attaching to the under side of the instep block a plate provided with a hub in connexion with a slotted plate attached to the lower part of the last, and a rod to which is attached a spiral spring for the purpose of allowing it to yield to pressure upon it, all so arranged as to admit of the instep block being readily detached from the body of the last by means of a hook applied to the instep block.

Claim.—The plate D, attached to the under side of the instep block B, and provided with the hub *c*, in connexion with the slotted plate G, attached to the body A and the yielding rod E, all being arranged as shown, and used in connexion with the plate C, or its equivalent, for connecting the last hook with the instep block, substantially as and for the purpose specified.

No. 42,801.—S. P. SLEPPY, Wilkesbarre, Penn.—*Tension Indicator for Sewing Machines, &c.*—May 17, 1864.—This device is designed for a hand implement as an appendage to a sewing or knitting machine. In order to ascertain the degree of tension used in forming any particular stitch the hook is applied to the thread, and the scale indicates the degree; a record, if desired, is then kept of such degree, in connexion with a specimen of such stitch, and thus the amount of tension necessary to be applied to form the stitch required is ascertained positively, instead of by guess or repeated experiments. The device is susceptible of adjustment, as to the force of the spiral spring, by means of a screw head.

Claim.—The tension indicator, made substantially as herein described and for the purpose set forth.

No. 42,802.—MARSHALL SMITH, St. Louis, Mo.—*Mail Pouch.*—May 17, 1864.—This invention consists in constructing a mail pouch with adjustable sliding partitions, so arranged as to accommodate the mail matter for the several stations on the line of way route. The cover of the pouch is formed with a metallic frame, and is so hinged to the said pouch as to fall clear from the same when opened. The partitions are made to move towards one end by means of a strap attached to the rear partition, so as to compress the letters in the several compartments.

Claim.—First, in combination with a mail pouch, the adjustable partitions *c c c*, substantially as described, for the purpose set forth.

Second, in combination with a mail pouch, a lid or cover provided with a metallic frame *m m k h*, for the purpose of giving strength to the said pouch and security to its contents, substantially as described.

Third, in combination with a mail pouch the broad hinge piece *p*, for the purpose of allowing the lid to fall clear away from the body of the pouch, substantially as described and for the purpose set forth.

Fourth, in combination with the adjustable partitions *c c c* of a mail pouch, a compresser *f g*, for the purpose of securely keeping the letters between the said partition, substantially as described.

No. 42,803.—ROBERT M. SMITH, Baltimore, Md.—*Mode of utilizing the Waste Acid from Petroleum Refiners.*—May 17, 1864.—This invention is explained by the claim.

Claim.—The utilizing of the sulphuric acid that had been previously used for refining petroleum or coal oils, and which contains foul and noxious odors, by applying the acid in the manufacture of salts of various kinds, and burning out the oil or fetid matter, substantially as herein described.

No. 42,804.—D. STONER and J. STONER, West Overton, Penn.—*Fire-place.*—May 17, 1864.—This invention consists in the arrangement of a damper in front and under the grate, in combination with an adjustable draught hole for conducting air from the exterior to and under the grate, and with a front plate closing the space under the grate in such a manner that, by the combined action of the said damper and draught hole, the fire in the grate can be regulated at pleasure.

Claim.—First, the combination of the damper J with the grate A and adjustable draught hole or pipe F, constructed and operating in the manner and for the purpose substantially as herein shown and described.

Second, the adjustable valve *b* and rod a', in combination with the draught hole F, damper J, and grate A, constructed and operating substantially as and for the purpose set forth.

Third, the hearth D, with a lid E and door I, in combination with the grate A, constructed and operating in the manner and for the purpose substantially as specified.

No. 42,805.—A. WILLIAM SÜS, New York, N. Y.—*Knapsack.*—May 17, 1864.—This invention consists in the employment of a pair of suspending straps which pass over the shoulder in connexion with another shorter pair of straps attached to the top of the knapsack near its centre, and also a pair of straps attached, one to each end of the knapsack, for the purpose of varying the position and shifting the weight of the same when desirable.

Claim.—First, the suspending strap B B, in combination with the straps C C, the whole being attached substantially as and for the purpose set forth.

Second, the straps D D, attached in the manner described, and employed for varying the position and shifting the weight of the knapsack, as and for the purpose explained.

No. 42,806.—JOSEPH C. TILTON, Pittsburg. Penn.—*Soap Compound.*—May 17, 1864.—The ingredients of which this compound consists are: sal soda, pulverized alum, German erasive soap, spirits of turpentine, spirits of camphor, spirits of petroleum or benzine, sassafras or bergamot, and spirits of hartshorn or ammonia, the whole to be dissolved in a certain quantity of boiling water.

Claim.—A soap compound prepared of the ingredients hereinbefore mentioned, when combined in the proportions and manner substantially as herein set forth.

No. 42,807.—A. W. TODD, Chicago, Ill.—*Knife for Cutting Honey.*—May 17, 1864—This invention consists in attaching a cutter to a shank in such a manner that it may be secured in the same in different positions for the purpose of cutting honey from the top, sides, and bottom of a bee-hive.

Claim.—The knife attached to the tang or shank, in the manner substantially as shown and described, to admit of being adjusted in different positions relatively with the tang of shank, as and for the purpose specified.

No. 42,808.—ELWOOD TUSH, Manchester, Iowa.—*Fanning Mill.*—May 17, 1864.—In the rear of the grain screen is an opening through which the air is introduced between and under the said screen. The bottom of the seed trough is curved, and with the lower grain board forms a conducting passage for the air to the rear of the grain screen.

Claim.—The combination of the opening G, seed trough J, and grain board K, by which the blast is conducted between and under the grain screens, over the seed screen, and up through the rear end of the grain screen, as described.

No. 42,809.—B. F. TUTTLE, Chelsea, Mich.—*Stump-extractor.*—May 17, 1864.—The lever bar which is fulcrumed to the axle is operated by means of a cord running over pulleys in the ends of the lever and of a cross-bar near the ground, under which is arranged a brake bar to prevent the wheels from turning while the stump is being extracted.

Claim.—The combination of the brake bar F, cross-bar E, and compound pulley, with the lever C, axle fulcrum B, and wheel A, all in the manner and for the purpose herein shown and described.

No. 42,810.—J. H. WALKER, Worcester, Mass.—*Welt-gauge for Sewing Machines.*—May 17, 1864.—This device consists of a spring bar connected to a main bar in such a manner as to be readily adjusted on the same, in connexion with side guides and a spring throat piece, so that in sewing welts in leather the same may be laid with certainty, and the device be made to yield to any inequalities in the leather, and be adjustable to varying widths of welt and varying thickness of material.

Claim.—First, the spring bar *d*, adjustably connected to the main bar A, substantially as and for the purpose described.

Also, the combination of the spring bar, the side guides, and the spring throat piece 4, substantially as and for the purpose described.

No. 42,811.—MARTIN WINGER, Ephrata, Penn—*Bark Mill.*—May 17, 1864.—This invention consists in a method of combining the hopper of a bark mill and its tubes with the shaft and with a cross-beam provided with scrapers arranged in such a manner as to keep the bark under the wheel or grinding apparatus during the process of grinding.

Claim.—The combination of the hopper N, and its tube or tubes, with the shaft B, and cross-beam O, provided with scrapers I H, all arranged and operating substantially in the manner and for the purpose described.

No. 42,812.—Edward Wright and Benaiah Fitts, Worcester, Mass.—*Loom.*—May 17, 1864.—The object of this invention is to enable the loom to be operated more rapidly than those of the usual construction, and to effect this the lay is made as light as possible, having no shuttle boxes, picking apparatus, or their accessories, attached to it. It is driven by a crank shaft, which, by means of straps winding thereon in opposite directions, and cams on the main shaft, give a rest to the lay when the shuttles cross the race. The other features claimed are mainly subordinate to the above and are designated by the claim.

Claim.—First, the combination and arrangement of the movable front, the movable back, and the outer part or binder *d*, with the stationary bottom to form a shuttle box, substantially as described.

Second, the placing the binder at the back or outer end of the shuttle box, at a distance sufficient to enable the shuttle to be clear of the race before it acts upon the binder, when the shuttle boxes are detached from the lay, substantially in the manner and for the purpose described.

Third, operating the lay by an intermittent crank motion, substantially as described.

Fourth, applying the power to work the picker staff to the radius bar of the parallel motion, substantially as described.

Also, the arranging of the picker cams upon the outer ends of the cam shaft, extended beyond the outside of the loom, so as to work in direct combination with the arms of the radius bars or their equivalent, by which the employment of straps or other similar connexions is avoided.

Fifth, the employment, in combination with the cam shaft or other convenient part of the loom, of the hand gear or its equivalent, by which the loom is turned forward by the operator, substantially as described.

Sixth, combining the protector, the shipper and the lay, so that the driving clutch or its equivalent shall be disengaged from the driving pulley or its equivalent by the direct action of the lay, substantially as described.

Seventh, the combination, in a loom, of the light detached lay, operated substantially as described, the detached shuttle boxes mounted upon the frame of the loom, and a suitable picking apparatus, so arranged in relation to each other, and to the other mechanism of the loom, as to give the relative movements described, by which a greater rapidity of working is obtained, substantially as described.

No. 42,813.—Rodney L. and Albert C. Betts, Brunswick, N. Y.—*Plough.*—May 17, 1864.—This invention consists in the arrangement of a branched or forked draw beam combined with a double inclined mould-board, which is provided with a recess in the middle portion of its upper edge between the branches of the beam. Within this recess is fitted a plate which may be removed in order to allow weeds or trash to pass over the same to prevent clogging of the plough. Extending laterally beyond the beam branches are obliquely spreading wings and a double share, and in the lower ends of the branches are arranged runners for the purpose of holding the plough upright and causing it to move steadily.

Claim.—First, the arrangement of a branched draw beam B B *i*, in combination with a double mould board A A, recessed or made low in the middle portion of its top edge, between the beam branches B B, and having a double share *t*, and spreading wings *w w*, extended laterally beyond the said beam branches, substantially as herein described.

Second, the arrangement of a branched draw beam B B *i*, in combination with a double mould board A A, provided with a double share *t*, and lateral wings *w w*, and having the upper part D of its low or depressed middle portion removable, substantially as herein described.

Third, the arrangement of a branched draw beam B B *i*, having runners S S, formed on the lower ends of its branches B B, in combination with a double inclined mould board A A, having a double share *t*, and oblique spreading wings *w w*, extended laterally beyond the said beam branches, substantially as herein described.

No. 42,814.—Peter Baumgras, Syracuse, N. Y., assignor to himself and Charles E. Livingston, United States army.—*Useful Products from the Berry of the Green Brier.*—May 17, 1864.—This invention consists in making use of the berries of the plant known as the green brier or cat brier, as a substitute for coffee, the seeds being separated from the bags in which they are contained, and ground and roasted like coffee.

Claim.—First, utilizing the seeds of the smilax, glauca, and rotundifolia, in the manner and for the purpose hereinbefore described.

Second, utilizing the sack which surrounds each seed of the berry of the smilax, glauca, and rotundifolia, in the manner and for the purpose hereinbefore described.

No. 42,815.—C. J. Bergen, assignor to Moore's Patent Fire Arms Co., Brooklyn, N. Y.—*Metallic Cartridge.*—May 17, 1864.—This invention consists in providing a cartridge of the ordinary form, and containing the fulminate in a flanged base, with a closely fitting

interior metallic case, somewhat shorter than the outer case, and having along its side a longitudinal groove, so as to form a narrow passage between the cases for communicating the fire from the rear to the forward end of the powder chamber.

Claim.—A double metallic cartridge case, provided with a channel or channels extending from the fulminating material to the front portion of the powder, substantially as specified.

No. 42,816.—F. Braun, Miesbach, Bavaria, assignor to Joseph Heindle, Brooklyn, N. Y.—*Furnace for Burning Sawdust.*—May 17, 1864.—This invention consists in constructing a drying room with a raised centre, and made sloping towards its sides above a fire chamber whose grate surface is composed of a central horizontal grate and inclined grate surfaces on each of its sides. Channels for feeding the sawdust, or other fine fuel used, are made through the bottom of the drying chamber at its sides, and the fuel falling upon the inclined grate surfaces slides thence down upon the central grate.

Claim.—First, the drying room D, with a roof-shaped or curved bottom *e*, in combination with side channels *d* and fire grate C, constructed and operating in the manner and for the purpose herein shown.

Second, the employment or use of the basket grate *c*, composed of two inclined sections *a c* and a horizontal section *b*, in combination with the channel *d*, substantially as and for the purpose set forth.

Third, the application of the reflector E, in combination with the fire grate C, constructed with inclined sides, substantially as and for the purpose set forth.

No. 42,817.—Thomas Carroll, assignor to W. W. Wilcox and J. Hall, Jr., Middletown, Conn.—*Clew Thimble.*—May 17, 1864.—This invention consists in the arrangement of a ring or guard in the interior of the clew thimble, to fit loosely over the body of the clew, in such a manner that the thimble is confined on the clew sufficiently close to prevent the rope from chafing against the upper portion of the ring to which it is attached, without changing the relative size of the clew and thimble.

Claim.—The combination of a guard *c*, with the interior of a clew thimble, substantially as and for the purposes set forth.

No. 42,818.—John Groves, assignor to himself, W. R. Beeston, and Thomas Bottomley, Brooklyn, N. Y.—*Explosive Shell.*—May 17, 1864.—This invention consists in a method of placing within the shell of an explosive projectile several smaller explosive shells, the fuzes of which are ignited by fire from the bursting charge of the larger or outer shell, so that the smaller shells are caused to explode at a suitable time after the outer shell. The inner shells are connected to the outer one by chains, and the outer shell is provided on its interior surface with fracturing grooves arranged in proper relation to the several attachments.

Claim.—First, the attachment of the inner shells B B, to the outer one A, by means of chains *d d*, substantially as and for the purpose herein specified.

Second, the arrangement of the grooves *e e*, in combination with the connexions of the chains *d d*, with the outer shell A, substantially as and for the purpose herein specified.

Third, the combination of the screwed pins *c c*, on the smaller shell, with the frangible frame C, secured within the larger shell, substantially as and for the purpose herein specified.

No. 42,819.—Lemuel P. Jenks, assignor to Isaac H. Clark, Boston, Mass.—*Hand Stamp.*—May 17, 1864; antedated May 2, 1864.—This device consists of a hollow handle having its upper end closed by a cap screwed within the same. To the lower end of the screw cap is attached a flexible rod extending through the length of the handle, and having attached to its lower end a block bearing a face plate, the latter being secured by a set screw, so as to admit of its being removed and replaced at pleasure. Within the lower part of the handle is arranged a rubber spring for the purpose of restoring the flexible rod to a straight position when a blow has been struck by the stamp.

Claim.—First, the combination and arrangement of face-plate and fixed flexible rod, without breakage or joint, with the spring and handle, all substantially as described.

Second, the hollow handle in combination with the face-plate, spring, and flexible connexion substantially as described.

No. 42,820.—J. Kefer, assignor to Owens, Lake, Dyer & Co., Hamilton, Ohio.—*Grain Separator.*—May 17, 1864.—This invention consists of a deflecting board or chute hinged to the shoe over an over-blast fan, to which chute a slotted strap is attached. Through this slotted strap passes a set screw for the purpose of holding the deflecting board in any desired position. The deflecting board is designed to prevent an eddy at the rear end of the shoe, which is apt to occur in the use of over-blast fans.

Claim.—The combination of the adjustable inclined chute and deflecting board K, pivoted at *k*, within the shaking shoe, the ears L L, screws *l l*, riddle G, inclined bottom H, and over-blast fan C, all constructed and arranged to operate in the manner and for the purposes herein specified.

No. 42,821.—**Nelson Orcutt**, assignor to himself and **G. W. Gregory**, Binghamton, N. Y.—*Producing Butter from Milk.*—May 17, 1864.—This invention relates to the production of butter from milk by means of a blast of air from a stationary bellows, introduced into the milk in any convenient vessel through a flexible tube, to the free end of which latter is affixed a rigid pipe which is moved about in the milk by hand. The novelty consists in the arrangement of devices employed, the process itself being disclaimed.

Claim.—First, the combination and arrangement of the bellows, springs, flexible tube, and the free second tube F, operating as and for the purpose described.

Second, the combination and arrangement of the bellows, lever, springs, and bail, as and for the purpose described.

No. 42,822.—**Hiram E. Paine**, assignor to **Elisha Waters**, Troy, N. Y.—*Stitching Horse.*—May 17, 1864.—This invention consists in arranging upon a proper frame a circular seat so constructed as to move eccentrically and be capable of adjustment by turning either higher or lower at pleasure. A back rest is so arranged as to be readily attached to any part of the perimeter of the circular seat to accommodate the operator. The above are used in connexion with a pair of clamping jaws arranged upon the frame.

Claim.—First, the arrangement of a circular, eccentrically movable seat A′, in combination with clamping jaws B B′, substantially as herein described.

Also, the arrangement of a circular, eccentrically movable seat A, adjustable vertically, in combination with clamping jaws B B′, substantially as herein described.

Also, the arrangement of a circular, eccentrically movable seat A, having a back rest C attachable to different parts of the periphery of the seat, in combination with clamping jaws B B′, substantially as herein described.

Also, the arrangement of a circular, eccentrically movable seat A, adjustable vertically, and having a back rest C attachable to different parts of the periphery of the seat, in combination with clamping jaws B B′, substantially as herein described.

No. 42,823.—**D. Williamson**, assignor to **Moore's Patent Fire-arms Company**, Brooklyn, N. Y.—*Revolving Fire-arm.*—May 17, 1864.—This invention consists in the employment of a sliding spring bolt placed in a position parallel, or nearly so, with the axis of the cylinder to be locked, in connexion with a spring bolt on the side of the said bolt adjacent to the hammer tumbler. Upon the hammer tumbler is a bevelled pin which crosses the spring bolt when in the act of cocking and firing.

Claim.—The combination of a sliding spring bolt, parallel, or nearly so, with the axis of the cylinder to be locked, a spring latch on the side of said bolt adjacent to the hammer tumbler, and a bevelled pin on said hammer tumbler crossing said bolt in the act of cocking and firing, as and for the purposes specified.

No. 42,824.—**Walter Aiken**, Franklin, N. H.—*Knitting Machine Needle.*—May 24, 1864.—This invention consists in making the needle with two projections, extending in opposite directions, for the purpose of steadying the needle and preventing its turning laterally; and also to dispense with the upper steadying ledges raised above the general top surface of the needle plate, to diminish the leverage on the upper projection and to lessen the friction in the longitudinal play of the needle.

Claim.—The improved knitting machine needle, as made with two projections *d e*, extending in opposite directions from its shank *a*, substantially as and for the purposes hereinbefore specified.

No. 42,825.—**Louis Alcan**, Newport, Ky.—*Nailing Wooden Soles to Boots and Shoes.*—May 24, 1864.—This invention consists in a method of secret nailing the front of the sole to an undercut rebate, the lower edge of the front being crimped upwardly over the nail heads. The heel piece is also nailed to the rebate with its bottom edge uppermost.

Claim.—An improved manufacture of wooden-soled boots and shoes, the mode of secret nailing the front B *b* to an undercut rebate *a*, and crimping the lower edge *b* of the front upwardly over the nail heads *n*, in the manner and for the purposes set forth.

Also, the mode herein described of secret nailing the heel piece C *c* to the undercut rebate *a* of the wooden sole A.

No. 42,826.—**Oren Baldwin**, Summitville, Iowa.—*Washing Machine.*—May 24, 1864.—This invention consists in arranging within a box a rubber or pounder, made hollow and mounted on rollers. Its sides are corrugated, or provided with edges, and are made sloping from top to bottom. Above the pounder, near each end of the machine, are arranged detachable guides. The rubber or pounder is operated by means of a lever projecting through the top of the box, and is connected to the said rubber by a hinged arm, so as to move the same backward and forward for the purpose of rolling, beating, and squeezing the clothes.

Claim.—First, the rubber or pounder C, made hollow, mounted on rollers *d d*, and constructed with inclined washing or pounding surfaces *c c′*, in combination with the inclined ends B B′ and detachable guides *g g*, all in the manner and for the purpose herein described.

Second, the arrangement of the lever D, hinged arm *h*, dasher or pounder C *d*, and devices *a′ k*, substantially in the manner and for the purpose described.

Third, the combination of vibrating lever D, hinged arm *h*, dasher C, rollers *d d*, and guides *g g*, substantially as and for the purposes described.

No. 42,827.—**William Henry Barber**, Greenfield, Mass.—*Device for holding Bits and other Tools.*—May 24, 1864.—In this device the tool stock to which the handle is attached, consists of a cylindrical piece of metal, screw-threaded externally and slotted longitudinally to a distance of some two inches from its outer end. The tool socket occupies a central portion of this slot, and directly behind it is a coiled spring against which bear the hooked ends of two bars, which, lying within the slot—one on each side of the socket—project to some distance beyond the end of the cylinder. These projecting ends being inclined or wedge-shaped externally, but curved inwards and serrated upon their faces, constitute the jaws. The whole of the slotted portion of the stock is encased in a screw-threaded sleeve, the outer end of which is dome-shaped internally and has an opening in that end through which to pass the tool. After the end of the tool has been passed between the jaws and inserted in the socket, the interior of the dome will, as the sleeve is being screwed up, come in contact with the inclined surfaces of the jaws and tighten them upon the tool, and the spring at the same time permitting the jaws to be forced inwards, will enable the latter to draw the tool tightly back into the socket.

Claim.—The shape of the grasping jaws B B, and the pressing of the hilt into the socket by means of the longitudinal motion of the said jaws, constructed, arranged, and operating substantially as set forth.

No. 42.828.—**T. G. Beikel**, Buffalo, N. Y.—*Combined Beer Faucet and Vent.*—May 24, 1864.—This invention consists in making the piston valve within the faucet of such a length as to allow it to be raised vertically a sufficient distance to operate the plunger so as to draw or suck up a quantity of liquor from the glass into which it has first been drawn, into the cylinder in which the plunger works, and to force it out again into the glass or cup without uncovering the bore, or stem, which leads into the cask. In the top of the piston cylinder of the faucet is arranged a vent opening and a valve connected with the piston rod; the said valve being opened by the upward movement, and closed by the downward movement of the piston rod.

Claim.—First, making the piston valve C of such length as to allow it to be raised vertically a sufficient distance to operate the plunger E, in a manner to suck up a quantity of liquor from the glass or cup into which it has been drawn, into the cylinder in which the plunger works, and to force it out again into the glass or cup, without uncovering the bore of the stem which leads into the cask, in combination with said plunger and cylinder in which it works, for the purposes and substantially as described.

Second, in locating the vent opening in the top of the piston cylinder B of the faucet, in combination with a valve L, which valve is connected with the piston rod, and which is opened by the upward movement and closed by the downward movement of the piston rod, substantially as set forth.

No. 42,829.—**John Birkenhead**, Ilion, N. Y.—*Mode of adjusting Rings and Ring Rails in Ring and Traveller Spinning Frames.*—May 24, 1864.—This invention consists in placing an eccentric ring within the ring rail, and gib bushes within the bolster rail of spinning frames, so that the traveller can be brought to a uniform bearing upon all parts of the ring, and thus give an even tension to the yarn. The arrangement of the gib bush serves the purpose of taking up the motion that the lifter rod or pin may have acquired by its wear.

Claim.—First, the employment of the eccentric ring *g*, as and for the purpose herein described and set forth.

Second, The combination of the gib *j* and bush *d*, substantially in the manner as, and for the purpose herein set forth.

No. 42,830.—**S. R. Bolton**, Prescott, Wis.—*Wagon.*—May 24, 1864.—On the under side of the hounds and tongue is secured a projecting semicircular bearing plate, against which bears a friction roller, which latter is attached to a spring extending backwards and supported in an adjustable stirrup, for the purpose of raising and sustaining the draught pole or tongue of the vehicle in any desired position, so as to relieve the draught animals of the weight of the tongue.

Claim.—The combination of the curved spring D, friction roller *b*, semicircular bearing plate *c*, and adjustable stirrup F, all applied and operating in connexion with the axle E, hounds and tongue B, as and for the purpose shown and described.

No. 42,831.—**N. Oscar Bond**, Needham, Mass.—*Fire Pot for Stoves.*—May 24, 1864.—This invention consists of a cast-iron fire pot provided with a flange at the upper and lower ends and surrounded by a sheet-iron casing, the said flanges having an inlet opening below and an outlet above, the one for admitting cold air and the other for the passage of the heated air. The arrangement is principally applicable to "base heating" stoves, and is designed to radiate heat at the lower part of the stove.

Claim.—As a new article of manufacture, the improved fire pot hereinbefore described, the said fire pot consisting of the cast-iron flanged cylinder G H H′, sheet-iron casing I, inlets *h′*, and outlet K, all as represented.

No. 42,832.—**Alfred Brady**, New York, N. Y.—*Tire for Vehicles.*—May 24, 1864.—This invention consists in making the tread or tire of the wheel somewhat broader than is usual, so as to produce two or more wearing surfaces of different diameters.

Claim.—The making, using, and constructing rims or tires for wheels with a combination of surfaces of different diameters, having the surfaces of a number of plane surfaces or of plane and convex surfaces combined, as set forth and described in the foregoing specification.

No. 42,833.—**Moses Bratt**, Maysville, Ky.—*Stove*—May 24, 1864.—This invention consists in placing a gas-receiving chamber within the stove or furnace directly over the fire chamber, the said gas-receiving chamber having a concave bottom and perforated with one or more holes, and using in connexion with the gas chamber a series of cold-air tubes, all being arranged in such a manner as to cause the inflammable gases and the smoke to be consumed. In connexion with the gas-receiving chamber are also used a heat radiator and a draught deflector, arranged in such a manner that the heat from the fire and gas chambers will not be allowed to escape up into the flue, but be radiated into the room in which the stove or furnace is placed.

Claim.—First, The gas-receiving chamber F provided with one or more apertures *c* in its bottom *b*, in combination with the air pipes G, partition H, and tube I, substantially as and for the purpose herein set forth.

Second, the heat-radiating chamber J, placed within the body A of the stove, above the partition H, and communicating with the external air as shown, when said chamber is used in connexion with the gas chamber F, and pipe I, and all arranged substantially as and for the purpose specified.

No. 42,834.—**Philip Caminoni**, New York, N. Y.—*Bat for Cricket.*—May 24, 1864.—This invention consists in the employment of a circular, oval, or polygonal frame, covered by a piece of parchment or other suitable material, and bulged out at its lower edge in such a manner as to afford a convenient hold for the hand.

Claim.—The employment or use of the frame A, provided at its under edge with a swell C, and covered with a head B, similar to a drum-head, substantially in the manner specified, to serve as a substitue for the ordinary bat used in cricket and other similar plays.

No. 42,835.—**Ralph Carkhuff**, Lewisburg, Penn.—*Railroad Car Coupling.*—May 24, 1864.—This invention consists in attaching the key that holds the link to a toothed rack, which is raised and lowered by means of a segmental pinion working upon a rod or shaft.

Claim.—In a car coupling the use and combination of the rack G, pinion H, and key F, for the purpose set forth.

No. 42,836.—**John W.** and **Charles F. Chase**, North Weare, N. H.—*Skiving Machine.*—May 24, 1864.—This invention consists in the employment of a friction roller, which is attached to the spring apron by means of an inflexible frame, and also in the use of a collared screw employed as a stop to hold down the apron and roller. The shaft which carries the gears is supported upon or in the standards which support and guide the gauge-roller.

Claim.—First, the friction roller O, in combination with the inflexible frame P and spring-apron M, substantially as set forth.

Second, the use of the above described collared screw for adjusting the spring apron.

Third, supporting the gear shaft G upon the same posts or standards B which support and guide the gauge roller L, substantially in the manner and for the purpose set forth.

No. 42,837.—**Richard Chester**, Chicago, Illinois.—*Stove.*—May 24, 1864.—In this stove the fire pot is formed with a broad flaring edge, excepting at its rear, where its upper edge projects over the fuel to allow room for a descending flue. The fire pot is encircled by a double horizontal flue, and the products of combustion are caused to pass from the front part of the fire chamber into upright pipes, which open into a radiating chamber, through which they pass into the direct draught flue, or into descending pipes which connect with the aforesaid horizontal flues.

Claim.—First, the arrangement of the partition E in the fire pot A, when constructed and operating substantially as and for the purposes set forth.

Second, the combination and arrangement of the partition E, the front pipes *a*, the chamber B, the return pipes *b*, the passage *x*, and the circular pipes *c* and *e*, when constructed and operating substantially as set forth.

Third, the combination and arrangement of the damper *i*, the chamber B, the pipe *h*, the fire pot *c*, and the partition E, when all arranged and operating substantially as herein delineated and described.

No. 42,838.—**George B. Clarke**, Leonardsville, N. Y.—*Plough*—May 24, 1864.—This invention consists in the arrangement under the plough beam and nearly over the point of the share of an arm or "vibrating lever," which is operated by means of a connecting rod or link extending upon the upper side of the beam to the rear, and attached to an arm placed within reach of the operator for the purpose of removing any obstruction from before the plough. At the side of the beam is also a bar, enlarged at its front end, and arranged to slide forward and backward to remove stalks, &c., into the sweep of the above-mentioned vibrating arm.

Claim.—The vibrating lever K, working under the plough beam to remove the stalks, straw, or other obstructions from before the plough.

Also, in combination with the lever K, the link M and arm G to operate the lever K, sub stantially as described.

Also, the traversing bar I, for the purpose of pushing the stalks, straw, and other obstructions into the sweep of the lever K or from before the plough.

No. 42,839.—**George F. J. Colburn**, Newark, N. J.—*Lantern and Lamp Frame.*—May 24, 1864.—This invention consists in constructing the lamp frame in such a manner as to admit of a lamp or candlestick to be inserted and suspended therein. A lamp or candlestick are also constructed of such a form as to be readily inserted in the lantern. The lamp is suspended or supported in the frame in such a manner that the case will always be acted upon by the external air, and thus tend to keep the oil cool within the vessel.

Claim.—First, the lantern and lamp frame A, so constructed and arranged as to allow either a lamp or a candlestick to be suspended therein, substantially in the manner and for the purposes set forth.

Second, the whole lantern in all its parts, as combined, constructed, and arranged, and fully set forth and described in this specification.

Third, the lamp, Fig. 2, and the candlestick, constructed and connected with the lantern, substantially in the manner set forth.

No. 42,840.—**Robert Cornelius**, Philadelphia, Penn.—*Electrical Apparatus for Lighting Gas.*—May 24, 1864.—The hard rubber, which is highly electric at first, loses, in some degree, this property after exposure to the air and light, and the invention consists in covering by a sliding collar the surfaces used or intended for use as insulators, and further to protect the surfaces by a coating of shellac.

Claim.—First, the sliding packing box *d d*, arranged and operating substantially as described.

Second, the use of one or more rings or recesses filled with shellac combined with the hard rubber neck of the electrophorus or the hard rubber support of the wire at the burner, substantially as above described.

No. 42,841.—**Christopher Cory**, Lima, Ind.—*Mode of Clarifying and Condensing the Juices of Fruits.*—May 24, 1864.—This invention consists in producing jellies and sirups for domestic uses, from the juice of apples, pears, and other fruits, by submitting the said juices in thin sheets or shallow currents to the heated surface of evaporating pans until the requisite purity and density are secured.

Claim.—The manufacturing of cider and other similar fluids into sirups and jellies for domestic and foreign uses, substantially in the manner specified.

No. 42,842.—**Samuel F. Day**, Ballston Spa, N. Y.—*Electro-Magnetic Telegraph.*—May 24, 1864.—This invention consists in dispensing with the local or office circuits in the Morse telegraph, and recording upon paper by indentation with the receiving or relay magnet. Hitherto in lines of considerable length the power of the receiving magnet has not been found sufficient to indent the paper, but by a careful adjustment of the proportions of the magnet and its helices, and the armature lever, the inventor has accomplished the desired end of dispensing with the local or office circuits for registering or recording messages.

Claim.—Combining with an indenting telegraphic registering instrument a magnet, constructed according to the proportions described in the foregoing specification, or substantially so, so as to accomplish the result stated by means substantially the same; that is to say, so as to give sufficiency of intensity and power of action to produce uniformly legible indentations in the paper, in an ordinary line current, without the aid of a local battery, as herein above set forth.

No. 42,843.—**John Ellis**, New York, N. Y.—*Microscope.*—May 24, 1864.—This invention consists in combining the lens tube with another tube, into which it fits and slides in such a manner as to make a convenient chamber or cell for holding live insects for examination, so as to be in the focus. This is effected by closing the lower ends of both tubes with a disk of plain glass.

Claim.—First, the chamber I, formed by means of the glass E in the outer case, and the glass G in the inner case, arranged and operating as specified.

Second, the band B, in combination with the openings C C, for the purpose herein set forth.

No. 42,844.—**Alexander H. Everett**, New York, N. Y.—*Process of Refining and Softening Lead.*—May 24, 1864.—This invention consists in the use of metallic sulphurets, or sulphur, in mechanical combination with organic products, in a reverberatory furnace, for the purpose of effecting the separation of copper, zinc, antimony, and other metals, which it is the object of the refiner to remove from lead to make it of prime quality.

Claim.—The method herein described of refining and softening lead by the employment in reverberatory furnaces, and in combination with the melted lead of sulphur or metallic sulphurets, in the manner and for the purposes set forth.

Also, the method herein described of refining and softening lead by the employment of hydro-carbon in combination with sulphur, in the manner set forth, and for the purpose of preventing the oxidation of the lead.

No. 42,845.—**Joel Fenn**, Plainville, Conn.—*Mode of Securing Shoes to Horses' Feet.*—May 24, 1864.—This invention consists in securing the shoe to the foot by means of a metal strap attached to each side of the shoe and extending over the hoof. The inner edge of the shoe is inclined upwards, and a flange is formed on the shoe which fits over the exterior edge of the hoof.

Claim.—A horseshoe provided with a flange *a*, to fit snugly against the exterior of the hoof, in combination with the metallic strap B, and the front inclined portion of the part *d*, on which the hoof rests, all constructed and arranged substantially as and for the purpose herein set forth.

No. 42,846.—**Hannibal Folsom**, Milford, Mass.—*Welt and Thread Cutter for Sewing Machines.*—May 24, 1864.—This invention consists in arranging the welt cutter so as to operate above the plate in connexion with the thread knife, to cut the thread below the plate. The knife is arranged in such a manner as to lie within the gauge or lever, excepting when projected therefrom. The welt guide or holder is secured by means of a hinge.

Claim.—The arrangement of a welt cutter or knife to operate above the plate *a*, in conjunction with the thread knife to cut the thread below said plate, in the manner substantially as set forth.

Also, the application of the knife so as to lie within the gauge or lever, as shown, excepting when projected therefrom, as and for the purpose described.

Also, the manner of applying the welt guide or holder by the hinge or its equivalent, substantially as specified.

Also, the combination of the spring *i*, arms *c f*, and screw *h*, for operating the edge guide *e*.

No. 42,847.—**John T. Gilman**, Walnut Fork, Iowa.—*Hemp Brake.*—May 24, 1864.—This invention consists in arranging in front of the revolving beaters a cross-rail secured to two inclined arms in such a manner as to admit of the said rail being adjusted higher or lower, when the hemp is passed over it on its passage to the beaters.

Claim.—The adjustable cross-rail I, secured to inclined arms J, in combination with two sets of rapidly revolving beaters D D, constructed and operating as and for the purpose shown and described.

No. 42,848.—**C. S. S. Griffing**, Ashtabula, Ohio.—*Construction of Fence.*—May 24, 1864.—This invention relates to a method of fastening the panels to the base of the fence, and also to a means of adjusting and keeping the fence in an upright position, which is effected by means of a metal clasp embracing both ends of the upper rails. Projecting from the bottom of the clasp is a cone-shaped lug, which is embraced by a corresponding thimble or ferrule, which brings the two lugs in close contact with each other. The fence is held in position by means of a brace with a joint attached to the clasp in such a manner as to admit of the fence being adjusted to any desired angle to conform to the uneven surface of the ground.

Claim.—First, the clasps D E F, thimble G, brace J J′, and sleeve K, the several parts being constructed, arranged, and operating as and for the purpose set forth.

Second, the adjusting brace J J′ and sleeve K, when constructed and operating as described.

No. 42,849.—**C. S. S. Griffing**, Astabula, Ohio.—*Portable Field Fence.*—May 24, 1864.—This invention consists in the employment of an upright triangular base frame in which are two posts placed at a suitable distance apart to admit the panels of the fence. One of these standards is made to turn in order to admit the panels more readily. The end of a section of the fence may be so constructed as to admit of a division fence being joined at right angles to it, the end of the frame of which is inserted between the brace and the standard.

Claim.—The special arrangement of the base C, the standards D D′, braces E E′, pins F and *b*, and block *c*, in combination with the panels A A A A B, the several parts being constructed and arranged as and for the purpose herein set forth.

No 42,850.—**E. C. Harrington**, Boston, Massachusetts.—*Submerged Track for Canal Propulsion.*—May 24, 1864; antedated May 18, 1864.—This invention consists in the employment in canals of submerged rails, having teeth or racks on their upper surfaces into which mesh tractor wheels, attached to the canal-boats, provided with corresponding teeth. The said tractor wheels are operated by suitable connexions with the propelling power, and their axles are set in blocks which are made to slide up and down in proper grooves or guides in order to render the wheels self-adjusting vertically.

Claim.—First, the employment of tractor wheels to act in combination with submerged rails, or tracks, substantially as and for the purpose described.

Second, constructing submerged rails, or tracks, with teeth, or racks, to operate in combination with cogs on the peripheries of submerged tractor wheels, for the purpose of propelling boats, substantially as described.

Third, rendering the tractor wheels vertically self-adjusting by fixing their axles in blocks, D D, or their equivalents, sliding in the grooves or guides E E attached to the outside of the boat, substantially as described.

No. 42,851.—**J. C. Hills**, Willoughby, Ohio.—*Churn Body.*—May 18, 1864.—This invention consists in grooving two boards in a circular form and securing a piece of zinc or other sheet metal in the said grooves. The boards or heads are grooved, so that when the churn stands in an upright position the grain of the wood will run up and down. The churn is held together by means of cross-bars, framed and fastened to the sheet metal and the heads so as to allow of the expansion and contraction of the heads of the churn without liability of fracture.

Claim.—The herein-described construction of a churn body, consisting of the sides A A, plate A′, groove B B′, bars, C C′ and E, when arranged and secured in the manner and for the purpose specified.

No. 42,852.—**Alvin Hodgdon**, Lowell, Massachusetts.—*Trace Hook.*—May 24, 1864.—This invention consists in the arrangement of a spring in connexion with a curved rod or hook in such a manner as to hold the trace securely to the whiffletree. When the whiffletree assumes too oblique a position the traces will slip off successively from the hook and the animal be at once disengaged.

Claim.—The improvement in the spring D, for cheapness, convenience, and safety, in combination with the hook B or snibal C, to prevent accident, by detaching instantly an ungovernable or affrighted animal from the carriage.

42,853.—**Lewis Hover**.—Chicago, Illinois.—*Railroad Lamp.*—May 24, 1864.—This invention consists in the employment of two shafts, the one that controls the wick having its projecting end resting in a bent plate attached to the inner side of the frame, and provided with an enlargement on the said end. On a line with the said shaft is a rod, provided at its inner end with a clutch, and projecting outside the frame, where it is provided with a coiled spring, which serves to keep the rod extended outward. Upon pushing the said rod inward, the clutch on its inner end engages with the enlarged head of the wick shaft, by which means the latter is turned to raise or lower the wick.

Claim.—First, the combination of the shaft *a* with the adjustable shaft *b*, constructed, arranged, and operating substantially as and for the purposes specified and shown.

Second, in combination with the adjustable shaft *b*, the employment of the spring *d*, arranged and operating substantially as and for the purposes shown and described.

Third, the employment of the arm *e* in combination with the shafts *a* and *b*, as and for the purposes shown and set forth.

No. 42,854.—**Robert L. Howe**, Westbrook, Maine.—*Jacket Stretcher for Couch Rollers of Paper Machines.*—May 24, 1864.—In this machine the cloth tubular jacket being put on the roller, and one end secured by a cap plate, its other end is stretched and secured as desired, by being held between a bevelled disk and a bevelled ring. It is tightened by means of a screw, having its ends bearing loosely against a shoulder on the journal.

Claim.—The said couch roller jacket stretcher, or combination of the screw D, the bevelled disk E, and the bevelled annulus F, constructed and arranged substantially in manner and so as to operate as and for the purpose hereinbefore specified.

42,855.—**L. T. Hurlburt**, Painesville, Ohio.—*Shears for Sheet Metal.*—May 24, 1864.—This invention consists of a shaft provided with a broad curved surface, supported at its ends in slotted braces or arms attached to the ends of the frame by means of screws, and so arranged as to adjust the said shaft toward or from the frame. The ends of the shaft are provided with arms projecting forward at an angle, and at the ends of these arms are connecting rods, attached at their lower ends to a foot lever, by which means the shaft is vibrated. Attached to the rear of the vibrating shaft, near its centre, is an arm which carries an adjustable gauge.

Claim.—First, the vibrating shaft E, provided with the broad curved surface, formed as described and for the purposes specified.

Second, the arm K, attached to the vibrating shaft E, as above described, and carrying or supporting the adjustable gauge L, as and for the purposes set forth.

Third, supporting the shaft E, constructed as described, on the slotted adjustable supports

D D, and operating it by means of the lever arms H H, connecting rods I I, and the foot lever, arranged in the manner described and for the purposes specified.

Fourth, the compensating screws U U in combination with the shaft E, constructed as and for the purpose set forth.

No. 42,856.—John H. Irwin, Chicago, Illinois.—*Lantern.*—May 24, 1864.—This invention consists in the arrangement of a deflector in the space between the oil cup and the case of the lantern, and conforming to the angle of the upper part of the oil cup, in connexion with apertures in the bottom of the case and openings in the side of the same, all for the purpose of admitting a proper supply of air to the flame, and preventing its extinguishment by the draught of air.

Claim.—First, the deflector *a*, when constructed and arranged substantially as and for the purposes herein set forth.

Second, the combination and arrangement of the deflector *a*, the oil cup, and the apertures *b*, all constructed and arranged substantially as set forth.

Third, the deflector *a*, the oil cup, and the side openings *c c*, when constructed substantially as and for the purposes set forth.

No. 42,857—John M. Johnson, Washington, D. C.—*Horseshoe.*—May 24, 1864.—This invention consists in attaching to the edges of a horseshoe three or more clips or arms extending upwards, and secured to the hoof by means of screws.

Claim.—Attaching horseshoes by means of two, three, or more clips or arms B, secured to the shoes in any manner substantially as herein described, and fastened to the hoof by one, two, or more screws C, as set forth.

No. 42,858.—J. W. Kimball, Boston, Massachusetts, and J. Mahady, Cambridge, Massachusetts.—*Chair Seats and Sofa Bottoms.*—May 24, 1864.—This invention consists in placing a piece of felt or other suitable material on the wooden frame of the seat in connexion with the springs of the bottom, so as to form a soft and yielding cushion.

Claim.—The employment of the edge-piece or strip for an upholstered article, substantially as described.

No. 42,859.—R. Cruikshank, Pottstown, Pennsylvania.—*School Desk and Seat.*—May 24, 1864.—This invention consists in combining with a school desk a seat placed in front of the desk, and so arranged as to admit of assuming either a horizontal or a vertical position by means of curved supports attached to the under side of the seat.

Claim.—The combination with a school desk of a hinged seat, supported by curved bars, either in a horizontal or a vertical position, when arranged and operating substantially in the manner described for the purpose set forth.

No. 42,860.—Edward A. Locke, Boston, Massachusetts.—*Tag for Cotton Bales.*—May 24, 1864.—This invention consists of a tag formed of a material of sufficient rigidity and strength to enable it to retain embossed letters or other characters, and also to be sufficiently pliable to allow of its being bent or crumpled without injuring it. One end of the tag is formed as a hook or anchor, so as to be readily fastened to a cotton bale, and is made of a material which will not emit sparks when brought in contact with any metallic or other substance.

Claim—Constructing a flexible anchoring tag with a shank or elongation for entering the bale, integral with or forming part of the tag, substantially as set forth.

Also, constructing the tag, when so made, of material possessing sufficient rigidity and strength to enable it to properly retain embossed letters or other characters, while also possessing pliability and tenacity such as will admit of its being crimpled or bent without breakage or injury.

Also, constructing the hook or anchor of material which is incapable of emitting or producing sparks by contact with machinery or foreign substances, as set forth.

No. 42,861.—Henry Marcellus and Sam. Ward, Amsterdam, New York.—*Machine for Winding Conical Bobbins.*—May 24, 1864.—This invention consists in the employment of a conical roller, having its axis at an angle with that of the bobbin, combined with a conical bobbin, having its axis horizontal, or nearly so, and pressed endwise toward the conical roller with a yielding force, by means of a belt arranged upon a pulley below and an enlarged portion of the shaft that carries the bobbin.

Claim.—The arrangement of a conical roller A in combination with a conical bobbin, arranged with its axis horizontal, or nearly so, and pressed endwise toward or against the conical roller with a yielding force, by the action of the belt F, by which the bobbin is revolved, substantially as herein described.

No. 42,862.—Thomas A. McFarland, Meadville, Pennsylvania.—*Railroad Dumping Car.*—May 24, 1864.—This invention consists in a movable dirt box resting upon rollers on a proper truck, so that when the load is to be discharged a lever in front of the car is moved,

which causes the gearing to operate in such a manner as to move the box and its load to one side of the car, and then turning upon its axis to deposit the load. The said lever acts upon a movable ratchet on the axle connected to a sleeve upon the axle, to which sleeve is attached a rope running over pulleys and fastened to the front and rear sides of the box. When thus thrown into gear, the movement of the car causes the rope to be wound upon the sleeve and the box to move to one side of the truck.

Claim.—The movable dirt box A A, the revolving drums M and N, the levers G and F, the ropes P and Q, and pulleys 1, 2, when the same are constructed as described, and in the aforesaid combination for the purposes set forth.

No. 42,863.—Benjamin Merritt, Jr., Newton, Mass.—*Machine for Boring Angular Holes.*—May 24, 1864.—This invention consists in attaching around the operating shaft of a boring machine a cam, on the under side of which is a path of the form of the hole to be bored. In this path runs a truck which is attached to a box having a rack and pinion imparting motion to the main shaft (which is hollow) as well as to the inside shaft. To the bottom of the main shaft are attached circular cutters and a tug screw to draw the auger into the work. Inside the circular cutter and attached to the inside shaft is a pinion which gears into two racks, having cutters on opposite sides so arranged that when the main shaft rotates, the inner shaft, by the operation of the travelling truck in the cam, turns one-half way round, causing the cutters gradually to project from the line of the circular hole to the angle and then recede; the operation of the two cutters being simultaneous, thus cutting the angles to form the angular hole.

Claim.—First, cutting or boring holes, of any sectional area desired, by means of rotary cutters reciprocating to and from their axes of rotation, substantially as set forth.

Second, combining with the expansible rotary cutters a fixed pattern cam, actuating the said cutters to reciprocate in their rotary travel, substantially in the manner and for the purpose set forth.

Third, the combination with the reciprocating rotary cutters and cam, as described, of fixed rotary cutters to cut the bulk of the wood, or other material, out of a circle inscribed in the area of the hole to be cut.

Fourth, the arrangement in the axis of the cutter-head, and in combination with the reciprocating rotary cutters of a screw-tug.

Fifth, the combination of racks with the rotary cutters, and operating the same by means of a pinion on the end of a shaft, which in its turn is rotated back and forth by means of a rack gearing with a pinion on the same shaft, as set forth.

Sixth, in combination with the reciprocating rotary cutters, operated as described, the revolving hollow shaft enclosing the pinion shaft, and said hollow shaft carrying in a suitable slide-box or bearing the rack which operates the pinion shaft, as set forth.

Seventh, the arrangement, in combination with the hollow main shaft, pinion shaft and its operating rack, of the stationary cam, so that, on rotary motion being imparted to the hollow shaft, the rack shall both be rotated with it, and reciprocated in accordance with the conformation of the cam.

Eighth, the general combination and arrangement of the machine or apparatus for cutting square or other regular or irregular shaped holes, substantially as herein described.

No. 42,864.—F. M. Morgan, Huntington, Ind.—*Stump-puller.*—May 24, 1864.—This invention relates to that class of stump-pullers in which the power of the draught animals is multiplied by means of pulley blocks, drums, and sheaves of various diameters, and the novelty consists in the arrangement of parts designated in the claim.

Claim.—The blocks I J K, arranged in combination with the root-chain L, rope H, double-cone drum E, and pulleys O N, substantially as and for the purpose herein shown and described.

Also, the curved flange *i*, in combination with the pulleys O N, draught rope M, drum E, and blocks I J K, constructed and operating in the manner and for the purpose substantially as herein specified.

No. 42,865.—John H. Murphy, Boston, Mass.—*Dinner Can.*—May 24, 1864.—This invention consists of a can having a lamp chamber in its lower part provided with vertical slots or openings in its sides, and having arranged above the said chamber, at intervals apart, pans or vessels for holding food.

Claim.—The combination of the lamp chamber, constructed as shown, with vertical passages in its walls or sides with the vessels A and D' fitted thereto, substantially as above described.

No. 42,866.—W. B. Newbery, Dorchester, Mass.—*Manufacture of Paper from Spanish Grass.*—May 24, 1864.—The nature of this invention is explained by the claim.

Claim.—The within-described process of manufacturing paper from esparto *(stipa tenacissima)* or Spanish grass, either alone or in combination with manilla, jute, gunny or other fibrous material, substantially as set forth.

No. 42,867.—F. J. Niemöller, Richfountain, Mo.—*Fire-shovel.*—May 24, 1864.—The handle of the shovel is made hollow to receive a piston, on the end of the rod of which is a poker. As the piston is forced inwards the air is driven through an orifice in the bottom of the shovel, and the implement thus performs the office of a bellows. To the heel is hinged a cover provided at its end with a lifter for stove covers.

Claim.—First, the shovel A provided with a channel *b* in its bottom, in combination with the hollow handle B and plunger C, constructed and operating in the manner and for the purposes substantially as herein shown and described.

Second, the application of the lifter *e f* to the front edge of the cover E of the shovel, substantially as and for the purpose specified.

Third, the application of the hook or poker *d* to the piston rod D, as and for the purpose set forth.

No. 42,868.—Frederick Nishwitz, Brooklyn, N. Y.—*Machine for Washing and Scouring Vegetables.*—May 24, 1864.—This invention consists in placing within a rotating vegetable receptacle, having a roughened inner surface, one or more spiral partitions, the ends of the said receptacle having openings which are so placed relatively with the spiral partitions that when the receptacle is rotated in one direction the vegetables will be retained in it, and be thoroughly washed and scoured, and when the said receptacle is turned in the opposite direction the vegetables will be discharged.

Claim.—A rotating vegetable receptacle, provided with one or more spiral partitions C C′, arranged relatively with openings *c c′* in the heads *a a′* of the receptacle, to operate substantially in the manner as and for the purpose herein set forth.

Also, having the inner surface of the case or periphery of the vegetable receptacle corrugated or roughened either with or without a corrugated or roughened surface on the spiral partition plates C C′ for the purpose specified.

Also, in combination with a rotating vegetable receptacle, the employment or use of one or more balls or spheres having a corrugated or roughened exterior, to operate as and for the purpose set forth.

No. 42,869.—Moritz Nowak, Williamsburg, N. Y.—*Blasting Compound.*—May 24, 1864.—Patented in Austria, March 28, 1863.—This invention consists in the application to vegetable substances of any description, such as leaves from trees, sawdust, or waste cotton, of a composition of binoxide of manganese or carbon, chlorate of potash, ultrate of potash, and ferrocyanide of potassium, mixed with a small quantity of starch and of chromate of potash in such a manner that after said vegetable materials are fully impregnated with the above-named composition, they can be formed into suitable packages or cartridges protected by water-proof paint and used for blasting purposes below or above the surface of the water.

Claim.—The within-described composition of the ingredients above specified when mixed together in about the proportion set forth and applied to paper, textile fabrics, cotton waste, sawdust, or other vegetable materials, substantially in the manner and for the purpose described.

No. 42,870.—Grenville Parker, Worcester, Mass.—*Propeller.*—May 24, 1864.—This invention consists in forming the bucket of the wheel of a curved surface in the form of half the frustum of a cone, and placing the wheel in a central channel in the vessel, extending from the stern forward to any desired point in the boat's length.

Claim.—First, the paddles or buckets to the wheel hereinbefore described.

Second, the position of the wheel hereinbefore described, in an open channel, as before described, which shall extend from the stern forward any part of the boat's length.

No. 42,871.—W. P. Penn, Bellville, Ill.—*Grain Drill.*—May 24, 1864.—This invention consists in the arrangement, in connexion with the hopper box of a grain drill, of a series of valves for regulating and moderating the supply of seed to be sown, and for shutting off the supply when necessary or desirable.

Claim—The combination of the regulating valve or slide *a*, the feed valve *c*, the shut-off valve *g*, and moderating valve *f*, with each other and with the hopper box of a grain drill, substantially as described.

No. 42,872.—F. W. Presber and Philipp Shiebel, Winchester, Conn.—*Manufacture of Table Cutlery.*—May 24, 1864.—This invention consists in constructing the bolster from a solid piece of metal which is slotted nearly through so as to receive the tang. The portion of the bolster which is left is then further reduced by cutting a groove on each side of the same, thus leaving a square portion connecting the two parts, which said portion fits into a slot in the inner edge of the tang. Thus constructed and applied the bolster is welded on in the usual manner.

Claim.—The mode of constructing and applying the bolster to table cutlery, as herein described, or any other substantially the same.

No. 42,873.—T. S. Ray, Buffalo, N. Y.—*Steam Gauge.*—May 24, 1864.—This invention consists in the employment of a coiled spring attached to the short arm of a lever, which bears upon the capsule in such a manner as to pull directly upon the fulcrum on which the lever turns, thus forcing the point which comes in contact with the capsule to remain always in the proper position. The bearing piece by which the motion of the capsule is communicated to the lever is provided with a vertical slot by which it can be readily adjusted to any difference of distance that may occur between the capsule and the lever. The long arm of the lever is provided with a rod having a slot in one end, the purpose of the rod being to communicate the motion of the lever to the arm of the toothed sector which rotates the shaft to which the indicator hand is attached, by meshing into a pinion fixed upon the same shaft. By means of this slotted rod the position of the indicator hand is easily adjusted at the zero point of the scale. A stop is also arranged to prevent the hand from going beyond that position.

Claim.—First, the coil spring G, so arranged and placed as to pull upon the short end of the lever D, for the purposes and substantially as described.

Second, making the bearing piece F adjustable, in combination with the lever D and capsule C, substantially as described.

Third, the adjustable push piece M in combination with the lever D, spring N, and segment K K′, for the purposes and substantially as described.

Fourth, the adjustable pin O, in combination with the post P and segment K, as set forth.

No. 42,874.—F. Raymond and A. Miller, Cleveland, Ohio.—*Lifting Pump.*—May 24, 1864.—At the lower end of the pump cylinder is a chamber perforated at its sides and provided with a cone-shaped top, the diameter of the said chamber being smaller than that of the cylinder. The upper end of the piston rod terminates in a rack which engages with a pinion by which the pump is operated. Below the pinion is arranged a diaphragm for the purpose of retaining the water within the upper chamber, from which the water is discharged through the spout.

Claim.—The chamber C, cylinder A, piston I, pipe E, curb G, rack and pinion L N, and diaphragm H, the several parts being constructed, arranged and operating as and for the purpose set forth.

No. 42,875.—Horace Resley, Cumberland, Md.—*Rail for Railroads.*—May 24, 1864.—This invention consists in converting so much of that portion of the flanges of the ordinary T or U rails as lies between the cross-ties into the body of the rail, for the purpose of imparting additional strength and firmness to the rail.

Claim.—Constructing rails for railroads, substantially in the manner and for the purposes herein recited.

No. 42,876.—Thomas Robjohn, Mott Haven, N. Y.—*Sewing Machine Guide.*—May 24, 1864.—This invention consists in the combination of two guides, one of which will fold and double a strip of muslin or other fabric along the centre of its width and turn in both edges, while the other directs the edge of a fluted frill between the edges of the folded strip to be sewn thereinto and produce a band ruffle, as the strip and the frill pass from the said guides under the needle for a sewing machine.

Claim.—The combination with a folding guide A, of a guide B, constructed and arranged substantially as herein described, for the purpose set forth.

No. 42,877.—Thomas Robjohn, Mott Haven, N. Y.—*Sewing Machine Guide.*—May 24, 1864.—This invention consists in the combination of a folding guide for doubling a strip of muslin or other material by folding it in a longitudinal direction, and a flat tubular guide for guiding a lace or other edging, whereby the said strip may be folded and the edging delivered in such relation to its folded edge at one operation, while both are on their way to a sewing machine, that the two may be stitched together.

Claim.—First, the guide B, constructed and furnished with springs *f g*, substantially as and for the purpose herein specified.

Second, the combination of the said guide B and its guides *f g* with the guide A, substantially as herein described, for the production of a ruffle such as herein specified.

No. 42,878.—John B. Root, New York, N. Y.—*Valve Gear for Steam Engines.*—May 24, 1864.—This invention consists in placing a yoke around a valve which is moved by the direct action of the eccentric working within a recess formed in the face of the valve, which latter is enough smaller in its vertical part than the internal dimensions of the yoke, to allow for the rectilinear motion communicated to the valve by the eccentric. The exterior of the yoke longitudinally is made to move in contact with the inside of the steam chest for the purpose of keeping the valve in its proper position and causing it to open its ports squarely.

Claim.—The sliding yoke G, applied and operating in combination with the valve and valve chest, substantially as and for the purpose herein specified

No. 42,879.—M. SAVIERS, Kansas City, Mo.—*Shield for Camp Fires.*—May 24, 1864.—This invention consists of a strip of sheet metal of a curved form and provided at each end, on its upper edge, with a notch or notches, in which is placed an iron rod extending across the open part of the shield, upon which rod may be suspended kettles, meats, &c., the object being to shield camp fires from rain or wind, and prevent the smoke from being driven into the tents which may be near them.

Claim.—A guard or shield for camp fires, composed of a sheet-metal plate A, in connexion with a rod B, arranged substantially as herein set forth.

No. 42,880.—JOSEPH SCHNITZER, New York, N. Y.—*Double Globe Lens.*—May 24, 1864.—This invention consists of a lens composed of two pairs of spherical segments arranged on opposite sides of a diaphragm in a cylindrical case, and placed together under a certain angle in such a manner that the axis of one pair of segments makes an angle of sixty degrees, more or less, with the axis of the other pair of segments, and that by inserting this lens in a photographic camera two pictures can be taken simultaneously of the opposite sides of a street, or of different parts of a landscape, on glass or other material placed in the proper position behind the lens.

Claim.—A lens composed of two or more pairs of segments B B′, which are arranged on opposite sides of a diaphragm C in the case A, substantially in the manner and for the purpose herein shown and described.

No. 42,881.—JOHN O. SCOTT, New York, N. Y.—*Journal Box for Railroad Cars.*—May 24, 1864.—This invention consists in the employment of a series of loose rollers formed with conical ends and arranged between grooved journals and the journal boxes.

Claim.—The employment of a series of loose conical-ended rollers E F between grooved journals B and boxes C, in the manner and for the purpose before stated and described.

No. 42,882.—THOMAS SHEHAN, Dunkirk, N. Y.—*Mill Pick.*—May 24, 1864.—This invention consists of a handle or case containing two thin cutters arranged to protrude one at each end. The inner ends of the said cutters are provided with teeth which engage with a central pinion by which they are moved out from the handle, and are held in position by means of locking screws.

Claim.—First, a hand mill pick A B, adapted to thrust out the thin cutters I I′, and to support the faces of the same close to the cutting edges, substantially in the manner and for the purpose herein set forth.

Second, in mill picks the rack D *d*, the locking screw G, and pinion *c*, or their respective equivalents, arranged relatively to the thin cutter I, substantially as and for the purpose set forth.

No. 42,883.—F. M. SHEPHARD, New York, N. Y.—*India-rubber Tablet.*—May 24, 1864.—This invention is explained by the claim.

Claim.—As a new article of manufacture, calendars made in tablet form with the letters or inscriptions embossed on or impressed in the material of which it is composed in such manner that they shall be in relief or depressed—that is, project from or sunk below the general surface of the tablet, the letters being arranged in such manner as to form on one or both sides a calendar in a condensed form, giving the dates of every day and month of the year or years, substantially as set forth.

No. 42,884.—J. P. SIMMONS, Fulton, N. Y.—*Hold-back Iron for Carriages.*—May 24, 1864.—This invention consists in inserting in the base of the iron a coiled spring, one end of which is elongated and formed with angular sides. It extends upwards, and its end is made to fit over a nib on the end of the curved hold-back hook, so that the strap can be readily inserted and securely held.

Claim.—The construction and arrangement of the spring lever C, consisting of the angular sides *b*, coils *a*, and ends *c*, when the same is used in combination with an iron whose hold-back hook or horn is provided with the nib *g*, the whole constituting a new article of manufacture, substantially as herein set forth.

No. 42,885.—E. ST. JOHN, Elmira, N. Y.—*Railroad Chair.*—May 24, 1864.—This invention consists in the employment of a clamp which is made to snugly fit the rail upon its side, commencing under its shoulder and extending underneath the rail and bed piece, and then at an angle upwards, holding between it and the curve of the rail a sustaining bar which fits in the said curve of the rail.

Claim.—The combination with the sustaining bar B and bed piece C of the clamp E, all applied to each other and to the rails A A′ and crossties D, substantially as and for the purposes herein shown and described.

No. 42,886.—JAMES STUFFLEBEEN, Milwaukie, Wis.—*Chamfering Machine.*—May 24, 1864.—This invention consists in fastening two hinged inclined knives to a table so as to approximate each other towards their edges. In the rear of each of these knives is a spring that holds them to a wedge-shaped spreader between the knives, which can be graduated by a screw so as to spread the edges of the knives apart. In combination with the above is a splitting knife, which can be graduated by a screw so as to split the end of the tenon more or less, which is effected by driving the tenon between the inclined knives upon the splitting knife and withdrawing the tenon, which, in passing between the knives, forces them back upon the springs, when the latter, in turn, press their edges against the tenon, so that in withdrawing the same the knives clip off their sides to a bevel so as to enable them to easily enter the mortise.

Claim.—First, the yielding knives B B, as arranged, substantially as and for the purpose described.

Second, the splitting knife D, in combination with the knives B B, substantially as and for the purpose described.

Third, the adjustable spreader C, in combination with the knives B B, substantially as and for the purposes described.

No. 42,887.—WILLIAM TIBBITS, Lafayette, N. Y.—*Churn.*—May 24, 1864.—This invention consists in arranging the beaters in a double spiral form upon a horizontal shaft, similar to a right and left hand screw, the end beaters being bifurcated at their outer extremities. When the shaft is rotated in one direction the cream is forced against both ends of the churn. After the separation of the butter, by turning the shaft in the opposite direction, the butter is collected in a mass or ball in the centre of the body, so that it can easily be removed.

Claim.—The plain and bifurcated beaters *a b*, when arranged in a reversed spiral form, as described, in combination with the rectangular body *g g*, wheels *i* and *l*, the several parts being arranged and operating in the manner and for the purpose herein specified.

No. 42,888.—J. VANDERCAR, Brooklyn, N. Y.—*Grate Bar for Furnaces.*—May 24, 1864.—This invention consists in the combination in one casting of three or more single bars with intermediate lateral connexions, the bars tapering from the upper edge downwards and each formed with a grooved upper surface and convex lower edge, the object being to prevent the warping of the bars both laterally and vertically, and also to provide for the draught and the raking of the fire below.

Claim.—The combination in one casting of three or more parallel imperforated bars A A A, tapering downward in thickness, each formed with a horizontal grooved top and a convex lower edge, the solid heads B B connecting the said bars together at their ends; the alternating intermediate connexions *a a u*, and the lateral projections *c c c*, both extending from the upper to the lower edges of the bars, all as herein specified.

No. 42,889.—SAMUEL WARD, Cambridge, Mass., and L. J. MUNGER, Charlestown, Mass.—*Horseshoe.*—May 24, 1864.—In this shoe the heel calks are secured in dovetailed slots cut across in the under side of the heel, leaving a narrow rim on the outer end of the slot against which the shoulder of the calk abuts, the outer edge being even with the edge of the shoe. In the inner side of the calk is cut a recess to admit the cylindrical head of a screw which passes through a lug on the inner edge of the shoe and holds the calk in place. The toe calk is inserted in a similar slot and held therein by means of a bar crossing longitudinally in its rear and secured in recesses at each end by means of screws.

Claim.—First, attaching the heel calks in the manner and by the means substantially as described.

Second, confining the toe calk in its mortise by means of the projecting portion *j*, the bar E, and the screws *g g*, substantially as described.

Third, constructing the inside of the heel calks with a concavity *m*, to fit the head of the screw *i*, substantially as set forth and for the purpose described.

Fourth, the flange J on the periphery of the shoe and forming an end to the mortises *f*, substantially as and for the purpose described.

No. 42,890.—R. B. WEESE, Charlottesville, Ind.—*Medicine.*—May 24, 1864.—This medicine is designed to cure fits, and is composed of the following ingredients, viz: Ladies' slipper, queen of the meadow, dandelion root, spikenard root, paconia root, garlic oil and gum assafœtida, mixed in a proper quantity of whiskey.

Claim.—A medicine consisting of the above ingredients, compounded in proportions substantially as specified, as a specific for the treatment of fits.

No. 42,891.—CARLYLE WHIPPLE, Detroit, Mich.—*Water Engine.*—May 24, 1864.—This invention consists in combining together a flume, two trunks or cylinders provided with apertures in their lower ends and a walking beam to which the trunks are connected by means of a rod, the parts being so arranged that when one trunk is below the flume and is discharging its contents, the other is within the flume and is receiving water within its central part preparatory to the change of position with the empty trunk. These trunks are made round or square and hollow, like an ordinary water-bucket, and are provided with apertures in their sides to receive and discharge the water as they work up and down in the cylinders or cubes in which they are fitted; the object of the machine being to pump water or to be used as a water engine for supplying motive power.

Claim.—The flume A, cylinders C D, having openings C′ D′, in combination with the walking-beam F, and connecting rods E, the several parts being constructed, arranged and operating as and for the purpose herein set forth.

No. 42,892.—John R. Whittemore, Chicopee Falls, Mass.—*Straw Cutter.*—May 24, 1864.—This invention consists in the employment of a series of radial knives arranged upon a rotating shaft and made to cut against another cylinder covered with sheets of some soft metal laid on in strips. Between these strips are placed pins so as to work between the knives to feed the hay or straw to the knives. By changing the position of the gears the knives may be brought to bear upon a different part of the plate of the opposite cylinder, at pleasure, to avoid wearing in one place.

Claim.—The combination of the rotary knives D D D, and gears H and I, with a pressure cylinder, against which the knives cut, having the pins *a a a* arranged so as to work intermediately between the knives for the purpose of feeding the hay or straw to the knives, substantially in the manner herein set forth.

No. 42,893.—Edward Wilbur, Albion, N. Y.—*Stove.*—May 24, 1864.—The nature of the invention is explained by the claim.

Claim.—A compact series of large-surfaced; broad and shallow, non-interradiating, ascending and descending radiating flues, connected at the sides or angular edges, arranged concentrically or elliptically, so that the largest amount of radiating surface is in their front. the whole front of all the radiating flues being formed of one connected sheet of iron, and the back thereof being formed of sheet or cast iron, in one or more pieces, substantially as shown and described

No. 42,894.—N. S. Williams, East Hampton, Conn.—*Mould for Casting Screw Heads.*—May 24, 1864.—Upon the follow-board is arranged in a circle a series of patterns, which, projecting upward, pass through the nowel and enter the moulds formed in the under surface of the cope. One single central gate is used, and narrow passages cut out of the under side of the cope conduct the metal from the gate to the several moulds. When the moulds have been filled a series of pins, operated by a lever, cause the cope first to be loosened and then the nowel, so that they can be removed by hand.

Claim.—First, the central main runner *f*, tapering in an upward direction, in combination with the radiating branch runners *g g*, and the concentric circularly-arranged series of moulds, substantially as herein specified.

Second, the post H, cross-head F, and attached pins I I, or their equivalents, in combination with the three plates B C D, for the purpose of raising the plates D and C, one after the other, substantially as herein specified.

No. 42,895.—O. E. Woods, Philadelphia, Penn.—*Knapsack.*—May 24, 1864.—This invention consists in the arrangement of a system of straps with rings and hooks to be attached to the knapsack for the purpose of carrying the gun, regulating the bearings of the knapsack, and counterbalancing the latter and the gun when attached to the same.

Claim.—First, the gun-holder F, in combination with the blanket straps B B, and the knapsack A, operating substantially in the manner and for the purpose herein shown and described.

Second, the brace straps K K, applied to and operating with thestraps B B, and the knapsack, substantially as herein shown and described.

Third, the construction of the sling strap E′, so that it will couple and uncouple at the breast, substantially in the manner and for the purpose herein shown and described.

Fourth, the gun link I, constructed and operating substantially as herein shown and described.

Fifth, the employment of the rings G G′, in combination with the shoulder straps, as and for the purpose herein shown and described.

Sixth, the use of the hook H, in connexion with the strap E′, and ring G′, as set forth.

Seventh, the method herein described of counterbalancing the knapsack and the musket.

No. 42,896.—John B. Wortendyke, Goodwinville, N. J.—*Machine for making Paper Twine, &c*—May 24, 1864.—The object of this invention is to effect the manufacture of twine of good quality from paper by machinery, substantially like that employed in spinning cotton and other fibrous material, and the invention consists in the employment of a means of moistening the strip of paper of which the twine is formed while on its way to or between the rollers by which it is delivered to the spindle that effects the twisting. In connexion with such means of moistening, a guide is employed for gathering up the moistened strips edgewise or laterally in the form of roping.

Claim.—First, the moistening of the strip of paper of which the twine is to be formed, while on its way to or between the rollers by which it is delivered to the spindle or throstle by which the twisting is performed, substantially as herein described.

Second, the employment in combination with means of moistening the strip of paper on its way to the spindle or throstle of a guide E, or other equivalent device for gathering up the moistened strip edgewise or laterally into the form of roping, substantially as herein described.

No. 42,897.—Elias M. Wright, Wyandot, Kansas.—*Car Coupling.*—May 24, 1864.—This invention consists in forming the bumpers with nearly hemispherical cavities, in one of which is placed the coupling, and in the opposite one an arm or hinged bar, held in position by a spring to secure the coupling in place. By withdrawing the free end of the arm the coupling is released.

Claim.—The coupling D, constructed, arranged, and operating in combination with the nearly hemispherical cavities *b b* in the bumper heads, substantially as and for the purposes herein set forth.

No. 42,898.—W. Cleland, Liverpool, England.—*Treating and Utilizing Oxides of Iron from Gas Purifiers.*—May 24, 1864.—This invention relates to the treatment and utilization of oxides of iron, both natural and artificial, which have been used for purifying gas distilled from coal and other carbonaceous minerals, and it consists in converting such oxides into sulphide or sulphuret of iron by heating them in a closed vessel or chamber without access of air.

Claim.—Producing from oxides of iron that have been used for purifying gas sulphide or sulphuret of iron, by heating the said oxides, substantially in the manner described.

No. 42,899.—William H. Dawes, West Bromwich, England.—*Manufacture of Iron.*—May 24, 1864; patented in England June 17, 1863.—This invention consists in introducing such a quantity of refined iron, in a melted state, in the puddling furnace as will be sufficient to make only one ball of iron, and also in the combination of the processes of the blast furnace, the refinery, and the puddling furnace, so that the iron from the blast furnace may be run directly into the refinery, and when sufficiently refined, conveyed into the puddling furnace by means of ladles or other suitable means.

Claim.—First, manufacturing wrought or malleable iron by puddling refined iron conveyed in a melted state from the refinery to the puddling furnace, the quantity of the melted refined iron operated upon at one time in each puddling furnace being only sufficient for the manufacture of one ball of wrought or malleable iron.

Second, combining the blast furnace and refinery and puddling furnace used in the manufacture of iron substantially as herein described.

No. 42,900.—Isaac B. Harris, Castle Mills, Fountain Bridge, Edinburgh, Scotland.—*Manufacture of Flexible and other Tubes.*—May 24, 1864; patented in England June 15, 1863.—This invention consists in producing a water-proof tube or hose by lining and coating a woven tube with India-rubber combined with sulphur, with or without other ingredients. Into a woven tube is placed a tube of somewhat smaller size, and made of India-rubber composition suitable for vulcanizing. This inner tube is to be expanded by fluid pressure. While the tube is distending, a strip of India-rubber composition is lapped round the hose, and is caused to adhere thereto around joints carefully made, The vulcanizing process is then effected while the hose is kept distended by fluid pressure.

Claim.—The causing of India-rubber composition tubes, when in combination with woven or other tubes, to be vulcanized, or to be converted into vulcanite, whilst subjected internally to the pressure of fluid, substantially as herein described.

Also, the combination of mechanical parts *a b c d e f g h i j*, substantially as above described

No. 42,901.—Hippolyte Mège, Paris, France.—*Process of Treating Fatty Bodies for the Manufacture of Candles.*—May 24, 1864.—This invention is explained by the claim.

Claim.—First, the application of a perfect alkaline soap—a soap in which the fatty body is completely saponified, whatever may have been the process, for its being manufactured to simplify and improve the whole of the manufacture of stearic acid.

Second, the use of one soda-lye, the quickening of the carbonate of lime, the extracting the glycerine from the exhausted lyes.

Third, the reducing the fatty bodies to a complete globular state, before causing the lye to act the rapid saponification at a luke-warm temperature, and the performing the boiling or coction by the mere coagulation of the globules.

Fourth, 1. The decomposing of the soap by rapid and easy means, and the collecting the sulphate of soda to quicken the soda. 2. Using hydro-chloric acid, when the soap or a part of the soap has the lime for base, and the quickening that acid by decomposing the chloride of calcium by sulphuric acid.

Fifth, the employing of only one pressure at the ordinary temperature.

Sixth, the suppressing water washings, and the clarification of the stearic acid by one fusion only. The plunging that acid into cold water after the complete solidification.

Seventh, the employment of a solution of a hydro-chlorite and the atmospheric contact to discolor colored fatty bodies, and their distillation after being acted upon by a nitric compound, as hereinbefore described.

No. 42,902.—L. M. F. Patureau, Paris, France.—*Enveloped Thread Clews.*—May 24, 1864.—This invention consists in preparing thread in a clew and placing it within a capsule formed in sections, which are held together by a band of sized or gummed paper passing around and uniting the sections. The free end of the thread passes through a hole in the top, in which other holes may be made.

Claim.—As a new article of manufacture, thread or other yarn prepared for the market or trade into clews confined in capsules, made in two shells glued together by a strip or band of paper, one of said shells being provided with one or more holes, in the manner and for the purposes set forth.

No. 42,903.—L. Schwartzkopff and E. Kaselowsky, Berlin, Prussia.—*Wrench.*—May 24, 1864.—This invention consists in the arrangement of an eccentric recess at the head of a hinged handle of a wrench, in combination with toggle arms, interposed between or connecting the head of the handle and the movable jaw of the wrench in such a manner that by throwing the handle in one direction the wrench is opened, and by throwing the handle in the opposite direction the wrench closes and gripes a nut or other article placed between the two jaws, the more firmly the harder the pressure upon the handle, and the smaller the nut or other article to be turned by the action of the wrench.

Claim.—The eccentric recess *d*, or its equivalent, at the head of the handle C of a wrench, in combination with the toggle arms *e* and movable jaw B. constructed and operating in the manner and for the purpose substantially as shown and described.

No. 42,904.—George True, Funchal, island of Madeira.—*Steam Generator.*—May 24, 1864 —The object of this invention is to combine with a boiler an apparatus capable of converting suitable substances, such as petroleum or other hydro-carbon liquids, into gas within the boiler, and burning the gas so formed at a pressure as high or higher than that of the steam, in such a manner that the heated products of combustion are forced through the water and caused to mingle with the steam, and thus the entire heat evolved, as nearly as may be, is made available. The apparatus consists of two cylinders, together with a force pump and a retort, combined with the boiler in such a manner that the liquid may be introduced into the cylinders through a pipe. The cylinders communicate with the supply pipe by means of a four-way cock; the passages of which are so arranged that if one of the cylinders is in communication with the supply pipe, the other communicates with the discharge pipe.

Claim.—The within-described apparatus, consisting of the cylinders B B′, force-pump H′, retort K, receiver *f*, and chamber L, in combination with a steam boiler I, constructed and operating substantially as and for the purpose specified.

No. 42,905.—Jason A. Bidwell, assignor to himself, A. Churchill, H. T. Litchfield, and Daniel M. Robertson, Boston, Mass.—*Wood Screw.*—May 24, 1864.—This invention consists in forming a screw with a stem of uniform size, except at the point, which is made tapering, and with a sharp-edged thread and concave score.

Claim.—As a new article of manufacture, a wood screw with a stem of uniform size (except the tapering point) and made with a tapering point, sharp-edged thread and concave score, all as above described.

No. 42,906.—Thomas Brown, Jr., Alleghany county, Penn., assignor to himself and James McLain, Pittsburg, Penn.—*Attachment to Lantern Guards.*—May 24, 1864.—This invention consists in the employment of a guard for lanterns, composed of a detached hoop and wires looped either to the top or bottom part of the lantern, and secured to the other parts by a series of pins on a slide in such a manner as to fasten the wires in succession.

Claim.—The mode of attaching the globe or glass to the top and bottom pieces of the lantern without cement by means of the guard, substantially as hereinbefore described.

Also, the use of a guard for lanterns, composed of a detached hoop and wire looped either to the top or bottom part of the lantern and secured to the other part by means of a series of pins on a slide or other equivalent device, constructed and arranged substantially as described.

Also, the arrangement and combination of the notches in the lantern frame and notches and pins in the slide, in such a manner as to fasten the wires in succession.

No. 42,907.—Virgil Draper, assignor to Oscar M. Draper, North Attleboro, Mass.—*Stamping and Swaging Metal.*—May 24, 1864.—This apparatus consists of a hollow die with an annular face corresponding in outward and inward diameter to the ring to be made, and supported by a shank inserted in the lower one of two plates, the main or enlarged part projecting some distance above and entering an opening in the upper plate. Within this hollow die is a cylindrical mandrel, which rising above the upper surface of the upper plate enters a cavity in the lower end of the punch, the extremity of the latter fitting closely within the walls of the die box and around the mandrel. The ring to be swaged is slipped over the mandrel and falls into the die box upon the upper margin of the hollow die, and the punch that constitutes the upper die is then inserted and by any suitable means brought to bear upon the ring.

Claim.—The combination of the separate centring piece *a* with the punch C, the die *b*, and the mould plates A B, or their mechanical equivalent. the whole being substantially as specified.

No. 42,908.—Daniel D. Gitt, Arendtsville, Pa., assignor to the Metropolitan Washing Machine Company, of Connecticut.—*Clothes Wringer.*—May 24, 1864.—This invention consists in the method of driving the rolls of wringers by gear wheels and a connexion of links of flexible joints, so that the upper roller may yield to the thickness of the clothes. The rotary driving mechanism is set in fixed bearings, and the axles of either or both of the rolls may be held in movable bearings. The standard for the gear mechanism is made separate and independent from the standards of the rolls, and the shaft of the driver of the gear wheels is connected with the shaft of the corresponding roll by means of a universal joint.

Claim.—First, the method herein described of operating movable rolls of a wringing machine from fixed gears by coupling either or both of the axles of the latter with the corresponding shafts of the former by means of a flexible connexion, substantially as set forth.

Second, the combination in wringing machines of a rotary driving mechanism set in fixed bearings with rolls, the axles of either or both of which are held in movable bearings, substantially as set forth.

Third, combining in wringing machines with gear wheels rotating in fixed bearings and rolls rotating in movable bearings, a linked or flexible connexion, substantially as set forth.

Fourth, the combination in wringing machines of a pair of rolls with fixed gear wheels, when one of the rolls rotates in fixed bearings and is rigidly connected with its corresponding gear wheel, while the other is rotating in movable bearings and is connected with its corresponding gear wheel by means of a flexible or link connexion, substantially as set forth.

Fifth, the construction of a frame of a wringing machine with a standard or standards for the gear mechanism, separate and independent from the standards of the rolls, substantially as set forth.

Sixth, connecting in wringing machines the shaft of the driver of the gear wheels with the shaft of the corresponding roll by means of the universal joint, substantially as set forth.

No. 42,909.—John N. Gray, Lynn, Mass., assignor to Daniel Sager, Albany, N. Y.—*Animal Feeding Trough.*—May 24, 1864.—This invention consists of a trough whose circumference forms three-quarters of a circle in section and hung up on journals at each end, and so arranged in relation to a partition extending to the centre of said trough; that when in one position, access may be had to it by the animals for feeding, and when turned upon its axis the opening will be closed.

Claim.—An animal feeding trough, so constructed and arranged as to permit of its being rotated in a vertical plane, substantially as described.

No. 42,910.—Jonathan H. Green, Christiansburg, Iowa, assignor to James B. Hodgskin, New York, N. Y.—*Fabric for Roofing.*—May 24, 1864.—This invention consists [illegible] forming a material for roofing by attaching water-proof paper to one or both sides of a [illegible] of canvas or other similar material.

Claim.—An article of manufacture for roofing or other similar purposes, formed by attaching water-proof paper to one or both sides of canvas, or other suitable material, substantially as and for the purpose set forth.

No. 42,911.—William T. Harrington, assignor to himself and Benjamin F. Anthony, Roxbury, Mass.—*Carriage Axle.*—May 24, 1864.—This invention consists in attaching to the main axle an extra journal or arm, provided with a journal, and combined with the primary journal, and both connected with the carriage, so that either journal may be turned around on a centre pin into a position to receive the wheel, the same to be used in case the journal of one of the wheels should be broken or disabled.

Claim.—The improved axle, as made with the extra journal or extra arm and journal arranged with the primary journal, and to operate or revolve on a centre pin, in manner and under circumstances substantially as described.

No. 42,912.—Horace Hurd, assignor to himself and J. E. Baldwin, Spring Hill, Ill.—*Cider Mill.*—May 24, 1864.—This invention consists in the employment of a feed plate formed of punched sheet metal to give it a roughened surface, in combination with a cylinder having its surface provided with a similarly prepared sheet metal covering.

Claim.—The grater cylinder B, having a surface or covering of punched sheet metal, in combination with the punched feed plate D, all arranged to be operated as herein described.

No. 42,913.—Frederick August Jaeckel, Buckau Magdeburg, Prussia, assignor to Schaffer and Budenberg, New York, N. Y.—*Blasting Powder.*—May 24, 1864.—This invention is explained by the claim, the object being to produce a blasting powder which, when lighted in the open air, will cause no explosion, but which will explode with great force when lighted in a closed space.

Claim.—A blasting powder, consisting of nitrate of potash, nitrate of soda, sulphur, charcoal, mineral coal, and potassio tartrate of soda, and other equivalent vegetable or mineral substance, compounded substantially as herein described.

No. 42,914.—**Samuel N. King**, Windsor, Vt., assignor to the **Lamson and Goodnow Manufacturing Company**, Sherburne Falls, Mass.—*Boring Machine.*—May 24, 1864.—This invention consists in the employment, in a boring machine, of an adjustable rack so arranged that it can be slid down by means of a slot in the upper end of the rack, in which slot works a stud to keep it in place, and an oblique shank passing through a mortise in a guide, so that by pressing the rack in gear with the driving wheel and turning it in the same direction as when boring, the auger will be raised out of the hole, and when so raised, is held up by a spring catch at the top to prevent its falling. It is disengaged from gear by turning the latter in the opposite direction.

Claim.—The combination of the rack I, guide *h*, curved slot *j*, and stud *i*, when applied to a boring and drilling machine, and operated as herein described.

No. 42,915.—**John McFarlane**, Mattawan, N. Y., assignor to **John Falconer**, New York, N. Y.—*Device for Dyeing Felt Caps, &c.*—May 24, 1864.—This invention consists in the employment of clamping pieces combined with two curved clamps in such a manner than when the article is compressed within the clamping pieces, the dye will be excluded from certain of the parts of the article, and after the dyeing process is finished, a figure or figures of the original color of the article will be obtained.

Claim.—The combination of the clamping pieces A A *b c d*, and clamps B B, when constructed and employed in the manner and for the purpose herein specified.

No. 42,916.—**Gordon McKay**, Boston, Mass., and **Lyman R. Blake**, Quincy, Mass, assignors to **Gordon McKay**, Boston, Mass.—*Sewing Machine for sewing on the Soles of Boots and Shoes.*—May 24, 1864.—This invention relates to a device designed to be applied as an improvement upon a machine previously patented by the above-mentioned Blake, and it consists in applying to the upper surface of the horn, and surrounding the hole therein which the needle enters, a marked prominence of sufficient height and with an outline well enough defined to enable the said prominence to be used for its function of a gauge, or so as to enable the operator to tell by the sense of feeling when the edge of the guide or pattern is in proper contact with the gauge.

Claim.—The construction of the tip of the horn, substantially as and for the purpose specified.

No. 42,917.—**Henry F. Shaw**, West Roxbury, Mass., assignor to himself and **William S. Locke**, Boston, Mass.—*Combined Sink Strainer and Stench Trap.*—May 24, 1864.—This invention consists in fitting within the enlarged mouth of the outlet pipe an annular flange, having a curved plate or ring projecting a short distance downwards. Below this is secured a hemispherical cup, the edges of which extend a short distance above the edges of the above-mentioned plate, leaving a space between the two, so that the water will flow between, but solid substances will not be able to pass. A perforated strain is fitted in the opening above.

Claim —The cup C, provided with the oblique perforations *d*, to operate both as a stench trap and strainer, substantially as described.

No. 42,918.—**E. Warren** and **William Johnson**, assignors to **E. Warren**, Marshall, Mich.—*Farriers' Tool.*—May 24, 1864.—This invention consists in the aggregation in one implement of several different tools, namely: nippers with curved and serrated jaws for nipping and clinching horseshoe nails, a rasp, and a punch. The combination tool being designed for the use of farriers, farmers, &c.

Claim.—As a new article of manufacture, the combined nippers, clinching tool, rasp, and punch, constructed in the manner herein represented and described.

No. 42,919.—**Samuel S. Williams**, assignor to **Harry J. Bailey**, Pittsburg, Penn.—*Water Elevator.*—May 24, 1864.—This invention consists in forming the tilting rod, which is hinged at each end of the curb in front, in such a manner as to fall over the centre of the well, and also that the bent portion of each part will fit over the centre of each bucket, so that as each bucket rises from the well a projecting portion of the rod will first impinge against the bail and then dip into the bucket, fitting so closely as to prevent any lateral movement, while the bucket, still ascending and carrying the tilter with it, is thrown to the front of the curb, assisted by a spring arranged at the back of the curb and inclining forwards. As the bucket approaches its highest point it moves a rocking pawl, which engages the notched periphery of the wheel, thus retaining it in position until relieved by the descent of the bucket.

Claim.—First, forming the tilting rod N with an obtuse angle *t* at that part directly opposite the centre of the bucket, for the purpose of slewing the bucket around, as herein set forth.

Second, bending the tilting rod in such a manner as to engage the bucket on the inside, so as to not only hold the bucket in a line with the trough, but prevent lateral play, as hereinbefore stated.

Third, the self-acting brake or pawls operated by the bail of the ascending bucket, when constructed so as to change from one side of the ratchet on the pulley to the other, substantially in the manner and for the purposes herein set forth.

Fourth, the curved spring R, at the rear of the curb, for the purpose of forcing the bucket towards the tilting rod, and also as a guide to steady the bucket when in the act of tilting.

No. 42,920.—**James Knibbs**, assignor to himself and **Marcus P. Norton**, Troy, N. Y.—*Pump.*—May 24, 1864.—The object of this invention is to provide for the escape of a portion of the water drawn into a pump and forced to the eduction side of the valves when the pump is used for a fire-engine, and it is desired to use a less number of streams than its full capacity. The novelty consists in connecting the suction pipe of a steam fire-engine with the eduction chamber by means of a separate pipe, the entrance of which to the eduction chamber is closed or controlled by a valve in such a manner that when it is desirable to use or throw the greatest number of streams of which the engine is capable, the valve is closed to prevent the return of any portion of the water to the induction pipe. When for any cause it is desirable to throw a less number of streams than the full capacity of the engine, the valve is partially opened, and a portion of the water is allowed to flow back to the induction pipe, and thus waste of water is prevented, and the working of the engine is uninterrupted.

Claim.—The returning of any excessive water in the force part or section of a steam, fire, or other engine pump to the suction part or section thereof, substantially as herein described and set forth.

Also, the connecting of the discharge or force part or section of a steam, fire, or other engine pump, to and with the suction or supply section thereof, by means of the tube G G and the regulating valve H, or any equivalent therefor, substantially as and for the purposes herein described and set forth.

No. 42,921.—**Peleg Barker**, Battle Creek, Mich.—*Threshing Machine.*—May 31, 1864.—This invention consists in applying to the under part of the frame at the forward end a hinged shore or support, so arranged as to elevate that end for the purpose of discharging the grain into bags or for returning the unthreshed grain through a vibrating spout, thus dispensing with the use of elevators for the purpose. The shakers are formed of bars placed eccentrically in the heads for the purpose of thoroughly separating the unthreshed heads of the grain from the straw. The beaters are adjusted in an angular position around the shaft with which they are connected, and so arranged as to form reversed angles around the shaft, by which means the straw and grain are moved from one side to the other in contrary directions.

Claim.—First, the hinge shore D, or its equivalent, for raising the machine, for the purpose of discharging grain, &c., into bags, or returning unthreshed heads of grain, &c., by means of vibrating spout C, without the use of elevators, as herein specified.

Second, the eccentric shakers A A A, for the purpose of more thoroughly separating the unthreshed heads of grain, &c., from the straw, as herein set forth.

Third, the angular beaters B B B, they being adjusted by reversed angles around shaft 6, for the purpose herein described.

No. 42,922.—**John W. Beackley**, Philadelphia, Penn.—*Photographic Album.*—May 31, 1864.—This album is constructed with an additional card-support made to slide between the usual card-holders in such a manner as to hold double the usual number of pictures, one-half of which may be kept concealed.

Claim.—The supplement cards, arranged to draw from or hinge to photographic album leaves, as specified

Also, the manner of securing and sliding the card frame *h* on the middle bar *c*, in the manner shown.

No. 42,923.—**L. W. Beecher**, New Haven, Conn.—*Fruit Basket.*—May 31, 1864.—This invention consists in making the sides of the basket of a single piece of thin wood, and divided for about two-thirds of its height into narrow strips, so as to give the basket a flaring form The bottom is formed with a ledge upon which the end of the upper part rests, the latter being secured to the bottom by a hoop nailed through its sides.

Claim.—Constructing the bottom of baskets with a ledge, as described, for the purpose specified.

Also, constructing the side of baskets from a single piece of material, substantially as described.

No. 42,924.—**L. C. Bignall**, Lockport, N. Y.—*Window and Door Fastener.*—May 31, 1864.—This device consists of a handle provided with two, three, or more blades turning on a pivot and shutting into the handle. The handle at one end is of wedge shape, and the blades are of a gradually decreasing length, and made pointed, with the exception of the largest one, which is provided with a nib or projection. The blades are also provided with holes, placed at suitable distances apart, for the insertion of a stop, such as is used in fastening doors. The instrument may be used for doors or windows, and when the blades are closed may be conveniently carried in the pocket. When used for a window fastener the device is placed in the groove of a casing, and when designed to fasten a door the long blade is inserted between the edge of the door and its seat.

Claim.—The combination of the handle A provided with the wedging end *b* and the several blades B B' B'' of graduated length, arranged and operating substantially as and for the purpose herein set forth.

Also, in combination with the wedge handle A, and graduated blades B B' B'', one of which is provided with the nib *c*, the holes *k*, and stop pin *i*, substantially as and for the purpose herein specified.

No. 42,925.—**Stephen Bowerman**, Battle Creek, Mich.—*Cement for Roofing.*—May 31, 1864.—This cement is composed of the following ingredients, viz.: coal tar, fine ground gypsum, pure clay, and finely ground salt; when mixed and highly heated the shingles for the roofing are immersed in the same

Claim.—A compound cement for roofing purposes, prepared and applied substantially in the manner and for the purpose set forth.

No. 42,926.—**Isaac C. Bryant**, Philadelphia, Penn.—*Brick and Drainage Pipe.*—May 31, 1864.—This invention consists of a stationary screw having a double or single thread and placed within a revolving casing or cylinder provided with a short or long screw. The screw, together with the casing, is made of a tapering form from a point near its centre towards one end. The mouth-piece and tempering teeth are formed in such a manner that after tempering the clay the latter will be forced into the stationary screw and revolving cylinder. In connexion with the above is a knife with a revolving handle and spiral or other springs in order to give it an elastic lateral motion, so as to cut off the bricks or pipe at right angles. The mouth-piece is provided with one or more openings and a guide for the purpose of guiding the knife in cutting off the bricks, &c.

Claim.—First, the placing of a permanent screw G, with double or single thread, and revolving cylinder or chamber J, with a short or long screw L in it, with right or left-hand screw in either the revolving chamber or permanent screw.

Second, giving to the revolving screw L and permanent screw G the tapering form.

Third, the peculiar form of the tempering teeth D and mouth-piece C, so as, after tempering the clay, they will force it close to and into the permanent screw G and revolving cylinder J.

Fourth, the application of the two screws G and L, the inside one permanent and the outside one revolving, in combination with the tempering teeth D, with the case F, around the tempering teeth D, and forming the tempering chamber with the roller B in an opening of the outside case F, so as to force the clay against the mouth-piece C and into the screws L.

Fifth, the combination of the knife V with a revolving handle and spiral or other springs to give it a spring and elastic lateral motion, so as to cut off drainage or other pipe and bricks at right angles with the pipe or bricks, as described.

Sixth, the mouth-piece T, with one or more openings in it, and a guide U on it for the purpose of guiding the knife for cutting off drainage pipe or bricks, as described.

Seventh, the combination of a round mouth-piece with a forming mandrel inside of it, and so placed in the end of the screw as to form the inside of drainage or other pipe, as described.

No. 42,927.—**Daniel Close**, Harmonsburg, Penn.—*Feed Rack and Trough combined.*—May 31, 1864.—This invention consists of a double rack inclining upward and outward, and provided with hinged covers for protecting the hay in the rack, or they may be turned to a horizontal position to form a cover for the animals. The front of the rack is provided with bars to prevent the animals from crowding each other while feeding. Each side is provided with a trough at the bottom of the rack, and between the feeding and guard bars, for the purpose of feeding grain and preserving loose hay from falling to the ground.

Claim.—The construction of the double feed trough *c c c c*, with the bars 1 2 3 4 5 6 7 8 9 10 11, to keep the cattle from crowding, in combination with the rack 12 13 and covers B B, constructed as described, when the same are in the aforesaid combination, for the purposes set forth.

No. 42,928.—**James A. Cowles**, Chicago, Ill.—*Lantern.*—May 31, 1864.—This invention consists in providing the diaphragms, in the upper part of the lantern and below the frame, with a series of tubular holes for the purpose of preventing a current of air through the lantern. Side passages are made in the upper and lower parts of the lantern for the admission and exit of the air. The lower side openings are provided with slides to regulate the amount of air admitted.

Claim.—First, the use and employment of tubes in the perforated diaphragm N, substantially as and for the purpose described.

Second, the combination of the small tubular holes *s s*, with the side passages O O.

Third, the use and employment of tubes in the perforated diaphragm H, substantially as and for the purpose described.

Fourth, the tubes in diaphragm H and N, in combination with a metallic cap or mounting globe and metallic base, substantially as and for the purpose described

Fifth, the side openings P, when two or more are used, provided with slides V to regulate the draught, in combination with the diaphragm H and tubes *t t*.

No. 42,929.—**William Crighton**, Fall River, Mass.—*Blind and Shutter-fastener.*—May 31, 1864.—This invention consists in the employment of two plates fitted on a pin in a socket which is inserted in the lower edge of a blind or shutter, and arranged in such a manner that the blind or shutter will become fastened when thrown open or closed, and the fastening, when the blind or shutter is closed, not admitting of being unfastened from the outer side of the latter, but from the inner side only, yet admitting of being unfastened when the blind or shutter is secured in an open state.

Claim.—The combination of the two similarly formed plates C C', with apertures *d e*, the pins *b' f* and *g'*, and the socket *a b c*, all constructed, arranged and operating in the manner and for the purposes herein specified.

No. 42,930.—**George S.** and **Henry Curtis**, Chicago, Ill.—*Harvester.*—May 31, 1864.—This invention consists in the employment of two elastic rings placed one on each side of the eye of the sickle bar. A bolt passes through the elastic rings and eye, having a screw at one end, on which is secured a washer, another washer fitting close to the eye of the bolt, thus securing the rings, the object being to secure an elastic connexion between the pitman and cutter or sickle bar for the purpose of obviating, in a measure, the excessive jarring and strain consequent upon the rapid vibration of the cutter.

Claim.—The elastic rings C C, the eye B, washers D D, and the eye-bolt E, combined with a sickle bar A of a reaping or mowing machine, substantially as and for the purpose herein set forth.

No. 42,931.—**A. W. Demuth**, New York, N. Y.—*Glass Button.*—May 31, 1864.—This invention consists in placing pieces of glass pipe on the shanks, which latter are partially imbedded in clay spread upon an iron plate. The plate is then introduced into an oven when the glass is melted and thus forms a button.

Claim.—The process of making glass buttons or other articles of glass, as herein described and for the purpose specified.

No. 42,932.—**A. P. Durant**, Atlanta, Ill.—*Cultivator.*—May 31, 1864.—This invention consists in attaching to the rear end of the hinged beams, to which the share standards are secured, a couple of straps which, after passing over the axle, are attached at their opposite ends to the doubletree, so that when a catch which holds the doubletree in position is released the latter is permitted to move forward, and by drawing on the straps raise the cultivator shares from the ground.

Claim.—The two share frames E E', when constructed, combined, and arranged in respect to each other, and the axletree A, as described, and when raised and lowered by the forward and backward motion of the draught power applied to the doubletree R, substantially as shown and described.

No. 42,933.—**S. D. Engle**, Hazleton, Penn.—*Artificial Teeth.*—May 31, 1864.—This invention consists in the insertion of pins or hooks in the metallic plate, in combination with the pins in the teeth, so as to afford a double security for the firm hold of the vulcanite base, to obviate the warping of the plate and to reduce the work of fitting the teeth thereto.

Claim.—The metal stays or hooks *c c* soldered to the metallic plate, in combination with the pins *a* of the teeth and with the vulcanite, for securing the teeth to the plate, all as herein specified.

No. 42,934.—**James S. Ewbank**, New York, N. Y.—*Pepper-box Top.*—May 31, 1864.—This invention consists in placing within the top of a pepper box or caster an inner perforated diaphragm below the usual perforated top, and so as to form a chamber or space between the two, in which chamber are placed shot or small weights for the purpose of preventing the pepper from clogging in the top of the caster.

Claim.—First, the combination of a perforated diaphragm with the cap of a pepper or spice box, substantially in the manner and for the purpose set forth.

Second, the formation of a chamber in the cap of the pepper or spice box to receive and retain weights to produce vibrations therein, substantially as and for the purpose set forth.

No. 42,935.—**Sebastian Fares** and **William Miller**, Cincinnati, Ohio.—*Cooking Stove.*—May 31, 1864.—This invention consists in arranging within the door of a stove a partition set at some distance from the back of the door or front of the grate, and providing the top of the door with a register.

Claim.—The combination of the box door C D, with a register E F at top thereof, and partition *d*, the latter being set at some distance from the back of the door or front of the grate, and all being constructed and arranged as described.

No. 42,936.—Lucian Fay, Cincinnati, Ohio.—*Coffin.*—May 31, 1864.—This invention consists in combining a wooden framing with a sheet-metal case so as to afford a convenient attachment for the lining of the coffin.

Claim.—First, the provision of the wooden frame C, extending round the body of a sheet metal burial case to give it strength and stiffness and to afford a place of attachment for the lining.

Second, the arrangement of the wooden frame or lining strip C *c*, and reflexed metallic rim B *b*, substantially as set forth.

Third, the metallic screw sockets D, traversing the metallic rim B, and wooden frame C, and secured substantially as and for the objects set forth.

No. 42,937.—E. M. Gardner, Nantucket, Mass.—*Preventing Interfering in Horses.*—May 31, 1864.—This invention consists of a cushion of India-rubber in the form of a small roll about the length of a horseshoe, and having a thin flange or flap projecting from it, by which it is attached to the inner side of the hoof. The said flange is fastened between the shoe and the foot, and the cushion left projecting inwardly towards the opposite foot.

Claim.—The said guard as made with the lip *a* and the part *b*, formed and arranged substantially in manner and for the purpose of being applied to the foot of a horse as specified.

Also, the arrangement of the guard C, or its lip *a* and part *b*, with respect to the hoof. shoe, and the shoe nails of a horse, substantially in manner as specified.

No. 42,938.—T. F. Gilliland, Chicago, Ill.—*Submarine Porthole* —May 31. 1864.—This invention consists in the employment of a removable shutter which closes the outer orifice of a porthole placed under the water line of a vessel-of-war, when the said shutter is constructed with a central plate to be shattered by the discharge of the gun. The shutter is passed to its place before the orifice through an inclined channel way, having an opening above the water line. The shutter is adjusted and secured in position by a proper arrangement of rods, hooks, &c.

Claim.—First, in combination with a submerged porthole, a removable shutter to close the outer orifice of the same, when constructed with a central plate, to be shattered by the passing shot, and an elastic backing, substantially as described and for the purpose set forth.

Second, in combination with a removable shutter to close the outer orifice of a submerged porthole, a channel way K, through which the said shutter may be passed to its place, from above water line, substantially as described.

Third, in combination with the removable shutter which closes the outer orifice of a submerged porthole, the clamping rod F, the hooks G, rod H, hooks *c*, and rods J, being parts necessary to the proper management and security of the shutter C, constructed and operated ubstantially as described.

No. 42,939.—Charles R. Gorgas, Wooster, Ohio.—*Churn.*—May 31, 1864.—This invention consists in securing to the inner sides of a cylindrical vessel, and at about an inch from its surface, three bars placed equidistantly from each other. An aperture is made in the head of the cylinder in which is fitted a plug secured by means of a bar fitting at its ends in cleats, the latter being formed with inclined rebates.

Claim.—First, in combination with the cylindrical churn A the three bars G, the latter being adapted to revolve with the former, arranged in parallel and equidistant positions and located about one inch from the inner surface of the churn A, so as to operate in the manner as set forth.

Second, in a churn constructed and operating substantially as described, the aperture D in the head A', in combination with the plug E, bar E2, and projections or catches F, as and for the purposes specified.

No. 42,940.—John Goulding, Worcester, Mass.—*Machine for Burring Wool and Ginning Cotton.*—May 31, 1864.—In this machine partitions are so arranged that different staples may be operated upon simultaneously and kept and discharged separately. A revolving brush, receiving oil from a roller in the oil-trough, applies the oil to the combing cylinder to prevent its clogging. The screens of the hoppers are made separately adjustable, and a stripping brush cylinder strips the fibre from the combs after the burs or seed have been removed by the beating cylinder, which latter and a spring plate pressing the material towards the combing cylinder are both secured in an adjustable pivoted frame, so that their action may be regulated as desired.

Claim.—The combination of the cylinders C and E with the oiling cylinders L and G, substantially in the manner and for the purpose described.

Also, the combination of the cylinders D C E F, spring plate *m*, and adjustable hopper plates *g*. substantially in the manner and for the purpose described.

Also, in combination with the adjustable hopper plates *g*, the partitions M N, substantially in the manner and for the purpose described.

No. 42,941.—Henry Gross, Tiffin, Ohio.—*Breech-loading Fire-arm.*—May 31, 1863.—This invention consists in a method of detaching the cartridge from the retractor. which latter is formed on the breech plug, by turning down the long handle of the lever, the inner end of the said lever being formed with a segmental rack operating upon teeth on the breech plug. The cartridge, when withdrawn, rests in an open channel, from which it is ejected by means of a pin placed in the lower part of the breech and projecting a short distance below. It is held in position by a coiled spring, and pushed up to throw out the cartridge. In the rear of the breech plug is a lever latch which is operated by a catch at the rear end of the retracting lever and a curved spring attached to its under side.

Claim.—First, detaching or loosening a cartridge from a retractor formed on a breech plug C, through the back action or movement of the lever D'. substantially as herein described.

Second, the open channel *a*, in combination with the thrusting pin *g*, or its equivalent, substantially as and for the purposes described.

Third, the lever latch or guard lever *k*, applied in rear of the breech plug and operated by the catch J, of lever D', and spring *s*, substantially as and for the purposes described.

No. 42,942.—Julius Hackert, Bridgeport, Conn.—*Composition for Artificial Ivory.*—May 31, 1864.—This invention consists of a composition prepared from vinegar and nitric ether and applied to the dust or shavings of bone. ivory, horn, or similar material, in such a manner that, by the application of steam and the addition of a small quantity of borax, a mass is formed which can be pressed or moulded in any desired shape, and when dry and cold becomes as hard and tenacious as natural ivory.

Claim.—The above described composition for artificial ivory, mixed together substantially in the manner and about in the proportions specified.

No. 42,943.—E. H. Hance, Philadelphia, Penn.—*Medicine Chest.*—May 31, 1864.—This invention consists in making the case of trapezoidal form in its transverse section, and arranging the receptacles for the bottles in a recessed manner in front. The front part is hinged so as to open above and below, so that the labels on the bottles can be seen and the bottles be rendered readily accessible.

Claim.—A medicine case of trapezoidal form and having the rows *c* of its containing vessels arranged above each other in the recessed manner in front, substantially as described for the purposes specified.

No. 42,944.—C. H. Haskins, St. Louis, Mo.—*Railroad Switch.*—May 31, 1864.—This switch is designed to be operated by means of the locomotive as it passes over the track. The rail upon one side is provided with a slot through which projects a cam connected by a rod to a triangular lever at the end of the switch. Upon depressing the said cam the switch is moved to its proper position, if not so previously, and held in place by means of latches; the switch is also arranged to be moved in the ordinary manner.

Claim.—First, the combination of the treadles with the slotted rails YY.

Second, the combination of the treadles YY, a rod or rods XX, and a triangular lever E.

Third, the combination of the triangular lever E, with the latches F1 F2, and a rod or cross-bar D, connecting the rails to be moved.

No. 42,945.—Olney Harkness, Providence, R. I.—*Water Wheel.*—May 31, 1864.—The object of this invention is to provide for relieving the friction upon the step of water wheels, by means of friction rollers placed upon the top of the shaft to which the wheel is attached, and also to provide for just the amount of water required for the wheel. Its novelty consists in the arrangements of the gates which extend entirely around the inner diameter of the wheel in pairs. so that just the required amount of water can be admitted to the wheel and distributed equally on all its parts. The conical rollers are combined with their corresponding bearings within the shaft of the wheel in such a manner that a considerable portion of the weight of the wheel is supported upon them, and thus the step at the bottom of the wheel is relieved of much of the wear that would otherwise occur.

Claim.—First, a series of gates *a a a*, arranged in pairs, whether opposite to each other or otherwise, the several pairs being of unequal size, substantially as described for the purposes specified.

Second, in combination with the friction carriages Fig. 8, with its conical rolls, and the spindle D, with its conical bearings, constructed substantially as described and for the purposes specified.

No. 42,946.—I. A. Heald, Carlisle, Mass.—*Cigar Machine.*—May 31, 1864.—This invention covers a number of devices and combinations designated in the claim. It does not admit of a brief description.

Claim.—First, the rotating brush B, constructed and operating for the purpose of smoothing leaves of tobacco, substantially as herein described.

Second, the combination of circular leaf-holding wheel B1, with the brush wheel B, substantially as described.

Third, the spring clamps or straps *a* in combination with the leaf-holder B1 and circular brush wheel B, substantially as described.

Fourth, the employment of a brush cylinder B2 and concave or brush casing B3, or their equivalents, substantially as and for the purposes described.

Fifth, constructing the brush drum B3 with annular flanges near its ends which bevel outwards, for the purpose of allowing the "filling" to escape from the cylinder B2 more readily, substantially as described.

Sixth, the combination of rocking frame E and rocking shaft E′, substantially as and for the purposes described.

Seventh, the guide rollers *i i i*, arranged and operating substantially as described.

Eighth, the feed rollers *h h h*, arranged and operating substantially as described.

Ninth, the stationary rod *n*, arranged and operating as herein described, or in any equivalent manner.

Tenth, the use of revolving brushes S2 S3, for the purpose of smoothing the leaf and assisting in finishing the "point" of the cigar, substantially as described.

Eleventh, the conical rollers S S S, arranged and operating substantially as and for the purposes herein described.

Twelfth, the curved table T′, constructed and operating substantially as herein described.

Thirteenth, the pressure roller 2 when hinged to table T, and operating substantially as described.

Fourteenth, the bristles or elastic points 4 in combination with a finger guide 5, constructed and operating substantially as herein described.

Fifteenth, the combination of pendulum arm 7, weight and brush finger guide 4 5, operating substantially as herein described.

Sixteenth, the combination of treadles D F with rocking frames E E′, substantially as and for the purposes herein described.

Seventeenth, trimming the ends of cigars during the rotation of the same by means of circular knives applied to a reciprocating frame, and operating substantially as herein described.

Eighteenth, the notched plate G4, treadle G3, connecting rod *p*2 and T, slotted cylinder *g*3, in combination with stop pin *p*, arranged and operating substantially as described.

Nineteenth, confining the surplus end of the cigar between rollers *h i i*, or their equivalents, during the operation of cutting off this end, substantially as described.

Twentieth, starting the "wrapper" around the cigar by means of feed rollers which have independent bearings of those which support and rotate the body of the cigar, substantially as herein described.

Twenty-first, in a single machine, in preparing the "filler" for receiving the wrapper or cover, and then applying the wrapper to it, substantially as described.

No. 42,947.—JULIUS HORNIG, Troy, N. Y.—*Furnace for Treating Slag.*—May 31, 1864.—The main portion of the furnace consists of a vertical chamber, having its bottom inclined from a point higher than the upper part of the horizontal chamber, and the bottom of the latter also inclines from the front part to the lowest point of inclination of the first-named bottom. At the junction of the two is a gutter, and the sides of the furnace are furnished with openings to admit of the manipulation of the slag and the discharge of the fusible portions of the same as may be necessary.

Claim.—The main portion A of the furnace in combination with the chamber B, provided, respectively, with the inclined bottoms *a c* and gutter *d*, in combination with suitable openings in the sides of the furnace to admit of the manipulating ot the slag and the discharge of the more and less fusible portions of the same, substantially as set forth.

No. 42,948.—W. B. INGERSOLL, New York, N. Y.—*Preserving Eggs and other articles.*—May 31, 1864.—This invention consists in applying to the outside of the egg or shell by immersion or otherwise a fluid or liquid, or any material that shall stick to and be absorbed by the shell in such a manner that it completely covers the pores of the shell, and forms a coating impervious to the atmospheric aid, or to any other agent capable of producing or aiding in the decomposition of the organic constituents of the egg.

Claim.—The rack upon which the eggs, fruits, or other articles may be placed, resting upon one or more points, either for the purpose of immersing them in any suitable material, then raising them out of it, and allowing them to remain there to dry, or for placing the eggs, fruit, or other articles upon for drying after their immersion in the liquid.

Also, a solution composed of gum dammar, rosin, and benzine or naphtha, for the purpose of coating articles to preserve the same.

No. 42,949.—EDER JOHNSON, jr., and GEORGE W. ANSLY, Cleveland, Ohio.—*Barrel and Keg.*—May 31, 1864.—The improvement claimed in making corrugated sheet metal casks consists in flattening down or lapping over the corrugations at each end of the cask, and surrounding the latter with lags or staves fitted in the corrugations, and secured by bands or hoops.

Claim.—First, forming the body of the barrel of corrugated sheet metal, the corrugations being such as to give the barrel the desired bulge in the middle, and enfolding the corrugations upon each other at each end as described, and securing them in such positien by soldering, as and for the purpose specified.

Second, the chine hoop C D when constructed as described, and securing the same in place by means of the metallic straps E, as and for the purpose herein set forth.

No. 42,950.—JAMES KERSHAW, Paterson, N. J.—*Slide Valve for Steam Engines.*—May 31, 1864.—This invention consists in constructing the valve of two principal parts. The lower part, or valve proper, has a square recess or chamber in its upper surface, into which fits snugly a projection formed upon the lower side of the upper portion of the valve This upper portion of the valve has upon its upper end a flat surface, corresponding in size with the valve itself, which moves in steam-tight contact with the steam chest cover; this contact being maintained by means of springs placed between the two portions of the valve, by which means the valve is relieved of much of the friction usual in the valves of steam engines.

Claim.—A balanced steam slide valve, when constructed of two principal parts in the manner shown and described; that is to say, the box-like chamber, or its equivalent, on the back of the lower portion or valve proper, and the corresponding follower on the lower side of the upper plate fitting therein, and regulated by the screw *b*, the spring *a*′, and the India-rubber packing *a*, as shown, when combined together, and with the parallel surfaces of a valve chest, on purpose to produce a steam slide valve working in an equilibrium of pressure. as set forth.

No. 42,951.—HENRY KEWLEY, Port Huron, Mich.—*Clothes-pincer.*—May 31, 1864.—This invention consists of a stick or handle having a hinged or pivoted jaw and a wedge, which is caused to move in a slot in such a manner that the clothes can be grasped by the same and removed from the boiling water.

Claim.—The wedge sliding in the groove and the closing of the jaw by means of the sliding wedge, and thereby grasping firmly in the jaws the clothes in the boiler, and thus enabling the washerwomen to remove them from the boiler without difficulty or danger.

No. 42,952.—HENRY KNIGHT, Brooklyn, N. Y.—*Making Water and Other Pipes.*—May 31, 1864.—This invention relates to a mode of making the follower or former used in lining water and other pipes with cement, and it consists in making the cone and guide rod in one piece, and moving the rod and cone together through the pipes, the rod to be guided in its movement by the frame of the mould.

Claim.—The guided centring bar B, with a conical enlargement B, made fast upon it, the said bar and cone moving together, substantially as and for the purpose described.

No. 42,953.—ROBET LIDDELL, Thompsonville, Conn.—*Water-proof Fabric.*—May 31, 1864.—The nature of this invention is explained by the claim.

Claim.—The combination of linseed oil and plumbago or black lead with the substance or texture of the cloth, substantially as and for the purpose set forth.

Also, the combination of a mixture of linseed oil and japan varnish with cloth saturated with a mixture of linseed oil and plumbago or black lead, substantially as and for the purpose set forth.

No. 42,954.—MARSHALL T. LINCOLN, Washington, D. C.—*Lock.*—May 31, 1864.—This lock is designed to be applied to the door-jamb, its face presenting a recess, which, when the lock is let into the jamb, is flush with and forms a continuation of the rebate. The key enters that portion of the lock which is upon the outside, and a knob projecting from the same portion may, when pushed inwards, operate a system of levers, and throw back a plate attached to the end of one of them, and so adjusted that the door in closing will strike against its vertical oblique surface, which, as soon as the door leaves it, is forced back by a spring to its former position, bringing the edge against the surface of the door, and thus fastening it.

Claim.—First, constructing locks for house or other doors, so as to be attached to the door jamb, substantially in the manner and for the purpose specified.

Second, the levers B and C, the one being operated from the inside and the other from the outside of the room, constructed and operating substantially as set forth.

Third, the regulating slide bolt D, constructed and operating substantially as herein set forth.

Fourth, the combination and arrangement of latch B and slide bolt D, as set forth.

Fifth, the combination of a key bolt G with the slide bolt D, for the purposes herein set forth.

Sixth, the combination and arrangement of the tumblers H, key bolt G, and slide bolt D, for the purposes specified.

Seventh, the can E, constructed and operating substantially as specified and for the purposes set forth.

Eighth, the lock shell A and partition *a*, constructed and operating substantially as specified and for the purposes herein set forth.

No. 42,955.—JOSEPH LYON, Newark, N. J.—*Stop for Skates.*—May 31, 1864.—This invention consists in forming a notch or shoulder in the bottom of the runner in a "rocker" skate to enable a skater to stop quicker than with the smooth runner.

Claim.—Notching the bottom of the runner of the rocker skate near the heel, so that the skater may stop quicker than without this improvement.

No. 42,956.—BENJAMIN MACKERLEY, Paint Post Office, Ohio.—*Atmospheric Governor.*—May 31, 1864.—The object of this invention is to produce an atmospheric governor that will automatically operate a brake applied to the periphery of a fly wheel connected with the apparatus. Its novelty consists in the combination of an air pump, with induction valves in the heads, and a cylinder containing a piston placed upon the central part of the main cylinder, the eduction passages of which lead directly into the bottom of the auxiliary chamber and underneath its piston, through which there is a conical aperture having a corresponding valve which is made adjustable. To the upper end of the rod connected to the piston of the auxiliary cylinder is attached a lever, upon which a spring is arranged to come in contact with the periphery of the fly wheel. When the engine is moving at its usual speed the air from the pump is forced into the auxiliary chamber up through an aperture in the side of the cylinder above the piston; but any increase of speed causes the piston to rise, thus contracting the aperture and applying the brake to the fly wheel, which brings the motion to the usual rate of speed.

Claim.—First, the adjustable stationary valve I, applied in combination with the hole *b* in the piston D of an atmospheric regulator, substantially as and for the purpose herein specified.

Second, the lever E and brake spring *g*, applied in combination with the piston of the atmospheric regulator, substantially as and for the purpose herein described.

No. 42,957.—SYLVESTER MARSH, Chicago, Ill.—*Grain Dryer.*—May 31, 1864.—This invention is designed as an improvement upon an apparatus for which a patent has been previously granted to the said Marsh, and it consists in an arrangement of upright chambers composed of perforated plates, in which the grain is caused to descend while the heated air ascends, which is forced through the grain. The grain is supplied to the chambers from hoppers, so arranged as to be self-acting, and regulate the supply and discharge of the grain.

Claim.—First, the method of drying grain in upright chambers, by causing the grain to travel in a direction contrary to the ascending currents of heated air or gases, the chamber being arranged to expose a large superficial area of grain in thin layers between perforated metallic plates to the action of the heated air, substantially as shown and described.

Second, the arrangement of the grain chambers in pairs, the two chambers having between them a hot-air flue, having no other exit than through the chambers described.

Third, in combination with the drying chambers and hot-air flues, arranged as described, the employment of a hopper to supply the grain to the chamber, and a slide valve to regulate its discharge, under such an arrangement as that the same shall be self-acting and regulating the supply and discharge of grain, in the manner and for the purposes set forth.

No. 42,958.—MARY JANE MONTGOMERY, New York, N. Y.—*Locomotive Wheel.*—May 31, 1864.—This invention consists in the employment of a curved corrugated beam of metal, secured to the periphery of the wheel, in lieu of the ordinary felloes, and in applying thereto a tire of iron or steel with ribs or tongues fitting into grooves or corrugations of the beam or felloe.

Claim.—First, the application of a corrugated beam of metal, constructed substantially as described, to wheels of locomotive engines, cars, vehicles, and carriages of all kinds.

Second, the combination of the aforesaid corrugated metal beam C with the metallic tire D in the construction of wheels of locomotive engines, cars, vehicles, and carriages of all kinds, substantially as described.

No. 42,959.—GEORGE NIMMO, Jersey City, N. Y.—*Black Lead Crucible.*—May 31, 1864.—This invention consists in the use of calcined plumbago with a proper admixture of clay and sand, so as to be adapted for use after drying without requiring to be first burnt.

Claim.—The manufacture of crucibles from calcined plumbago, in the manner and for the purposes specified.

No. 42,960.—C. B. NORTHRUP, New York, N. Y.—*Spring Rocking-horse.*—May 31, 1864; antedated May 30, 1864.—This invention consists in applying a spiral spring to a rod which is attached at its lower end to a rock shaft in the frame below, the rod working in a cavity formed under the front part of the horse.

Claim.—The spiral spring G, fitted on a rod F, which is attached to a rock shaft E in the framing C, the rod F working in a hole *d* in the horse, and said parts being used with or without the check spring D, substantially as and for the purpose herein set forth.

No. 42,961.—W. C. NOYES, Seymour, Conn.—*Wrench.*—May 31, 1864.—This invention consists in placing the two jaws of the wrench at the end of the shank or handle, and having the movable jaw arranged in such a manner as to be moved or adjusted in a line at right angles with the shank or handle, being actuated by a screw which passes through it, and turned by a thumb wheel at the outer end.

Claim.—A screw wrench, having its stationary jaw B at one end of the handle A and parallel with it, and provided with a movable jaw G fitted on a bar D and operated by a screw E, all arranged substantially as set forth.

No. 42,962.—WILLIAM NUNNS, New York, N. Y.—*Automaton Dancer.*—May 31, 1864.—This invention consists in the application of a rising and falling platform connected to a vertically sliding rod, and operated by a piano-forte action of any convenient construction, in combination with a jointed figure of wood or other suitable material, suspended over said platform in such a manner that on touching the key the platform assumes a uniform rising-and-falling motion, and is thrown in contact with the feet of the jointed figure, and by repeating the blows the figure will assume a dancing motion.

Claim.—The tripping platform A, in combination with the piano-forte action E F and dancer G, constructed and operating in the manner and for the purpose herein shown and described.

No. 42,963.—CHARLES E. PETRIE, Cherry Valley, Ohio.—*Stanchion for Cattle Stalls.*—May 31, 1864.—This invention consists in pivoting a series of stanchions at their lower ends, and connecting their upper ends by means of a long rod and cords or chains, so that the upper ends of all the stanchions can be moved simultaneously. The upper ends are held in place by means of latches, which are also connected by a long rod and cords or chains, so as to release the stanchions at once.

Claim.—The construction of the movable stanchions 1 2 3 4, in combination with the blocks F F F F′, operated by means of the bars H′ H and K K and the levers and chains *i i* L L G G G G *m m m m*, when the same are constructed (in the aforesaid combination and for the purposes set forth) as described.

No. 42,964.—Z. B. RICE, Boston, Mass.—*Washing Machine.*—May 31, 1864.—This machine is composed of a lever or handle pivoted at one end to an upright and combined with a dasher and rubbing board. The dasher is formed of a thin board corrugated on its front side and attached to vibrating arms, and the rubbing board is secured to the front of the box.

Claim.—The combination and arrangement of the bow lever K with the dasher I and rubbing board F, substantially as set forth and for the purpose described.

No. 42,965.—JOSEPH D. RICHARDSON, Elizabethtown, Ky.—*Saw Mill.*—May 31, 1864.—The object of this invention is to give to a reciprocating saw a horizontal vibratory motion at the top so as to set the saw into the wood at the proper position of its down stroke, and when it commences to rise, the teeth will be free from the timber, thus allowing the log to be fed up to the saw while rising. The novelty consists in attaching to the driving shaft an eccentric, to which is attached a pitman working an arm of a rock shaft, from which motion is communicated by a lever connected to the slides, in which work the cross-heads that carry the upper end of the saw, so that as the rock shaft works it imparts the necessary motion to the slides, and thus operates the saw.

Claim.—The arrangement of the slides D D and C C, braces R R and H H, in combination with the eccentric I, pitman F, connecting arm G, rocking shaft S, and the connecting parts giving a vibratory motion to slides D D and the upper end of the saw, substantially as described and for the purposes as set forth.

No. 42,966.—F. ROYS, East Berlin, Conn.—*Forming Seams to Sheet Metal.*—May 31, 1864.—This machine consists of a frame mounted upon four wheels or rollers, the front ones of which form guide wheels, and are made adjustable almost in contact. In the rear of the guide wheels is another pair revolving horizontally with their peripheries nearly in contact, and which are made to clamp the joint. In connexion with the above are two vertically adjustable parallel bars separated just sufficiently to admit of the turned up flanges to pass between them. One of these bars has on its upper edge at the inner side a rounded flange, and between this flange and a spirally shaped plate the upper margin of the flanges to be seamed enters vertically and is then turned over.

Claim.—First, the wheels or rollers C C, adjustable bars H H′, spiral plate J, flange K on the bar H′, and the closing rollers L L, all arranged and applied to a mounted frame, to operate substantially as and for the purpose set forth.

Second, the adjusting of the bars H H′, plate J, and flange K, by having the same connected with a plate F, through which a screw G passes, substantially as described.

Third, operating the closing rollers L L through the medium of gear wheels N N and a crank O, when said rollers are arranged and applied as shown and used in connexion with the bars H H′, spiral plate J, and flange K, for the purpose herein specified.

No. 42,967.—F. Roys, East Berlin, Conn.—*Machine for Bending Edges of Sheet Metal.*—May 31, 1864.—This device consists of sectional platform mounted on four wheels, the division in the platform serving to extend it more or less transversely, and by thus increasing or diminishing the distance apart of the wheels of each pair adapt it to plates of different widths. Two arms suspended from the platform, one on each side at its front end, carry each an inwardly projecting flange having a shoulder or gauge upon and against which the margin of the tin plate rests and abuts as the wheels roll over it; and directly behind each front wheel is a vertical flange, against which the tin is turned up as the platform is moved along by another projecting flange, similar in shape to the mould board of a plough, the latter at its rear end being also vertical, and at the point pressed up against the vertical flange.

Claim.—First, the raising or lifting plates E in connexion with the angle plates G and twisted or curved plates H, all being attached to a mounted frame and arranged to operate in the manner substantially as and for the purpose herein set forth.

Second, the guides or gauges a^* adjoining the plates E when used in connexion with the plates G H, for the purpose specified.

Third, the adjustable frame or platform A, composed of two parts *a a* attached to bars B B, which are connected together by bars *c*, all arranged as shown, for the purpose of admitting the plates E G H, being adjusted to suit the width of the roofing plates, as set forth.

No. 42,968.—Jacob Shavor and A. C. Corse, Troy, N. Y.—*Cover for Cooking Stoves.*—May 31, 1864.—This invention consists in constructing the covers or boiler holes of stoves and ranges with a number of projections extending downwardly, through which are apertures for the purpose of supplying the upper surface of the fuel with air to aid in the combustion of the gases and smoke evolving therefrom.

Claim.—The employment of the stove or range boiler-hole cover A constructed with downward projections C, and with apertures in combination therewith, in the manner substantially as and for the purpose herein described and set forth.

No. 42,969.—Edward J. Stearns, Catonsville, Md.—*Water Economizer.*—May 31, 1864.—This invention consists in interposing between the service and supply pipe an air vessel and a cock or faucet of such construction that it may be opened to admit water from the pipes into the lower part of the air vessel, or from the lower part of the air vessel to the outlet. This is effected by placing two vessels side by side with a pipe in each extending nearly to their bottoms, which pipes are bent at their upper ends so that both may be united to a four-way cock placed directly over them. Thus, when it is desired to fill either vessel the cock is so turned as to admit the water which rushes in from the supply pipe and compresses the air in the top of the vessel. The cock is then turned in a direction to permit the water to be forced out into the service pipe, and at the same time water is being supplied to the same vessel, and when the first vessel is emptied and the second filled the cock is again turned, and the operation repeated, thus preventing the waste of any water, and no more can flow from the supply pipe than can be contained in the vessel which happens to be in communication with it at the time.

Claim.—The interposition between the supply or service pipe and the outlet whence the water is received or drawn off of an air vessel, so applied, and a cock or faucet so constructed, that by turning the cock to one and another of two positions the vessel may be alternately filled and discharged by the reaction or expansion of air compressed within it while filling, and that no more water than the contents of the said vessel can be withdrawn at a time without turning the cock or faucet, substantially as herein specified.

No. 42,970.—Charles A. Stetefeldt, New York, N. Y.—*Shaking Table for Separating Ores.*—May 31, 1864.—This invention consists in a shaking table provided with two or more rotating beds arranged one above the other in such a manner that by their action the pulverized ore running down over them is separated automatically by the action of the machine, according to the different specific gravities of the constituents, and that the separation can be continued to any desired degree, simply by increasing the number of rotating beds.

Claim.—First, the employment or use in a shaking table of two or more rotating beds or aprons arranged one above the other in the manner and for the purpose substantially as herein shown and described.

Second, the application of one or more inclined endless rotating aprons C C′ arranged in combination with the shoe B, and with a shaking device acting in a direction opposite to that in which the apron or aprons move, substantially as and for the purpose specified.

No. 42,971.—John Stock, New York, N. Y.—*Photographic Camera.*—May 31, 1864.—This invention consists in the arrangement of vitrified or other convenient corner pieces in the plate holder, so that they can be easily removed and cleaned; and also in hanging the plate holder so as to be capable of taking two or more pictures on the same plate, which is accomplished by arranging the holder to slide on the front of the camera, and be fixed by spring stops in certain positions. The lens is adjusted by a swinging front regulated by set screws.

Claim.—First, the construction of the camera, whether vitrified or of other material, with circular projections S, in the manner and for the purpose substantially as set forth.

Second, the construction of the plate holder C with projecting ledge *a*, and also the plate holder C, projecting ledge *a*, in combination with the hook *w*, spring catch *d*, and lever *g*, said spring catch *d* working in suitable division notches or holes made in the ledge *a* when combined and operating in the manner described.

Third, the arrangement and use of the movable front plate B, constructed as described.

Fourth, in combination with a movable front plate, the arrangement of the plates of frames M and N, or their equivalent, acting in the manner and for the purpose described.

Fifth, hinging the front plate B to the camera, irrespective of the kind and mode of hinging, for the purpose substantially as set forth.

Sixth, moving the front plate B by means of a bolt *o*, or its equivalent, whether passing from the front to the back, or from the back to the front of the camera box, as described.

Seventh, the overhanging spring *n* attached to the top of the camera box, and acting against the back part of the plate holder, in the manner and for the purpose specified.

Eighth, holding and moving the front plate by means of one or more screws, substantially as described and set forth.

No. 42,972.—Frederick R. Taylor, New York, N. Y.—*India-rubber Tubing.*—May 31, 1864.—This invention consists in first forming a cement by dissolving India-rubber or gutta-percha in any of the known solvents to the consistency of paint when ready for use. This cement is then placed in a reservoir and the tubing is passed through it, after which flocking is applied in any suitable manner before the cement dries. A second coating of cement and flock may be applied in a similar manner when the first coating has become set, if necessary.

Claim.—The manufacture of the new article known as flocked India-rubber tubing.

No. 42,973.—Jonathan Troop, Erie, Penn.—*Wind Mill.*—May 31, 1864.—The fans in this mill are attached to a horizontal shaft which carries a fixed hub midway between the bracket that supports the said shaft and its outer end. Into the periphery of this fan are inserted the arms to which the sails are to be attached, and around which arms the sails move as far as desired. At the extremity of the shaft another hub fits loosely, from which a corresponding number of slotted arms proceed, each carrying upon its extremity a regulating fan, presenting its face in the direction of its revolution. Through the slotted arms of the fan pass arms from the main sails in a line with their face, so that when the velocity of the fans becomes too great the resistance to the same restrains them sufficiently to turn the sails obliquely to the current of the wind, and thus diminish their speed.

Claim.—The regulating fans D, with slotted guides *d*, in combination with the shafts C and *a′* and with the dogs C projecting from the edges of the sails A, which are hinged to arms *a*, all constructed and operating in the manner and for the purpose herein shown and described.

No. 42,974.—Marshall Turley, Council Bluffs, Iowa.—*Composition for Staining Wood.*—May 31, 1864.—This invention consists in a composition of lye or alkaline solution and terra japonica, mixed together in such proportions as may be necessary to produce the desired effect.

Claim.—The within-described composition for staining wood, made of the ingredients above specified and mixed together, substantially in the manner and about in the proportion set forth.

No. 42,975.—S. E. Tyler, Horicon, Wis.—*Grain Drill.*—May 31, 1864.—This invention relates to that class of machines in which the grain is distributed broadcast by means of centrifugal force, the seed passing down a short vertical tube provided with inclined radial tubes or hollow arms, from which the grain is thrown by the rapid rotation of the said tubes or arms, and the invention consists in the employment of a rotary seed-discharging wheel and a cap in connexion with the hopper for regulating the flow of seed from the hopper to the said tubes.

Claim.—The rotary seed-discharging wheel L, in connexion with the rotary inclined tubes O′, cap M, and hopper L′, all arranged to operate in the manner substantially as and for the purpose herein set forth.

No. 42,976.—E. L. Wales, East Randolph, Mass.—*Sewing Machine.*—May 31, 1864.—This invention consists in attaching to the throat piece of a sewing machine a trimming knife in such a manner that the edge of the knife may be opposite, or nearly so, to the centre of the throat, so that however crooked the seam may be the trimmer will cut an equal distance from it, performing the operation simultaneously with the sewing.

Claim.—So attaching a trimming knife to the throat plate of a sewing machine that the edge of the knife may be opposite, or nearly opposite, the centre of the throat, substantially as set forth and for the purpose described.

No. 42,977.—William F. Warburton, Philadelphia, Penn.—*Hat.*—May 31, 1864.—This invention consists in fitting on the block book-binders' muslin—that is, muslin sized and embossed, the ornamented side being inward. The felt, plush or cloth for the exterior of the hat is then cemented to the muslin, and the hat is finished without other lining.

Claim.—The combination in the manufacture of hats of book-binders' ornamented muslin with the outer covering of the hat, in the manner and for the twofold purpose specified.

No. 42,978.—Robert B. Weaver, Steubenville, Ohio.—*Device for Bending Iron Bars for Car Trucks.*—May 31, 1864.—This apparatus consists of a matrix formed of a single bed piece, the top being in three sections, the end one hinged to the middle, which latter slides vertically on standards supporting a cross-bar, through which plays a screw having its lower end working in a collar upon the top of the said section, for the purpose of raising or lowering the same. The bar to be bent is clamped between the bed piece and the middle section, when the end pieces operating as levers are forced down until a hooked lever linked to the end of each is made to catch in a ratchet attached to the end of the bed piece, by which the whole is clamped.

Claim.—The bed piece A, in combination with the clamp B, formed of three parts connected together by hinges or joints, the levers F F, racks G, and the screw C, or its equivalent, all arranged to operate substantially as and for the purpose herein set forth.

No. 42,979.—Thomas Welham, Brownsville, Nebraska Territory.—*Hydrometer.*—May 31, 1864.—This invention consists in arranging upon a suitable frame an elastic cylinder, closed at both ends and secured firmly in position. This cylinder is covered with wire wound spirally around it for a support, and at its central part is fixed a piston, to which the crank that connects it with the motor is attached. Underneath the cylinder is arranged a system of valves and pipes, and moved by the motor in such a way as to cause the induction and eduction of water from and to the respective ends of the cylinder. Water being admitted to the end of the cylinder, the desired motion will be communicated to the machinery to be driven, and the cylinder is elongated sufficiently to allow the crank to pass to the other centre the end of the cylinder towards which the cylinder is being pressed, by the water being correspondingly contracted; upon the crank arriving at the last named point the valves are shifted and the water is permitted to flow out of that end of the cylinder, and the other end is supplied, the crank being forced back to its original position, and thus a continuous rotary motion is produced.

Claim.—First, the elastic cylinder B, and its outside connexion in combination with the driving shaft at the flange E, by a connecting rod C, as described.

Second, the flange E, with its apertures F, in combination with the connecting rod C and the elastic cylinder B.

Third, the construction of the slide J and levers H, when arranged and combined as cut-offs, as herein described.

Fourth, the construction, arrangement, and combination of the elastic cylinder B, with its elastic feed and discharge pipes G, and their cut-offs H, when constructed, arranged and combined as herein described.

No. 42,980.—Thomas Welham, Brownsville, Nebraska Territory.—*Hydraulic Motor.*—May 31, 1864.—This invention consists in the employment of two or more cylinders, in each of which is placed a screw propeller. Into one end of each case is admitted water, which passes through the same to the opposite end and thence out through a passage provided for the purpose into the adjoining cylinder, through which it passes in an opposite direction from the first cylinder, and so on through the series. Each of the propellers is provided with a shaft having on one end a wheel which gears into the other so as to propel a driving wheel.

Claim.—Combining two or more cylinders, each cylinder containing a screw propeller, the cylinders being connected together by channels or ducts, and each screw having a toothed wheel on its shaft, gearing into the other, and propelling a driving wheel, as herein described and for the purposes set forth.

No. 42,981.—Milton D. Whipple, Cambridge, Mass.—*Machine for Rolling File Blanks.*—May 31, 1864.—In this machine a lateral, translatory, and longitudinally reciprocating movement is given to a rotating shaft, to the end of which the nipper or blank carrier is attached. This is done for the purpose of presenting different sides of the blank to the different parallel dies on the periphery of the rolls and to accommodate the longitudinal motion of the carrier to the motion of the blank while being passed back and forth between and operated by the rolls.

Claim.—The movable tongs *i*, and a mechanism substantially as described for operating and governing the same, in combination with the rolls C and D, operating in the manner substantially as set forth.

No. 42,982.—Joseph S. Winsor, Providence, R. I.—*Loom for Weaving Hair Cloth.*—May 31, 1864.—In this machine the nippers which seize and carry the hair into the shed are opened by a wedge-formed tongue capable of being pushed forward longitudinally between the jaws, and are operated by a picking lever, receiving motion from the action of the lay. The hairs are supplied to the nipper by being severally forced upwards from the mass by a pushing fork capable of acting upon only one hair at a time, and when it fails to select one, a pawl, otherwise kept out of action by each hair selected, is permitted by the motion of the lay to come into action with a ratchet wheel and turn a shaft bearing an elliptical cam, which latter causes a gravitating inclined lever to fall, by which means the fork is kept out of action until, in the course of the revolution of the main shaft, the same shed has again been opened; thus, if four harnesses are used, an interval of four beats of the lay should occur before another hair is taken.

Claim.—First, the spring nippers, consisting of the jaws B and the wedge-formed tongue C, or their equivalents, constructed and arranged to operate with reference to each other, substantially as described for the purposes specified

Second, the combination of the spring nippers as above described, with the stops *c e f*, for controlling the opening and closing of the jaws at the proper time, for the purposes specified.

Third, the mode of operation, substantially as specified, by means of which the feeding fork *g* is made to plunge through a bunch or mass of hairs, for the purposes set forth.

Fourth, the mode of operation, substantially as specified, by means of which, in case the feeding fork fails to select, or the nippers to seize, a length of hair for insertion in the web, the motion of the fork is arrested until the same shed of the warp is again opened, for the purposes specified.

No. 42,983.—Daniel Wood, Rochester, N. Y.—*Telescopic Gun Sight.*—May 31, 1864.—This invention consists in arranging within a telescopic gun sight a series of horizontal cross hairs, so as to be adjusted at unequal distances apart, the distances being in ratio and representation of the fall of the projectile at the different distances for which each hair is arranged.

Claim.—The adjustment of several horizontal cross hairs or lines, in telescopic sights, at unequal distances apart, which distances shall be in ratio and representation of the fall of the ball or projectile, at the different distances for which each hair is arranged, substantially in the manner and for the purposes specified.

No. 42,984.—Baxter Wright, Cardiff, N. Y.—*Churn Dasher.*—May 31, 1864.—This invention consists in forming the lower part of the dasher with a series of grooved bars, within which are arranged to swing vertical blades, bevelled upon one side towards their lower ends, so that they will spread outwards at their lower parts as the dasher is forced down, and the cream be compressed between the narrow spaces at the top of the blades, the latter assuming a vertical position as the dasher is drawn upward.

Claim.—The employment of the vertically swinging bevelled blades C, in combination with the grooved bars *a a*, the whole arranged and operating as herein shown and described.

No. 42,985.—L. Chandor, St. Petersburg, Russia.—*Manufacture of Sulphuric Acid.*—May 31, 1864.—The object of this invention is to facilitate the combination of the oxygen derived from nitrous fumes with the sulphurous acid gas derived from burning sulphur, or roasting pyrites or other sulphurets, and to save all the nitric oxide, and by reconverting it into peroxide of nitrogen render it fit for the oxidation of fresh charges of sulphurous acid gas.

Claim.—First, the employment or use of columns D1 D2 D3, &c., of flasks made of stone ware or clay, in combination with the kilns A, substantially as and for the purposes specified.

Second, the use of coke, pumice stone, or other porous bodies, in combination with the columns D1 D2 D3 and kilns A, for the purpose set forth.

Third, the caldrons *d e i*, &c., and reservoirs *f k j*, in combination with the columns D13 D12 D11 D1 and kilns A, all constructed and operating in the manner and for the purpose herein shown and described.

No. 42,986.—Wm. P. Brown, New York, N. Y.—*Loom for Weaving Corsets and other Articles of Irregular Form.*—May 31, 1864.—The object of this invention is the weaving, by power, in a continuous or uninterrupted manner, of corsets or other articles or goods having more fullness in some parts than in others. In order to do this, the warp is so operated by a Jacquard machine, or other suitable means, that, in places where more fullness is required, the weft or filling is deposited by the shuttle through but a portion of the warp, which portion is increased or diminished as the successive picks of filling are inserted according to the form of fulness desired.

Claim.—First, causing the lay to gradually recede in the loom as the weaving proceeds for a certain distance, without any operation of the "take-up," and afterward causing it to advance simultaneously, or nearly so, with the operation of the take-up, substantially as and for the purpose herein set forth.

Second, the employment between the reed and the take-up apparatus of a pair of jaws M M′, applied and operating substantially as and for the purpose herein set forth.

Third, the employment in a loom for weaving corsets or other goods of irregular shape of a series of take-up rolls $e1$ $e2$ $c3$, having a longitudinal profile of irregular form, corresponding with the irregularity of the form of the goods, and operating substantially as and for the purpose herein specified.

Fourth, transmitting motion from the hooks W W' to the driving rack S of the shuttle, operating mechanism by means of a pulley or pulleys T U and four connecting cords or straps x x' z z', applied and operated substantially as and for the purpose herein specified.

Fifth, the guides 23 and 24, and their connecting springs 25 and 26, applied within the shuttle, to operate substantially as and for the purpose herein specified.

No. 42,987.—THOMAS RICHARDSON, Newcastle-upon-Tyne, England, and J. J. LUNDY, Leith, Scotland, and ROBERT IRVINE, Mid Lothian county, Scotland.—*Process of Extracting Oils, &c., from Vegetable and Animal Substances.*—May 31, 1864.—This invention consists in extracting the oil contained in certain vegetable substances, such as cotton seed, linseed, olives, and palm, or other oil-producing nuts, and also from certain animal substances, such as fish, the carcasses of animals, and refuse animal matter, by means of the solvent power contained in the volatile hydrocarbons obtained from asphaltum oil, coal oil, or shale oil; such hydrocarbons, for the purposes of this invention, being required to be volatile under 212° Fahrenheit.

Claim.—The mode of extracting the fixed oil contained in vegetable substances, such as seeds and nuts; and in animal substances, such as fish, the carcasses of animals, and refuse animal matter, by means of the solvent properties of the volatile hydrocarbons hereinbefore mentioned.

No. 42,988.—ALEXANDER WHITELAW, Glasgow, Scotland.—*Treating Brine and Salted Meats to Remove the Salt.*—May 31, 1864.—In this invention the dialytic operation may be conducted in vessels of various forms and materials, the arrangement preferred being a series of bladders fitted with gutta-percha necks and plugs. The bladders are filled with the previously filtered brine, and hung in rows from poles stretching across and suspended in vats of water. The water is renewed in these vats once or twice a day, and the action allowed to go on; when, at the end of the third or fourth day, the salt and nitre will have been removed, and the liquid contained in the bladders will be the pure juice of flesh in a fresh and wholesome condition. This juice may be employed in making soups or evaporated to a less or more concentrated state.

Claim.—The application to the brine from salted flesh and fish of the process known as "dialysis," substantially in the manner set forth, so that the nutritive constituents of the brine are separated from the saline matters, and can be used as set forth.

No. 42,989.—SAMUEL B. COCHRAN, Clapham, England, assignor to JAMES WILCOX, New York, N. Y.—*Binding Guide for Sewing Machines.*—May 31, 1864.—The nature of this invention is explained by the claim.

Claim.—First, the construction of spring-binding hooks out of one piece of metal, in such manner that, by compressing the spring, the hooks will hold the material to be bound by pressure on opposite sides, but not oppositely to each other.

Second, in combination with spring-binding hooks, constructed as described, a presser plate acting in conjunction with or in lieu of the ordinary presser foot of sewing machines, as and for the purposes described.

Third, in combination with spring-binding hooks and presser plate, constructed as described, forming in the presser plate a slot arranged for the double purpose of receiving the spring blade of the upper hook at variable points of adjustment as to width of the binding, and of causing the spring to rise and fall with the presser plate, as set forth.

Fourth, enlarging the presser plate to extend over the needle hole in the sewing machine, and forming therein a longitudinal opening for the needle to work through under various adjustments of the binder, as set forth.

Fifth, combining with the spring-binding hooks and presser plate a rigid body grooved underneath to contain the blade of the lower hook, and provided with a curved guide for giving the binding the proper curvature previous to engaging it into the hooks, and with a longitudinal slot for adjusting of the binder to various widths of binding, substantially as set forth.

Sixth, the attachment of the spring pressing plate of the binder to the body, so that it will move with the body when being adjusted to different widths of binding.

No. 42,990.—D. A. DICKINSON, assignor to the TOBACCO PIPE COMPANY, Baltimore, Md.—*Machine for Trimming the Bowls of Tobacco Pipes.*—May 31, 1864.—The object of this invention is to dress to the proper shape the bowls of tobacco pipes after the holes have been bored and the nib for the screw on the bottom of the bowl has been cut, and it consists in providing on a bed plate two head stocks of a lathe, with an arbor and pulley, upon which is a cutter head holding revolving cutters to cut the shape of the bowl. On the bed plate is also a standard with a swinging adjustable clamp, in which the blank bowl is placed. To this clamp is attached a rotating feeding disk, so arranged that when the blank is placed

in the clamp, and swung to the revolving cutters, the blank can be rotated by the crank feeding disk, and thus cut the bowl to the desired shape and size.

Claim.—The combination of the movable adjustable clamp, the rotating feeding crank disk, and the revolving tool, when constructed and operating substantially as herein set forth.

No. 42,991.—D. A. DICKINSON, assignor to the TOBACCO PIPE COMPANY, Baltimore, Md.—*Machine for Making Tobacco Pipes.*—May 31, 1864.—The object of this invention is to produce from a blank piece of wood a pipe for smoking tobacco, complete without disengaging the blank from the machine, which is effected by means of a post or holder in which the blank is clamped and then operated upon in three different directions by three tools or cutters attached to revolving shafts or mandrels. The blank is fed to the tools on opposite shafts by means of a feed rod acting upon the holder which holds the blank, and the tool on the inclined mandrel is fed up to the blank by a rod as usual in lathes. The mandrel is operated by friction or gearing in connexion with the main shaft, and the bowl, stem, socket, and nicotine chamber are produced thus at a single operation.

Claim.—The arrangement of the clamp, or blank holder, and the tools with their shafts in their relation to each other, and operating as herein recited.

No. 42,992.—L. HOWE, assignor to himself and R. R. SHEPARD, Worcester, Mass.—*Ice and Snow Fender for Roofs of Buildings.*—May 31, 1864.—This invention consists in the employment of a series of shoes of peculiar construction, placed loosely at intervals apart, upon the sloping roof of a house, and so connected by rods or wires as to be adjusted in position on either side of the ridge pole. Parallel rods pass through the shoes and serve to prevent the ice and snow from falling from the roof. The shoes are placed loosely on the roof in order to admit of the fender rising and falling with the thawing and freezing of the ice or snow upon the roof.

Claim.—The application of ice and snow fenders to the roof of a building in such a manner that the fender shall be free to rise and fall with the freezing and thawing of the ice and snow on the roof, substantially in the manner and for the purposes described.

Also, the shoes C, in combination with the main wires A, and fender rods D, substantially as herein described.

Also, the combination of the shoes C, main wires A, cross wires E, and fender rods D, substantially as herein described.

Also, the peculiar construction of the shoes C, by which I am enabled to couple the different sets of fender rods, and avoid long and unwieldy rods, substantially in the manner herein described.

No. 42,993.—ROCK LARIO, assignor to SEYFORT, McMANUS & CO., Reading, Pa.—*Nail Machine.*—May 31, 1864.—This invention consists in the employment of an arm or trigger projecting upward from a rock shaft, its upper end fitting snugly in a slot or recess in the face of the die, and grooved across its exposed surface so as to correspond with, and form a continuation of, the groove in the die, which arm or trigger, by a sudden movement given to it as the movable die is drawn back, detaches the nail and forces it out of the die.

Claim.—Discharging the finished nail from the dies, by means of the arm I, operating within a slot in the bed piece, as set forth, and actuated by any moving part of the machine, as specified.

No. 42,994.—WILLIAM SELLERS, assignor to ANN RAMMAGE, New York, N. Y.—*Fastenings for Doors, Stair-rails, Lasts, &c.*—May 31, 1864.—This device is formed of two sections, one of which contains a revolving plate from the circular portion of the periphery of which projects a double wedge-shaped flange, which on being turned enters a recess of corresponding shape in the other section, and thus draws the parts together and locks them firmly.

Claim.—The segment bolt B, provided with taper or wedged-shaped flanges g g, and fitted within the portion A of the lock, in connexion with the portion D, provided with a recess i, to receive the bolt, and having a segment side a^*, substantially as and for the purposes set forth.

Also, having the portion A constructed of two parts a a, with a screw b, cut on their exterior to admit of the bolt B being readily adjusted in A, and also to admit of A being readily fitted in the part E, designed to receive it.

Also, fitting or securing the portion D of the lock in the part E', by means of the screw h on its exterior, as set forth.

Further, the cleat k, on the outer ends of the parts a a of the portion A of the lock, in combination with the groove or recess l in the outer end of the portion D, as and for the purpose specified.

No. 42,995.—REUBEN GIPSON, Shelby, Ohio.—*Beehive.*—May 31, 1864.—This invention consists in providing the lower face of the upper bars of the comb frames with corrugations corresponding in shape to those of a section of the comb itself, the said bars being used in connexion with frames having inclined bottom bars conforming to the shape of the bottom of the hive. which frames are hinged to the door of the hive, so that all may be swung out together when the door is opened.

Claim.—First, the corrugations *e*, in their specific form and relation, when situated on the under side of the upper bar of the comb frames, for the purpose specified.

Second, the special arrangement of the adjustable comb frames, provided with the corrugated upper bar, as described, and corresponding with the inclined bottom in connexion with the door hinged as described, when used conjointly as and for the purpose set forth.

No. 42,996.—**Richard B. Pullan**, assignor to **Jessie D. Pullan**, Cumminsville, Ohio.—*Ventilating Opening for Tents.*—May 31, 1864.—This invention consists in forming the upper corner of a tent with movable gore pieces in connexion with a bar or leg, and braces so arranged as to admit of the same being opened for ventilation and securely closed when necessary.

Claim.—The combination of the gore pieces *d f g*, braces *p*, and bar or leg A′, constituting a dormer ventilating opening, substantially as described and shown.

No. 42,997.—**Louis E. Rivot**, Paris, France, assignor to **Jacques Gaillardon**, San Francisco, California.—*Treating Auriferous and Argentiferous Ores.*—May 31, 1864.—This invention relates to the treatment of such ores containing metallic sulphurets and also selenides, telluides, and other composites containing arsenic and antimony, which, when treated according to the various methods of amalgamation heretofore in use, fail to produce good practical results, and the invention consists in the grinding and porphyrization of ores mixed intimately with pyrites of iron or copper; the roasting of the ores by means of superheated steam; the amalgamation of the roasted ores; the separation of the amalgam and the compression of the same; the distillation of the mercury, and the fusion of the precious metal ores.

Claim.—First, the roasting by means of superheated steam of auriferous and argentiferous ores, when combined or mixed with pyrites of iron or copper, substantially as set forth.

Second, the general arrangement and construction of reverberating furnaces adapted for the roasting of ores by means of steam superheated as hereinbefore described.

Third, the process of amalgamation without re-agents, substantially as hereinbefore described, whereby roasting of ores may be rendered practical and economical, as set forth.

No. 42,998.—**Andrew J. Ritter**, Rahway, N. J.—*Lamp.*—May 31, 1864; antedated March 23, 1864.—This device consists of a chimney attached to a slide at the upper end of a cylinder, the slide being held in position by means of springs attached to the lower end of the cylinder. The cylinder is perforated at its lower end, and within the same is secured the wick tube, extending to near the upper covering of the cylinder; the object being to enable the lamp to be lighted without removing the chimney or globe, and to produce a strong draught with a short chimney or globe.

Claim.—The operation and combination of the globe or chimney D, slide C′, perforated or vented cylinder B, springs I I, and long and tapering tube E, or their equivalents. for the several purposes herein substantially set forth and specified.

No. 42,999.—**J. Randolph Abbe**, Providence, R. I.—*Piston Packing.*—June 7, 1864.—The object of this invention is to provide a packing for the piston of a steam engine, which may be expanded without removing either the cylinder or piston heads. Its novelty consists in the combination of certain devices composed of bolts, having wedge-shaped heads with nuts on their outer ends, the said nuts having teeth cut on their periphery, which engage with corresponding teeth or cogs formed upon the interior of a circular ring placed in a recess formed in the piston head, and so arranged that, upon motion being imparted to it, all the wedge-shaped bolts are moved simultaneously in the same direction. This motion is imparted by means of a shaft extending through the piston head, and having on its inner end a pinion corresponding with those on the ends of the bolts. Upon the outer end of this shaft is a square, upon which a wrench is placed, that turns the shaft, and the pinion on the shaft revolves the ring, which, in turn, causes the bolts and their heads to press upon the bolts, and thus the packing is pressed out against the cylinder.

Claim.—The combination of the screws *b b*, or their equivalents, the screws *c c*, having wedge-shaped heads, the toothed nuts *f f*, toothed ring F, toothed gear G, and spindle *i*, the whole applied to operate substantially as and for the purpose herein specified.

No. 43,000.—**E. W. Bancroft**, Columbus, Ohio.—*Oil Cup.*—June 7, 1864.—This invention consists in placing in the ordinary oil cup a tube extending nearly to the top of the cup, which has a passage of considerable size made from the bottom to nearly the top, where it is gradually contracted, and terminates at the top in a very small perforation, which is designed to allow just so much of oil to pass down to the bearing as is required to keep the same sufficiently lubricated.

Claim.—The tube with the small perforation at the top, by means of which the oil is gradually fed to the machinery, substantially as shown and described.

No. 43,001.—**Alonzo T. Boon** and **John Collins**, Galesburg, Pa—*Planing Machine.*—June 7, 1864.—The object of this invention is to combine in one machine devices for planing, chamfering, sawing, and boring; and it consists in placing upon one shaft the saw and plane bits, and inserting the boring auger at the end of the shaft. Over the revolving plane cutters are arranged two jaws, pivoted at the lower ends of their supports or legs, one of the jaws being made fast to the main frame, and the two so constructed that, by means of a ratchet provided with a handle, the jaws can be brought together and firmly held, or be separated and held at any required position, so that an angularly-shaped stick can be inserted between the jaws and carried forward to the revolving planer, the corners being evenly planed off to any extent desired.

Claim.—A machine for planing, sawing, boring, and cornering the combination of the adjustable side table, with the adjustable jaws or gauge bars, as constructed and arranged, when used in combination with the planing knife, saw, and boring bit, as arranged on one end of the driving shaft in the frame, for the purpose above mentioned, and as herein described and set forth.

No. 43,002.—**Alfred Brady**, New York, N. Y.—*Bathing Tub.*—June 7, 1864.—At one end of the tub is formed a channel, extending downward nearly from the top. The overflow is at the upper part of this chamber. In front of the enclosed channel and inserted into the bottom of the tub is a perforated plate or sieve, the opening converging in the waste pipe.

Claim.—The construction, combination, and arrangement of the overflow channel, the waste hole and waste pipe, as described in the above specification, the overflow channel being placed on the inside of the tub, so as to bring the overflow channel over part of the waste hole and waste pipe. thereby forming one straight and continuous channel from the top of the overflow channel into the waste pipe, the opening in the top of the overflow channel being sufficiently large for removing obstructions in the overflow channel or waste pipe, all as shown and described.

No. 43,003.—**J. Blodgett Britton**, Philadelphia, Pa.—*Furnace for Calcining Ores.*—June 7, 1864.—This invention relates to that class of furnaces in which ores or other minerals are calcined or roasted, for the purpose of driving off from the mineral such substances as are rendered gaseous or volatile by the heat; and the improvement consists in having the fireplace so communicating with a chamber, and with a flue for carrying off the products of combustion, that the latter must pass across the said chamber, and thereby thoroughly heat the mass of ore in the same. At the rear of the passage in the lower part of the furnace is fitted to slide freely a closed metal box, by which that portion of the ore in front of the box is propelled towards the door, whence it falls, and is allowed to slide to any convenient receptacle.

Claim.—First, a calcining furnace, having a fireplace F communicating with a chamber D, and with a flue for carrying off the products of combustion, so that the latter must pass across the said chamber to the said flue, substantially as and for the purpose described.

Second, The box K, or its equivalent, arranged below the chamber D, in combination with the appliances herein described, or any equivalent to the same, whereby the said box is caused to discharge masses of calcined ore, as set forth.

No. 43,004.—**Frank Brown**, Russel, Ohio.—*Husking Pin.*—June 7, 1864.—This invention consists in making the pin of a single piece of sheet metal, the blank being so shaped that one part of it, where its two edges are brought together, forms the pointed cylindrical pin, while a narrow strip, bowed outwards, and having its ends secured to the cylinder, forms the handle or ring for the finger.

Claim.—The herein-described husking pin, when constructed substantially as set forth.

No. 43,005.—**James S. Brown**, Pawtucket, R. I.—*Machine for Grinding File Blanks.*—June 7, 1864.—Attached to the outer end of the sliding frame or carriage of this machine are two upright grooved standards, in which are arranged to slide vertically, and be held in any position by means of set screws, the boxes which sustain the journals of two rock shafts, placed one above the other. From each shaft project a pair of arms towards the stone, the inner ends of the upper pair of which are hinged one to the upper and the other to the lower end of the blank carrier. By adjusting the rock shafts a proper distance apart, a file blank or other article attached to the carrier can be ground with either a concave, convex, or straight surface.

Claim.—The combination of the two series of arms *r r s s*, or their mechanical equivalents, and their adjustable centres or rods *u v*, provided with adjustments, as described, with the file blank carrier C, arranged and so as to operate with a grinding wheel or stone, substantially in manner as specified.

Also, the combination of the file carrier and its adjustable arms and centres, having adjusting devices, as explained, with the carriage D, provided with devices for moving or adjusting it, substantially as explained.

No. 43,006.—**James S. Brown**, Pawtucket, R. I.—*Metallic Bath Furnace.*—June 7, 1864.—This invention consists of two fireplaces, between which is arranged a chamber for holding one or more metallic baths or pots, which rest on a bridge or shelf. The said bridge or shelf constitutes the bottom of the bath chamber, and has a flue passage made through it or against its front edge, the said passage leading from the chamber into an escape flue in which are one or more dampers, and the escape flue being made to lead to a chimney. By this arrangement the bottom and sides of each of the pots will be subjected to the heat.

Claim.—The improved metallic bath furnace, or combination and arrangement of one or more fireplaces A B, a bath-pot chamber D, a bridge F, a flue passage *e*, and an escape flue *l*, the whole being connected in manner and so as to operate substantially as specified.

No. 43,007.—O. H. Burdick, Auburn, N. Y.—*Rake for Harvesters.*—June 7, 1864.—This invention consists in combining with a rising and falling rake a spring, arranged in such a manner as to be compressed and relaxed, so as to hold the rake to the platform and release it when it is to be raised up. Upon the main gear wheel is a cam and pin, so arranged that, in connexion with a cam and slot on the rake plate, an easy traverse motion will be obtained, and a rising and falling motion be imparted to the rake. The cam and slot on the rake plate are so combined with the adjustment for the rake that while the latter may be set more or less towards the grain the cam and slot will continue to operate without interruption. Combined with a clutch is a spring bolt and tail piece, in such a manner as to allow the rake to be thrown out of action at the end of every stroke, or to be continued in action at the will of the operator.

Claim.—First, in combination with a rising and falling rake a spring that is mechanically compressed and relaxed to hold the rake to the platform, and to release it when it is to be raised up, substantially as described.

Second, the combination of the cam and pin *c d* on the gear C with the cam and slot 4 *i* on the rake plate, for procuring an easy traverse and rising and falling motion to the rake, as described.

Third, a rake plate constructed with a cam, a slot, and an adjustment for the rake, so that while the rake may be set more towards or from the grain the cam and slot may continue to work with their co-operative parts without interruption, substantially as described.

Fourth, in combination with a clutch the spring-bolt *k* and the tail-piece *j*, so that the rake may throw itself out of action at the end of every stroke, or be continued in action at the will of the driver or conductor, substantially as described.

No. 43,008.—Andrew J. Campbell, New York, N. Y.—*Tool for making Metallic Sashes.*—June 7, 1864.—This device consists of four pieces, the upper one being formed of some hard wood, the next of metal, which is separated from the finishing part of the tool by another piece of wood. The mullion is introduced, with its sheathing of metal, at the top, and as the die decreases in size in each succeeding lower metallic plate in its passage through, the sheathing is compressed around and made to take the form of the mullion, which comes out finished through the bottom plate.

Claim.—A tool or implement for covering with sheet metal the rails or bars of sashes, composed of a series of wooden blocks and metal plates provided with holes, and arranged substantially as described.

No 43,009.—John A. Cummings, Boston, Mass.—*Artificial Gum and Palate.*—June 7, 1864.—This invention consists in the use of the material known as vulcanite for forming the artificial gums and palates in place of the expensive and heavy metallic plates commonly used. The teeth are inserted in the rubber or other vulcanizable gum while it is in a plastic condition, and this being moulded to the right shape, is hardened by the process of vulcanization, so as to form a firm, durable, and light basis for the artificial teeth. For the purpose of a stronger hold upon the vulcanite, the teeth are provided with hooks or pins to be moulded into the gums previous to vulcanization.

Claim.—Forming the palate and gums in which the teeth are inserted in one piece of hard rubber or vulcanite, *i. e.*, an elastic material which can be hardened sufficiently for the purpose of mastication and retain a portion of its elasticity so as to yield a little to the motion of the mouth, as herein set forth and for the purposes specified.

No. 43,010.—John Davis, Allegheny City, Penn.—*Railroad Car Brake.*—June 7, 1864: antedated January 2, 1864.—This invention consists in the arrangement of a series of levers, rods, and springs, which are made to operate upon the brakes of a railroad car, so that when the locomotive ceases to draw the train the brakes will be applied to the wheels, and released upon the starting of the locomotive.

Claim.—The use of rods *j k l* and *m*, levers *h* and *x*, springs 2, and catch *y*, or their equivalents, when used in combination with brakes, which are operated substantially in the manner herein described and for the purpose set forth.

No. 43,011.—Jacob Dodder, Washington, Iowa.—*Washing Machine.*—June 7, 1864.—This invention consists in forming one end of the box on its interior surface in the shape of a reverse curve or something like the letter S, so that the clothes will be subjected to the greatest pressure at the extreme throw of the clamp, in combination with beaters, which may be made adjustable by means of connecting rods.

Claim.—The S-shaped line *i*, on the interior surface, for subjecting the clothes to the greatest pressure at the extreme throw of the crank, in combination with beaters that are operated by the adjustable connecting rods.

No. 43,012.—J. H. Fellows, Belvidere, Ill.—*Washing Machine.*—June 7, 1864.—This invention consists in the employment of projections, formed each of a single central ring or bead with conical ends, divided longitudinally and centrally upon the under surface of the rubber, and also on the bottom of the tub, inside. The rubber works upon a central standard with a frame and arms, by which it is operated.

Claim.—The projections *d d′* formed of a single central ring or bead 1, with conical ends 2 divided longitudinally and centrally, but this is only claimed when the said projections are arranged on the bottom *c* and rubber E in the particular manner represented, and used in combination with the stand B, frame D *d*, arbor C *a*, and key D′, all as shown and described.

No. 43,013.—William Fields and Israel Townsend, Wilmington, Del.—*Tanning Hides and Skins.*—June 7, 1864.—This invention consists in exposing the hides or skins to a current of air during the process of tanning, under a pressure of five to twenty or more pounds, acting in combination with the ordinary tanning liquor in such a manner that the compressed air is caused to circulate through the liquid, and by its action the tanning liquid is forced into the hides or skins. Extending through the tanning vat, near its bottom, is a perforated pipe combined with an air-tight vat, air pump, and loaded valve, in such a manner that air forced through the pipe into the vat will permeate the tanning liquid therein, a continuous current of compressed air being passed through the vat.

Claim.—First, the employment or use, in tanning hides and skins, of a current of compressed air applied to the hides or skins, in combination with the ordinary tanning liquor, in the manner and for the purpose substantially as specified.

Second, the perforated pipe E, extending through the air-tight vat A, near its bottom, in combination with an air pump and loaded valve, all constructed and operating in the manner and for the purpose substantially as herein shown and described.

No. 43,014.—George W. Freed, Lancaster, Penn.—*Galvanic Battery.*—June 7, 1864.—This invention consists in constructing the vessel with end grooves and outer flanges, the latter to aid in holding while removing the top. The level ground top of the vessel, with the inserted plates and projecting tips and dilute acid, is covered with a gutta-percha cap, fitting tightly on the box and over its sides and ends and around the projecting plate points, so as to prevent the spilling of the acid or its evaporation. The top, with its several parts, is then pressed down over the cap and the vessel, the said cap preventing all contact between its wires (or their connexions with the taps and metallic rings) and the acid or vessel.

Claim.—The vessel C, with its grooves *z p z* in each end, bottom ledge and end holes *c*, when constructed in the manner and for the purpose specified.

Also, projecting points *z p z* on the plates, each plate set separately in its groove, in combination with the cap B, made of gutta-percha, or its equivalent, applied in the manner and for the purpose specified.

Also, the cover or lid A, with its one or two pair of screw taps *p* 1 *z* 1 and *p* 2 *z* 2, and perforations for the plate points *p* and *z z*, the latter pair connected by a band above and wire beneath, which points come in contact with the metallic rings and connected with their respective screw taps as shown, all arranged substantially in the manner specified.

Also, the covering or cap B, made of gutta-percha, or its equivalent, substantially in the manner and for the purpose specified.

No. 43,015.—Jim B. Fuller and James P. Upham, Claremont, N. H.—*Preparing Short-staple Fibre from Hemp, Flax, &c.*—June 7, 1864.—After the fibre has been subjected to the action of water or water and alkalies under pressure, the liquid containing in solution the gums, resins, &c., is pressed out while the fibre is still in the vessel in which it has been treated. This liquid may be drawn off and fresh liquid admitted, so as to wash the fibre before removing it from the decomposing vessel or boiler.

Claim.—First, preparing the fibres of flax, hemp, and other similar substances for "cottonizing" or rendering applicable to short-staple textile fabrics, by subjecting such substances, while in the vessel in which they were boiled or cured, with water or other liquids used for softening or dissolving the gummy and coloring matter in such substances, to the action of a piston, plunger, or follower, or equivalent device, so arranged as to press the fibre into a solid compact mass in one part of the curing vessel, at the same time pressing out of the mass all or nearly all the dissolved gummy and coloring matter while such gummy and coloring matter is in a dissolved or softened condition, so that it can be readily drawn off, while the fibre is contained in the curing vessel, substantially as and for the purposes specified.

Second, washing the cured fibre by the combined action of the piston C, or its equivalent, and of water, in the manner substantially as specified and for the purposes set forth.

No. 43,016.—C. O. Gause and S. N. Jordan, Osawatomie, Kansas.—*Method of Suspending Steam Boilers.*—June 7, 1864.—The object of this invention is to so arrange a boiler in a locomotive or land carriage that it shall remain in a perpendicular position while the carriage is inclined when running upon an uneven track or ground. Its novelty consists in placing the boiler, which is of the vertical flue kind, upon a platform supported upon four springs; the boiler is further supported by being suspended upon four ropes or chains passing over pulleys attached to posts or frame work. The bottom of the boiler is in the form of a segment of a circle, and thus, when the carriage is in any other than a vertical position, the yielding of the springs will tend to keep the boiler in a perpendicular position.

Claim.—First, the springs R R R R, the ropes or chains M M M M, and the pulleys N N, in combination with the boiler, substantially as and for the purpose set forth.

Second, the spiral springs T T, in combination with the boiler or chamber B, as described and shown.

No. 43,017.—George P. Ganster, New York, N. Y.—*Attaching Sabots to Spherical Projectiles for Ordnance.*—June 7, 1864.—This invention consists in providing the projectile with a projection cast in an axial position upon one side, upon which is a screw thread that is made to fit into the sabot, by which means the two are firmly secured together.

Claim.—A sabot B having a concave face *d* and aperture *c*, in combination with a spherical shell A having a screw threaded teat *b* projecting from its rear side, when the said screw threaded teat serves to securely attach the shell to the sabot, and all the parts are constructed, arranged, and employed in the manner and for the purpose herein specified.

No. 43,018.—D. D. Garland, Kewaunee, Wis.—*Lathing for Walls and Ceilings.*—June 7, 1864.—This invention consists of boards sawed to a thickness about equal to that of common laths, and slotting the same longitudinally nearly their whole length, the spaces between the slots being about equal in width to an ordinary lath.

Claim.—An improved lathing for walls and ceilings constructed of boards or pieces sawed of a proper thickness from any suitable timber and slotted longitudinally, substantially as herein shown and described.

No. 43,019.—E. J. Green, Valparaiso, Ind.—*Spring Brace and Clip for Carriages.*—June 7, 1864.—This invention consists in attaching a vertical guide rod to the head block, so that the said rod will tend to keep the curved spring that supports the load above it in a vertical position. The guide rod is secured to the head block by means of vertical clips, so as to retain it firmly in place.

Claim.—First, in combination with the bow-shaped brace E, secured as herein described, the guide rod G and guide plate *f*, for keeping the spring in a vertical position as it plays under its superincumbent load, substantially as described.

Second, in combination with the brace and the guide rod, the clip plates H I, for securely fastening the spring to the head block, substantially as described.

No. 43,020.—Chauncey H. Hale, Fayetteville, N. Y.—*Washing Machine.*—June 7, 1864.—This invention consists in the combination of a semi-elliptic spring with lever arms, attached to a roller, and which are made adjustable by means of a screw rod, so that a greater pressure can be made upon the articles to be washed when required.

Claim.—The construction of the adjustable elliptic spring D, adjustable arms L, and adjustable screw rod M, when arranged and combined as herein described, and for the purposes set forth.

No. 43,021.—Halvor Halvorson, Cambridge, Mass.—*Explosive Compound.*—June 7, 1864.—This invention consists in combining by means of chemical reactions various organic matters and derivatives of the same, with products obtained from the residuum of petroleum, and also with several cyanogen, ammoniacal, and sulphur salts.

Claim.—The combination of an organic sulphide and a cyanide or ferrid cyanide with an organic deflagrating ammoniacal salt and a chloric or per-chloric salts of potassa and ammonia, as and for the purposes described.

No. 43,022.—Halvor Halvorson, Cambridge, Mass.—*Compound of Cyanogen and Iron.*—June 7, 1864.—This compound is produced by adding an equivalent of fused cyanide of potassium in a concentrated aqueous solution to an equivalent of ferrid-cyanide of iron, when the new compound will crystallize out. This compound will react upon per-salts of iron and produce an intensely deep Prussian blue.

Claim.—The compound of cyanogen and iron, herein set forth.

No. 43,023.—R. Hart, Savanna, Ohio.—*Sheep Rack.*—Jnne 7, 1864.—This invention consists of a folding rack furnished beneath with adjustable feeding troughs which can be drawn out for use at one movement of the hand by means of a cam affixed to a standard and moved by a lever, and when not required for use can be returned to their places under the rack.

Claim.—The herein-described sheep rack, composed of the hinged sections A B, the troughs C C, standard D, and cam E, when these several parts are constructed, arranged, and combined in the manner and for the purpose herein set forth.

No. 43,024.—C. H. Helms, Poughkeepsie, N. Y.—*Machine for Trimming the Heels of Boots and Shoes.*—June 7, 1864.—This invention consists in providing the rotary cutter wheel with a guard at each end, and also in providing the cutters with throats arranged in relation to the space between the guard on one side and the outer side of the cutter wheel, so as to prevent the choking of the cutter wheel.

Claim.—First, the employment or use of the cutter wheel C in connexion with the guards E F, either or both, substantially as and for the purpose set forth.

Second, providing the cutters D with throats *b*, arranged as shown, in connexion with the space *j* between the guard F and the outer side of the cutter wheel C, to admit of the free escape of the heel shavings, as described.

No. 43,025.—Albert H. Hook and J. Henry Darlington, New York, N. Y.—*Coating Barrels to Render them Oil-tight.*—June 7, 1864.—This invention consists in coating and saturating the pores of the staves of barrels with a composition of glue and molasses similar to material used for printers' rollers. After being so coated, the surface may be washed with tannic acid to make the surface of the composition insoluble in water.

Claim.—Saturating wooden vessels as and for the purposes hereinabove set forth.

Also, in combination therewith, the manner of stopping the bunghole.

No. 43,026.—Aaron Higley, Chicago, Ill.—*Grain Separator.*—June 7, 1864.—The main feature of this improvement consists in the arrangement of two shoes which are caused to vibrate at unequal velocities, and through an unequal amount of space, by means of two rock shafts driven by cog gears of different diameters. Devices are also employed for separating different qualities and kinds of grain, and depositing the same in different receptacles. Attached to either shoe is a device for securing a regular and uniform delivery of the uncleaned grain from the hopper into the machine.

Claim.—First, the adjustable deflector gauge *m*, in combination with the gauge *h* and receiving box *k*, substantially as and for the purpose set forth.

Second, the arrangement and combination of the pinion *d*, gear wheel *b*, the connecting rods b' and *d*, rock shafts b'' and *c*, for the purposes set forth.

Third, the trough D, in combination with the screen 4′ and apron E, arranged and operating as and for the purpose specified.

Fourth, the slide G, screens 2 and 3, in combination with the spouts I and J, as and for the purpose set forth.

Fifth, the vibrating rake a'' when attached to either the upper or lower shoes, and used in combination with the separator, substantially as set forth.

No. 43,027.—B. B. Hotchkiss, New York, N. Y.—*Projectiles for Rifled Ordnance.*—June 7, 1864.—This invention relates to such projectiles as are provided with "windage" grooves to allow a portion of the discharging blast to escape by the projectile to insure the ignition of a front fuse, and the invention consists in forming grooves in the body of the projectile corresponding with and underlying the external grooves in the soft metal packing band by which the projectile is surrounded.

Claim.—First, in rifle cannon projectiles the recesses A2 B2 in the rigid portion or portions, arranged relatively to grooves D on the exterior of the expansive packing C, as indicated, the recesses in the rigid material being arranged opposite or under the grooves in the expansive material in the manner and for the purposes herein set forth.

Second, the within-described form and arrangement of the parts A A1 A2 B B1 B2 C and D, whereby the recesses A2 B2 alternate between wedge-like portions A' B', near the front and rear edges of the belt of soft material C, as and for the purpose specified.

No. 43,028.—Frank Howard, Somerville, Mass.—*Bonnet.*—June 7, 1864.—This invention consists in coating a bonnet made of straw, chips, or other material with dissolved lac, upon which ground glass or quartz is sifted, when the adhesive substance is permitted to harden.

Claim.—As a new article of manufacture, a lady's hat or bonnet frosted, substantially as and for the purpose described.

No. 43,029.—Job Johnson, Brooklyn, N. Y.—*Explosive Projectile for Ordnance.*—June 7, 1864.—This invention consists in the employment of a screw plug at the base of the ball in the charging hole, which plug is provided with a cavity at its forward end, taking a percussion cap upon the end of a rod extending through to the front of the ball, the said rod being driven back by concussion against the object which the ball strikes when projected. The end of the plug is made of steel, which, being harder than the alloy of which the plug is composed, insures the explosion of the cap.

Claim.—The screw plug *f* formed with the cavity at the front, and receiving the detonating cap on the end of the rod *q*, for the purposes and as specified.

Also, a plug or plate of steel forming a facing or surface to the softer metal of the plug *f*, for the purposes and as specified.

No. 43,030.—**Alexander Kinkead**, Watertown, Ohio.—*Animal Trap.*—June 7, 1864.—This invention consists in arranging within a box a shutter, so as to allow an animal to enter the trap in connexion with a treadle lever, operating in such a manner as to cause the trap to be ready for the capture of an additional animal, and not requiring to be reset.

Claim.—The combination and arrangement of the shutter B, with the treadle lever C, as shown and described, for the purposes set forth.

No. 43,031.—**Gustavus Christian Kirschmann**, New York, N. Y.—*Artificial Leg.*—June 7, 1864.—This invention consists in combining with the various joints, or with the springs which control the motion of the joints, certain cords or straps in such a manner that by pulling the said cords or straps the portion of the joints can be adjusted, or the tension of the springs regulated according to circumstances. An oval or eccentric pin is connected with the knee-joint in such a manner that by turning the pin the length of the leg may be slightly altered, as may be desired. In combination with the spring in the ankle-joint is an adjustable screw, so arranged that the extent of motion of the ankle-joint can be regulated, and that in bending the leg forward, the screw, by coming in contact with the said spring, relieves the leg from the sudden strain to which it would be subjected, should its motion be suddenly stopped.

Claim.—First, the globe-shaped projection A′ uniting the two parts of the shell A, as and for the purpose shown and described.

Second, the oval or eccentric fulcrum pin *c*, of the knee-joint, as and for the purposes described.

Third, the combination of the tubes D and E, with the screw rods *a* and *d*, and shell A, as and for the purpose set forth.

Fourth, the small tubes c^{*} e'^{*} in combination with the tube E, rod *d* and shell A, as and for the purpose specified.

Fifth, the arms *e e′* provided with guide rollers *f* in combination with the tube E, and ropes H H′ L L′, as and for the purposes described.

Sixth, the sleeves F F′ in combination with the springs G G′, tubes D E, and rods *a d*, as and for the purpose set forth.

Seventh, the ropes H H in combination with the sleeves F F′, and springs G G′, constructed and operating substantially as and for the purpose shown and described.

Eighth, the spring a^{*} attached to the shell A in combination with the spring G of the knee-joint, as set forth.

Ninth, the disk E^{*} provided with flanges *e*3 in combination with the tube E and shell A, as and for the purpose specified.

Tenth, the set screw *j* in combination with the spring J J^{*} and ankle-joint I, constructed and operating substantially as and for the purpose set forth.

Eleventh, the rope L in combination with the toe piece K, sleeve F, rope H, and springs G G′, all constructed and operating substantially as and for the purpose described.

Twelfth, the rope L′ in combination with the spring sole K′, and toe piece K, as and for the purpose specified.

Thirteenth, the cross-bar *l*2 in combination with the toes K′, and ropes L L,′ constructed and operating as and for the purpose specified.

No. 43,032.—**Isaac Knapp**, Medina, N. Y.—*Wire Fence*—June 7, 1864.—This fence is constructed with posts set in the ground at suitable distances apart, and the wire stretched from post to post. The base board is attached to independent slats or cleats which are provided with oblique notches extending upward, and in number corresponding with the wires of the fence. The base boards are attached to these slats or cleats and are raised a few inches above the ground. The slats and base boards are made in sections and hooked upon the wires at points intermediate to the posts.

Claim.—The perpendicular cleats suspended to the wires of the fence with the base board attached thereto, which will at all times keep the wires of the fence at a suitable tension by rising and falling with the contraction and expansion of the wires as they are affected by the weather.

No. 43,033—**B. J. La Mothe**, New York, N. Y.—*Mode of lubricating Car Axles.*—June 7, 1864.—This invention consists in constructing the axles of car wheels hollow, divided in the centre by a partition, in either side of which are holes through which the lubricating material is poured. The axle is made hollow nearly its whole length, and holes are made in the bearings through which the lubricating material is supplied to the wheel.

Claim.—A reservoir for lubricating material within the axle or shaft and supplying such lubricating material to the bearing through holes, in the manner and for the purposes specified.

No. 43,034.—**Alexander Macphail**, Jersey City, N. J.—*Solution of Annotto.*—June 7. 1864.—This invention consists in first preparing a highly concentrated alkaline solution of annotto and then adding strong alcohol sufficient to precipitate the alkali, the object being to obtain the coloring principle of this substance in a pure state and in a suitable form for giving to butter and cheese the rich yellow so much desired.

Claim.—The solution of annotto obtained by a process substantially as herein specified.

No. 43,035.—**Burton Mallory**, New Haven, Conn.—*Lock and Latch.*—June 7, 1864.—This invention is designed as an improvement upon a reversible lock for which a patent was granted to the said Mallory on May 5, 1863, and it consists in making the supplementary inner case, which contains the latch bolt, shorter than that described in the said patent, so that when the knob spindle, which passes through its end, is removed, the case with its bolt, spring, &c., may all be drawn forward together sufficiently far to release the square of the bolt head from the mortise in the lock plate, and thus allow the bolt, which is attached to the case by a swivel joint, to be turned.

Claim.—The combination of a lock and latch, when the catch bolt and its operative mechanism are arranged in a case or frame independent of the main case, and constructed so that the latch bolt may be secured, substantially as described, without removing the said independent case from the main case.

No. 43,036.—**Horace B. Martin**, Santa Rosa, Cal.—*Surveyor's Compass.*—June 7, 1864.—This invention consists in the insertion of an adjustable graduated circle within the usual horizontal graduated stationary circle in such a manner that the degrees of both meet at the edges of the two circles and precisely at the end of the magnetic needle. To effect this the adjustable circle is vertical and is caused to revolve by means of a pinion which takes into a gear cut upon a horizontal flange projecting from the base of the vertical circle. The magnetic variation being known, the true meridian can be determined at once by moving the inner circle through the number of degrees of the variation.

Claim.—The movable graduated plate B, as shown substantially in Fig. 3, acting within the compass box, and connecting with the graduation of the stationary ring so that the two graduations shall meet precisely at the end of the needle, the whole arranged substantially as and for the purposes set forth.

No. 43,037.—**George J. Neveil**, Philadelphia, Pa.—*Apparatus for Bending Metal Bars.*—June 7, 1864.—This apparatus is composed of an iron bench with two ears projecting upwards near one end, between which ears, is pivoted the rounded end of heavy lever D. From this lever also project upwards two ears, to which is attached a shorter and smaller lever F, having its head formed eccentrically to the axis on which it turns. On the same surface of the lever D is a gauge made adjustable by means of a slotted plate to which it is attached, and a set screw. When in use the lever D is inverted; the bar to be bent is laid upon the table and moved through between the lever and the eccentric until its end abuts against the gauge; the outer end of the lever F is then raised up and attached to the lever D by a stirrup which causes the eccentric to clamp the bar. On again reversing the lever D, and bringing it back to its first position, the bar will be bent around and take the shape of the end of the said lever.

Claim.—First, the lever D, in combination with the arm F, and its projection *i*, or their equivalents, the whole being arranged and operating substantially as and for the purpose herein set forth.

Second, the combination of the aforesaid lever and arm, or their equivalents, with the adjustable plate G.

No. 43,038.—**Elfameo M. Noyes**, Newark, N. J.—*Comb.*—June 7, 1864.—The back of the comb is made narrow and thinner than usual, and on each side is formed a longitudinal groove into which is pressed the edges of a piece of sheet metal.

Claim.—A hair-comb formed by attaching to the body of the comb, without rivets or cement, a metallic back or casing, with or without the ends of such metallic back or casing closed down over the ends of the body of the comb, substantially as and for the purpose set forth.

No. 43,039.—**Dewey Phillips**, Shaftsbury, Vt.—*Water Wheel.*—June 7, 1864.—This invention consists in placing a safety valve on the supply pipe, in combination with the gates in such a manner that when the gate is suddenly closed the valve will open and allow a portion of the water contained in the pipe to escape, thus relieving it of the jar resulting from the sudden reaction of the water. Combined with the S-shaped wheel and the water cylinder is a packing composed of leather or other suitable materials surrounded by a ring, which can be adjusted by means of set screws so as to prevent the escape of any water around the shaft.

Claim.—First, the conductor E, formed circular at one end and rectangular at the other end, in combination with the cylinder H, sluice S, and gate *g*, for the purposes and as specified.

Second, the band of leather or other flexible material surrounded by the ring *w*, and kept to its place by the ring *s*, and adjusting screws, in combination with the cylinder H, and wheel A, or disk K, for the purposes specified.

Third, the safety valve V, in combination with the gate *g*, the said valve being near the gate, as and for the purposes specified.

Fourth, the combination of cylinder H, sluice S, chamber G, and water passages A, in the manner and for the purposes specified.

No. 33,040.—**Edward Porter**, Tallmadge, Ohio.—*Churn.*—June 7, 1864.—This invention consists in the employment, in connexion with a common pail, of an obliquely arranged shaft provided with curved beaters and straight arms. The pail is provided with a cover, and the shaft with its beaters is easily detached, so that the pail can be employed as usual.

Claim.—The special arrangement of the detachable oblique shaft E, beaters H H′, arms I I′ and cover D, when used in connexion with the body or pail B, and the whole so constructed as to make a churn and pail combined, as and for the purpose specified.

No. 43,041.—**T. J. W. Robertson**, New York, N. Y.—*Machine for Grinding, Cutting, and Engraving Glass.*—June 7, 1864.—To the frame of this machine is attached a driving wheel having two grooves turned in its face for two belts which pass around two small pulleys on the upper ends of two shafts, so as to impart motion to the cutting wheels placed on the lower ends of the said shafts. These shafts have bearings attached to a pair of arms by means of screws passing through slots in the bearings, so that the position of the cutting wheels may be adjusted as desired. The said arms are attached to a sleeve in such a manner as to allow the cutters to have a motion to or from the centre of the object to be operated upon, so as to accommodate the cutters to any irregularities in its size or shape. The cutters are held to their work by a spiral spring, which causes them to bear upon the glass with a yielding pressure.

Claim.—First, the arrangement of the cutters or polishers to press with a yielding pressure against the surface of the glass, substantially as herein shown and described.

Second, the combination of the cutters or polishers with swinging arms H H′, substantially as herein shown and described.

Third, the cutting, polishing, or forming of ornamental designs upon the glass, by causing the cutters or polishers to press against the glass, and imparting to the glass during said pressure, by means of eccentrics or undulating surfaces, a combined or alternate vertical and rotary movement, substantially as herein shown and described.

No. 43,042.—**T. J. W. Robertson**, New York, N. Y.—*Machine for Cutting, Polishing, Dressing and Ornamenting Glass.*—June 7, 1864.—This invention consists in the employment of several devices named in the claim, by which it is designed to dispense with hand labor in the ornamentation of glass, or other similar substances, such as globes, vases, and vessels of various kinds, so that several of the same may be operated upon simultaneously by a single attendant, who may execute upon all of them any desirable design, either from his mind or from any specified writing or configuration previously prepared.

Claim.—First, the construction of the shaft or holder H, which carries the glass, so that it will vibrate to and from the cutter or polisher, substantially as and for the purpose herein shown and described.

Second, the pressing of the glass with a yielding pressure against the cutter or polisher, substantially as herein shown and described.

Third, the combination of the vibrating frame I with the glass holder H, substantially as herein shown and described.

Fourth, the combination of the spring treadle and belt shipper with the glass holder H and cutter *h*, substantially as herein shown and described.

Fifth, imparting a vertical or a lateral movement, or a combined vertical and lateral movement, to the glass or other article to be ornamented, substantially as herein shown and described.

Sixth, the combination of a governing lever or pointer S, which is subject to the will of the operator, and a glass holder which obeys the pointer, substantially as herein shown and described.

Seventh, the combination of the wheel L, arm N, and shaft D, substantially as herein shown and described.

Eighth, the combination of the adjustable segment O with the wheel L and shaft D, substantially as herein shown and described.

Ninth, the combination of the shaft D and segment O with the segment P and lever S, in the manner herein shown and described.

Tenth, the combination of the shaft D, lever B, elbow lever X, and rod U, with the lever S, substantially in the manner herein shown and described.

Eleventh, the combination of the lever S with the fork R, sleeve Q, and rod U, in the manner substantially as herein shown and described.

Twelfth, the arrangement of the cutter or polisher so that the position of its axis may be changed or varied in correspondence with the changes or curvatures of the lines of the design, substantially as herein shown and described.

Thirteenth, the employment of adjusting mechanism between the lever S and the glass holder or the cutter for the purpose of enlarging or diminishing at will the dimensions of the ornament or figure to be executed upon the glass.

No. 43,043.—**T. J. W. Robertson**, New York, N. Y.—*Machine for Ornamenting Glass.*—June 7, 1864.—The object of this invention is to make upon glass shades, globes, lamp chimneys, glass ware and other objects, firstly, wide bands of roughing or frosted work, and also narrow lines of various widths, straight around the object operated upon; and, secondly, to make waved lines either roughed upon clear glass or polished upon roughed or frosted glass; these effects being produced by means of machinery instead of hand labor.

Claim.—First, a mechanism for polishing, ornamenting, and roughing glass, in which the glass rotates while the brushes, straps, polishers, or their equivalents, simply rest or press upon the glass with a yielding pressure, substantially as herein shown and described.

Second, the production of wave, spiral, or intersecting lines upon the glass by giving to the brushes, straps, polishers, or their equivalents, a movement across the line of rotation of the glass by automatic mechanism.

Third, the vibrating lever *t* and adjustable link *u*, employed to communicate a variable motion from the pattern wheel to the frame *f*, as explained.

Fourth, the combination of the catch *p* and spring *s*, operating in the manner described, to secure the pattern wheel *n* upon the face plate *m*.

No. 43,044.—**William D. Sheldon**, Wolcott, N. Y.—*Carriage Brake.*—June 7, 1864.—This device consists of a hinged tongue provided with a slot, in which works a pin. Underneath the tongue is arranged a sliding rod provided with a pin that works in the slot in the tongue, and at the rear of the tongue is a bent rod or bow, which, in connexion with levers, operate so that in pulling forward the sliding rod the brakes will be applied to the wheels.

Claim.—The arrangement and combination of the hinged tongue B with its slot *d*, the sliding rod D, with its pin *f* and bow *g*, and the levers E E, with slots *h h* in their inner ends, all operating together, substantially as and for the purpose herein specified.

No. 43,045.—**Anthony M. Smith**, Brooklyn, N. Y.—*Sash Fastening.*—June 7, 1864.—Attached to the mullion of the upper sash is a plate having a vertical groove cut in its upper surface, in which is fitted a bar hinged at its upper end to said plate. On the upper surface of the meeting rail of the lower sash is secured a plate, to which is pivoted a button, having a cam projecting from its upper end, so that in turning it catches behind the lower end of the hinged bar and draws it out of the recess; the end of the bar thus rests on the surface of the button and the lower sash is securely fastened.

Claim.—The arrangement and use of the vertical spring catch A and C, and segment-bearing B, with stop S, in the manner and for the purpose substantially as described and shown in the drawings.

No. 43,046.—**Simon Stevens**, New York, N. Y.—*Roasting and Desulphurizing Ores and Minerals.*—June 7, 1864.—This invention consists in the use of hydro-carbon vapors or gases as fuel for roasting or desulphurizing ores, and in effecting the roasting and desulphurizing of ores by burning the vapors of hydro-carbons mixed or combined with either ordinary or superheated steam. The gold and silver ore is collected from the pyritous ores in which they are contained by roasting or burning such ores in the flame from hydro-carbon vapors or gases, quenching the hot ore in water, then washing it out and floating away the light earthy matters, and collecting the gold and silver by means of amalgamation with mercury or on amalgamated plates, these several operations forming a continuous process.

Claim.—First, the use of hydro-carbon vapors or gases as fuel in the roasting and desulphurizing of ores or minerals.

Second, the desulphurizing and roasting of ores by means of a combined blast or current of hydro-carbon vapor, air, and steam, applied in the manner substantially as herein set forth.

Third, the process herein described of separating and collecting the precious metals from pyritous ores, which process consists in roasting and desulphurizing the ore, receiving it while hot in water, washing and removing the light earthy matter, and amalgamating the precious metals, these several operations forming a continuous process, as above set forth.

No. 43,047.—**Macklot Thompson**, St. Louis, Mo.—*Preparing and Treating Grain for Distillation.*—June 7, 1864.—This invention consists in macerating grain with acids in a series of tanks, so as to convert the whole of the starch into glucose for the preparation of beer for distillation.

Claim.—First, the process hereinbefore described of macerating grains, roots, tubercules, and other vegetable matter capable of furnishing alcoholic spirits, by the employment of acids in connexion with water at a high temperature.

Second, the manner herein described of treating grain, &c., by submitting the same to the action of acidulated water in combination with the appropriate degree of heat for the production of the maximum quantity of sugar.

Third, the method of working mashing tubs by the employment of apparatus such as described, and operating the same in continuous series or in sections, substantially in the manner herein described.

Fourth, the method of effecting the maceration of grain, &c., by apparatus such as herein described, and operating the same by steam, applied in the manner and for the purposes set forth.

No. 43,048.—JOHN THOMSON, New York, and THOMAS WIDDOWFIELD, Brooklyn, N. Y.—*Furnace for Melting Metals, &c.*—June 7, 1864.—This invention consists in making the sides of the crucible of a double-arch or concave, and also the top and bottom of the same. The crucible is firmly fixed in the furnace, and is provided with a hole in the upper end.

Claim.—First, the crucible B, made with double-arched sides and bottom, as shown and described.

Second, the rounded corners *b* of the crucible applied in combination with the concave seats *c* in the casing and with the tap hole *d*, in the manner and for the purpose substantially as set forth.

Third, the double concave cover D in combination with the furnace A and crucible B, constructed and operating as and for the purpose specified.

No. 43,049—ALFRED TRIM, Iconinm, Iowa.—*Wind Wheel.*—June 7, 1864.—In this machine the wheel is placed upon a platform, and it consists of two horizontal disks attached to a central perpendicular shaft. Upon the periphery of each disk are hinged the sails which are kept closed by means of weights and cords, except when forced by the wind, the cords passing from the front part of the sails over pulleys on the centre shaft. Upon the same uprights which sustain the sail is hinged an interior sail, that serves to direct the wind upon the outer sails. Over the wheel is a plate which is pivoted to the shaft, and carries a vane at one end and a mask at the other end, for the purpose of protecting the wheel from the wind at the dead point. A ball governor is employed which elevates a sleeve that operates the long end of a bent lever, the short end of the said lever pressing a shoe against a pulley on the main shaft. Upon the long arm of the said lever is a shifting weight that serves to adjust the brake.

Claim.—The swinging wings or sails C, having the weights D connected with them, in combination with the adjustable shield G, all arranged to operate substantially as and for the purpose herein set forth.

Also, the ball governor L in combination with the bent lever M, provided with the adjustable weight R and the pulley Q on the wind wheel shaft B, substantially as and for the purpose herein set forth.

Also, the catches E in connexion with the arms *f* on the wings or sails C, and the adjustable bar F attached to the framing A, all arranged substantially as and for the purpose herein specified.

No. 43,050.—S. D. TRIPP, Lynn, Mass.—*Machine for Cutting and Embossing Leather.*—June 7, 1864.—This invention consists of a series of devices, designated in the claim, for the purpose of cutting and embossing leather, card boards, &c., by the automatic action of a rising and falling head, which carries the cutter or die, or both, in combination with a vertically adjustable bed and reciprocating self-acting feed apparatus.

Claim.—First, the adjustable block or table I in combination with the rising and falling head B, and with the automatic feed mechanism, constructed and operating substantially in the manner and for the purpose shown and described.

Second, the adjustable box E in combination with the head B, cutter or die D, and table I, constructed and operating substantially as and for the purpose set forth.

Third, the fingers *k* in combination with the arms *j*, lever H, cam G, and adjustable stop k^{*}, constructed and operating substantially as and for the purpose specified.

Fourth, the tappet *m*, lever *a*, and finger *o* in combination with the cutter-head B, table *g*, and fingers *h*, constructed and operating substantially as and for the purpose described.

Fifth, the yielding pin *p* in combination with the feed mechanism and with the mechanism for releasing the material from the fingers *h*, constructed and operating substantially as and for the purpose specified.

Sixth, the adjustable plate J in combination with the frame A, block I, and screws $g\ g'\ g''$, constructed and operating substantially as and for the purpose set forth.

No. 43,051.—A. H. WAGNER, Chicago, Ill.—*Water Wheel.*—June 7, 1864.—This invention consists in constructing a water-wheel with the buckets placed perpendicularly throughout their length and breadth and radial, or nearly so, to the centre of the shaft, but curved at the bottom so as to discharge the water in a direction opposite to that in which it is received into the wheel. Directly under the buckets is placed a stationary concave plate as nearly as possible to their lower ends without coming in contact therewith, for the purpose of keeping the water in contact with the buckets, so that its force will not be lost before arriving at the proper point for its being discharged from the wheel.

Claim.—Making the floats perpendicular throughout their length and breadth and radial, or nearly radial, where they receive the first impulse of the water, and curving them where they extend or pass.

No. 43,052.—W. POWELL WARE, New York, N. Y.—*Boots and Shoes.*—June 7, 1864.—This invention consists of a metallic plate to be placed between the inner and outer soles of boots and shoes, extending from the heel to the toe, and provided with a metallic counter.

Claim.—A plate made of steel or other metallic substance placed between the inner and outer soles, extending from the heel to the toe, in combination with a metallic counter, the whole substantially as herein set forth.

No. 43,053.—R. WASHBURN, Ramapo, N. Y.—*Bench Plane.*—June 7, 1864.—This invention consists in the employment of a slotted wedge inserted in suitable guide grooves in the front side of the throat of a plane, and adjustable by means of a set screw in combination with the plane iron in such a manner that, by means of said slotted wedge and set screw, the plane iron can be firmly secured in the desired position, and by the joint of the wedge the shavings are thrown off from the cutting edge of the iron and caused to pass up through the throat of the plane with ease and facility, and the use of a double iron can be dispensed with.

Claim.—The slotted wedge D secured in the throat of a plane A by means of a set screw *b*, and operating in combination with the same and with the plane iron C, substantially in the manner and for the purpose specified.

No. 43,054.—CHARLES and ORSON WASTE, Cameron, Ill.—*Crushing and Pressing Machine.*—June 7, 1864.—This invention consists in so constructing and combining a crushing machine with a press that the same power used for crushing the stalks of hay between rollers and cutting the same into sheets of the size of the press box can be used by changing the gear of the crushing machine for pressing the hay, and the crushing operation continue undisturbed. The claims mainly explain the invention.

Claim.—First, combining a hay-crushing machine with a hay press, both constructed and arranged as described, the operative parts of the crushing machine so constructed that the hay is crushed, cut in sheets of proper size, and pressed into bales at the same time and with the same power.

Second, so constructing and arranging the operative parts of the combined crushing and pressing machine that while the travelling beam L is reversed, the revolving of the crushing rollers remains unchanged, in the manner described.

Third, so arranging the various parts of the combined pressing and crushing machine that the travelling beam L may remain stationary, while the revolving of the pressure rollers remains the same, in the manner described.

No. 43,055.—JAMES WEED, Muscatine, Iowa.—*Thatching Roofs.*—June 7, 1864.—This invention consists in an arrangement of double rafters and studs in and upon buildings for the purpose of holding in position straw or hay used for thatching purposes, and filling the spaces between the rafters and studs with straw that has been threshed.

Claim.—The applying for thatching purposes of straw to the roofs and sides of buildings by inserting the former between strips or slats attached to both sides of the rafters and studs, substantially as described.

Further, the filling in or packing of the space between the strips or laths at both sides of the rafters and studs with straw or other suitable material when used in connexion with the external layers of straw, for the purpose specified.

No. 43,056.—JAMES G. WELDON, Pittsburg, Penn.—*Stop-cock and Case for Pipes Leading from Street Mains.*—June 7, 1864.—This invention consists of a stop-cock for controlling the flow of water under ground, enclosed in a cylindrical case, and provided with a disk at its lower end, secured to the cylinder by ears attached to corresponding projections in the lower part of the cylinder. The cylinder is cut out so as to fit down upon the pipe, other ears on the disk being bent up to fit the opening in such a manner that when pressed down by screw bolts the parts will close around the pipe. The cock is operated by means of a rod extending upwards.

Claim.—The within-described stop-cock case and stop-cock, constructed and applied in the manner and for the purpose described, as a new article of manufacture.

No. 43,057.—HEBER WELLS, New York, N. Y.—*Fastening for Wooden Blocks for Engravers' Use.*—June 7, 1864.—This invention consists in fastening together the blocks used by engravers by means of rods inserted in holes made in the adjoining or abutting edges of the same. Communicating with these holes are recesses made in the rear surfaces of the blocks, which receive each a nut inserted in one end of the rod, and in the opposite end of the rod is a square to receive a key or check formed of a flat, slotted metal plate, which fits over the recessed end of the aforesaid rod so as to prevent the latter from turning when the nut in the opposite end is screwed up, by which means the blocks are firmly secured to each other and readily detached when necessary.

Claim.—The rods *c* provided with the screw nuts B, in combination with the keys or checks C, all arranged and applied substantially as and for the purpose herein set forth.

No. 43,058.—THOMAS L. WEST, West Salem, Wis.—*Fruit Dryer.*—June 7, 1864.—This invention consists of a box having a perforated top and bottom, and through the centre of which is passed a smoke or other heating pipe. The said pipe is perforated at a point near the top of the box, and the perforations are covered by a sliding damper, so as to cause air from the interior of the box to pass into the pipe. The box is provided with trays having corrugated perforated bottoms.

Claim.—The box or case A perforated at its upper and lower ends and provided with a central tube B, either with or without a register to communicate with the pipe of a stove or heater, substantially as and for the purpose set forth.

Further, the shelves or trays C fitted in the box A and provided with the corrugated perforated bottoms *d*, substantially as and for the purpose specified.

No. 43,059.—JOHN C. WHITIN, Northbridge, Mass.—*Spindle Bolster for Spinning Machines.*—June 7, 1864.—This invention consists in providing for the upper parts of spindles of roving machines bearings which steady the spindle when revolving, and as they rise and fall on the spindle accommodate themselves to it and thus prevent binding, by which means the liability to variation of the spindle and bearing is obviated, and the spindle is allowed to run freely while the bolster is kept in its socket. The device consists of a screw, the lower part of which is made to fit over the ball of the bolster, and having a hole in it a little more than large enough for the upper cylindrical part of the bolster. Between the ball and socket is placed a packing of cloth or other suitable material to prevent the ball from being too firmly bound, and to lessen the noise of the machine when running.

Claim.—The ball and socket, with packing and cap screw, applied to the upper bearings of spindles of speeder or fly frames, essentially as above described.

No. 43,060.—GEORGE W. WIGGIN, Exeter, Mass.—*Ditching Machine.*—June 7, 1864.—This invention consists in a combination of knives or cutters which cut from both the bottom and sides of the ditch, together with devices that elevate the soil to be removed and place it at one side of the ditch. The sides and bottom of the ditch are cut at one operation.

Claim.—The combination of the sole plate P, mould boards M M′, curved and inclined as set forth, cutters C C′ and K, and beams S S and fender D, or their equivalents, substantially as and for the purpose herein described.

No. 43,061.—JONAS WINCHESTER, New York, N. Y.—*Furnace for Smelting Ores.*—June 7, 1864.—This invention consists in having an inner cage-like receptacle or crucible for containing the ore surrounded by an oven or muffle. The fuel is contained in the space between the crucibles. The flame plays under and around the sides of the crucible, and enters the interstices between the slats of the fire-brick which form the sides of the crucible. The blast is delivered under the grate bars.

Claim.—First, the employment in the smelting of ores of a crucible or other vessel, chamber or receptacle, for containing the ore so placed in a furnace as to be wholly or for the most part surrounded by the fuel, and so provided with openings or perforations that the flame and heated gaseous products of combustion from the fuel are forced into it, upon, into, and through the ore, substantially as herein specified.

Second, in combination with a crucible, vessel, chamber, or receptacle for ore, so constructed and applied within a smelting furnace, introducing the blast beneath and through a grate, or its equivalent, whereby it is carried upward with an equally-distributed pressure upon and among the fuel, and the flame is so forced in it through the openings of the said crucible, vessel, chamber, or receptacle, that the said openings have the effect of so many tuyeres or blow-pipes, substantially as herein described.

No. 43,062.—JOHN WOOD, Brooklyn, N. Y.—*Submarine Armament.*—June 7, 1864.—This invention consists of a tube, which is inserted in a submarine porthole, and connected with a vertical tube that serves as an air escape. The length of the horizontal tube gives room for a number of sliding port-closers, so that in case one is shot away there will be an immediate provision for another. The same to be used in connexion with the usual permanent sliding port-closer, which lifts on firing the gun.

Claim.—A horizontal pipe, provided with the air-escape pipe and a series of slides containing sheets of metal or other material, and fitted so that said slides can be dropped in succession, as specified.

No. 43,063.—G. C. WORTH, Upper Sandusky, Ohio.—*Latch.*—June 7, 1864.—This device consists of a tube inserted in the edge of the door, with its end projecting therefrom, and provided at the said end with a vertical mortise containing a pivoted latch, which is operated by simply raising either one of the two knobs. The outer end of this latch has a bevelled pendent projection which slides upon and falls behind the nosing in the usual manner. A narrow case let into the jamb and projecting over the nosing contains another pivoted latch with a bevelled pendant which falls into the mortise from above, and can be raised only by the action of the tube latch as it is raised up. While within the mortise it may be locked through the medium of a slide bolt within the case, operated by a key.

Claim.—First, the bolt B, having the latch C fitted within it, and provided with the pendant *e*, in connexion with the case G′ in the jamb *f* of the door frame, all arranged to operate in the manner substantially as and for the purpose herein set forth.

Second, the knob arbors D D, when used in combination with the bolt B, latch C, and case G′, and arranged substantially as and for the purpose specified.

Third, the sliding bar or bars H, arranged to be operated by a key in any proper manner; said bar or bars are used in combination with the bolt B, latch C, drop bolt K, and knob arbors D D, to serve as a lock for the latch, substantially as set forth.

No. 43,064.—O. ZELLEN and C. TAFTEZON, New York, N. Y.—*Rotary Engine.*—June 7, 1864.—This invention consists in the arrangement of three cylinders side by side, with abutments upon the central one working in corresponding depressions in the outer ones. The steam is admitted through two passages, which are so arranged that a portion of it acts upon the abutments on one side of the central cylinder, and the other portion is carried by an arrangement of parts entirely around the outer cylinder, and made to act upon the opposite side of the central cylinder, when it is carried around the other outer cylinder, to be discharged into the atmosphere by a valve arranged for that purpose, by which means the steam will be caused to act upon opposite sides of the cylinders at one and the same time.

Claim.—The combination and arrangement of the cylinders B C C, the steam passages D and E, with the two turning cocks I.

Second, the arrangement of the steam passages F F and D D for the purpose of conveying the steam to the pistons of the centre cylinder.

No. 43,065.—AUGUST PIERRE DUBRUNFRAUT, Paris, France.—*Process for Purifying Saccharine Liquids.*—June 7, 1864.—This invention consists in applying the principle of endosmosis or dialysis for removing saline matters from sugar solutions, so as to purify sirups, and also obtain a larger amount of crystallized sugar.

Claim.—First, the employment or adaptation, as hereinbefore described, of the phenomenon of endosmose for the treatment of molasses, sirups, saccharine juices, and other products.

Second, constructing apparatus in which the said treatment takes place, substantially as hereinbefore described.

No. 43,066.—AUGUSTUS W. HOFFMAN, London, England.—*Preparing Coloring Matter for Dyeing and Printing.*—June 7, 1864; patented in England May 22, 1863.—This invention consists in preparing a blue coloring matter, by treating rosaniline with the bromides or iodides of the alcohol radicals, as iodide of ethyl, mythyl, amyl, &c.

Claim.—The production of new coloring substances by the action of the iodides and bromides of alcohol radicals on rosaniline, as hereinbefore described.

No. 43,067.—THOMAS HARRISON, Tudhoe, England.—*Machinery for Puddling Iron and Steel.*—June 7, 1864; patented in England December 8, 1863.—This invention consists in a method of applying mechanical power to the process of puddling iron and steel. The power is derived from an engine consisting of a cylinder and piston which may be operated either by steam, hot air, or water. The puddling tool is connected to a vibrating suspension rod, and the engine is placed on the roof of the furnace and turns on a pivot, being moved by a rack wheel and screw, so as to give a lateral motion to the puddling tool.

Claim.—The mounting the cylinder *a* which gives motion to the tool *g* on a centre or pivot *c*, and combining therewith apparatus, substantially as described, for gradually turning the cylinder *a* to and fro on its centre or pivot *c*, so that the tool *g* may in each successive stroke pass over a different course on the bed of the furnace *b*.

No. 43,068.—B. F. BEAN, assignor to himself, SETH D. WOODBURY, and JAMES A. AUSTIN, Lynn, Mass.—*Neck-tie Supporter.*—June 7, 1864.—This device consists of a metal plate or other suitable material of the width of the neck ribbon. At one side is a slot extending nearly its whole length, through which the ribbon is passed, and then thrown over the thin bar formed by the slot. The ribbon is placed under the chin lengthwise, with the plate behind it, the said plate being fastened by the shirt button.

Claim.—The neck-tie supporter A, constructed and operating substantially as described.

No. 43,069.—HENRY BUELL, assignor to himself and HENRY A. GREEN, Mount Morris, N. Y.—*Clothes Frame*—June 7, 1864.—This invention consists of a rectangular frame, provided with a series of bars pivoted to the end of the frame, and arranged to fold between each other, the whole being made so as to be hung upon the wall.

Claim.—The combination of the bars A A, rods B B, washers *b b*, pivoted arms C C C, brackets D, and pegs E, all constructed and arranged as and for the purposes specified.

No. 43,070.—GEORGE A. CORSER, assignor to himself and ANTHONY HANKEY, Leicester, Mass.—*Bed Plate for Paper-mill Engines.*—June 7, 1864.—Instead of the usual bed plates formed of zigzag metal plates, with interposed wood fillings between each two of them, each of the plates is formed of two straight pieces, with an obtuse angle at their centres, together with another similar piece, forming a diamond shape, so that the stock, in passing over the bed, shall first spread towards the ends of the bed, and then be crowded, by means of the convergence of the plates, towards the centre, thus working in an even and uniform manner. The usual wood fillings are interposed.

Claim.—An angular bed plate, for working paper stock, composed of two or more sets of angular plates, when said plates are arranged in such manner that the angles of the adjoining sets are inverted in relation to each other, substantially in the manner and for the purposes described.

Also, the combination of the angular metal plates *b c*, as herein arranged, and wooden fillings *h*, with the side plates A, arranged in relation to each other substantially as and for the purposes set forth.

Also, the combination with the angular plates for paper engines, arranged as herein described, of the parallel side plates A A, in the manner and for the purpose herein set forth.

No. 43,071.—Clemoire F. Cosfeldt, jr., and Thomas T. Pears, assignors to themselves and Alfred Martien, Philadelphia, Penn.—*Apparatus for Melting Metals for Casting Stereotype Plates.*—June 7, 1864.—In this apparatus the melting pot is suitably fixed in a furnace. Near the bottom of the pot is a pipe for conducting off the melted metal. At the end of this pipe is a device for regulating the flow of the metal from the pot.

Claim.—First, the melting pot C and its spout F, combined with a sliding door H, substantially as set forth for the purpose specified.

Second, the sliding door H, with its bevelled lower edge arranged and operating in respect to the spout F, and the inclined plate P, substantially as and for the purpose herein set forth.

Third, the plate P, with its adjustable arms Q, arranged in respect to the spout F substantially as described.

Fourth, the sliding door H, rollers I I, their sliding boxes or bearings *i i*, and set screws *m m*, arranged in respect to each other substantially as set forth.

Fifth, the sliding door H, with its racks *n n*, arranged in respect to the shaft L, with its pinions K K and lever M, substantially as and for the purposes specified.

Sixth, the sliding door H, in combination with the set screw *q*, or its equivalent.

No. 43,072.—Philip Curtis, assignor to himself and A. L. Bayley, Amesbury, Mass.—*Hat.*—June 7, 1864.—This invention consists in embossing or producing figures upon felt or other hats by the combined agencies of pressure and friction, either by hand or machinery.

Claim.—A hat finished substantially as described.

No. 43,073.—Jim B. Fuller, assignor to himself and James P. Upham, Claremont, N. H.—*Separating the Fibres of Hemp, Flax, &c.*—June 7, 1864.—In this process the fibrous material in the form of a bat is wound around upon a core in a large close vessel. The pressing rollers are arranged at the opening of the vessel so that the steam cannot pass around them, packing being used to make a tight joint. While the fibre is subjected to the action of steam at high pressure, it is passed between the pressing rollers.

Claim.—First, effecting the separation of the fibres of hemp, flax, and other similar plants, by first subjecting them, while in the form of a sheet, sliver, roving, or other similar condition, and while in a close vessel with steam, water, or other liquid, at high temperature and pressure, to the pressing action of rollers, so placed in such vessel that the said sheet, sliver, or roving shall be drawn between them as they rotate, substantially as and for the purposes specified.

Second, drawing the sheet, sliver, or roving out of the apparatus by and between rollers which press back into the apparatus all or nearly all the resinous, gummy, coagulated, and coloring matter, while it is yet in a heated and softened state, substantially as and for the purposes specified.

No. 43,074.—R. W. George, Richmond, Maine, assignor to himself and Solomon S. Gray, Boston, Mass.—*Barrel Machine.*—June 7, 1864.—The object of this machine is to cut the heads of casks from boards, and it consists in attaching to a suitable frame a wheel, driven by any suitable power, on the face side of which is a flange having segmental saws and spurs, and in the flange is inserted a bit which cuts out the wood left between the saws and spurs. A table is also employed provided with clamps so as to firmly hold the board to form the centre piece of the head, whilst the table is turned up to the cutter wheel and held in place by a drop catch. To the wheel shaft is attached a device connected with a lever and treadle, so that by placing the foot upon the latter the wheel will be brought forward in contact with the board through which it cuts, and upon releasing the treadle the wheel will be thrown back to its original position.

Claim.—First, arranging the pins *q* and *l* in the table W, substantially as set forth and for the purpose described.

Second, the combination of the flange *m*, spurs J J, saws M M, cutter L, and chamfering knife O, when constructed and operating substantially as described.

Third, the clamping apparatus and table W, when arranged and operating substantially as described.

No. 43,075.—G. F. Herrick, assignor to himself and Charles Sheffler, Sharon, Minn.—*Funnel.*—June 7, 1864.—This invention consists in the application of a coating of India-rubber or other soft or elastic material to the nozzle of the funnel, in combination with a vent pipe extending down through the nozzle, and connecting with a cork or valve in such a manner that when the nozzle is inserted into the neck of a bottle or other vessel an air-tight joint is produced between the circumference of said nozzle and the inner surface of the neck, and in pouring in liquid the air escaping from the vessel finds its way out through the vent pipe, and when the vessel is full that quantity of liquid remaining in the funnel can be easily removed by closing the mouth of the nozzle with the cork or valve.

Claim.—The arrangement of elastic packing C with the nozzle of the funnel A, in combination with the vent pipe D and valve F, constructed and operating in the manner and for the purpose substantially as herein shown and described.

No. 43,076.—George Lewis, assignor to himself, Ralph Hoyt, and C. W. Hoyt, Panama, N. Y.—*Churn Power.*—June 7, 1864.—This invention relates to an arrangement of devices by which the body of the churn is suspended in a frame so as to swing like a pendulum, and while swinging the dasher will be alternately elevated and depressed in the barrel of the churn. This movement of the dasher is effected by means of a system of arms or compound levers attached to the frame in which the body of the churn is suspended.

Claim.—The oscillating bars J, with slots *a* and pivots *d*, in combination with the hinged arms C E, cross-bars D F, dasher-staff G, and tub or barrel H, all constructed and operating in the manner and for the purpose substantially as herein shown and described.

No. 43,077.—Gordon McKay, Boston, Mass., and Lyman R. Blake, Quincy, Mass., assignors to the said Gordon McKay.—*Thread-waxer for Sewing Machines.*—June 7, 1864.—In this device the passage through which the waxed thread is drawn, to deprive it of its superfluous wax and distribute the wax uniformly, is made in sections, and consists of a conical opening or tube formed of a semicircular groove in a fixed metal bed-plate, and a corresponding groove in a swinging piece retained by a spring in such position that the two grooves form the passage of the size required. The spring admits of inequalities of the thread passing readily through the passage by yielding when necessary, and a constant even pressure is maintained upon the thread.

Claim.—A device for stripping superfluous wax from thread, and for other analogous uses, when arranged to operate substantially as described.

No. 43,078.—J. W. Miller, Waynesboro', Penn., assignor to himself and Joseph Snively, Greencastle, Penn.—*Lock.*—June 7, 1864.—This lock is designed to be used in combination with a bar, the end of which, having a mortise through it, is inserted in the lock. The lock bolt is pushed through the mortise by passing it downward with the key through one of two keyholes, and is withdrawn by passing the key into the other keyhole and screwing its threaded end into a threaded socket formed in the end of the bolt.

Claim.—First, the combination of the bolt *d* and spring *h* with the key *k*, when constructed and operating as recited herein.

Second. the plate *m*, in combination with the lock and key, substantially as and for the purposes herein set forth.

No. 43,079.—Abraham Myers, assignor to himself, C. M. Hall, and E. R. Myers, Philadelphia, Penn.—*Gas Apparatus.*—June 7, 1864.—This invention consists in conducting the tar which collects and floats in the hydraulic main, by means of a tube, back into the retort, to be again treated and further decomposed into gas. Heretofore this tar has been collected in a well, and when it is desired to return it to the retort it has been necessary to raise or push it to a sufficient height to flow back into the retort.

Claim.—Forming a communication between the hydraulic main of gas apparatus and a retort or retorts, substantially as and for the purpose herein set forth.

No. 43,080.—Louis P. Angenard, New York, N. Y.—*Solution for Gilding China, Glass, and other Wares.*—June 14, 1864.—This solution is prepared by dissolving gold, tin, and antimony in nitro-muriatic acid, and combining the same with essential oils and pigments.

Claim.—The chemical proportion and preparation of the solution and its application to china, Dutch ware, glass ware, and other potteries, as described on the above.

No. 43,081.—William Armstrong, Milwaukee, Wis.—*Awning.*—June 14, 1864.—This invention consists in constructing the awning of light wooden slats which fold one over the other like the leaves of a fan. The slats are arranged on a suitable frame, and there are two pulling cords, one of which spreads the awning, and the other pulls or folds it up.

Claim.—The awning constructed of a series of folding slats combined and operating together with a supporting frame, in the manner substantially as herein shown and described.

No. 43.082.—Eben J. Beane, Providence, R. I.—*Shaping the Heels of Boots and Shoes.*—June 14, 1864.—This invention consists in combining the cutter of a machine for shaping boot and shoe heels, with a ridged roller and a yielding centre stud.

Claim.—The combination of a cutter, substantially as described, with a ridged or gauging roller *d'* and a yielding cutter stud *g*, substantially as described and for the purpose specified.

No. 43,083.—J. B. Blair, Philadelphia, Pa.—*Photographic Card Press.*—June 14, 1864; antedated May 24, 1864.—This invention consists in the arrangement of a small steel roller between larger ones of cast iron, which prevent the small steel one from springing; and also in the addition of an adjustable stage to receive the cord and turn it, after passing the rollers, in an opposite direction, so as to take out the curve and cause it to come out flat and smooth.

Claim.—First, the employment in a photographic card press of a small polishing roller C between two larger sustaining rollers D and E, the three being arranged so as to operate together, substantially in the manner described, for the purpose specified.

Second, the application to a photographic card press of the adjustable deflector F, the same being constructed and applied so as to operate upon cards substantially in the manner set forth and described, for the purpose specified.

Third, sustaining the pillow blocks of the rollers of a photographic card press by means of an angular supporter G, constructed and applied so as to rest with its angular bottom edge *g*3 only upon an adjustable base of any suitable kind, which will permit it to vibrate thereon so as to adapt itself to the rollers, as described and set forth, for the purpose specified.

Fourth, the employment of a hand wheel H, applied to the card-supporting roller, as described in figure 1, for the purpose specified.

No. 43,084.—W. E. Bond, Cleveland, Ohio.—*Skiff or Boat.*—June 14, 1864.—This invention consists in forming a flat-bottomed boat in two sections of unequal lengths, so that one section may be packed within the other, and provided with proper links or connexions.

Claim.—The described flat-bottom skiff in two sections, A and B. of unequal lengths, and so formed that one section will pack into the other, in combination with the links or connexions, substantially as and for the purpose hereinbefore set forth.

No. 43,085.—Jonathan Boone, Clintonville, Ky.—*Post-hole Digger.*—June 14, 1864.—This invention consists of an instrument for digging post holes, provided with two or more blades or cutters attached in a position parallel to each other to a common handle or staff in such a manner that on pushing the blades down in the ground the earth is held between them, and on raising the instrument the dirt will be raised with it, and a hole is made just the size of the post or a little smaller, so that the post can be driven firmly in the same without the necessity of ramming.

Claim.—A post-hole digger having two or more cutting blades B attached to a common handle A, as and for the purpose specified.

Also, the combination of the pick C with the handle A and blades B, as and for the purposes set forth.

No. 43,086.—Charles D. Brand, Oak Hill, N. Y.—*Portable Screw Press.*—June 14, 1864.—This invention consists in combining with an adjustable bail depending from the screw nut head a fastening which is hinged or pivoted to the frame.

Claim.—In combination with the adjustable bail C the fastening H, when constructed and operating as herein described.

No. 43,087.—Clarissa Britain, St. Joseph, Mich.—*Vegetable Boiler.*—June 14, 1864.—This invention consists in providing a close boiler or vessel for cooking vegetables with a perforated flange around its lower edge, and with openings in its side closed by a sliding gate.

Claim.—A vegetable boiler constructed with a perforated flange *d* surrounding its bottom edge and openings *f f* in its side, provided with a closing gate *h*, substantially as and for the purposes described.

No. 43,088.—Clarissa Britain, St. Joseph, Mich.—*Dish Drainer.*—June 14, 1864.—This apparatus is composed of two open rectangular boxes of sheet metal, one being placed within the other, and provided with an inclined perforated bottom. The larger box may be used to receive the drain from the dishes placed within the upper box, and may afterwards be placed above the latter to act as a reflector of heat from a fire to dry dishes.

Claim.—First, an apparatus for draining and drying dishes and other articles, consisting of a box A having a perforated inclined bottom *a* and one or more partitions *c d*, substantially as described.

Second, the combination of a drainer A with a reflecting cover B, substantially as described.

Third, providing the drainer A and a reflector B with detachable hinges and receiving socket portions, substantially as and for the purposes described.

Fourth, a draining and drying apparatus constructed and operating substantially as described.

No. 43,089.—Thomas Brooks, Middlefield, Conn.—*Clamp for Wringers.*—June 14, 1864.—This invention consists in the employment of an oscillating jaw fitted on the end of the screw, and so arranged in connexion with the jaws as to adapt it readily to the various forms of tubs and washing machines, and hold the wringer firmly in place.

Claim.—The employment of the oscillating jaw D in combination with the screws E and jaws B C, steadied in place by the orifice G, substantially as and for the purpose described.

No. 43,090.—Charles H. Brown, Fitchburgh, Mass.—*Steam Trap.*—June 14, 1864.—This invention consists in the employment of a tube of metal having a tubular elbow attached to one end thereof, from which elbow projects an arm which forms the fulcrum for the lever that operates the valve. This lever is enclosed by the end of a rod which is secured to a projection from the pipe, so that when the pipe expands the fulcrum of the lever is moved, and in consequence of that portion of the lever which is held by the rod being stationary the valve is moved and the water is allowed to escape, and when the pipe contracts the valve is returned to its seat through the action of the lever and rod as in the opening of the same, the object being to provide for the taking off the condensation from steam pipes used in heating buildings and for other purposes.

Claim.—An improved steam trap having its single expansion tube A, the valve opening *a*, the valve *c*, the valve lever D, the arm or fulcrum supporter E, and the lever operating rod E, arranged and applied together substantially in manner so as to operate as specified.

No. 43,091.—James E. Brown, Philadelphia, Penn.—*Producing Articles of Food and Diet from Cerealine.*—June 14, 1864.—This invention consists in subjecting wheat or other grain which has been deprived of its external coat or bran to a grinding process, and afterwards dissolving the soluble portions of the coarser products of the grain thus ground in water, which water is evaporated to dryness when the cerealine is wanted in a dry form; but when a paste containing the cerealine is wanted the solution of the cerealine is used to compose the paste.

Claim.—The procuring of cerealine from the meal of unbranned wheat or other grains by bolting and dissolving the same, and its manufacture into articles of food and diot, substantially in the manner and for the purpose hereinabove set forth.

No. 43,092.—John S. Bullard, Chagrine Falls, Ohio.—*Tools for Boring Butter Moulds.*—June 14, 1864.—This invention consists of a tool adapted to bore into the end of a block of wood, and provided with a projecting centring point with a cutting lip on one side for cutting the grain of the wood transversely, and an inclined cutting edge projecting from the opposite side a distance equal to the depth of the mould, for the purpose of cutting the grain of the wood in nearly a longitudinal direction, so that when the tool is revolved it will cut the mould in a flaming form, in order to allow the butter when moulded to be easily removed from the mould.

Claim.—The above described boring tool when constructed and applied to the purpose substantially as set forth.

No. 43,093.—Lucius C. Chase, Boston, Mass.—*Attaching Buckles and Loops.*—June 14, 1864.—This invention consists in attaching loops and buckles by means of a thin metallic plate provided with two or more rivet holes.

Claim.—Attaching loops and buckles to straps by means of the metallic plate E and rivets *f* and *g*, substantially as and for the purpose described.

No. 43,094.—Samuel Chapman, New York, N. Y.—*Corset Fastening.*—June 14, 1864.—After forming the pocket a transverse slot is made near one end worked as a button hole, through which the busk is inserted and removed. Surrounding the busks are extensions of bands forming hooks; the bands are passed laterally into the pocket through openings in the outer edges of the same prior to the insertion of the busks. The busks and fastenings may consequently be removed at pleasure, without ripping the pockets.

Claim.—A corset fastening arranged and applied with detachable mountings, substantially as described.

No. 43,095.—Orlando Clarke, Rockford, Ill.—*Cider Mill.*—June 14, 1864.—This invention consists in the employment of two grinding or cutting disks, one or both of which may have conical grinding surfaces so arranged that one shall rotate faster than the other, in order to impart a rolling motion to the fruit.

Claim.—First, the combination of two grinding disks, (one or both of which has a convex, conical, grinding surface,) when one of said disks rotates faster than the other, to impart a rolling motion to the fruit, as herein described.

Second, the combination of the convex, conical, grinding disks, and the oblique independent shafts, with the driving pinions of different sizes on the counter shaft, substantially as described, for the purpose set forth.

Third, the combination of the grinding disks and gearing with the shells E E′, when arranged and operating as and for the purpose described.

Fourth, the combination of the disks, the gearing, the sheller, and the hopper, with the main frame, substantially in the manner described.

No. 43,096.—Michael Henry Collins, Chelsea, Mass.—*Quartz Crusher.*—June 14, 1864.—This invention consists in constructing a quartz mill with rollers and a revolving pan, and providing the same with rocker beams, to which the rollers are attached, the said rocker beams also constituting the journals of the rollers, are so arranged as to elevate the rollers when they come in contact with a large or unyielding substance. The rocker beams are on the outside of the case in which the quartz is crushed.

Claim.—An improved crushing and pulverizing mill, in which the rotary trough, wheels, and breakers or crushers are arranged together and within case H, as above described, the arrangement of each of the pulverizing wheel shafts K, and its rocker frame or shaft L, and their journals and bearings relatively to the said case H, in manner substantially as explained, the said shaft K, under such arrangement, being made to project out of the case H, and to have its journals and bearings, and its rocker frame or shaft L, and the journals and bearings thereof, disposed outside of the case, substantially as specified.

Also, the arrangement of the shafts K L, and their journals and bearings relatively to each other, as described, when disposed with respect to the case H and the pulverizing wheels arranged therein, substantially in manner as specified, the said shafts K and L, under this latter arrangement, having their axes at right angles to one another.

Also, the rotary grinding trough as made with the lip *l*, arranged with respect to its wings *m m*, and the receiving trough *i* disposed below the rotary trough.

No. 43,097.—JOSEPH H. CONNELLY, Wheeling, West Va.—*Machine for Making Lamp Wick.*—June 14, 1864.—This machine is designed for the manufacture of a peculiar kind of lamp wick, for which letters patent have been granted to Cook and Connelly, and also to the said Connelly. The wick consists of an outside case or wrapper of linen, muslin, or other suitable substance, folded lengthwise over a filling of loose raw cotton, cotton yarn, or other substance possessing sufficient capillarity, the joint of the outside case or wrapper being secured by a narrow strip of thin muslin or other material pasted upon one side of the wick where the edges of the wrapper meet. The invention consists in series of devices and operations designated in the claim for making the said wicks.

Claim.—A machine constructed substantially as above described for making tubular wicks with cotton or other filling, consisting of cutters for cutting the muslin or other fabric into strips of suitable width, the folding apparatus, and contrivance for inserting the cotton or other filling, the ironing cylinder and the cutting rollers for severing from the wicking thus made pieces of proper length for wicks.

Also, the mode of folding the wrapper by means of a series of folders through which the muslin or other fabric passes, having apertures so shaped as to turn up the edges and fold them over, making wrappers of uniform width, substantially as hereinbefore described.

Also, the mode, hereinbefore described, of inserting the cotton or other filling in the wick as the wrapper is being folded.

Also, the pasting apparatus, consisting of a paste trough E, guides *u*, rod *v*, and scraper *w*, for the pasting strip, constructed and arranged in relation to the folding apparatus, substantially as described.

Also, the use of a heated cylinder for ironing and drying the wick and giving it a flattened shape.

No. 43,098.—HUGH M. COOPER, Xenia, Ohio.—*Suture Instrument.*—June 14, 1864.—This device consists of two curved shafts encompassed by coiled springs, and having guides at their opposite ends, and a finger ring at the lower end of each. At the upper end of one of the curved shafts is a foot, and at the upper end of the other shaft is the suture needle.

Claim.—First, the arrangement of the curved shafts A and G, guides J J′, springs K K′, foot H, finger rings I I′, knob B, and suture needle D, or devices substantially equivalent; the whole being combined and operating substantially as set forth.

Second, the curved shaft A, notched and screw-threaded, as described in the described combination, with nut F and notched suture needle D.

No. 43,099.—ALBERT COTTRELL, Newport, R. I.—*Bridge.*—June 14, 1864.—The object of this invention is to enable a bridge to be constructed from either side of a river so as to meet at the centre, being balanced in such a manner at the shore ends that as the work progresses there will be no necessity for central supports, which is effected by a system of splicing timbers, one layer being placed upon another, and each upper layer being longer than the one below it, until the requisite length for the bridge is obtained, the whole being secured together by means of bolts and screws.

Claim.—The above described combination and arrangement of the bond timbers, the balance weight supporters, the screw bolts and stretchers of the two side beams or levers, the whole constituting the half of a bridge frame of the character specified.

No. 43,100.—OLIVER COX, Washington, D. C.—*Magnetic Needle-threader.*—June 14, 1864.—This device consists of plate of metal having a groove for the needle to rest in. Near the inner end of this groove is a flaring hole made through the metal. The plate being magnetized, will attract the needle, which latter, when properly adjusted with the eye in line with the hole, will be held so that a thread may be passed into the flaring hole and through the eye of the needle.

Claim.—A magnetized needle-threader.

No. 43,101.—OLIVER PERRY CRAWFORD, Wabashaw, Minn.—*Reaping Machine.*—June 14, 1864.—This invention relates to the construction and arrangement of the hinges which support the swinging platform, or apron, upon which the grain falls as it is cut, and from which it is discharged by giving the said platform a swinging movement rearward and upward; the arrangement such as to enable the platform to return to its proper position for again receiving the grain without interfering with that which has been discharged. The swinging apron is provided with flanges at its ends, and with intermediate teeth for retaining the grain properly thereon, whether the machine is working on level or unequal ground.

Claim.—The construction, attachment, and arrangement of the hinges *b b*, from which the swinging apron is suspended to receive the grain, substantially as and for the purpose described.

Also, the construction of the apron *f* with its teeth 9 9 9 and flanges *i i*, on which the grain is received when cut by the sickle, substantially as and for the purpose described.

No. 43,102.—J. D. CUSTAR, Norristown, Penn.—*Bullet Machine.*—June 14, 1864.—This invention consists in the construction and arrangement of certain devices for cutting off the blank from a rod or thick wire, and depositing it in a radial groove in the flat face of a turntable, which carries it in front of a cylindrical die. A piston or male die fitting the said cylinder forces the blank therein and against a female die, compressing the blank to the shape required, when the male die is retracted and the female die thrust forward, forcing the blank out of the cylinder and upon the carrier, which during the operation of the dies remains at rest. It is then carried around the lathe, where it is again seized between the sliding mandrel and centre of the lathe, and trimmed off to the proper shape by a tool which is fed to the work by means of a lever operated by a cam attached to the driving machinery.

Claim.—The combination of the turn-table, or transporting wheel, or analogous device, with the shears, the cylinder and pistons, and the automatic lathe, for the purpose of making pressed and turned bullets, substantially as described.

No. 43,103.—PHILANDER DANIELS, Leroy, N. Y.—*Portable Railroad Switch.*—June 14, 1864.—This invention consists in the employment of jointed bars provided with clamps, and fitted to the rails in such a manner that the device may be used as a temporary switch without disturbing the rails, and applied at any point. The device may also be applied to adjusting the cars on the track in case they should run off the same.

Claim.—The two bars A A′, constructed as shown, and provided with the clamps B B′, in combination with the bars C C′, G G′, either or both pairs connected to the bars A A′ by joints and secured in position, substantially as and for the purposes set forth.

Also, the plate F, when used in combination with the bars A A′ C C′, for the purpose set forth.

No. 43,104.—JOHN and SAMUEL DANNER, Canton, Ohio.—*Spring Bed-bottom.*—June 14, 1864.—This invention consists in the employment of brackets in connexion with the slats, and with springs upon which the slats are supported, the springs being placed upon and within the walls of the brackets, and the latter being readily removed and replaced at pleasure.

Claim.—Uniting and supporting the slats by means of interposed springs upon and within the walls of the brackets E, which brackets are removable and replaceable at pleasure, all substantially as described and represented.

No. 43,105.—EDWARD DOEN, New Britain, Conn.—*Cupboard Latch.*—June 14, 1864.—In this device the staple which guides and confines the free end of the vibrating latch is cast in one piece with the latch plate, instead of being made separate therefrom, as is usual, and the parts which constitute the catch are so constructed that the device may be applied to either a right or left-hand door.

Claim.—As a new improved article of manufacture, a cupboard latch, substantially as shown and described.

No. 43,106.—ABRAHAM DREY, Baltimore, Md.—*Plaited Shirt Bosoms.*—June 14. 1864; antedated June 5, 1864.—This invention consists in a method of applying the fine material, which is to form the plaits, to a lining or backing, so as to preserve the form of the plaits when made, whereby each plait is produced and attached to the lining or backing at one and the same operation, the said plaits being so formed and applied to the lining that the sewing will not be exposed to view, and not required, therefore, to be as carefully done as ordinary stitching.

Claim.—Uniting the surface-ridged or creased material to the shirting or back lining of the shirt bosoms by stitching through the creases or ridges and through the lining, substantially in the manner described.

No. 43,107.—ABRAHAM DREY, Baltimore, Md.—*Plaited Shirt Bosom.*—June 14, 1864; antedated June 10, 1864.—The object of this invention is to economize material in the manufacture of shirt bosoms and other plaited garments, and at the same time to preserve the appearance of full plaits, which is effected by ridging the surface material on its inner side and fastening the same in front of the ridges, the cloth being first ridged and then folded.

Claim.—The new product for shirt bosoms, shams, &c., substantially as herein described, producing by ridging the surface material on its inner side and fastening such ridged material in front of the ridges to a backing, substantially as set forth.

No. 43,108.—George H. Fuller, Pawtucket, R. I.—*Manufacture of Watch Keys.*—June 14, 1864.—This invention consists in making the pipes for watch keys of annealed iron wire cut into blanks of suitable length and of the diameter required for the finished pipe, by drilling a hole longitudinally in the said blank and afterwards squaring the hole by driving into it a square punch, while the blank is confined in a die to prevent the tube from splitting.

Claim.—Making a key pipe for watch keys by the method and on the principle substantially as herein described.

No. 43,109.—Henry Getty, Brooklyn, N. Y.—*Ratchet Drill.*—June 14, 1864.—In this drill the hollow cylindrical stock is screw-threaded, its lower end passing through the expanded end of a lever and resting upon it by means of a collar. To that portion of the stock lying within the lever are fitted two segments, the outer surface of each of which is concentric with the axis of the stock, and the two are so adjusted that the thin end of one segment abuts against the thick end of the other. The walls of the orifice through the lever are shaped to correspond to the outer surfaces of these segments, so that on turning the lever in one direction the oppositely inclined surfaces of the orifice and segments will come in contact with each other, by which means the two latter will be tightened upon the stock so as to cause it to rotate, and on reversing the movement the grasp of the segments will be relaxed. The threaded portion of the extensible rod is of greater diameter than the remaining portion, and the upper end of the latter is provided with an internal flange, which closely embraces the rod and will not permit the threaded portion to pass through.

Claim.—First, the body A, with its interior ring or flange *a* and recess I, for the purpose described.

Second, the screw C, constructed as shown, for the purpose specified.

Third, the handle D, with its eccentrically curved recesses and projections or lips F F, substantially as described for the purposes specified.

Fourth, the eccentric sliders E E, constructed as shown, for the purposes specified.

No. 43,110.—William F. Goodwin, Powhatan, Ohio.—*Breech-loading Ordnance.*—June 14, 1864.—This invention consists in connecting a swinging wrought-iron yoke or breech stirrup to the gun, without the necessity of using pins or similar fastenings, by means of circular lugs or cheeks on the ends of the yoke fitting into recesses in front of an enlargement on the breech of the gun. Double-jointed swinging arms are also employed for carrying the breech plug, and are so arranged as to allow the same to be easily inserted and withdrawn. The joint at the rear of the breech plug is closed by means of a spring, which also loosens or expels the breech plug when the yoke is turned back.

Claim.—First, a swinging yoke or breech piece, constructed substantially as described, with cheeks B′, by which it is secured to the gun without requiring the employment of trunnions, screws, or bolts.

Second, in combination with the above a cannon formed with an enlargement A′, and recesses or countersinks *a*, receiving and securing the ends of the yoke, and constituting the bearings on which it is oscillated substantially as explained.

Third, the double-jointed swinging arms I2 I3, for carrying the breech plug I, and permitting the ready insertion and withdrawal of the same, substantially in the manner specified.

Fourth, the spring i3, employed in the manner described, to close the joint at the rear of the breech plug, and loosen or expel the latter when the yoke is turned back.

Fifth, the combination of the racks E F, and loose pinion G, for operating the swinging breech yoke B, in the manner explained

No. 43,111.—William F. Goodwin, Powhatan, Ohio.—*Breech-loading Ordnance.*—June 14, 1864.—This invention consists in forming projections on the breech of the gun, curved at their forward ends, over which grasping projections or flanges upon the ends of the breech strap or swinging yoke are fitted, so as to allow an oscillating movement of the said yoke, for confining or releasing the breech plug without the necessity of employing any other attachment.

Claim.—First, the swinging yoke or breech piece B, provided with arms *b b*, and concave recesses *b′ b′*, fitting over the convex ends of cylindrical or partially cylindrical projections C C, substantially as and for the purposes specified.

Second, the flanges *d d*, fitting in annular grooves *c c*, in the projections C C, for preventing the spreading of the arms.

No. 43,112.—William Halsted, Washington, D. C., and Oliver S. Halsted, jr., Newark, N. J.—*Artificial Fuel.*—June 14, 1864.—This invention consists of a composition of anthracite coal dust, coke, coal tar, sawdust, and similar products, the same being mixed with water and afterwards baked.

Claim.—The combination and mixture of the ingredients in the manner and in the proportions above described.

No. 43,113.—Thomas George Harold, Brooklyn, N. Y.—*Clothes Dryer.*—June 14, 1864.—This invention consists in the combination of a series of folding bars and legs, so arranged that when the frame is extended it will extend vertically and horizontally, thus increasing its capacity for drying clothes.

Claim.—First, a series of folding bars jointed to each other at their ends, and at a point nearer one end than the other of said bars, so that the frame rises when it is opened, substantially as specified.

Second, the arrangement of the sustaining legs in combination with the said folding frame, as specified.

No. 43,114.—Robert Heys, Philadelphia, Penn.—*Valve Gear for Steam Engines.*—June 14, 1864.—In this device the outer end of the spindle of the slide valve is jointed to a block which fits snugly in a link connected near its upper end to an arm F and near its lower end to an eccentric rod G, the opposite end of the said arm being jointed to a plate secured to any permanent part of the engine, and the rod G embracing an eccentric on the crank shaft. The arm F is connected by a link to the short arm of a weighted lever *k*, which is secured to a shaft arranged to turn in opposite frames secured to the base plate of the engine. To the shaft L are secured two ratchet wheels, the teeth of one of which are inclined in a direction contrary to that of the other, both sets of teeth engaging with pawls hung to the short arm of a lever arranged to vibrate freely on the shaft L.

Claim.—First, the valve spindle D of a steam engine, the link E, eccentric rod G, and arm F. in combination with the weighted lever *k* and link *h*, or their equivalents, whereby the motion of the governor rod may be imparted to the link, as set forth, for the purpose specified.

Second, the wheels N and N′, lever P, and pawls *e* and *e′*, with the shield *t*, when the position of the latter is regulated by the governor, and when the whole is applied to the raising and lowering of the link E, substantially as and for the purpose herein set forth.

No. 43,115.—Liveras Hull, Charlestown, Mass.—*Thread Tension and Thread Delivery in Braiding Machines.*—June 14, 1864.—In this machine the brake on one end of the lever bears firmly against the lower disk or head of the bobbin, and the latter is relieved therefrom and permitted to deliver its thread as wanted by the draught of the thread, which causes the weight to rise and force upwards the opposite end of the lever.

Claim.—The improved thread tension and delivery mechanism, constructed substantially as explained, or, in other words, as having a brake, or lever and brake, applied to the bobbin and its stand, and so as to be operated by the thread and by the tension weight, substantially as specified.

No. 43,116.—Stephen Hull, Poughkeepsie, N. Y.—*Harvester.*—June 14, 1864.—In this machine the transverse pieces of the main frame are extended so as to form a support for the platform or apron of the machine at a sufficient distance from the frame to leave a suitable space or opening through which to discharge the grain, and the rear part of said transverse pieces is bent so as to form a seat for the driver. A single reel bar is employed, to which, by means of a revolving eccentric axis, a vertically reciprocating and swinging motion is given.

Claim.—First, the extended braces B B′, of the wheel frame A, so constructed and arranged as to constitute the supports for the apron C, and also an elevated bridge *b* for the driver's seat, substantially as described.

Second, a reciprocating reel bar, which is reciprocated by a revolving eccentric axis, and itself reciprocates vertically, or nearly so, on said axis, substantially as and for the purpose described.

No. 43,117.—Oliver S. Judd, New Britain, Conn.—*Material for the Manufacture of Butt Hinges.*—June 14, 1864.—This invention consists in the use of the composition known as laminated zinc in the manufacture of butt hinges, for the purpose of reducing the cost and rendering the manufacture of the same more easy and rapid.

Claim.—The substitution of the composition known as laminated zinc for other metals in the manufacture of butts.

No. 43,118.—John B. Knoebel, Shoal Creek, Ill.—*Medical Preparation.*—June 14, 1864.—This preparation is intended for the cure of dropsy, and is composed of the extract of cucumber and watermelon seeds; elatinum, colchicum, and scilla, dissolved in sweet spirits of nitre.

Claim.—The use of an antidote for "dropsy" and allied diseases, of the preparation which I term "hydropin," made substantially in the manner herein shown and described.

Also, the within described composition of the ingredients above specified, and mixed together in the manner and about in the proportion set forth.

No. 43,119.—JOEL LEE, Galesburg, Ill.—*Washing Machine.*—June 14, 1864.—This invention consists in the combination of a rubbing board arranged to operate as a lever, with a cross-bar pivoted in the centre so as to yield to the inequalities of the articles washed.

Claim.—The friction roller shaft D, cross bars E E, friction rollers I, rub-board frame B, rub-board C, washing rolls F F, and guide grooves H, the whole constructed and arranged substantially as and for the purposes set forth.

No. 43,120.—BENJAMIN H. LIGHTFOOT, Philadelphia, Pa.—*Mode of Treating Tanned Leather.*—June 14, 1864.—This invention consists in treating crude petroleum or distilled oils, when applied to tanned leather, at a suitable temperature, with either sulphuric, nitric, muriatic, or nitro-muriatic acids, caustic alkalies, or alkaline earths, or their compounds, with or without the application of steam.

Claim.—The currying or dressing of tanned leather by applying to the same crude petroleum, or any of the mineral oils, treated substantially in the manner described.

No. 43,121.—WILLIAM MARSHALL, New York, N. Y.—*Car Spring.*—June 14, 1864.—This invention consists in the employment of springs in combination with levers, the outer and shorter arms of the levers being kept depressed by springs secured to projections on each side. The inner and longer arms of the levers support a platform, upon which are placed springs that support the superimposed weight.

Claim.—The combination of the springs C D and levers B, arranged substantially as shown, and either with or without the box A, to operate in the manner as and for the purpose set forth.

No. 43,122.—JOHN MCLAUGHLIN, Monongahela City, Pa.—*Washing Machine.*—June 14, 1864.—This invention consists in forming the bottom of the machine and the oscillating rubber of different degrees of curvature, so that the articles to be washed will be reversed, and all parts be brought in contact with the rubbing surface.

Claim.—The manner of constructing and arranging the bottom of the body *a*, with relation to the rubbing follower C, that the operator is enabled by it to turn or reverse the clothes and bring all parts of them in contact with the rubbing surface of said rubbing follower, the whole being constructed, arranged, and operating in the manner herein described and set forth.

No. 43,123.—WILLIAM METTLER, Frankfort, Ill.—*Cultivator.*—June 14, 1864.—In this machine a part of the teeth are connected with a frame in such a way as to admit of their being moved bodily without angular change, in combination with a set of fixed teeth placed behind and outside the line of the movable teeth. The teeth are prevented from swinging by means of guide posts in connexon with adjusting screws.

Claim.—The teeth G G, laterally movable bodily without angular change, in combination with fixed teeth F F, situated further behind and outward than the said movable teeth, arranged and operating substantially as and for the purpose herein specified.

Also, the combination of the guide posts *x* with the adjusting screws P P, as herein set forth.

Also, the combination of the hinged or jointed controlling braces R R with the guide posts *x x*, and elevating devices L M M, substantially as and for the purpose herein specified.

No. 43,124.—JOHN MUNSON, San José, Cal.—*Pumps.*—June 14, 1864.—This invention consists in the arrangement of a trip valve for admitting the escape of water from the eduction pipe of the pump after each operation of the same, whereby the pump is prevented from being inoperative in winter in consequence of freezing, and fresh cool water always obtained in warm weather. The plunger of the pump is constructed in such a manner as to serve as an air vessel as well as a plunger, and thus constructed with more economy and simplicity.

Attached to the pump at the top of the well or cistern is a cast-iron plate or cap provided with a brake joint by which a simple and economical fixture for the pump is obtained.

Claim.—First, the check or retaining valve G, fitted in the frame H, provided with a projection I, and arranged in relation with the valve F of the piston C and the bolts D thereof, or other projection attached, so as to cause both valves to be opened and remain open when the piston is at the bottom of the pump cylinder, and thereby admit of the escape of the water, substantially as set forth.

Second, the hollow plunger B, attached to the piston C, to operate as an air vessel or chamber, as specified.

Third, the plate J, with the socket or brake joint K attached, substantially as described.

No. 43,125.—FERDINAND MEYROSE, St. Louis, Mo.—*Faucet.*—June 14, 1864.—This invention consists in having a valve attached to a stem which is fitted horizontally in the case of faucet or cock, and is operated by means of a nut so as to open and close the valve, the latter closing against its seat in a direction corresponding with that of the pressure of the liquid.

Claim.—A faucet provided with a valve C, attached to a horizontal stem D, having a screw *e* on its outer part, on which a nut E is fitted and the latter placed and allowed to turn freely in a cylindrical chamber *f*, all being arranged in connexion with the two tubes A B, substantially as described.

No. 43,126.—ANNA M. MURPHY, New York, N. Y.—*Letter Envelope.*—June 14, 1864.—This invention is designed as an improvement upon an envelope for which a patent was granted to William Murphy, on June 2, 1863, and it consists in forming the envelope from a sheet of ordinary writing paper of which it forms a part, and providing it with a closing flap and two side flaps having perforations on their edges, and so arranged as to admit of the letter being opened without tearing it, and also preserving intact the portions of the letter which are written upon.

Claim.—As a new article of manufacture, an envelope letter sheet constructed with a centre *c*, side laps *b b′*, sealing lap *a*, and two rows of perforations *d* and *e*, all as herein described and for the purposes specified.

No. 43,127.—GEORGE NIMMO, Jersey City, N. J., and ROBERT S. STENTON, New York, N. Y.—*Furnace for Heating and Welding.*—June 14, 1864.—This invention consists in constructing a furnace with a fireplace at one end, a middle portion where there is an intense heat for welding, and at the other end a chamber for slowly heating the iron previous to subjecting it to the welding heat.

Claim.—The combination of the heating compartment A, with the heating and welding compartment B. and the fireplace C, constructed and arranged substantially as in the manner set forth and for the purposes specified.

No. 43,128.—FRANK H. NORTON, New York, N. Y.—*Medical Compound.*—June 14, 1864.—This compound, the ingredients of which are named in the claim, is designed for the cure of inflammatory diseases of the tonsils, palate, &c.

Claim.—First, the remedy, "Anti-Diphtherion," compounded of sumach berries, alum, saltpetre, and honey, in the proportions and manner set forth.

Second, the use of acetic or other acid in combination with the materials set forth, for the purpose of preventing fermentation.

No. 43,129.—AUGUST F. W. PARTZ, Wurtsboro, N. Y.—*Roasting Sulphurets and other Ores.*—June 14, 1864.—The ore to be roasted is fed in powder from the hopper and falls down an inclined plane, and thence to a series of alternating inclined planes. In falling through the shaft, the ore meets the flame and products of combustion from the furnace. A door with an adjustable shutter serves to admit air to regulate the temperature in the shaft. Steam may be admitted through a pipe. Orifices are provided which are closed by plugs so as to permit the work to be inspected, and also to insert a scraper for cleaning off the inclined planes.

Claim.—First, an upright shaft or chamber through which heat and air are passed, in combination with a series of inclines, applied in such shaft to check the descent of the ores, as set forth.

Second, a shaft in which the heat and air ascend, as the ores descend, in combination with a receiving chamber, substantially as specified.

Third, a vertical shaft or chamber in which the heat and air ascend as the ores descend, in combination with a door or damper for admitting a supply of air for regulating the temperature, as set forth.

No. 43,130.—JOHN G. PERRY, South Kingstown, R. I.—*Stove-pipe Elbow.*—June 14, 1864.—This invention consists in making the elbow of cast iron in segments, which are joined together and held in place by means of the pipe to which it is connected.

Claim —A cast-iron stove pipe knee, constructed as herein described, as a new article of manufacture.

No. 43,131.—JOHN G. PERRY, South Kingstown, R. I.—*Sausage Filler.*—June 14, 1864.—This invention consists in constructing the rod which is attached to the piston head with a joint, so that the head will change to conform to the inclined bottom of the cylinder in order that the meat may be more readily forced into the nozzle.

Claim.—The combination of the nozzle and cylinder with the piston head and rod, all being constructed and arranged substantially as herein described and for the purpose set forth.

No. 43,132.—JOHN W. ROBERTS, New Monmouth, N. J.—*Baling Press.*—June 14, 1864.—This invention consists of a system of levers in connexion with segmental bearing pieces and shafts provided with bent rods, all arranged so as to occupy but little space and admit of being operated in a compartment of moderate height while compressing substances into bales of the ordinary dimensions.

Claim.—The combination of the levers E E, provided with the segments G G, in connexion with the levers D D, and with shafts J J, provided with bent ends *f*, and connected by the arms K K, and link L, in the action upon the box B, and fastenings of its doors, all substantially as described.

No. 43,133.—**H. C. ROGERS**, Scranton, Penn.—*Coal-breaker Tooth.*—June 14, 1864.—This device is designed for that class of rollers known as the "batten rollers," which are caused to run in opposite directions, and the invention consists in making the point of the tooth of steel, which is inserted in a V-shaped groove in the wrought-iron body of the tooth, where it is permanently united by welding. It is then imbedded in the sand of the mould made for the cast-iron cylinder, having the base of the tooth projecting into the mould; the molten iron is then poured in and the tooth thus imbedded in the body of the cylinder.

Claim.—As a new article of manufacture the coal-breaker tooth hereinbefore described, consisting of a pyramidical or tapering body A, of soft metal, to be secured in the roller R, by casting, and a point of steel welded in a grove in the front of the wrought-iron body A.

No. 43,134.—**HERMAN RUGEE**, Milwaukee, Wis.—*Sash Fastening.*—June 14, 1864.—This device consists of a flat case of circular form, through the periphery of which a bolt is protruded by means of a spiral spring surrounding its inner end. A lever within the case, pivoted to the same at one end, and provided at the other end with a stub that projects upwards through a curved slot in the face plate of the case, passes across the bolt through a recess cut into its upper surface. By means of the projecting stud the free end of the lever may be drawn back and the bolt retracted.

Claim.—The application of the lever E, in connexion with the slots I I, in the cover B, and the slot H, in bolt E, constructed in combination, operating as described for the purposes set forth.

No. 43,135.—**A. M. SAFFORD**, Springfield, Mass.—*Herbal and Scrap Book.*—June 14, 1864.—This invention consists in providing a raised margin or frame by cutting out the centre of the card board so that the plant or other substance to be preserved may not receive too much pressure and the herbal be made to have a neater appearance externally.

Claim.—The improved herbarium, constructed and arranged substantially as herein specified.

No. 43,136.—**C. B. SAWYER**, Fitchburg, Mass.—*Balanced Elevator.*—June 14, 1864.—This invention consists in the manner of arranging the rope upon the larger wheel and the windlass, in connexion with the lower pulley, so that the weight will be held at any point without the necessity of applying a brake.

Claim.—The combination and arrangement of the rope *a b c*, windlass D, pulley H, and wheel M, as and for the purpose described.

No. 43,137.—**WILLIAM SELLERS**, Philadelphia, Penn.—*Metal Planing Machine.*—June 14, 1864.—This machine is designed for squaring simultaneously the two ends of a column or other similar work, and it is composed of a strong rectangular frame upon which are arranged crosswise two saddles, each of which supports a revolving cutter-head. The latter revolves in vertical planes, parallel to each other, and have arranged near the margin a series of cutters. The arrangement otherwise is such that the two saddles can be adjusted towards or from each other, as may be desired, while the revolving cutter-heads may be made to traverse the saddle lengthwise.

Claim.—First, providing a rigid support for the revolving cutter-head as near as possible to the cutting tools, substantially as and for the purpose specified.

Second, traversing the revolving cutter-heads E and F at right angles to the main supporting bed, in combination with one or more tables G and H, when either or both the heads E and F, and tables G and H, can be adjusted to or from each other, substantially as described and for the purpose specified.

Third, the two revolving cutter-heads having a traversing motion at right angles to the main supporting bed A, substantially as described, when one or both of said heads has an adjustment parallel to the main supporting bed, substantially as described and for the purpose specified.

Fourth, two or more tables G and H, in combination with one or more cutter-heads E F, when so arranged with reference to each other as to be capable of moving in two or more directions, substantially as described.

No. 43,138.—**H. S. SHEPARDSON**, Shelburne Falls, Mass.—*Friction Clutches or Pulleys.*—June 14, 1864.—This device consists of an expansive friction ring which is pressed against the inner circumference of the pulley rim by means of radial arms operated by a sliding collar and wedges. The radial arms are connected to the friction segments by means of toggle levers which are made to straddle the cuts in the friction ring to insure its ready operation.

Claim.—First, the combination of the wedges *h*, on the sliding collar F, with the radial arms *n*, connected with the expansive or friction ring A, substantially as and for the purpose described.

Second, connecting the radial arms *n* to the friction segments by toggle levers *o o*, which straddle the cuts in said ring, as and for the purpose described.

No. 43,139.—**SOLOMON S. SMITH**, North Fairfield, Ohio.—*Hand Corn Planter.*—June 14, 1864.—The novelty of this invention consists in the arrangement of the several parts named in the claim, constituting a hand planter capable of planting two rows at the same time. The inventor claims for it cheapness of construction and efficiency of action.

Claim.—The plunger D, brush C, recesses B F and G, spring plate I, nose E, handles K and N, spring O, and stop O′, when these several parts are arranged and operating substantially as and for the purpose set forth.

No. 43,140.—**CHARLES A. STETEFELDT**, New York, N. Y.—*Furnace for Desulphurizing Ores.*—June 14, 1864.—This invention relates to a method of desulphurizing ores by letting them fall through a shaft where they meet the products of combustion. In the furnace the air for the fire box is heated by passing in pipes through a chamber which receives the waste heat. The ore as it falls is obstructed by a series of terraces so placed that the ore on leaving the upper terrace will lodge near the apex of the one next below. The ore is fed in measured quantities by rollers in the bottom of a row of hoppers.

Claim.—First, the employment or use of an upright terrace furnace, substantially such as herein described, for the purpose of reducing gold, silver, quicksilver, and other metals from the sulphuretted ores.

Second, the peculiar construction, proportion, and disposition of the terraces L in the shaft K, as based on the rules deduced from the formula 1 to 24, whereby a complete and rapid desulphurization of the ores is accomplished.

Third, the combination of a hot-air apparatus with an upright terrace furnace, for the purpose substantially as set forth.

No. 43,141.—**THOMAS THOMPSON**, Baltimore, Md.—*Apparatus for Purifying and Refining Spirits.*—June 14, 1864.—This apparatus consists in devices for causing the whiskey or other spirit to trickle down over fibrous materials so as to be exposed to a large amount of air; the effect of which is to oxidize the fusil oil and remove it from the whiskey, &c.

Claim.—The apparatus described in the foregoing specification, or such an equivalent apparatus as will expose the alcohol, whiskey, or other liquor to the action of the air, to refine and purify them, as described.

Also, the bone or wooden rings, or their equivalents, in combination with the yarn or twine, for the purpose described.

No. 43,142.—**D. B. TRAVIS**, La Crosse, Wis.—*Valve for Steam Engines.*—June 14, 1864.—This invention consists of a double slide valve, or two valves connected together by means of a rod, one of which valves works near one end of the cylinder, and the other near the other end of the same. Under each of these valves is a movable seat with induction and eduction openings corresponding with those in the cylinder. Each of these seats has an arm extending to the centre of the chest, where they are connected together by the two arms of a shaft placed there for the purpose of moving these seats. One end of this shaft passes out through the steam chest, and has a crank or other suitable device applied for giving it a partial rotary motion, which motion is communicated to the valve seats through the arms of the shaft. Thus, when the arms stand in one direction one set of the openings is brought directly under the valves, and the motion of the piston is in one direction, but when the arms are changed the movable seats are changed and another set of openings are brought into requsition and the motion of the piston is reversed, thus causing the engine and the machinery to which it is attached to take a reverse direction.

Claim.—The combination with two slide valves A A of two movable three-ported valve seats F F, and a system of six ports in the permanent seat, the whole constructed, arranged, and operating substantially as and for the purpose herein set forth.

No. 43,143.—**LORENZO B. TUPPER**, New York, N. Y.—*Grate Bar.*—June 14, 1864.—This invention consists in connecting together the ends of three, four, or five of the crossbars of a grate, the whole being cast in one piece.

Claim.—Connecting the ends of three, four, or five of the cross-bars or pieces *b* to each other as at *c*, for the purposes and as specified.

No. 43,144.—**ALEXANDER J. WALKER**, New York, N. Y.—*Clothes-hanger.*—June 14, 1864.—This invention consists of a series of hooks secured to a bar, and provided with arms above and below, and fitted to turn horizontally in the said bar. At the upper end of the rear part of the hooks are eyes by which the whole may be suspended from a nail.

Claim.—A series of horizontally-turning hooks, with arms above and below a supporting bar or strap, substantially as specified.

Also, in combination therewith, the eyes *c c*, for the purposes and as specified.

No. 43,145.—THOMAS WARNER, Germantown, Penn.—*Bolt for Shutters.*—June 14, 1864.—This invention consists in forming a recess in the edge of an ordinary square bolt, in which is a spring latch which is pressed inwards as it comes in contact with the staple or socket, and, when passed through the latter, springs outwards and prevents the bolt from being moved backwards from the outside.

Claim.—The bolt D, its spring *e*, and the projection *f*, straight on one edge and rounded on the other, in combination with the plates B and C and their staples, or their equivalents, the whole being constructed and arranged substantially as and for the purpose herein set forth.

No. 43,146.—WILLIAM WICKERSHAM, Boston, Mass.—*Sewing Machine.*—June 14, 1864.—This invention consists in an arrangement of devices for automatically raising the presser foot above the surface of the cloth of various thicknesses, so that the said foot shall rise higher for thick than for thin cloth, suiting the elevation to each thickness. In connexion with the above is an arrangement of mechanism for automatically raising the cloth presser foot variably to suit different thicknesses of cloth, with the feed bar, having a forward and backward motion in the same horizontal plane. Above the table is a main shaft which operates the upper needle and the presser foot, and below the table is a rocker shaft operating the lower needle and the feed. The feed and the looper are operated by means of a screw flange attached to the rocker shaft.

Claim.—First, automatically raising the cloth presser foot *b* in sewing machines above the surface of the cloth of various thicknesses in such manner that said foot shall rise higher for thick than for thin cloth, suiting the elevation to each thickness, in the manner and for the purpose described.

Second, the combination in sewing machinery of mechanism for automatically raising the cloth presser foot *b* variably to suit different thicknesses of cloth, with the feed bar *n*, having merely a forward and backward motion in the same horizontal plane, in the manner and for the purpose described.

Third, attaching the looper *z* to the feed lever *h*, operating in the manner and for the purpose described.

Fourth, the arrangement of a sewing machine making a double chain stitch, in which there is a main shaft above the table operating the upper needle and the presser foot, and a rocker shaft below operating the lower needle and the feed, in the manner and for the purpose described.

Fifth, operating both the feed and the looper *z* by the screw flange *g* attached to the rocker shaft, as described.

No. 43,147.—HENRY S. WILCOX, West Meriden, Conn.—*Lock-fastener.*—June 14, 1864.—This invention consists in the employment of a rod, one end of which is passed through the key bow in the position in which it remains when the door is locked, and the other end of said rod, on which is a spring hook, is pressed over the shank of the knob and prevents the key from being turned in the lock from the outside.

Claim.—The rod H, constructed as described, in combination with the shank D, key bow G, or their equivalents.

No. 43,148.—HENRY WITTICH, Baltimore, Md.—*Manufacture of Vinegar.*—June 14, 1864.—This invention consists in the use of starch, to prepare the wash for the manufacture of vinegar by the quick process instead of alcohol or distilled spirits, the latter being objectionable on account of the presence of glutinous matters in beer, ale, &c., which clog up the shavings.

Claim.—The application of starch to the liquor used in the manufacture of vinegar as a substitute for alcoholic liquor, when used substantially in the manner and for the purposes herein described.

No. 43,149.—JOHN WOOD, New York, N. Y.—*Calisthenic Pulley and Spring Cord.*—June 14, 1864.—This invention consists in an arrangement of spring cords, with pulleys, as a substitute for weights, so as to obtain a gradually increasing resistance in proportion to the distension of the cords for calisthenic purposes.

Claim.—The construction and arrangement of spring cords, substantially as described, for calisthenic purposes.

No. 43,150.—WILLIAM WOODBURY, Gloucester, Mass.—*Tackle for Fore-and-aft Sails.*—June 14, 1864.—This invention consists in the employment of an additional rod in connexion with the traveller rod, to which are attached short India-rubber springs and washers, provided with hooks connecting with the traveller block, for the purpose of relieving the sheet from sudden jerks when the boom swings.

Claim.—First, placing the spring *b* on a rod E, parallel to the traveller rod C, substantially in the manner and for the purpose set forth.

Second, forming the springs *b* in short sections, with the washers *c* interposed, substantially in the manner and for the purpose set forth.

No. 43,151.—MOSES BABCOCK, Charlestown, Mass., assignor to JAMES F. and E. P. MUNROE, Fitchburg, Mass.—*Bullet Ladle.*—June 14, 1864.—In this ladle the spout is level with the rim on the opposite side; intermediately between the two, the rim upon each side is somewhat elevated, and from about the middle portion of the ladle to the spout has a covering attached.

Claim.—As a new article of manufacture the improved bullet ladle, made substantially as herein shown and described.

No. 43,152.—FRANCIS E. DRAKE, assignor to himself and GEORGE ARMS, Chicopee, Mass.—*Spring Clasp or Button.*—June 14, 1864.—This invention consists in placing a horseshoe spring clasp in the opening of the button, so as to retain the button in position and prevent its becoming loosened.

Claim.—A clasp or button fastening, constructed, arranged, and operating substantially in the manner described.

No. 43,153.—ALBERT H. GILMAN, assignor to CHARLES A. SHAW and himself, Biddeford, Me.—*Mode of Lubricating the Bearings of Spinning Frames.*—June 14. 1864.—This invention consists in constructing the spindle gear in such a manner that the gear itself shall form a cap for and pass down over or around the step without being in contact with it, for the purpose of lubricating the step of the spindle and lessening the frictional contact of the parts, and also to avoid the waste of oil and prevent the admission of dirt, &c.; into the oil chamber.

Claim.—A spindle gear when so constructed that the gear itself shall form a cap for and pass down over or around the step without being in contact with it, substantially in the manner and for the purpose shown and described.

No. 43,154.—ROBERT HENEAGE, assignor to REUBEN DILL, Buffalo, N. Y.—*Liquor Flask.*—June 14, 1864.—This invention consists in constructing a liquor flask with two or more compartments and a rotary nozzle, so that two or more different kinds of liquor may be contained in the same, and either being capable of passing from the bottle.

Claim.—As a new and improved article of manufacture, a liquor flask, constructed with two or more compartments and rotary nozzle, substantially as described.

No. 43,155.—ZEBULON HUNT, Hudson, N. Y, assignor to himself and WILLIAM J MILLER, Greenport, N. Y.—*Reservoir Stove.*—June 14, 1864.—In this stove the fire pot is constructed with curved slats or bars, so as to exhibit with a double tier of mica plates nearly as much of the fire as an open grate, and with the same is combined a funnel-shaped hopper and chamber for heating the air which enters the bottom draught passage before it comes in contact with the fire. Atmospheric air is admitted through small apertures in the top of the stove into a chamber surrounding the coal reservoir, and thence through similar apertures in the bottom into the fire chamber, for the purpose of assisting the combustion of the gases arising from the burning fuel. The stove is of cylindrical shape, and the fire pot is made in either a funnel or basket form, and supported by means of a flange at the top resting upon a projection on the inside of the stove.

Claim.—First, employing the circular inclined partition or hopper *s s* for the combined purpose of forming the hot-air chamber or flue A A, of conducting the coals and ashes into the ash pan, and of preserving the brightness of the fire by shielding it from the cold air, substantially as and in the manner set forth.

Second, the shaker bar *e*, crank *a*, and handle *b*, when used in combination with the revolving grate G, having projections on its lower edge, substantially in the manner and for the purpose set forth.

Third, the combination of fire pot P with grated sides and base, suspended within the ash pit, as shown, with the fuel reservoir B, substantially as described.

No. 43,156.—SYLVESTER LEWIS, Rochester, N, Y., assignor to WILLIAM J. WILLIAMS, New York, N. Y.—*Treating Oil and Fat to form a Composition for Illuminating and other purposes.*—June 14, 1864.—This invention consists in combining a large amount of the light oils from petroleum with a small amount of lard oil, oliene, &c.

Claim.—The treatment of oliene expressed from fats and oils with benzine, benzole, or naphtha, substantially in the proportions and on the principles set forth.

No. 43,157.—ROBERT G. LOFTUS, Chelsea, Mass., assignor to himself and ALONZO FARRAR, Brookline, Mass.—*Process of Recovering the Acid used in Refining Petroleum.*—June 14, 1864.—This invention consists first in diluting the acid residuum from oil refineries, so as to cause the impurities to precipitate, then to concentrate in leaden pans, and again dilute with water, so as to cause further precipitation. This operation may be repeated until a sufficient degree of purity is obtained, when the final concentration is completed in a platinum still, in the usual manner.

Claim.—The improved process, as above described, of restoring the acid or separating it from its impurities or foreign matters after it may have been used in the refining of a liquid hydro-carbon or oil.

No. 43,158.—F. M. Shepard, assignor to himself and W. A. Shepard, New York, N. Y.—*India-rubber Syringe.*—June 14, 1864.—This invention consists in making the fittings and joints of the syringe of hard rubber instead of the metal hitherto used, thereby avoiding corrosion and diminishing the weight.

Claim.—As a new article of manufacture, an elastic India-rubber bulb syringe, to which the trimmings, *i. e.*, the valve, cases, and other non-elastic parts are made of vulcanic or hard rubber, in contradistinction to metal, of which they were heretofore made.

No. 43,159.—Caleb S. Stearns, assignor to himself and Thomas Corey, Marlboro', Mass.—*Splitting Leather.*—June 14, 1864.—This invention consists in the combination of a grooved carrying roller or drum, with a smaller roller placed over the first named, a splitting knife, a smoothing plate, and a series of splitting knives. A discharger is also employed, operated by grooves in the carrying drum, which is provided with a stationary and a movable jaw.

Claim.—The combination and arrangement of the grooved carrying roller B, the roller D, or its equivalent, the splitting knife E, the bar or plate F, or its equivalent, and the series of stripping knives *o o o*.

Also, the combination and arrangement of the grooved carrying roller B, the roller D, or its equivalent, the splitting knife E, the bar or plate F, or its equivalent, the series of stripping knives *o o o*, and the roller or drum H.

Also, the combination of the discharger C, with the jaws *a b*, the cylinder B, the roller D, or its equivalent, and the mechanism for stripping the leather or skin, in the same manner as specified.

No. 43,160.—Peter Stevenson, assignor to the Bigelow Carpet Company, Clinton, Mass.—*Bleaching and Whitening Wool.*—June 14, 1864.—This invention consists in passing the wool, woollen or worsted goods, to be bleached or whitened, first through a diluted acid water and then through a weak solution of aniline blue free from violet or purple tinge.

Claim.—The method of bleaching or whitening wool, woollen and worsted yarns and cloth by the combined action of oil of vitriol and aniline blue, substantially as specified.

No. 43,161.—Doras A. Stiles, Meriden, Conn., assignor to the Merriam Manufacturing Company, Durham, Conn.—*Manufacture of Toy Chairs.*—June 14, 1864.—This invention consists in making a toy chair comprising the seat, sides, legs, rockers, and back, from a single sheet of metal and from one continuous piece.

Claim.—As a new improved article of manufacture, a toy chair cut in one piece of metal, substantially as and for the purpose described.

No. 43,162.—Porter L. Sword and George S. Tiffany, assignors to P. L. Sword, Adrian, Mich.—*Brick Machine.*—June 14, 1864.—This invention consists in the construction of a bed plate with a recess and curvilinear opening in that part which forms the bottom of a grinding mill enclosed in a cylinder, beneath which is placed an inclined plane and a wheel The mould wheel is adjusted in close proximity to the bed plate, by means of three wheels, so as to support the said mould wheel under the pressure brought upon it in filling the moulds, and to keep the said wheel near to the bed plate.

Claim.—First constructing the bed plate I, with the recess *w*, and curvilinear opening in that part which forms the bottom of the cylinder S, over the space traversed by the moulds, in combination with the inclined plane *o* and wheel T, when they are arranged to operate substantially as and for the purpose herein set forth.

Second, supporting and adjusting in proximity to the bed plate the mould wheel K by means of the wheel P P P and rods *a a a*, as set forth.

No. 43,163.—Charles D. Tisdale, East Boston, Mass., assignor to himself and Barna W. Tisdale, Boston, Mass.—*Railway Truck adapted to Different Gauges of Tracks.*—June 14, 1864.—The object of this invention is to adjust the wheels of railroad car trucks to the gauge of different tracks, and it consists in an arrangement of devices designated in the claim.

Claim.—The application of the wheels to the axle by means of sleeves or tubular shafts, as described, and combining with the latter and the axle a means or mechanism for fixing the sleeves at different distances apart on the axle in order to adapt the wheels to tracks of different gauges, in manner as specified.

Also, the combination of the clutch box D, the flanges G H, and the semicircular clutch E, the same being made and applied together and to the axle B and the tubular shaft or wheel sleeve C, and so as to operate substantially as specified.

Also, the combination of the stopper F, and the bolt N, the two clutch boxes D D, and their clutches E E, the whole being constructed and applied to and so as to operate with the axle and the wheel sleeves or hollow shafts, substantially as hereinbefore explained. And with the wheels applied to the axle by means of sleeves or tubular shafts as described, and these latter and the axle provided with a means or mechanism for fixing the sleeves at different distances apart on the axle, and for the purpose of adapting the wheels to tracks of different gauges, the application of a "feather connexion," viz., the rib *a*, and groove *b*, or its mechanical equivalent, to one of the sleeves only of the axle, the other sleeve being free to revolve as well as to slide on the axle.

No. 43,164.—Enoch Waite, South Natick, Mass., assignor to Edmond Richmond, Boston, Mass.—*Felting Machine.*—June 14, 1864.—This invention consists in the combination of an auxiliary endless apron with the two main felting aprons and their felting platens, by which means two independent sheets are felted at the same time and by the same devices, and it is in this respect an improvement upon the inventor's patent No. 40,087.

Claim.—The combination and arrangement of an auxiliary endless apron O, with the two main felting aprons G H, and their felting platens, whether there be one or more sets of platens, the whole being arranged substantially in manner and so as to operate as described.

No. 43,165.—L. M. H. Fromont, Paris, France, assignor to Moritz Pinner, of New York, N. Y.—*Self-inking Hand Stamp.*—June 14, 1864.—This invention consists in combining the stamp or die with the inking pad so that the die will turn on itself in the interior, and thus present its face alternately to the inking pad and to the article which is to receive the impression. The inking pad is placed in the interior of the apparatus, but so that the hand of the operator is not in immediate contact with the part in which it is contained.

Claim.—First, the placing of the two concentric tubes, cylinders, or barrels E and F, and the ascending and descending movement of these tubes, which in drawing the die D gives it a rotary movement, the result of which is to carry the face of the die alternately to the inking pad C, and to the surface to be stamped, substantially as above described.

Second, the isolated position of the ink pad C, in the interior of the tubes, by which it is kept from intermediate contact with the hand, and consequently from the effect of its warmth, substantially as above described.

No. 43,166.—Baron W. Lenk, Vienna, Austria, assignor to Norman Rawson and Chas. Richmond, Detroit, Mich.—*Gun Cotton.*—June 14, 1864.—In this invention the cotton is spun into threads, boiled in alkali and dried. It is then treated in acids, as usual in making gun cotton, and thoroughly washed. It is next dipped in a solution of water glass, dried, and afterwards washed and again dried. Other vegetable fibres may be used instead of cotton.

Claim —An explosive improved gun cotton, made substantially as herein described.

No. 43,167.—Hubert Joseph Vaessen, Liege, Belgium, assignor to Bernard Schaffer and Christian Budenberg, New York, N. Y.—*Steam Trap.*—June 14, 1864.—The object of this invention is to free a steam cylinder from the water condensing in the same. Its novelty consists in the employment of two valves so arranged in relation to each other and to a steam cylinder that if the said cylinder takes steam on one end by the action of the steam itself, the valve communicating with the said end of the cylinder will be closed by the action of the steam itself, and the other opened, and *vice versa*, and by these means the condensed water accumulating on the exhausting end of the cylinder is allowed to escape without obstruction.

Claim.—The employment or use of two valves A B, so arranged in relation to each other and to a steam cylinder, that if said cylinder takes steam on one end by the action of the steam itself, the valve communicating with said end of the cylinder is closed and the other is opened and *vice versa*, and by these means the condensed water accumulating on the exhausting end of the cylinder is allowed to escape without obstruction.

No. 43,168.—John Williams, Montreal, Canada.—*Composition for Lining Puddling Furnaces.*—June 14, 1864.—This composition consists of cinder, lime, salt and sand, free from clay.

Claim.—The within-described composition of cinder cement mixed together of the ingredients above specified, substantially in the manner and about in the proportion set forth.

No. 43,169.—W. B. Davis, Brooklyn, N. Y.—*Composition for Protecting Ship Bottoms.*—June 14, 1864.—This composition consists of the residuum of palm oil or tallow after distillation, carbonate of copper, spirits of turpentine, benzine or equivalent, and linseed oil.

Claim.—First, the combination of carbonate of copper and arsenic, with the residuum of palm oil or tallow, after distillation, spirits of turpentine and animal oil, or their equivalents, the whole forming a composition for preventing ships, &c., from fouling, as set forth.

Second, the use of the residuum of palm oil or tallow, after distillation in combination with arsenic or with arsenic and copper compounds, in a protective composition, substantially as and for the purpose specified.

No. 43,170.—Walter Aiken, Franklin, N. Y.—*Knitting Machine.*—June 21, 1864.—This invention consists in the employment of a needle plate, having a depression arranged below the groove for the needle, and operating in connexion with a needle provided with a projection extending downward from its shank.

Claim.—The needle plate as made with the depression *a'*, arranged below its needle groove *a*, and to operate with a needle when made with a projection to extend downward from its shank, as set forth.

No. 43,171.—Stephen M. Allen, Woburn, Mass.—*Roofing Material.*—June 21, 1864.—This invention consists in preparing a fabric to be used for roofing, by saturating a material known as leather paper with coal tar, pitch, &c. The claims mainly explain the invention.

Claim.—As a new article of manufacture the herein described roofing or sheathing for covering buildings, awnings, &c., the same consisting of sheets composed of animal and vegetable fibrous matter combined and pulped in the manner of pasteboard, substantially as set forth.

Second, in combination with sheets consisting of animal and vegetable fibre combined, as before described, the saturating of the same with coal tar or resinous matter, substantially as set forth.

Third, in combiration with leather paper, saturated with resin or coal tar as described, of sand, gravel, or marl, applied to the outside, substantially in the manner and for the purposes set forth.

Fourth.—Cementing to the leather paper, when saturated with resin or coal tar and coated with sand or other like substances as described, a sheet of felt made of hair or wool, with or without vegetable fibre, substantially in the manner and for the purposes set forth.

No. 43,172.—Gustavus Arnd, New York, N. Y.—*Lining Barrels, &c.*—June 21, 1864.—The object of this invention is to render coal oil or petroleum barrels perfectly oil and water tight, and it consists in covering the inner surface of the barrels with a solution of India-rubber or other similar gums, and afterwards introducing hot air or steam within the barrels to dry the same.

Claim.—First, a lining for barrels, &c., produced by spreading on their inner surface a solution of India-rubber or allied gums and curing the same by the introduction of steam or hot air, substantially as and for the purpose specified.

Second, the within-described process of producing a lining for barrels, &c., by vulcanizing or mixing a solution of India-rubber or allied gums after the same has been spread on the surface to be protected.

No. 43,173.—Felix Barbaires, Solano county, Cal.—*Feathering Paddle Wheel.*—June 21, 1864.—This invention relates to that class of paddle wheels in which the floats are turned or feathered by means of an eccentric: the eccentrics carried upon a shaft within the hollow of the main rotating shaft, provision being made for changing the position of the eccentric. In connexion with the above are used connecting rods and fastenings.

Claim.—First, the regulating lever P or its equivalent, in combination with the accessory stationary shaft G, by which the position of the paddles N N can be varied at pleasure, when constructed and operated substantially as herein described.

Second, the shape of the paddles N, with wrist M, and its pivots M′, when constructed and operated substantially as herein described.

Third, the eccentric I, with its strap flanges J J′, arms K K, and their connexion with the paddle wrists M M, when constructed and operated substantially as herein described.

Fourth, the combination and connexion of the main shaft A, with the accessory shaft G, regulating lever P, eccentric I, strap flanges J J′, outer and central arms E E′ E″, and K, and their respective connexions with the paddle N N, substantially as described and for the uses and purposes as hereinbefore set forth.

No. 43,174.—W. W. Batchelder, New York, N. Y.—*Piano-forte.*—June 21, 1864.—This invention consists in providing radiating bars which extend in the proper direction to rest upon centres of vibration of the sound board, for the purpose of supporting the strings and uniting the vibrations of different portions of the instrument so as to produce the greatest effect.

Claim.—The bars *e e*, applied in piano-fortes, and radiating from the part or parts of the sounding board, having a good vibrating quality and connected to the sounding board at points of inferior vibrating quality, substantially as and for the purposes specified.

No. 43,175.—John S. Bell, Hackettstown, N. J.—*Car Coupling.*—June 21, 1864.—This invention relates to that class of car couplings termed self-coupling and it consists in an arrangement of parts for keeping the link or shackle in a proper position for entering the draw-head of an adjoining car; and also in an arrangement of a pin and slide in such a manner that the slide will sustain the pin when the former is raised, and also be capable of being forced back by the entering link of the draw-head of an adjoining car, so that the pin may drop within the link and form a connexion.

Claim.—The slide D, with pendent bar E, attached in combination with the spring F, block G, pin C, and link or shackle I*, all arranged substantially as and for the purpose herein set forth.

Also, the shaft H, with the arm I attached, provided with a notch *e*, the spring J for holding the link or shackle in the notch, and the retaining or holding spring K, or its equivalent, substantially as and for the purpose set forth.

No. 43,176.—James M. Bottum, New York, N. Y.—*Composition for Stiffening Hat Bodies.*—June 21, 1864.—This composition is made of ultramarine, shellac and alcohol.

Claim.—The combination of the material named, for the mixture as herein specified, to stiffens hat bodies, or for any other articles where the same result is required.

No. 43,177.—J. C. Brown, Brooklyn, N. Y.—*Machine for Cutting Splints.*—June 21, 1864.—This invention consists in the employment of a revolving cutting cylinder in connexion with a fixed cutter arranged in such a manner as to cut tooth-picks from a circular block of wood. The wood is first cut on the circumference radially to the desired shape, and then shaved off by revolving the block against the edge of a sliding knife, the cylindrical block being previously chamfered at the ends by means of a knife arranged for the purpose.

Claim.—The revolving cutter cylinder C and the fixed cutter *a*, when combined and arranged substantially in the manner and for the purpose specified.

No. 43,178.—Derwin E. Butler, Chesterfield, Ohio.—*Machine for Stripping Leaves from Sugar Cane.*—June 21, 1864.—This invention consists in the employment of a stripper and sliding clamp in connexion with a bar, so that by placing the cane within the jaws of the clamp and drawing it through, the stalk will be stripped of its leaves. The clamp is connected to the bar by means of a cord in such a manner as to enable a quick and long movement to be given to the clamp under a slower and shorter movement of the bar.

Claim.—The stripper E in combination with the clamp G attached to the sliding bar B, and either with or without the knife D, all arranged to operate substantially as and for the purpose set forth.

Also, the connecting of the clamp G to the bar B by means of the cord I, substantially as shown, for the purpose of giving a quick and long movement to the clamp under a slower and shorter movement of the bar, for the purpose specified.

No. 43,179.—Lauren Carpenter, Lake City, Minn —*Mode of Securing Shoes to Horses' Feet.*—June 21, 1864.—This invention consists of a flexible plate surrounding the front and sides of the hoof, and provided with clips by which, in connexion with screws, it is attached to the hoof. It is also made adjustable so as to allow for the growth of the hoof, the object being to dispense with nails in the attachment of the shoe.

Claim.—The elastic band B in connexion with the shoe A, screw rods C D, and screw E, all arranged substantially as and for the purpose herein set forth.

No. 43,180.—Aaron Carver, Little Falls, N. Y.—*Force Pump.*—June 21, 1864.—This invention consists in the employment of a hollow piston rod and a hollow piston, the latter having a disk valve which closes ports in the lower part of the piston as the latter ascends, and in the upper part when it descends. At the lower part of the cylinder is a caged ball valve, and at the upper part two or more valves. Above the valve cylinder ascends a tube, in which the tubular piston rod moves, and immediately above the cylinder this tube is provided with an annular recess and a lateral orifice. The hollow piston rod has similar side orifices coinciding with the above-mentioned recess when the piston is down, so that no water is retained in the upper part of the pump to be exposed to freezing.

Claim.—The cylinder A provided with ports and valves at both ends, substantially as described, in combination with the peculiarly constructed piston P and hollow piston rod.

No. 43,181.—E. C. Chesney, Abingdon, Ill.—*Corn Planter.*—June 21, 1864.—This invention consists in the arrangement of one or more bill-shaped shoes on the circumference of a hollow planting wheel rotating freely on a stationary axle, in combination with a tappet attached to the said axle and acting upon a trigger which connects with a seed slide extending into a seed box in the interior of the planting wheel in such a manner that for each revolution of the planting wheel on the ground the seed slide or slides in the shoe or shoes are actuated, and a quantity of seed is deposited in the ground in hills at the desired distance apart.

Claim.—First, the bill-shaped shoes H on the circumference of the hollow planting wheels D, in combination with the tappets *c*, triggers *d*, and seed boxes E, all arranged and operating substantially as and for the purposes set forth.

Second, the sliding frames G in combination with the planting wheels D, constructed and operating substantially as described.

Third, the arrangement and combination of the cam L, lever M, bolts *l*, foot lever J, tongue K, and planting wheels D, all constructed and operating in the manner and for the purpose substantially as herein specified.

No. 43,182.—Augustus D. Clark, Wilkinsville, Mass.—*Shuttle for Looms.*—June 21, 1864.—This device is constructed with two springs, one being longer than the other, and both held by one screw which passes through them, the springs serving to hold the spindle in its proper place on the shuttle. The longer spring has a catch to hold the bobbin head and confine the bobbin to its proper place on the spindle. These springs thus act independently of each other, and allow the spindle to be moved upward in order to remove or replace a bobbin when necessary.

Claim.—An improved shuttle, having its spindle head D, its spring catch F, and spring retainer E, constructed, arranged, and applied together in manner and so as to operate as set forth.

No. 43,183.—OLIVER C. CRITCHETT, Stoneham, Mass.—*Heel-cutting Machine.*—June 21, 1864.—This invention consists in the employment of a cutter arranged in the machine in such a manner as to rotate on its axis and to travel around and cut a stationary heel to give it the proper form. The cutter is operated by means of jointed shafts and a cam groove, so as to give the proper motion in traversing the heel. The heel is brought in position with the mechanism for forming the curvilinear outline of the heel by means of a carriage, with which is combined a knife for cutting the front part of the heel, and a gauge for arresting the cut of the knife at the proper point.

Claim.—A heel-cutting machine so organized that a cutter is made to rotate on its own axis for the purpose of cutting, and to travel around a stationary heel for the purpose of forming its contour, substantially as specified.

Also, the means for operating the cutter and causing it to traverse about a stationary heel, the same being the universally jointed shafts and the cam groove, arranged to operate substantially as specified.

Also, in combination with the carriage which presents the heel to the mechanism which forms the curvilinear outline, the knife which cuts the front of the heel, and the gauge which arrests at the proper point the cut of the knife, substantially as described.

No. 43,184.—DANIEL H. CROSS, Shaftsbury, Vt—*Apparatus for Gumming, Cutting, and Mounting Photographic Prints.*—June 21, 1864.—In this apparatus the prints are fastened in the holder and pasted by means of a block covered with Canton flannel, and are then adjusted in the machine. By means of a pedal the cutters are brought down over a metallic table so as to sever the print from the sheet, and at the same time a card is fed from a supply box over the cutter frame, and is pressed upon the pasted picture, which is now discharged from the machine.

Claim—First, the angular cutting blades so arranged and operated as to fit the die stand or compressing punch—the two forming shears—to cut and mount photographic or other prints or cards, in the manner herein described. for the purposes specified.

Second, the sliding spring clamp for the purpose of holding and gumming the prints and placing them centrally on the die punch, in combination with the yielding table, as herein described.

Third, the combination of the card receiver, the spring follower, and the reciprocating frame, for alternately placing the cards in position to receive the prints and discharge the same, in the manner herein set forth.

No. 43,185.—JOHN R. DEHM and JASPER SNELL, Pottsville, Penn.—*Coal Screen.*—June 21, 1864.—This invention consists in constructing the screen of a series of segments composed of longitudinal cast-iron bars connected by transverse wrought-iron rods, the segments being attached to bands at their ends and rendered capable of being curved or bent to suit the required diameter of the screen.

Claim.—A cylindrical coal screen composed of a series of segments, constructed and connected together in the manner substantially as herein set forth.

No. 43,186.—SIEDEL DE MACKIEWICZ, New York, N. Y.—*Match Safe.*—June 21, 1864.—This invention consists in the employment of a roughened or irregular surface, composed of wire gauze, attached to a metallic box, upon which the matches may be rubbed in order to produce ignition.

Claim.—The employment of an ignition or roughened surface composed of wire gauze, made substantially in the manner herein shown and described.

No. 43,187.—JOHN C. DODGE, Brooklyn, N. Y.—*Ring and Traveller Spinning Frame.*—June 21, 1864.—This invention is designed as an improvement upon the patent numbered 8,683; the waste detacher being connected directly with the ring itself instead of to the ring rail, thus facilitating its removal for repairs, &c., without the necessity of arresting the operation of the whole spinning machine, as the ring can be immediately lifted out of its place and a new one, with its detacher, be substituted.

Claim—The connexion of the waste detacher with the ring so as to be attached to it or with it, be removable from the ring rail or socket plate, the whole being substantially as specified.

No. 43,188.—SAMUEL DUNSEITH, Philadelphia, Penn.—*Composition for Tanning.*—June 21, 1864.—This composition consists of the plant called the golden rod, catechu or cutch, common salt, alum, and crude nitre, with water. The golden rod is first boiled with the water, so as to make a decoction, in which the catechu is desolved. The salt, alum, and nitre are then placed in a vessel containing enough golden rod decoction to dissolve the whole, and this solution is then mixed with the decoction of golden rod combined with the catechu.

Claim.—A tanning liquor composed of the ingredients herein described, when prepared and used in the manner specified.

No. 43,189.—G. W. and H. H. FERGUSON, New York, N. Y.—*Machine for Enamelling Elliptical Frames.*—June 21, 1864.—This invention consists in the employment of an adjustable tool, mounted on a rod, which is secured to two eccentric wrist pins made adjustable in slotted cranks secured to the upper end of the arbors, to which a rotary motion is imparted in one and the same direction, and from the same shaft which imparts to the platform carrying the picture frame or other article on which an ellipse is to be described in such a manner that said tool, in describing an ellipse, retains a position corresponding with the radius of curvature at every point, and the various mouldings produced by it will be of uniform width and shape throughout.

Claim.—First, the combination of an adjustable tool H, mounted on a rod G, with the eccentric wrist pins *h h'*, which are adjustable in slotted cranks F F, rotating in the same direction, and with the rotating cross or platform B, all constructed and operating in the manner and for the purpose herein shown and described.

Second, the hinged arms *j*, in combination with the tool-holder I, clamp J, bar G, and rotating cranks F F', constructed and operated substantially as and for the purpose set forth.

No. 43,190.—VALENTINE FOGERTY, Boston, Mass.—*Collar Clasp.*—June 21, 1864.—This invention consists of a metallic clasp hinged at its centre and ascending on both sides from the bottom of the collar to the button-hole. The inner plate carries a button in its rear to enter the button-hole of the shirt band, and a bifurcated pin in front passes through two holes in the two ends of the paper collar and into the outer plate, the two parts of the split pin serving to retain the outer plate in place.

Claim.—The collar clasp, made substantially as and for the purpose described.

No. 43,191.—BENJAMIN S. FOREMAN, Morrison, Ill.—*Preserving Railroad Ties.*—June 21, 1864.—This invention consists in providing a railroad tie with an aperture at each end, into which is placed a composition consisting of salt and corrosive sublimate for the purpose of preventing the tie from rolling, hardening the wood and holding the spike in its proper position.

Claim.—The application to railroad ties of a composition made of the materials and applied as and for the purpose herein set forth and described.

No. 43,192.—LEWIS FRANCIS and F. W. LETMATE, New York, N. Y.—*Printers' Ink-rollers.*—June 21, 1864.—This invention consists in combining glue, glycerine, and molasses to form a composition for the manufacture of printers' inking rollers.

Claim.—First, combining glue and glycerine to form a composition for the manufacture of printers' inking rollers.

Second, combining glue, glycerine, and molasses for the same purpose.

No. 43,193.—SIDNEY L. GEER, Norwich, Conn.—*Flask or Retort.*—June 21, 1864.—This invention consists in making chemical flasks of clay or any mineral compound glazed within, and encased around its sides and bottom within a metal pocket so as to protect it from blows or other causes of injury. It is intended for the use of chemists and dentists in generating nitrous oxide gas, and for similar uses.

Claim—The chemical flask or retort, above described, made of clay, or any mineral compound, glazed within, and encased by a metal pocket around its sides and bottom, as a new article of manufacture.

No. 43,194.—FRANCIS GLASSER, Mystic Bridge, Conn.—*Pipe Vise.*—June 21, 1864.—This invention consists of an upright frame formed in two horizontal sections hinged together at one side, the other side being held by a swinging stirrup attached to the upper part, and hooking over a stud from the lower part for the purpose of opening to admit the tube. The lower jaw is secured in the lower section of the frame, the upper jaw being attached to a sliding cross-head which plays between the sides of the upper section, and is operated by a screw passing through the top of the frame and turning in a collar on the cross-head.

Claim.—A pipe vice so constructed as to open to permit the entrance and removal of the pipe in a direction perpendicular to its axis, by means distinct from that employed for clamping the same, and to allow, when closed, of being firmly secured against being opened by the action of the clamping device, substantially as herein set forth.

No. 43,195.—WILLIAM F. GOODWIN, Powhatan, Ohio.—*Metallic Shield for Army and Navy.*—June 21, 1864.—This invention consists in the employment of a metallic shield to be attached to vessels or any wheeled frame, and made concave in front or on the surface facing the enemy.

Claim.—The construction, arrangement, and operation of shields for the purposes and in the manner described, the same consisting essentially in the employment, whether as a fixed or movable attachment to ships or any wheeled or otherwise supported frame, of metal plates curved so as to present its concave surface outwardly, *i. e.* facing the enemy, substantially as herein set forth.

No. 43,196.—George P. Gordon, Brooklyn, N. Y.—*Printing Press.*—June 21, 1864.—This invention consists of two revolving ink tables, over which the ink rollers pass in succession to insure a perfect distribution of the ink, and also of a vibrating platen in combination with a stationary bed, all connected with one source of motion so as to have perfect coincidence of action.

Claim.—First, the use or employment of a revolving ink-distributing table or disk operating a second revolving ink-distributing table or disk for the purpose of thoroughly and evenly distributing the ink and imparting the same to the inking rollers.

Second, the use or employment of the revolving inking rollers in combination with a revolving ink-distributing table or disk, for the purpose specified.

Third, the use or employment of the revolving inking rollers in combination with a revolving ink-distributing table or disk, operating a second revolving ink-distributing table or disk, for the purpose specified.

Fourth, the use of a platen, vibrating substantially as shown, in combination with a stationary bed, and a revolving ink-distributing table or disk, operating a second revolving ink-distributing table or disk, for the purpose or purposes herein shown.

Fifth, in combination with a platen, vibrating substantially as shown, the use or employment of a stationary bed, revolving inking-rollers, and a revolving ink-distributing table or disk, or a revolving ink-distributing table or disk, operating a second revolving ink-distributing table or disk for the purpose specified.

No. 43,197.—Lyman Gregory, Battle Creek, Mich.—*Oil Cup for Carriage Axle.*—June 21, 1864.—This invention consists in forming in the hub of the wheel one or more conical openings extending to the axle, in which opening is placed a sponge saturated with any lubricating substance. The sponge is attached by means of a rod to a lid which, upon opening, draws out the sponge to receive a supply of the lubricating substance.

Claim.—The combination of the conical or conveying orifice *c* of the oil cup, the sponge F, or its equivalent, and the rod *f*, connecting the sponge with the lid D, all substantially as and for the purposes herein specified.

No. 43,198.—Peter W., Thomas H., and Alfred Greenwood, Philadelphia, Penn.—*Spinning Machine.*—June 21, 1864.—This invention consists in an arrangement of devices for giving the delivery rollers a reciprocating rotary motion independent of the ordinary feed or delivery motion, the devices consisting of a pinion on one of the rollers and a sliding rack operated by the carriage, by means of which the untwisted roving is rendered less liable to break and the spun-yarn made more even; this is effected by causing the delivery rollers, after they have delivered a requisite amount of slubbing, and previous to the stretching strain thereon, to reverse their rotations for a period sufficient to draw in between them a few inches of the slubbing which has received a small twist, and thus leaving between the spindles and the delivery rollers no untwisted portion liable to undue strain or breakage.

Claim.—First, giving to the delivery rollers B B' the reciprocating rotary motion, independent of the ordinary feed or delivery motion, substantially as described.

Second, the combination of the bars G G', arms H and P, the rack K, the pinion L, arranged and operating substantially as described.

No. 43,199.—John D. Hall, Philadelphia, Penn.—*Method of Applying Torpedoes for Harbor Defence.*—June 21, 1864.—This invention consists in the employment of a system of pipes placed on or underneath the bed of the channel leading to the harbor, and one end of each of which is connected with a pump or pumps, or suitable forcing apparatus, placed within a suitable fortification on shore, or at any suitable distance therefrom, and the other ends of which are arranged at suitable intervals in the widths of the channel, the said pipes serving as conductors through which to force torpedoes and deliver the same under the bottoms of enemies' vessels attempting to pass through the said channel over the pipes.

Claim.—The within-described system of pipes and pumps, or other forcing apparatus, applied for the discharge of torpedoes at one or more points in the width of the bed of the channel of a harbor, substantially as and for the purpose herein set forth.

No. 43,200.—Charles S. Hamilton, Fond du Lac, Wis.—*Distributing Grain in Mills.*—June 21, 1864.—This invention consists in the employment of elevating buckets and a revolving spout for elevating and distributing grain in mills and warehouses, by means of which the grain can be directed into any one of a series of bins at pleasure by the operator while in the lower part of the building. The bins are each one of them numbered, and a spout from the discharging pipe of the endless belt elevator is so arranged that it can, by means of a device placed far below it, be passed to any one of the bins. An index is attached to this changing device, with numbers corresponding to those upon the bins, so that the operator can always tell to which of the bins the grain is being directed.

Claim.—First, the use of the revolving spout L for receiving the grain as the latter is elevated and distributing the same to the different bins, substantially as set forth.

Second, the combination of the chain of buckets and the revolving spout, substantially as described.

Third, the arrangement and combination of the revolving spout L, the shaft M, and index N, with the chain of buckets or elevating devices, substantially as described.

No. 43,201.—H. M. Hamilton, Franklin, Penn.—*Device for Collecting Gases from Petroleum and other Wells.*—June 21, 1864.—This invention consists in the application to the upper end of the pipe or stock used for pumping petroleum, salt, and other wells, of a chamber, or series of chambers, with two discharge openings, one at or near the bottom, through which the liquids that are brought up from the well descend to be conducted to their appropriate receptacle or tank, and the other opening into the top of said chamber, through which the gases emanating from the well ascend to be conducted to a tank or other proper vessel, from which they can be drawn and used for fuel or illumination.

Claim.—The application to the pipe or stock A of a pump used for pumping petroleum, salt, or other wells, of a chamber D, with two apertures *a b*, one at the bottom to carry off the liquid, and the other at the top to carry off the gases, in the manner substantially as herein specified.

No. 43,202.—David Hammond and W. R. Reeves, Canton, Ohio.—*Bridge Girder.*—June 21, 1864.—This invention consists in the employment of three continuous pieces of flat bar iron composing the arch of the bridge, two of the said bars being set up edgewise, opposite each other, and curved to the proper form of the arch, upon the top of which another like bar is laid flat and properly bolted and attached to suspension rods.

Claim.—First, the arch constructed of the side pieces *a a*, top pieces *b b*, clapping pieces *c c*, bolts *d d*, and nuts *e e*, the whole combined substantially as herein specified.

Second, the combination of the arch constructed as hereinbefore specified, the spring piece D, suspension rods B B, diagonal braces C C, and shoes E E, substantially as herein specified.

No. 43,203.—J. O. Harris, Ottawa, Ill.—*Device for Hanging Door Bells.*—June 21, 1864.—This invention consists in the employment of a grooved pulley with a pin attached to the same, acting as a lever at the points where the direction of the wire leading the bell-pull is changed.

Claim.—First, the employment of the wheels C when grooved substantially as described, and provided with the pin *c*, or its equivalent, arranged and operating substantially as and for the purpose shown and specified.

Second, the employment, as aforesaid, of the grooved wheels C, provided with the pin *c*, or its equivalent, in combination with the bell wire D, arranged and operating as herein described and set forth.

Third, the combination and arrangement of the wheel C when provided with a groove upon one side, as shown, and the pin *c*, with the bell wire D, as and for the purpose described.

Fourth, the combination of the grooved wheels C, the pin *c*, the bell wire D, the looped wire E, or its equivalent, and the hook *h*, arranged and operating as and for the purposes specified and shown.

No. 43,204.—C. H. Harrison, San Francisco, Cal.—*Rotary Pump.*—June 21, 1864.—This invention consists of an inner cylinder attached to an eccentric enlargement of a horizontal shaft, and placed within a larger cylinder, against the interior surface of which it is made to press without revolving all the way round at every revolution of the shaft. From that part of the inner cylinder which is always uppermost ascends an arm into a square chamber above. This arm and a septum against which it presses in the upper chamber form a constant partition between the induction and eduction ports above, and it also forms the abutment in the larger cylinder when carried down by the descent of the smaller cylinder. The extension of the shaft and the duplication of the other parts secure an unintermitted flow of water.

Claim.—First, the combination with cylinder A of the eccentric L and cylinder F, when the latter has a rolling motion on the inner circumference of cylinder A, substantially in the manner and for the purposes described.

Second, in combination with the cylinder A, eccentric L, and cylinder F, the partition C, dividing the chamber B in two compartments, one of which is connected with the suction pipe and the other with the discharging pipe of the pump, substantially as herein described.

Third, the combination of the cylinder F with the movable partition *a*, joint *k*, and slide *b*, substantially in the manner and for the purposes described.

Fourth, the hinged check valve M when applied to rotary pumps, and when constructed substantially as herein described.

No. 43,205.—Robert G. Hatfield, New York, N. Y.—*Door Sheave.*—June 21, 1864.—In this device, instead of securing the journals of the roller in fixed bearings, the two cheeks of the case are slotted horizontally, and the journals allowed to roll backwards and forwards as the door is moved in one direction or the other within and to the extent of the slots.

Claim.—The construction and arrangement of a sheave and roller in such manner that when in use the axis of the latter will have imparted to it a transitory as well as a revolving movement upon the bearings formed in the body of the sheave, substantially as described.

No. 43,206.—G. W. Hank, Chicago, Ill.—*Carriage, Chair, and Cradle Combined.*—June 21, 1864.—This invention consists in constructing the body of the carriage in two parts, and so combining the same with a platform and chair top as to admit of the parts being readily adjusted to form either carriage, chair, or cradle, as may be desired.

Claim.—First, constructing the body of the carriage of two parts, B and C, arranged and operating substantially as and for the purposes specified and shown.

Second, the combination of the rockers L M with the platform K, constructed, arranged, and operating as and for the purpose delineated and described.

Third, the combination of the parts B C with the chair top F, provided with the hole N, arranged and operating as and for the purposes shown and set forth.

Fourth, the combination of the chair B C, the top F, and revolving arms J, as and for the purposes shown and described.

No. 43,207.—J. H. Hendee, Jackson, Mich.—*Harrow.*—June 21, 1864.—This invention consists in attaching to hangers on the forward frame of a wheeled carriage a series of hinged sections or beams provided with teeth on their under sides, and acting independently of each other, so as to conform to the irregularities of the ground. Upon the rear of the axle are a series of hooks that take into staples upon the hinged sections when it is desirable to raise the latter for transporting the harrow from place to place.

Claim.—First, the combination of the hinged sections F F, forward hanger frame E, and wheeled carriage, substantially in the manner and for the purpose described.

Second, the construction and arrangement of the hanger frame E, substantially as and for the purpose described.

Third, the arrangement of the hinged sections or beams F in combination with the hooks on the axle A and the staples on the sections, substantially as and for the purpose described.

No. 43,208.—Isaac L. Hilt and A. V. W. Rausch, Frankford, Penn.—*Dummy Locomotive Truck.*—June 21, 1864.—This invention consists in the combination of devices named in the claim, and relates to the gear of dummy locomotives and steam railway cars, for the purpose of affording greater facility in turning the curves, the driving power being applied to both ends of the locomotive or car, and the body of the car relieved from all jarring otherwise caused by the engine and its attachments.

Claim.—First, the two independent trucks A A pivoted to and combined with the supporting frame D by means of pedestals I I′, which are arranged directly over one of the axles of each, and which serve at the same time as a means of transferring the weight of the said frame to the axles, substantially as herein specified.

Second, the two pedestals I I′, constructed with pivot-like heads, to outer sockets *e e* attached to the bottom of the car body, and thereby keep the body in place upon the supporting frame D of the engine and driving mechanism, substantially as herein described, as well as pivot the said frame to the trucks.

Third, the combination of the two countershafts K K′, one constituting the crank shaft of the engine, and the other coupled with it by cranks and connecting rods, and one geared with one of the axles of one of the independent trucks, and the other gearing with one of the axles of the other of said trucks, for the purpose of applying power to axles of both trucks, substantially as herein specified.

Fourth, the intermediate countershafts K2 and its cranks *g2 g2*, applied in combination with the countershafts K K′ and connecting rods *i i*, substantially as and for the purpose herein specified.

Fifth, the sliding boxes *f f*, applied in combination with the frame D and forward axle of the forward truck, to slide longitudinally upon the said frame and allow the axle to slide within them, thereby providing for the support of a portion of the weight of the boiler and heavy parts of the engine upon the said axle while providing for the vibration of the truck, substantially as herein described.

Sixth, keeping the cogwheels of the driving axles in line with the frame D and the pinions of the countershafts by so fitting them to their respective axles that they are free to oscillate laterally thereon, and fitting their hubs to openings in the pedestals I I′, or their equivalents, substantially as herein specified.

No. 43,209.—Amos Holbrook, jr., Lynn, Mass.—*Device for Heating Waxed Thread in Sewing Machines.*—June 21, 1864.—This device consists of a reservoir surrounding the supporting tubular shaft of the rotating horn of boot and shoe sole sewing machines, and supplied with gas from any convenient source. The said reservoir is composed of two cups, one being smaller than the other and placed in an inverted position within the larger one. The latter is fixed to the stationary framing, and the former or smaller cup secured to the rotating horn shaft. The lower cup is partially filled with mercury, alcohol, or other fluid, so as to make a tight fluid joint which will admit of being rotated. Gas is supplied through the lower cup by a pipe, and from the space in the upper part of the inverted cup a pipe leads up through the shaft to the point where the gas is consumed, for the purpose of heating the metallic horn and thus softening the wax on the thread.

Claim.—The combination of a fluid gas joint with the rotating horn of a sewing machine, substantially as and for the purpose set forth.

No. 43,210.—A. C. Kasson, Milwaukee, Wis.—*Bobbin Winder of Sewing Machines.*—June 21, 1864.—This invention consists of a smooth pressure roller which fits between the heads of the bobbin and is rotated by frictional contact with the thread as the latter is wound. The said roller is used in connexion with the ordinary bobbin winder of sewing machines for the purpose of laying the thread even upon the bobbin. The thread is held between the thumb and finger of the operator, a spring allowing the roller to rise as the bobbin fills.

Claim.—The smooth-surfaced pressure roller D, applied in combination with the bobbin winder of a sewing machine, substantially as and for the purpose herein specified.

No. 43,211.—Washington Kennedy, Roxbury, N. Y.—*Beehive.*—June 21, 1864.—This invention consists in the employment of a series of bee compartments constructed and arranged in such a manner, within a box or case, that the bees can be confined to one apartment until more room is required, when they are admitted to another compartment, the parts being readily accessible, the old comb easily removed, and the bees prevented from swarming.

Claim.—A series of removable boxes or hives B B B, each provided with elevated central chambers C, slat slides *h h*, slat tops *f f*, slides E E, and surplus honey boxes D D D, the whole enclosed in a case A *a b*, all as herein described and for the purposes specified.

No. 43,212.—David Lake, Smith's Landing, N. J.—*Fly Trap.*—June 21, 1864.—This invention consists in the arrangement of a flanged wheel or drum which dips into a reservoir of suitable attractive liquid, and is caused to revolve slowly by the action of clock-work, so as to carry the flies which may gather upon the said drum, under a shield and into a closed chamber lighted with glass, where they may be destroyed or removed.

Claim.—First, the combination and arrangement of the bait wheel *z*, bait trough *o*, guides L L, shoulders *l l*, cap T T′, sliding bolt P, and stay plate H, substantially as described, and for the purpose set forth.

Second, the combination and arrangement of the tube J, opening *z*, sliding valve K, and guides O O, substantially as described, and for the purposes set forth.

No. 43,213.—Philip Lamb, San Francisco. Cal.—*Fire Damper Regulator.*—June 21, 1864.—This invention consists in arranging a small cylinder in line with the crank attached to the shaft of the damper in the flue, and in placing inside of it a piston to be operated upon by steam on one side and by a spring on the other. Whenever the pressure in the boiler becomes too great, the steam forces the piston back from the end of the cylinder in which it is fixed and in opposition to the spring, which is made to surround the piston rod, and by means of a connecting rod the motion is communicated to the damper, which is closed, or partially so. Whenever a decrease of pressure occurs in the boiler, the spring acts against the reduced pressure in the cylinder and a reverse movement takes place by which the damper is opened.

Claim.—The arrangement of the spring C, spring adjuster H, piston rod F, piston B, steam cylinder A, steam pipe *a*, and slotted damper arm E, all as herein specified and for the purpose set forth.

No. 43,214.—B. B. Lewis, Hartford, Conn.—*Calendar Clock.*—June 21, 1864; antedated June 15, 1864.—This invention consists in the combination and arrangement of a series of devices named in the claim, for the purpose of indicating by means of a pointer on the face of a dial a given point of time. Over the centre spindle is arranged a seven-toothed or star dial to enable the pointer to indicate the day of the week, in connexion with a twenty-four-hour wheel to produce a successive movement of the star wheel once in twenty-four hours.

Claim.—First, securing a calendar device to a dial of such a nature as to indicate by a pointer on the face thereof a given point of time, substantially as shown and described.

Second, the collar tube *f*, or its equivalent, combined with the dial *a*, pointer *i*, and star wheel *g*, substantially as and for the purpose described.

Third, a tube *f*, having a collar *x*, as described, in combination with a dial *a*, for the purpose set forth.

Fourth, the employment of a seven-tooth or star wheel, arranged upon or over the centre spindle *b d*, in combination with the pointer *i*, substantially as and for the purpose described.

Fifth, the employment of a twenty-four-hour wheel *k* to produce a successive movement of the seven-tooth or star wheel once in every twenty-four hours, substantially in the manner and for the purposes described.

No. 43,215.—R. R. Lewis, New York, N. Y.—*Vapor Stove.*—June 21, 1864.—This invention consists in combining with a fluid duct, connected with a reservoir, an expansive chamber, a jet, and a heater cap, in such a manner that the vapor shall impinge upon and be distributed in or over the under surface of the cap in a thin stratum, where it can be freely supplied with oxygen.

Claim.—First, the combination of the set screw H with the fluid and expansion chambers, substantially as described, for the purpose of forming a heater cup of the screw head, as set forth.

Second, the combination of a heater cup, the standards or expansion chamber, a fluid chamber, an adjusting screw, and a wick tube, substantially in the manner and for the purpose described.

No. 43,216.—R. Little, Canton, Ohio.—*Cooking Stove.*—June 21, 1864.—This invention consists in arranging the oven and flues of a cooking stove so that the oven shall be below the fire chamber, the gases from the fire circulating around the sides as well as the top and bottom of the oven so as to heat it to an even temperature on all sides.

Claim.—The combination of the oven B and fire box A with the flues C D, angular flues H, and centre-return flue I, when the several parts and flues are constructed and arranged as herein described.

No. 43,217.—M. H. Mansfield, Ashland, Ohio.—*Clover Huller.*—June 21, 1864.—This invention consists in placing a straw separator between the hulling mechanism and the screens so that the mass from the said hulling mechanism will be discharged directly upon or carried to the straw separator, and the operation of threshing and separating the straw from the pods previous to the latter entering the hulling mechanism can be dispensed with.

Claim.—First, in a clover separating machine having a cylinder and concave armed with grooved and bevelled or roughened teeth, the relative arrangement of the threshing cylinder B, shakers E E′, and shoe G, all as herein described and for the purpose specified.

Second, the combination of the straw shaker E, grain board E′, hangers *b b′*, double pitman rod H *f f*, and crank wheel I, as and for the purposes set forth.

Third, in combination with the aforesaid straw shaker E, grain board E′, and hangers *f f*, the adjustable slotted brackets F, constructed and operating as and for the purposes specified.

No. 43,218.—Francis McGhan, Washington, D. C.—*Stop Valve.*—June 21, 1864.—This invention consists in the employment of a hollow stem having a screw thread cut upon its exterior to fit a female screw in the interior of the socket in which it works. Upon each end of this socket is a bevelled valve seat, and upon each end of the stem is a valve; the distance between these valves is greater than the length of the socket, so that when one of the valves rests upon the seat, the other is at some distance from its seat. Underneath the upper valve, and near to it, are cut apertures through the stem, so that upon the valve being raised from its seat the water passes through them and down through the stem to the outlet. The other valve is designed to prevent any water that may leak down around the stem when the upper valve is open from finding an outlet. Thus, when the upper valve is opened, water flows from the pipes to any desired point, but when it is closed no water can pass, and consequently the flow is stopped.

Claim.—First, the combination of the two valves C and C′, operating substantially as and for the purpose herein set forth.

Second, in combination with the above, the threaded hollow stem A, constructed and operating as described.

No. 43,219.—Henry McKee.—Chandlerville, Ill.—*Car Coupling.*—June 21, 1864.—This device is of the kind denominated self-couplers, and consists of a link attached to the upper portion of the draw-head, which, coming in contact with a hook on the car to be attached, slides up over the hook and falls behind it, the hook being removable.

Claim.—The two draw-heads A A, provided with vertical projections *a* at each side of their upper surfaces, and with inclined front surfaces *a*, in combination with the removable or detachable hooks D and the links or shackles C, all arranged substantially as and for the purpose herein set forth.

No. 43,220.—Louis Megowan, Upper Alton, Ill.—*Evaporating Pan for Sugar and Sirup.*—June 21, 1864.—This invention consists in the application to an evaporating pan of oscillating skimmers hung on gudgeons, which have their bearings in lugs or standards rising from the end of the pan, and are provided with slots to cover the partitions of said pan, in combination with its covered sides, and with troughs extending along their edges in such a manner that by the action of the skimmers the scum rising in the several compartments of the pan can be readily thrown out into the troughs.

Claim.—First, the oscillating skimmers C, slotted to fit the partitions *c* of the pan A, and suspended from gudgeons *b*, in combination with the spherical sides *a* of the pan and with the troughs D, constructed and operating in the manner and for the purpose substantially as herein shown and described.

Second, the well *g* in the last compartment of the pan A, in combination with the zig-zag holes *c′*, finishing pans E, double flues F, and dampers *i*, all constructed and operating in the manner and for the purpose specified.

No. 43,221.—George H. Monroe, Cincinnati, Ohio.—*Blacking Box and Holder.*—June 21, 1864.—This invention consists of a blacking box provided with an L-shaped cylindrical rim in such a manner that the blacking contained in the box on being taken out with the brush will not soil the edges of the lid or the outside of the box. A handle may also be applied to the blacking box so that it can be easily handled without soiling the fingers.

Claim.—A blacking box, or blacking-box holder, constructed substantially as herein described

No. 43,222.—Joseph T. Moulton, Chicago, Ill.—*Grain Elevator.*—June 21, 1864.—This invention consists in the employment of a circular track forming a portion of a circle described from the driving shaft, in combination with suitable guide wheels and with an elevator, to which motion is imparted by means of a belt from the driving wheel, in such a manner that the elevator can rise and fall with the vessel from which the grain is to be elevated, according to the different stages of the water. The elevator shaft is suspended from a yoke, the arms of which form the bearings for the said shaft, and the yoke being connected with a hoisting tackle in such a manner that the elevator can be easily lowered into or raised from the hold of the vessel.

Claim.—First, the circular track, or tracks, D, applied in combination with the elevator A and driving shaft E, in the manner and for the purpose substantially as herein specified.

Second, the carriages C, in combination with the elevator shaft B, track D, and driving shaft E, constructed and operating in the manner and for the purpose substantially as set forth.

Third, the yoke E, in combination with the elevator A, hoisting tackle *g h i*; and windlass F, constructed and operating in the manner and for the purpose described.

No. 43,223.—J. Palmer, Cleveland, Ohio.—*Railroad Car Roof.*—June 21, 1864.—This invention consists in forming the roof of a railroad car of metallic plates or sheets, which are bent at the edges in such a manner as to be readily joined together and adjusted without the necessity of any fastenings, in combination with the ribs and inclines of the roof.

Claim.—The arrangement of the plates or sections *a b* when lapped continuously together, as described, without fastenings, in combination with the ribs F, ceiling D, with the roof A, and car lines, in the manner and for the purpose set forth.

No. 43,224.—William Pountney, Brooklyn, N. Y.—*Metallic Mould for Molten Glass.*—June 21, 1864.—The nature and object of this invention are fully shown in the claim.

Claim.—The bringing of the molten glass in contact with a thinner portion of the metal of the moulds than the body of the mould itself, so that the part of the mould in contact with the glass will be immediately raised in the temperature so as not to chill the surface of the glass, and at the same time the heat so imparted will be moderated and diffused gradually into the thicker parts of the mould, thereby producing the desired smoothness and appearance of polish upon the surface of the glass, substantially in the manner described.

No. 43,225.—J. W. Prentiss and E. M. Birdsall, Pen Yan, N. Y.—*Harvester.*—June 21, 1864.—This invention consists in the employment of two sickles or cutters working in opposite directions, in combination with slotted fingers provided with centrally arranged tongues, against and on opposite sides of which the cutters act. The inner ends of the sickle bars are provided with toothed racks, between which ends a vibrating toothed segment works to give the necessary motions in opposite directions. The gear wheel is keyed upon a sliding clutch placed on the main axle in such a manner as to allow the cutters to be thrown into and out of action without moving the gear wheel. The main frame is supported from the axle in such a manner as to prevent any injurious effect upon the working of the gearing from the working of the main frame.

Claim.—First, the combination of the two reciprocating cutters I I, both acting against central tongues *g* placed between them in the fingers H, as herein shown and described.

Second, operating the cutters I I′ through the medium of the double-geared vibrating segment J and the racks *j j* on the bars K K of the cutters I I, substantially as described.

Third, the wheel P placed on the clutch S, which is fitted on the axle Q, and arranged as shown, with or without clutch T for throwing the cutter-driving mechanism in and out of gear with the wheel or wheels B B′ without moving or adjusting the cutter-driving gearing, as set forth.

Fourth, the adjustable bearings V V N N for the axle Q and shaft M, when constructed and applied to the frames of harvesters for the purpose specified.

No. 43,226.—Ernest Pries, New York, N. Y.—*Accordeon.*—June 21, 1864.—The object of this invention is to construct an accordeon so as to admit of its being played in any key to accompany an orchestra, which is accomplished by arranging double key-boards, one on each side of the instrument, which admit of the additional number of keys, conveniently arranged for the additional reeds necessary for the purpose.

Claim.—The combination, with a portable bellows operated by both hands, of key-boards A B and corresponding reeds representing two or more chromatic scales, substantially in the manner and for the purpose specified.

Also, the arrangement of the keys C C, and D D, substantially as herein shown and described, so that the keys C′ represent the octaves of the keys C, and the keys D′ the octaves of the keys D.

No. 43,227.—JOHN RANKIN and J. N. MCINTIRE, New York, N. Y.—*Churn.*—June 21, 1864.—This invention consists in the employment of beaters with curved faces attached to a horizontal shaft in such a manner as to throw the cream from the centre towards each end of the churn, in combination with vertical breaker ribs. The cream, in entering the body of the churn, is acted upon by a breaker wheel within a case formed with ribs and provided with suitable exits. The main gear of the shaft is hung on an eccentric stud combined with a spring catch and notched box.

Claim.—The employment of a dasher having its beaters so formed and arranged as to feed the contents toward each end of the box, as specified, in combination with the vertical breaker ribs T2, the whole arranged to operate as and for the purpose set forth.

Also, the employment of the breaker wheel H, constructed and operating as specified, in combination with a surrounding or enclosing case formed with ribs *w* and *y* and exits *v*, the whole constructed and operating as set forth.

Also, hanging the main gear L on an eccentric stud *c c*2, in combination with the spring catch and notched box Z, the whole arranged to operate as and for the purpose set forth.

No. 43,228.—ISAAC RINDGE, Cincinnati, Ohio.—*Mode of Operating Gun Carriages.*—June 21, 1864.—In this apparatus the carriage is mounted on a bed plate having a raised circular rim, upon which is another plate serving as a turn-table. To the latter is secured a lever, which is also connected to the bed plate by means of a king-bolt. A taper screw is made to fit the thread on the periphery of the bed plate, and is confined on an eccentric shaft, by which means a gradual lateral train motion may be given to the gun and carriage, and the gun may at the same time be readily elevated or depressed.

Claim.—The combination of the screw and eccentric shaft connected to the lever and turn-table, for the purpose substantially as described.

No. 43,229.—GEORGE R. RULAND and WILLIAM W. GREEN, jr., Byron Centre, N. Y.—*Cider Mill.*—June 21, 1864.—This invention consists in the combination of two endless platforms placed one over the other, and having an endless apron passing between them running upon rollers and encompassing the lower endless platform, the contiguous surfaces of the said platforms being nearly in contact with each other so as to press the fruit passing between them. The lower sections are made longer than the upper ones, and are provided at their ends with shoulders so as to confine the pomace while under pressure. The sections of the lower platform are provided with perforations for the escape of the expressed juice of the pomace. The ways of the upper platform are hung in bearings arranged in such a manner as to admit of being adjusted at one end so as to increase the pressure upon the pomace when necessary. Enclosed within the lower platform is a double incline or trough for the purpose of catching the expressed juice and discharging it at the side or by a suitable opening.

Claim.—The combination of two endless platforms D E, and an endless apron G passing between them, said platforms being so arranged that their contiguous surfaces shall come nearly in contact, to produce pressure substantially as and for the purpose herein set forth.

Also, making the lower sections *a′* longer than the upper sections *a*, and providing their ends with the cross cleats or shoulders *l l*, between which the said upper sections *a* match and fit, for the purpose of confining the pomace during the act of pressing, substantially as herein set forth.

Also, hanging the ways B B of the upper platform on a bearing *f* at one end and adjusting the other end down to increase the pressure by means of the rods *i i*, projections *g g*, and nuts *h h*, or some equivalent means, substantially as and for the purpose herein described.

Also, providing the sections *a a′* of the lower endless platform with openings or perforations *s s*, whereby the cider can escape through, substantially as herein described.

Also, the receptacle or trough H, situated between the ways C C, and enclosed by the lower endless platform E, said receptacle or trough being so situated as to catch the expressed cider and discharging it by a suitable spout, substantially as described

Also, the packing strips *u* or *u′*, in combination with the sections *a a* or the cleats *l l*, so arranged that when said sections or cleats close in the act of pressing, the packing strips will shut off the passage of the cider, substantially as herein set forth.

No. 43,230.—CHRYSOSTOMUS SCHWIPPL, New York, N. Y.—*Clock.*—June 21, 1864.—This invention consists in suspending from the pivot on which the hands of a clock revolve two movements connected to the said hands by suitable gear wheels, in such a manner that by the action of the movements the hands are caused to traverse the dial, and that by the weight or gravity of the said movements the hands are retained in their successive positions and enabled to resume the same spontaneously in case of their being disturbed by some external influence.

Claim.—The arrangement and combination of the hands A A′, central pivot *a*, suspended movements B B, and gear wheel *b c b′ c′*, all constructed and operating substantially in the manner and for the purpose shown and described.

No. 43,231.—MELCHI SCOTT, Fairfield, Iowa.—*Tire or Hoop Bender.*—June 21, 1864.—In this apparatus a pair of jaws, attached to a frame which is made to slide on the bed plate of the machine, thrusts the bar to be bent a proper distance through and under an adjustable clamp, which holds it while the short arm of a lever, hinged in jaws in the end of the bed piece and carrying a friction roller, is pressed by operating the long end of said lever against the under side of the bar and bends it upwards a suitable distance. By means of a series of arms and levers the main lever at each movement up and down is made to operate the sliding frame and jaws and feed along the bar under the clamp until the whole length is bent.

Claim.—The sliding apparatus, and the pincers combined with the side levers, and the adjustable rack, which being operated by the lever *l l* brings the bar forward until it begins to bend, when the pincers let go their hold until the next time the lever is raised.

Also, the graduating staff *a*, in the lever *l l*, with the numbers 1 2 3 4 5 6 corresponding to the numbers on the notched side plates 1 2 3 4 5 6, by which the tire may be made larger or smaller by means of the corresponding numbers.

No. 43,232.—HARLOW C. SMITH, Chicago, Ill.—*Preserving Fruits, &c.*—June 21, 1864; antedated June 16, 1864.—This invention consists in the employment of a valve of India rubber placed upon the top of the metal cover, over which is placed a cross-bar provided with elastic cushions. The air in the vessel is exhausted by means of an air pump properly arranged for the purpose, the valve rising upwards to allow the escape of the air, and is held in position, when closed, by means of the cross-bar.

Claim.—First, in the construction of stoppers for hermetically sealing jars for the preservation of fruit, the employment of a valve, substantially as and for the purposes herein specified and described.

Second, in combination with the above the cross-bar E, provided with the elastic cushion *e*, arranged and operating for the purposes set forth.

No. 43,233.—WILLIAM STACEY, Kittery, Maine.—*Mode of Preventing Mildew in Canvas, Cloth, &c.*—June 21, 1864.—This invention consists in saturating canvas or cloth with a solution of blue vitriol to prevent mildew and decay.

Claim.—The use and application of the aforesaid liquid to sail-cloth, sails, flags, awnings, and tents.

No. 43,234.—E. STEARNS, Brooklyn, N. Y.—*Windlass.*—June 21, 1864.—This invention consists in providing the driving shaft of the windlass with a series of wheels, shifting or adjustable, and of different diameters, in connexion with a series of wheels placed on the draw shaft, and also of different diameters, the adjustable wheels being moved by levers, and all arranged in such a manner that the driving shaft may be made to communicate motion to the draw shaft through the medium of gearing, which may be varied so as to increase or diminish the power and speed of the drum.

Claim.—The windlass constructed and arranged as hereinbefore described, with two shafts provided each with a series of wheels, the wheels of one shaft varying in diameter relatively with each other, and also varying in diameter with respect to the wheels of the other shaft, and the wheels of one shaft being adjustable so that the two shafts may be connected by gearing, varying in diameter relatively with each other in order to increase or diminish the power and speed of the drum shaft as circumstances may require, in combination with means substantially as described for adjusting the wheels.

Also, the arrangement of the shafts K, arms J M, and the notched plate N, for adjusting the wheels D E′ F and securing them in the desired position, substantially as set forth.

No. 43,235.—B. F. STURTEVANT, Boston, Mass.—*Boot and Shoe.*—June 21, 1864.—This invention consists in connecting together the soles and uppers of boots and shoes by means of a line of sewing and pegs. The thread is forced into the awl holes by the peg on the former being laid over the mouth of the hole, or the loop is first inserted and then subsequently driven into the hole either within the loop or at its side.

Claim.—A boot and shoe having its sole or soles and its upper or uppers combined, united, or connected with and by means substantially as described.

No. 43,236.—B. F. STURTEVANT, Boston, Mass.—*Mode of Connecting two or more pieces of Leather together.*—June 21, 1864.—This invention consists in connecting two or more pieces of leather together by means of a series of connected loops or line of sewing combined with a series of pegs. The thread is introduced into the awl holes by forcing the peg on the former laid over the mouth of the hole. or the loop may first be inserted and the peg subsequently driven into the hole, either within the loop or at its side.

Claim.—My new or improved art, substantially as described, of uniting or connecting two or more pieces of leather.

No. 43,237.—JOSEPH SYKES, Muscatine, Iowa.—*Stencil-plate.*—June 21, 1864.—This invention consists of a frame provided with suitable recesses to receive the letters of a stencil alphabet cut out in suitable pieces of sheet metal, in combination with a secondary frame secured on the inner side of the main frame by means of buttons, in such a manner that by means of the letters of the stencil alphabet any desired word or words can be arranged in the main frame and securely retained therein by the secondary frame; and after such word or words have been thus arranged, they can readily be transferred to the top of a box, or any other surface, in the usual manner of transferring letters, words, or names from stencil plates.

Claim.—The main frame A, provided with recesses *c*, in combination with the secondary frame C and letters or blanks B B', constructed and operating in the manner and for the purpose substantially as herein shown and described.

No. 43,238.—S. C. TALCOTT, Ashtabula, Ohio.—*Carriage Hub Band.*—June 21, 1864.—This invention consists in providing a flange on the inner side of the hub band, in combination with the cap, which is secured by means of a clutch and spring on the inside and a button upon the outside of the cap.

Claim.—The clutch F, spring D, cap B, button H, in combination with the flange C and band A, substantially as and for the purpose set forth.

No. 43,239.—HORACE THAYER, Brooklyn, N. Y.—*Machine for Making Boxes.*—June 21, 1864.—In this machine the side or rim of the box, with the circular bottom inserted therein in its proper position, is placed upon a revolving chuck attached to the end of a sliding shaft, the bottom of the box resting against the face thereof. Thus adjusted, the shaft is moved forward until the opposite side of the box bottom comes in contact with a circular fan plate, which is free to revolve with the chuck, and which, in combination with the latter, securely clamps the bottom, while two grooved rollers pivoted to the arms of a rock shaft on opposite sides of the chuck are closed thereon by the operation of a lever with a series of toggle joints connected with the said shafts. As the chuck with the shaft revolves, the rollers impinging upon it indent and form the necessary grooves and flanges.

Claim.—First, the head B2 and two forming and pressing wheels M and N, with suitable means for operating the same, combined and arranged to act simultaneously on the material of a box or case, with or without the free centre D, substantially in the manner and for the purpose herein set forth.

Second, in box and case machinery, substantially of the character above specified, so constructing and arranging the mechanism which connects the two wheels M and N together, and by which they are simultaneously brought to bear against or to recede from the box or the revolving mandrel, that, to accommodate itself to the seam, or other irregularity or projection upon the surface of the box rim, either wheel, when said projection comes in contact with it, will yield so as to permit the same to pass without inducing any corresponding movement of the opposite wheel, so as to allow the use of rings previously joined, and consequently the production of boxes very rapidly, in the manner substantially as herein specified.

Third, the triangular frame V and links Q R, arranged substantially as represented, relatively to the two rocking shafts *o p* and to the cranks or levers O P, wheels M N, and the mandrel B, of a box or case machine, substantially as and for the purpose herein specified.

Fourth, the employment on the wheel M of the series of indenting teeth *m*, so arranged relatively to the head B2 and free centre D as to indent the material in a series of corrugations pressing upon or into the inner face of the end or head 3, substantially in the manner and for the purposes herein set forth.

No. 43,240.—HORACE THAYER, Brooklyn, N. Y.—*Mode of Making Boxes and Cases.*—June 21, 1864.—This invention consists in introducing the top or bottom of the box within the rim, and forming the croze to hold it therein, by bending the metal continuously against both the outer and inner surface of said top or bottom.

Claim.—As a new method of manufacture, the forming of boxes or cases of the character substantially as herein described, by first soldering the edges 2 of the sides 1, next introducing the bottom or end 3, and finally forming the croze by bending the metal at 4 and 6, at one operation, against the outer and inner faces of the end 3, in the manner substantially as herein set forth.

No. 43,241.—HORACE THAYER, Brooklyn, N. Y.—*Making Boxes.*—June 21, 1864.—This invention consists in securing the rim to the bottom of the box by turning its outer edge over against the outer face of said bottom, and by a series of projections on the inner surface of the rim by striking up from the outside thereof, which projections enter into the edge of said bottom.

Claim.—As a new article of manufacture a box or case having the bottom or end 3 retained by a series of internal projections 6, which projections are raised and pressed into the edge of the material forming the bottom or end 3 by machinery, substantially in the manner and for the purpose herein set forth.

No. 43,242.—MERRITT L. THOMPSON, Brooklyn, N. Y.—*Boxes for Transporting Plants.*—June 21, 1864.—This invention consists of a cylindrical box hinged one side so as to open lengthwise on the opposite side to receive the plant, and is provided with a perforated head so that the contents of the box may be seen without opening it.

Claim.—A box formed with a perforated head, whereby the contents can be viewed without opening the box, substantially as described.

No. 43,243.—WILLIAM TINSLEY, New York, N. Y.—*Cooking Stove.*—June 21, 1864.—This stove is constructed with three horizontal plates, between the two lower ones of which is a chamber connected with a hot-air passage. Within the passage is an opening which is provided with a valve or damper, and upon the central plate are two sliding dampers provided with slits corresponding to similar slits in the flue.

Claim.—That particular fire or air passage with its apparatus, the slotted plate *r*, and its register (forming, with the curved plates *s s*, the triangle,) the upper cover, the under valve *p*, the ventilator, and the back sides W W, constructed and operated as set forth, the whole being considered a combination.

No. 43,244.—P. G. VAN HOUTEN, Cohocton, N. Y.—*Self-acting Wagon Brake.*—June 21, 1864.—In this device the rear end of the tongue is bolted to a rod which is connected with the upper arm of an angular lever. The lower arm of the said lever is connected by a rod to a pole extending under the reach of the wagon, one end of the pole being attached by a bolt to an upright lever working upon a rod. The upper end of the said lever is attached to two rods secured under the reach to the brake bar, which latter is hung to a bar extending across and above the reach; the whole being so arranged that in descending a hill the holding back of the team causes the brakes to come in contact with the wheels, and when on level ground the brakes are released from such contact.

Claim.—The angular lever *f* in combination with the tongue *a*, the pole *h*, the attachment of the brake bar *n* under the reach of the wagon by the rods *p p*, to the cross-bar *y*, in the manner and for the purpose described.

No. 43,245.—MAURICE VERGNES, New York, N. Y.—*Portable Piano-forte.*—June 21, 1864.—The object of this invention is to reduce the size of the piano-forte and yet enable it to be sufficiently sonorous for parlor use. The strings are arranged in an iron frame, as usual. The hammers are placed under the keys, and, by a simple arrangement, are made to strike downwards, the strings being placed beneath, thus diminishing the space occupied by the exterior frame of the instrument, without materially lessening the sonorous parts.

Claim.—First, placing the hammer under the key, to leave more room for the sounding board, in the manner substantially as described.

Second, the arrangement of the stem E with the curved heel of the hammer, to make a quick stroke upon the string, in the manner described.

Third, the curve K, made in the stem, into which the point of the heel of the hammer catches, in the manner described and for the purpose set forth.

Fourth, the projection L, on the hammer, in combination with the lever M, to raise the damper at the proper time.

Fifth, sustaining the hammer in its position ready for the stroke by a band of gum elastic, placed in the manner described.

No. 43,246.—HERVEY WATERS, Northbridge, Mass.—*Roller Stand.*—June 21, 1864.—In this machine each end of the stand is composed of one solid piece of cast iron of an E-shape, between the upper and lower projections of which are the journal boxes of the rolls, the space between these projections allowing room for removing laterally, or changing the rolls. When the latter are in their places and ready for operation, the projecting arms are connected and strengthened by a strong bolt passing vertically through their outer ends, and secured by means of a screw-nut at either top or bottom.

Claim.—A roller stand constructed or organized substantially as and for the purpose specified.

No. 43,247.—HERVEY WATERS, Northbridge, Mass.—*Bayonet Blank.*—June 21, 1864.—This invention consists in swaging one end of a square bar of a suitable size into the proper shape for the shank, and cutting off from the remaining square part sufficient to make the blade.

Claim.—As a new article of manufacture, a bayonet blank having the disposition of its material substantially as described.

No. 43,248.—ZENAS WHEELER, San Francisco, and C. K. HOTALING, Grass Valley, Cal.—*Stamping Mill for Quartz.*—June 21, 1864.—This invention relates to a means employed for taking the powder and dust from the mortar chamber and conveying it to the deposit chamber: such means consisting of a blast generated by a fan arranged in connexion with a blast spout in such a manner that the dust will be taken from the mortar chamber and conveyed to the deposit chamber. In connexion with the mortar chamber and blast spout is a valve arranged in such a manner that by regulating the latter the quartz may be reduced to a greater or less degree of fineness. The dies are secured in the bed of the mortar at the lower part by means of flanges in the lower parts of the dies and recesses at the side of a groove, together with a wire fitting within a groove in the bottom of the dies and the bed.

Claim.—First, the combination of the fan L M, pipes N O, chamber P, spouts Q R, and mortar box C D, all constructed and arranged to operate in the manner and for the purposes specified.

Second, the valve S, arranged in relation with the mortar box and pipes N, substantially as shown, to regulate the strength of the blast in the mortar box, and consequently the degree of fineness or comminution of the quartz, as set forth.

Third, the securing of the dies I in the bed *m* of the lower part C of the mortar box by means of the flanges *o o* at the lower parts of the dies, the recesses *p p* at the sides of the groove *n*, and the wire *q*, fitting in a groove in the bottom of the dies and the bed *m*, substantially as described.

Fourth, the combination of the posts *a a*, socketed girts *e g*, shoulders *h h*, bed plate B, sockets *b b*, soft metal *c*, and keys *d d*, all constructed and arranged as herein described, to constitute an improved frame for stamping mills.

No. 43,249.—ALMON WILLIAMS, Berea, Ohio.—*Cultivator.*—June 21, 1864.—This invention consists in forming the frames to which the cultivator teeth are attached with slots in their centres extending longitudinally, and attaching the teeth to the same so that they can be adjusted one side or the other in the direction of the slotted frames. The frames are each made in two parts, hinged at their centres and at the ends to the side frames. The reach is also made adjustable, so that the frames may be extended more or less in a lateral direction.

Claim.—The adjustable reach F, the slotted hinged frames G H and M N, in combination with the teeth or cultivators and slotted hinges J, in the manner and for the purpose set forth.

No. 43,250.—JAMES A. WOODBURY, Boston, Mass.—*Slide Valve for Steam Engines.*—June 21, 1864.—This invention consists in providing four or more sets of inlet and exhaust ports, all of which are covered by one valve. This is effected by raising upon the top of the valve seat two walls, whose length is in the direction of the stroke of the valve. In the centre of these walls is a cavity which communicates with the ports leading to the cylinder; this cavity also communicates with the steam chest through apertures in the sides of the walls, which are four in number, and are all covered and controlled by the valve: thus, when the valve is in position to admit steam to one end of the cylinder, four ports are opened for that purpose instead of one, as is usually the case, and upon the shifting of the position of the valve to admit steam to the opposite end of the cylinder, two exhaust ports are opened, and the steam is allowed a more ready egress than with the ordinary valve.

Claim.—The balanced or nearly balanced slide valve, constructed and operating in connexion with the ports, substantially in the manner and for the purpose herein set forth.

No. 43,251.—ELIAS WYCKOFF, Elmira, N. Y.—*Soda Water Apparatus.*—June 21, 1864.—This invention consists in the arrangement of a force pump within the vessel containing the alkaline preparation, in combination with the refrigerating chamber and with a suitable lever and connexion rod, in such a manner as to admit of the pump being conveniently operated by the foot or hand, or any other means, the alkaline liquid being completely enclosed by the refrigerator chamber until discharged by the action of the pump.

Claim.—The arrangement of the pump C within the vessel B, in combination with the refrigerating chamber A and lever D. constructed and operating in the manner and for the purpose substantially as herein shown and described.

No. 43,252.—DARIUS C. BROWN and JOHN ASHWORTH, assignors to said D. C. BROWN, Lowell, Mass.,—*Shuttle for Machines for Knitting Loom Harness.*—June 21, 1864.—This invention consists in forming the shuttle with fluted delivery rollers controlled by a spring arranged to press one roller toward the other so as to insure a more even delivery of the twine and prevent its becoming twisted. Combined with the spool and the delivery rollers is a guard plate so arranged as to prevent a loop of the twine, as delivered loosely from the spool, from being caught by the roller, and also to afford a support for the guides. Within the shuttle chamber is an elongated eye, which is designed to cause the shuttle to measure off less twine than a circular eye in the middle of the shuttle, and to prevent the twine from being caught on the spool or getting out of place while the shuttle is moving.

Claim.—The shuttle as made with the fluted delivery rollers, controlled by a spring arranged to press one roller toward the other, the whole being as explained.

Also, the shuttle as made with the guard plate *h*, arranged between or combined with the spool and the fluted delivery rollers, and carrying the guide eye and hole, substantially as described.

Also, the combination and arrangement of the elongated auxiliary eye *m*, arranged within the shuttle chamber, and with respect to the eye *l* thereof, substantially as specified, with such eye *l* and an eye *i* and a pair of fluted delivery rollers *c d*, disposed in advance of the spool as hereinbefore set forth.

Also, the shuttle as made with the recesses and studs, arranged together, and with respect to the curved ends or noses of the shuttles, substantially as represented and described.

No. 43,253.—JAMES M. CONNEL, assignor to himself and H. ESHBAUGH, Newark, Ohio.—*Chain Pumps.*—June 21, 1864.—This invention consists in the application to the lower end of the hollow tubular shaft, through which the buckets pass as they ascend, of a metallic foot piece so constructed as to form a boxing for the lower end of the shaft, a valve seat for the valves and a flaring tubular shell mouth for receiving and properly directing the chain in its upward movement. The valves in the tubular shaft are constructed in such a manner as to open freely and allow the chain with its buckets to pass up through the shaft in elevating water, and at the same time to be suddenly forced down on their seats by the reaction of the water above them, thus preventing the shaft from "losing water" when the pump is not in operation. Directly above the valves is arranged a downwardly flaring throat for the purpose of allowing the said valves to open freely and causing the reflux of water above the valves to spread outwards and act simultaneously upon the upper surfaces of both valves and thereby force them down upon their seats previously to the seating of one of the buckets thereon.

Claim.—First, applying to the lower end of a chain-pump shaft a metallic boxing B′ C. so constructed that it forms an enclosing socket for the end of said shaft, and also an extension guard for protecting them from wear, and for centring the buckets, substantially as described.

Second, the flaring or bell-mouth metallic extension C, applied to the lower end of the tubular shaft B, and constituting the valve seat and foot stock of the pump, substantially as described.

Third, flaring or enlarging the lower extremity of the bore of the tubular shaft B, in combination with the valve chamber *b* and valve *g g*, substantially as described.

Fourth, constructing the periphery of the wheel G with laterally forward supporting lips, and vertically sustaining shoulders, adapted for receiving two links of a chain, having eyes formed at right angles to each other, substantially as herein described.

Fifth, the combination of the looped bucket links *d*, with a driving wheel G, having its periphery constructed substantially as described.

Sixth, the combination of the chain pulley J, with a metallic socket extension C B′, which also constitutes the valve seats of the valves *g g*, substantially as described.

No. 43,254.—AARON Y. CLOUGH, Clarkston, Mich., assignor to himself and NELSON W. CLARK.—*Straw Cutter.*—June 21, 1864; antedated June 18, 1864.—This invention consists in connecting the cutting apparatus with a double acting treadle in such a manner that by pressing upon the treadle with one foot the cutter is raised, and with the other foot the knife is forcibly brought down, thus leaving the hands at liberty to arrange the straw and feed it to the cutter.

Claim.—The arrangement and combination of the devices D H J and L, as herein described, for the purpose set forth.

No. 43,255.—J. S. CANNON, assignor to himself, ANDREW J. CUTLER and ELIAS M. HANOVER, New Haven, Conn.—*Frames for Pictures, &c.*—June 21, 1864.—This invention consists in making the picture frame of sheet metal, with a recessed back and sliding front, so as to allow of sufficient depth for the picture, and provided with strips conveniently folded and having a loop support, to be used in sustaining the frame on a flat surface, or so that it can be suspended.

Claim.—First, constructing a picture frame from a single strip of metal, when the angles are formed in the manner substantially as described.

Second, the combination of a link or loop with the back of a picture frame, when arranged substantially in the manner described to serve the double purpose herein set forth.

Third, a recessed back, constructed in the manner substantially as described, in combination with a metallic picture frame, in the manner and for the purpose specified.

No. 43,256.—JAMES M. CONNEL, Newark, Ohio, assignor to himself and H. ESHBAUGH.—*Chain-pump Chain.*—June 21, 1864.—This invention consists in constructing the bucket links of a pump chain so that they shall have two thicknesses of metal or wire throughout their length, the ends of such metal or wire being united by and within the solid body which forms the bucket, in such a manner that while the bucket ties the ends of the link together, the ends of the link serve as a firm support and hold-fast to the bucket.

Claim.—First, a chain-pump chain link A, constructed with lugs or bent portions *a a*, substantially as and for the purpose set forth.

Second, tying the ends of a chain-pump chain link together by means of buckets C cast about the middle portion of the link, substantially as set forth.

Third, a chain-pump bucket link A *a a* C, constructed substantially as and for the purpose described.

No. 43,257.—CHARLES DEAVES and ELLIS S. ARCHER, assignors to ARCHER and PANCOAST, New York, N. Y.—*Lantern.*—June 21, 1864.—This invention is designed as an improvement upon a lantern for which a patent was granted to Charles Deaves, April 28, 1863, and it relates to a method of securing the burner in the lamp whereby the use of the ordinary screw for that purpose is avoided, and the burner rendered capable of being adjusted so as to admit of the shaft, by which the wick is raised and lowered, being placed in proper position to admit of the lantern being closed down on the lamp. In the top of the lamp is a sunken annular groove surrounding the burner for the purpose of preventing the overflow of the lamp while the latter is being filled, and also to admit of the burner having a low position so that the wick-adjusting shaft may rest upon the top of the lamp and aid in securing the burner in the lamp. At each side of the bottom of the lantern is a corrugated apron for the purpose of equalizing the supply of air to the burner, preventing heavy drafts, &c.

Claim.—First, the fastening composed of the bail-shaped rod or wire B, and projection *c*, constructed and applied in the manner substantially as and for the purpose herein set forth.

Second, the sunken annular groove *h*, in the top of the lamp A, surrounding the burner for the purpose of preventing the overflow of oil while the lamp is being filled, and also to admit of the shaft D resting on the top of the lamp as specified.

Third, the hook or lip *f*, or its equivalent, on the top of the lamp A, when used in combination with the shaft D, for the purpose specified.

Fourth, the corrugated aprons E, applied to the bottom of the lantern A′, in relation to the lamp A, substantially as and for the purpose set forth.

No. 43,258.—HENRY LIEBERMANN, assignor to himself and GEORGE ROCK, Paducah, Ky.—*Apparatus for Tanning Hides.*—June 21, 1864.—This invention consists of a revolving platform upon which is mounted a circular tank containing the tanning liquid, to which platform is suspended an open frame work or basket. Frames are also provided upon which the skins are stretched. These frames are placed in the baskets underneath the platform, and the latter is revolved by suitable machinery.

Claim.—First, the platform B, revolving on the top of the tank or vat A, and carrying the open box D, in combination with frames E E′, on which the hides or skins are stretched, substantially as and for the purpose shown and described.

Second, the employment or use of movable baskets E*, in combination with frames E E′, box D, revolving platform B, and tank A, constructed and operating in the manner and for the purpose substantially as set forth.

Third, the frames E E′, arranged with cross-bars *e e**, *e′ e′**, longitudinal bars *g g′*, standards *f f′*, and double side and end rails, substantially as and for the purpose specified.

No. 43,259.—SAMUEL M. PERRY, Brooklyn, N. Y., assignor to EDWARD S. RENWICK, New York, N. Y.—*Breech-loading Pistol.*—June 21, 1864.—This invention relates to that class of fire-arms having a short barrel with the bore extending entirely through, and pivoted at the centre, so as to be capable of being turned, and either end being used as the breech or muzzle; and the invention consists in slightly enlarging each end of the barrel for the reception of a metallic cartridge. As the empty shell of the cartridge is left in the chamber after each discharge, the alternate loading and reversal of the other end causes the ball each time to drive out the empty shell from the muzzle.

Claim.—The combination of a barrel, having a chamber at each end of larger diameter than the calibre of the bore intermediate between the chambers, with the lock-frame, by means of a pivot, said combination operating substantially as set forth.

No. 43,260.—SAMUEL M. PERRY, Brooklyn, N. Y., assignor to EDWARD S. RENWICK, New York, N. Y.—*Breech-loading Pistol.*—June 21, 1864.—This fire-arm is provided with a short barrel open at each end, and is pivoted so as to turn upon its central part, and bring either end of the barrel to the breech face of the stock; and the novelty consists in giving the said breech face a concave spherical surface, concentric with or equidistant from the axis of movement, whereby the metallic cartridge is uniformly supported around its flange or edge by the said breech. A mutually re-entering circular flange or hub is formed around the pivot upon both the stock and the lower part of the barrel at its middle, upon which the said barrel turns.

Claim.—The combination of a barrel, swinging on a pivot in advance of the abutment of the lock frame, with a cup-formed abutment to sustain the cartridge, the combination operating substantially as set forth.

Also, the combination of the swinging barrel of a fire-arm with the lock-frame or stock, by means of a counter-bored hub on the one and a smaller hub on the other, the two operating substantially as set forth.

No. 43,261.—ROBERT G. PIKE, Middletown, Conn., assignor to NICHOLAS PIKE, Brooklyn, N. Y.—*Fire Escape Ladder.*—June 21, 1864.—This invention consists in constructing a ladder in sections, which, when folded together, assumes the form of a chair. The arms of the chair are used as hooks or fastenings to be attachedto the window sills; the sections being additionally supported by cords or ropes.

Claim.—First, dividing a ladder into sections and joining them by hinges, or any similar joint, in such a manner that the sections may be folded flat upon each other into the form of a seat or chair, substantially as described.

Second, forming and attaching the arms together, and to the chair or ladder, in such a way that they may be used for hooks to sustain the ladder.

Third, the application of one or two ropes to a ladder, substantially in the manner and for the purpose as described.

No. 43,262.—J. H. QUICK, assignor to H. R. WITHINGTON and JOHN BUTTERWORTH, jr., Trenton, N. J.—*Threshing and Grain Separating Machine.*—June 21, 1864.—This invention consists in the employment of a spout or air passage placed immediately over the machine, with a hinged board hanging directly in front of the cylinder, for the purpose of conducting the dust through this passage and protecting the operator from the same. The said spout contracts from its opening immediately in the rear of the cylinder, and again enlarges at the rear or discharge end.

Claim.—The air passage, contracted in its central portion, in combination with the pendent guard or apron D, constructed and operating as set forth.

No. 43,263.—CONRAD RODER, Ceralvo, Ky., assignor to himself and KONRAD FROEHLICH, Philadelphia, Penn.—*Power Loom.*—June 21, 1864.—This invention consists in an arrangement of devices for operating the heddles entirely from above, the space below being left entirely clear. The pattern chain, hooks, and knives are so situated and arranged as to dispense with the jacks commonly used above and below the harness. The guides in which the heddle frames slide have provision made for increasing or decreasing the number of frames as required, the same consisting of a hinged swinging side, the opposite side or support being adjustable by screws and slots.

Claim.—First, the attachment of the hooks D D directly to the heddle frames, substantially as and for the purpose herein specified.

Second, the arrangement of the pattern chain N, or its equivalent, the knives E E′, and levers F F* and G G*, in combination with the heddle frames and their directly attached hooks D D, whereby the harness is operated entirely from above, substantially as herein specified.

Third, the combination of the cam H, levers J K, rod *j*, spring *k*, and rods *i i**, the whole arranged in connexion with the levers F F*, to operate substantially as and for the purpose herein set forth.

Fourth, the hinged guides S S and adjustable guides T T, in combination with each other and with the guides R R, for guiding the heddles, substantially as and for the purpose herein specified.

No. 43,264.—WARREN A. SIMONDS, Boston, Mass., assignor to himself and S. G. B. COOMBS, South Reading, Mass.—*Apparatus for Carbonizing Air for Illuminating Purposes.*—June 21, 1864.—This apparatus is composed of a cylindrical chamber divided by cross partitions, each alternate partition being partially open at the top and at the centre, so that the air to be carbonized will pass through the first partition near the top, and the next at the centre. In the cylinder is a series of wheels, formed by radial arms, bearing ropes or thread to absorb and carry up the hydro-carbon liquid which is contained in the lower part of the chamber. The air is carbonized as it is forced through the moistened wick or rope carried by the wheels.

Claim.—The cylindrical vessel or reservoir divided into chambers, with partitions arranged and constructed as herein set forth and described.

Also, the construction and arrangement of a sectional wheel when operated as herein specified.

No. 43,265.—GEORGE A. STEARNS, Rochester, N. Y., assignor to himself and ELIJAH VALENTINE, Milwaukie, Wis.—*Lightning Arrester for Telegraphs.*—June 21, 1864.—This invention consists in the use of charcoal, powdered glass, powdered amber, or equivalent substances, between the air and ground lines, these substances being pervious to the atmospheric electricity, and not to the current used for the telegraph.

Claim.—Establishing a communication between the line circuit of an electric telegraph and the earth by the use of charcoal, powdered glass, powdered amber, powdered sulphur, or other equivalent substance, when brought into contact with such line circuit by means of a suitable apparatus, for the purpose of discharging from the wire all atmospheric electricity before it can be communicated to the registering apparatus, substantially in the manner herein represented and described.

Also, when charcoal, powdered glass, powdered amber, powdered sulphur, or other equivalent substance, is employed for the purpose above indicated, and in substantially the manner herein described, inserting therein metallic rods or wires, in the manner and for the purpose herein represented and described.

No. 43,266.—GEORGE C. TAFT, assignor to THOMAS H. DODGE, Worcester, Mass.—*Copying Press.*—June 21, 1864.—This invention consists in the employment of a thimble-shaped nut turning in the cross bearing, the platen being raised and lowered in the usual manner, so that when the screw is worn it can be replaced by a new thimble or screw with comparatively little trouble or cost.

Claim.—The combination of the handle piece G and the thimble piece F with the arch piece C and screw spindle E, substantially as set forth.

No. 43,267.—ALBIN WARTH, Stapleton, N. Y., assignor to EBERHARD FABER, New York, N. Y.—*Machine for Cutting Lead Pencils.*—June 21, 1864.—The object of this invention is to cut lead pencils to a given length after they have been finished and polished, so as not to mar or soil the wood of the pencil; and it consists in feeding the pencils horizontally from a hopper upon a revolving carrier provided with slotted heads, which receive and carry the pencils singly to circular saws or knives, that cut the ends smoothly and carry them around underneath the cylinder and deliver them upon a driving belt, which carries them forward and delivers them into a receiving box ready for packing. Two grinding wheels are also employed, so arranged that when the machine is in motion they will revolve and be brought in contact with the revolving knives and saws and keep them sharp.

Claim.—First, a machine constructed, arranged, and operating substantially as herein described, for cutting off the ends of lead pencils.

Second, the oscillating flap C at the bottom of the hopper box B, constructed and operating substantially as herein described, so that the pencils in the hopper box are agitated without having their varnished surfaces tarnished.

Third, the India-rubber fingers e' arranged at the bottom of the hopper box B, for the purpose of compelling the pencils to pass singly into the sockets of the carriers.

Fourth, the carriers E, with sockets $f4$ and lips $f5$, in combination with hooks e at the lower ends of the plates D, constructed and operating substantially as herein described, so that one pencil after the other is taken from the hooks and deposited in the sockets $f4$.

Fifth, the combination of the adjustable heads E′ with the carriers E, so that said carriers can be adjusted for pencils of different length.

Sixth, the concave cutter I, in combination with the springs j' and with the carriers E, constructed and operating in the manner and for the purpose substantially as herein shown and described.

Seventh, the oscillating grinding wheels J, applied in combination with the cutters I or saws I′, in the manner and for the purpose substantially as set forth.

No. 43,268.—L. B. WATERMAN, assignor to himself, E. W. SIMONDS, and P. A. FISCHER, Chicago, Ill.—*Cultivator.*—June 21, 1864.—This invention consists in connecting the pendent cultivator frames by means of elevated standards at the rear end, in connexion with two parallel pivoted bars, so applied that either section may be elevated at pleasure. The two inner cultivator teeth are attached to rocking beams, and connected by standards and a pivoted bar. The two frames may be operated upon at either side by levers actuated by the feet of the driver.

Claim.—The braces T T and jointed bars T1 T2, in combination with the pendent shovels N, when arranged and operating as set forth.

Second, the auxiliary wheeled supports R at the rear end of pendent shovel frames M, in combination with the main supporting wheels C C, substantially as and for the purpose set forth.

Third, the combination of the half rolling beams *f* with the pendent frames M and auxiliary supporting wheels R, substantially as and for the purpose set forth.

Fourth, the combination of the jointed brace T T1 T2, pendent shovel frames M, half rolling beams *f*, and foot lever *i* and hand levers O P, substantially as and for the purpose set forth.

No. 43,269.—ROBERT CRANSTON, Edinburgh, Scotland.—*Washing Machine.*—June 21, 1864; patented in England September 17, 1862.—This machine is composed of a reel or drum formed of two disks mounted on a horizontal shaft, near the periphery of which disks are placed at short distances apart a series of rods. In front of the box is a washing trough, in which is a partition extending across and forming a water-tight compartment, and near the lower part of the partition is an outlet for conducting the water from clothes back into the trough. Along the bottom of the trough is an inclined gutter or groove for receiving the sediment resulting from the washed clothes Over the gutter is a perforated cover, to prevent the clothes from coming in contact with the sediment. Projecting above the reel or drum are side pieces, in which are arranged corrugated rollers, and also brushes, which are made to press upon the reel by means of elastic bands, for the purpose of rubbing and squeezing the clothes as the reel is rotated.

Claim.—First, the reel or drum C, constructed and operated in the manner and for the purpose substantially as herein set forth.

Second, the combination of the box F, with its two outlets, the trough E, and the gutter G, with its perforated cover *g*, substantially as and for the purposes specified.

Third, the combination of the reel C, the roller or "knucklers" I, and the brushes J, arranged substantially as specified.

No. 43,270.—J. J. L. ROUSSEAU DE LAFARGE, Paris, France.—*Apparatus for Obtaining Photographic Pictures.*—June 21, 1864.—This invention consists in providing a convenient box to hold the glass plates and requisite bottles. On the outside of this box two bath receptacles, one for the sensitizing silver solution, and the other for the developing, are hung by hinges. In addition to the above, a plate shield, adapted to drop the plates into the baths without exposure to the light, is carried separately, or with the camera.

Claim.—First, the internally-grooved box for carrying the glasses, in combination with compartments at the back thereof for holding the bottles.

Second, in combination with the double glass and bottle box, the pintles and gudgeons on the sides thereof, for the attachment thereto of two vertical and independent bath vessels, one lined with rubber, or the equivalent thereof, to contain the silver bath for sensitizing the damp collodion, the other made or lined with yellow glass, to contain the iron bath for developing the picture.

Third, combining with each vessel a hinged flap, provided with a rubber or rubber-lined stopper and screws, to form a secure and hermetic joint, substantially as set forth.

Fourth, the construction of the principal or outer frame, with plunging frame or nipper, and doors provided with springs for keeping the glass in position.

Fifth, the arrangement of the springs in the flap, and their combination with an outside knob and trigger, so that the springs may be withdrawn from off the surface of the glass, or released at pleasure, substantially in the manner and for the purposes set forth.

No. 43,271.—JOHN HARRIS, London, England.—*Lever Paddle.*—June 21, 1864.—This invention relates to an arrangement of lever paddles, rollers, rocking frames, and fulcrums, for the purpose of obtaining a greater percentage of propelling power than that of the propellers of ordinary construction, and which may be used for the propulsion or for the steering of vessels, by causing a paddle so to act as to give the inertia of the water a greater purchase, and by bringing the paddle into and from the water with as little resistance from, or disturbance to, the water as possible.

Claim.—The combination of the slotted brackets *k m* and reciprocating pivots *l j* with the slotted handle F of the paddle E, with the working beam H and rock shaft I, all constructed and operating in the manner and for the purpose substantially as herein set forth.

No. 43,272.—WILLIAM HENRY HOOK, Walworth, England.—*Device for Folding Envelopes.*—June 21, 1864.—This invention consists in the arrangement of a skeleton form of thin metal, covered with cloth or some absorbent material, which is kept wet and pressed upon the cut envelopes in the lines desired for the fold, after which the folding is finished by hand.

Claim.—Marking or impressing moistened lines on paper, for the purpose of facilitating the process of folding, and the machinery and apparatus employed therein, as described and illustrated in the accompanying four sheets of drawings, or any modification thereof.

No. 43,273.—EDWARD R. C. MORGAN, Mumbles, South Wales, assignor to ABRAHAM MORREL, New York, N. Y.—*Anchor.*—June 21, 1864.—This invention consists in the arrangement of two flukes hinged to the anchor shank by separate bolts independently of each other, and connecting the two flukes together by means of a segment passing through a slot in the shank.

Claim.—Connecting the two flukes of an anchor, hinged to the shank by separate bolts, by a curved bar G passing through a suitable hole *h* in the shank, in the manner and for the purpose substantially as described and set forth.

No. 43,274.—WOLDEMAR RASCHETTE, St. Petersburg, Russia, assignor to ALEXANDER TRIPPEL, New York, N. Y.—*Blast Furnace.*—June 21, 1864; patented in Russia February 22, 1862.—This invention consists of a blast furnace, the hearth of which, when bisected by a horizontal plane, presents a long, narrow rectangle, the two short sides of which are to be used as working sides, and its two long sides for two or more rows of tuyeres, the long and short sides increasing gradually from the hearth up to a point near the throat in such a manner that a steady and gradual descent of the charges from the throat to the hearth is affected, and the ore, fuel and fluxes, as charged in horizontal layers made to preserve the same relative position towards each other while descending from the throat to the hearth of the furnace. Under the bottom and through the walls of the furnace are arranged one or more fireplaces and flues in such a manner that a uniform and quick heating of the external walls of the furnace, during the erection of the same, and, particularly, previous to lighting the charge in its interior, can be effected. In place of, or in combination with, the tuyeres may be used slotted air chambers for the purpose of reducing the cost of the mechanism used for introducing the blast into the furnace.

Claim.—First, a blast furnace A, the hearth of which, when bisected by a horizontal plane, presents a narrow, long rectangle, the short sides of which are to be used as working sides, and the two long sides for two or more rows of tuyeres, and whose long and short sides increase gradually from the hearth up to a point near the throat, substantially in the manner and for the purposes herein shown and described.

Second, the employment or use, in combination with a long rectangular hearth, of a double row of tuyeres, each tuyere being placed so as to be between two of the opposite side, in the manner and for the purpose substantially as specified.

Third, the arrangement of one or more fireplaces, and a series of fire-flues under the bottom and through the walls of the furnace A, constructed and operating in the manner and for the purpose substantially as set forth.

Fourth, the slotted air-chambers, substituted for or in combination with the tuyeres and applied to the furnace A, substantially as and for the purpose described.

No. 43,275.—WILLIAM TILESTON, Georgetown, D. C.—*Holster.*—June 21, 1864.—This invention consists in attaching to the holsters of pistols a wiper for cleaning the inside of the barrels and the chambers thereof. The pocket for containing the pistol is provided with a flap covering the mouth of the holster and at the same time securing the wiper placed in a sheath attached to the outside of the holster.

Claim.—The attachment of the wiper E E and the sheath D D to the holster A, substantially as described.

No. 43,276.—RODNEY W. and SAMUEL ACKLEY, Lima, Mich.—*Wheel Vehicles.*—June 28, 1864.—Upon the front axle is arranged a rest *d*, over which the bolster plays with a horizontal circular motion. The rear ends of the hounds are connected together by the segment of a cog-wheel, which segment gears into two pinions that form the heads of the screws *s*, the threads of the two screws being cut in opposite directions. The said screws are connected by rods to the rest *d*, so that in turning the tongue to one side or the other the axle will be placed in an oblique position, and so acted upon as to facilitate the short turning of the vehicle without jostling the tongue.

Claim.—The screws *s*, the nuts *o*, the rods *t*, and the rest *d*, the whole constructed, arranged, and operated in the manner and for the purpose substantially as herein set forth.

No. 43,277.—JOSEPH ADAMS, Janesville, Ill.—*Washing Machine.*—June 28, 1864.—This invention consists in the employment of pressure rollers connected with a lever frame and used in connexion with a double-inclined clothes board fitted in a proper suds box having cleats secured to the inner surfaces of its ends: the lever frame being employed in connexion with upright guides, and all so arranged as to subject the clothes to both a rubbing and squeezing operation.

Claim.—The employment or use of a double-inclined board B, in connexion with the two rollers F F, arranged with the yielding bars E E, lever frame D, uprights *d d*, and bar C, or their equivalents, to operate in the manner substantially as and for the purpose set forth.

Also, the slats *c*, at the ends of the suds box A, as and for the purpose specified.

No. 43,278.—THOMAS B. ATTERBURY, Pittsburg, Penn.—*Kiln for Annealing Glass.*—June 28, 1864.—This invention consists in constructing the kiln with a depressed arch having inlets and outlets for the glass, and combining with the same an endless close carriage and circular railway. The said arch is depressed near the chimney, and the kiln is so constructed as to subject the glass to an intense but nearly uniform heat, and afterwards to a gradually cooling process in leaving the point where the chimney flue is located.

Claim.—First, a leer or kiln for annealing glassware constructed with the depressed arch, having inlets and outlets for the glass, combined with the endless close carriage and circular railway, substantially as described.

Second, depressing the circular arch at or near the chimney E, substantially in the manner and for the purposes described.

Third, a leer for annealing glassware, which is so constructed that the ware is subjected to an intense but nearly uniform heating process in passing through one portion of the annealing chamber of the leer, and is then subjected to a gradually cooling process in leaving the point where the chimney flue is located, substantially as described.

No. 43,279.—JAMES E. ATWOOD, Trenton, N. J.—*Washing Roller.*—June 28, 1864.—This invention consists in the combination of two rollers with a suitable frame and a shield for the purpose of forming a hand rubber for washing clothes.

Claim.—The arrangement and combination of the handle A and rollers D D′ with the end pieces B B′, also the arrangement of the shield C, all substantially as described for the purposes set forth.

No. 43,280.—THEODORE BAKER, Stillwater, N. Y.—*Self-acting Felt-guide for Paper-making Machines.*—June 28, 1864.—This invention consists in the employment of two adjustable cams which are attached to the tops of posts on opposite sides of the frame, and having their edges rounded upward to facilitate the passage of the felt beneath them. The guide-roll is journaled in universal journal boxes pivoted on and supported by arms at each side, so that as the felt cloth moves over the rolls the cams are adjusted to felts of different widths by bringing up the narrow or wide part of the cam to the edge of the felt, thus forming a self-acting guide.

Claim.—The cam A, and journal box B, when used in connexion with the guide-roll C, as a self-acting guide for felt cloths and wire cloths of paper making and other machinery, in its passage over the rolls, in the manner described and for the purpose specified.

No. 43,281.—WILLIAM BAKER, East Templeton, Mass.—*Tool for Riving Splints.*—June 28, 1864.—This invention relates to that class of tools which are used for the purpose of making splints for baskets, chair bottoms, &c.; and the novelty consists in providing a tool-stock in which the splitting knife is placed and made adjustable by means of set screws so as to split a thicker or thinner splint. The edge of the knife is bevelled so as to produce an angular cut, and the stock is drawn forward over the stuff to be split by a yoke, an adjustable fence being provided in the recess or cutting space so as to change the place of cut on the knife.

Claim.—First, the wedge-shaped knife B, with an oblique or square cutting edge, and made adjustable in the stock A, substantially in the manner and for the purpose specified.

Second, the adjustable face or sole C, in combination with the stock A and knife B, constructed and operating in the manner and for the purposes substantially as herein specified.

No. 43,282.—JOHN BALDWIN, St. Paris, Ohio.—*Rake for Harvesters.*—June 28, 1864.—This invention relates to that class of raking devices commonly called automatic, and it consists in the arrangement of a series of devices designated in the claim for operating the rake, whereby the cut grain may be readily raked from the platform and the gavels deposited evenly on the ground to facilitate the operation of binding. Over the rake is placed a roller arranged in such a manner as to prevent the rake, when on the platform, from interfering with the cut grain being properly deposited thereon.

Claim.—First, the crank wheel G, connected with the toothed wheel E, by means of the clutch *b*, the swinging arm N. pitman O′, and shaft P, to which the rake is attached, all being arranged as shown, to communicate a reciprocating motion to the rake, as set forth.

Second, the bent lever R, in connexion with the segment ledge V, spring *l*, and shaft P, with the rake pivoted to the latter, and all arranged to operate in the manner substantially as and for the purpose specified.

Third, the placing of the rake head U in a tube T having a longitudinal slot *p* in its under side, substantially as and for the purpose set forth.

No. 43,283.—A. T. BALLENTINE, New York, N. Y.—*Fire Escape.*—June 28, 1864.—This invention consists of a ladder combined with one leaf of a window shutter so as to be concealed within it, being slid up within it by means of a wrench, and allowed to slide down to the ground whenever a catch is released. The catch or locking apparatus is connected to a false window sill in such a way as to draw it out and make it project from the sill as soon as the ladder is released from the shutter, and thus furnish a platform from which to reach the ladder.

Claim.—First, the combination of a sliding ladder with an outside shutter, which is made to contain it when folded, and a main shutter, substantially as shown.

Second, locking the sliding ladder when folded in its case by means of the stump D, constructed and operating substantially as shown.

Third, the sill C and its sliding platform, constructed substantially as shown.

Fourth, the system of toggle joints *s* and *u u* to move the sliding platform out, substantially as described.

Fifth, the false hinge O and its shank *q* operated by means of the outside shutter, substantially as described.

No. 43,284.—FORDYCE BEALS, New Haven, Conn.—*Breech-loading Fire-arm.*—June 28, 1864.—In the construction of this arm the breech is caused to slide forward by a link connexion with the trigger-guard lever, the cartridge being held by lugs on the stationary breech, and the novelty consists in operating a spring lever by the trigger-guard lever for throwing out the cartridge case when the barrel is moved forward, and also in setting the hammer at half cock by the same movement, by means of a hooked link connected with the trigger-guard lever.

Claim.—First, the combination and arrangement described of the lever L and spring lever P, for the purpose specified.

Second, the combination and arrangement described of the lever L, hook O, and hammer, for the purpose specified.

No. 43,285.—FRANKLIN H. BROWN, Chicago, Ill.—*Sewing Machine.*—June 28, 1864; antedated June 18, 1864.—In this device the face plate E is placed vertically, and forms the lower front part of the frame of the machine, serving also as a support to the bed plate. In the face plate is sunk a ring or wheel C secured to a shaft and made level with the surface of the face plate. The lower end of the carrier is restricted in its horizontal motion by a stationary pin *x* fitted to work in a slot in the carrier, so as to cause the shuttle at the upper end of the carrier to take the proper direction for avoiding the twisting of the thread while the latter is running from the shuttle. Attached to an eccentric upon a shaft D is the feeding bar F, being held in position by means of a screw. Immediately behind and parallel with the feeding bar is a sliding piece I, and to the rear of the face plate is fastened a lever provided in the centre with a short slot, in which is placed a fulcrum for the purpose of being moved up or down to change the length of the stitch.

Claim.—First, the combination and arrangement of the feed bar F, the eccentric *m*, the fulcrum *v*, and the lever G, slide I, and dovetailed race H, arranged and operating substantially as shown and described.

Second, the combination and arrangement of the shuttle carrier A sliding upon the pin *x*, the wheel C, and face plate E, operating as and for the purpose specified.

No. 43,286.—J. D. BURDICK, Ashway, R. I.—*Clamp for Clothes Wringers.*—June 28, 1864.—This invention is designed more especially as an improvement upon the fastening of a wringer for which a patent was granted to D. W. Swift, January 28, 1862, and it consists in the combination with the wringer and clamp of a vertical hinge extending from the top to the bottom of the clamp frame, for the purpose of affording more complete adjustability without impairing the strength of the attachment.

Claim.—The combination of the wringer frame A, screw clamp *a* B C, and hinge D, when the said hinge extends from top to bottom of the clamp frame, and the various parts are constructed, arranged, and employed in the manner herein shown and described.

No. 43,287.—CHARLES BURNHAM, Springfield, Mass.—*Bottoms of Wash Boilers.*—June 28, 1864.—This invention consists in constructing wash boilers with corrugated bottoms, and with a flat edge or lip around the outside of the corrugations, by means of which the body of the boiler may be firmly and smoothly fastened.

Claim.—As an article of manufacture, a bottom for boilers made of sheet metal and corrugated, but with a plain margin or lip surrounding the corrugations, as hereinbefore set forth.

No. 43,288.—L. H. CASTOR, Eddington, Ill.—*Corn Plough.*—June 28, 1864.—This invention relates to that class of cultivators that are made to stride the rows of corn, and the invention consists in the arrangement of devices for giving a lateral movement to the ploughs to conform to the sinuosities of the rows of corn, which is effected by means of bent levers and treadles operated by the driver in his seat. The ploughs can be elevated from the ground when necessary by means of a rock shaft placed immediately under the driver's seat, to which is attached a lever connected with the rectangular frame by links.

Claim.—First, moving the standards *i i* of the ploughs I laterally by means of the bail-shaped bar J, bent levers K K, and treadles L L, all arranged substantially as herein set forth.

Second, the combination of the bars C C, frame D, driver's seat E, rock shaft F, links *d d*, and levers G *c*, all constructed, arranged, and employed, substantially as described, for raising the ploughs when required.

No. 43,289.—HORACE H. CHITTENDEN, New Haven, Conn.—*Braiding Attachment for Sewing Machines.*—June 28, 1864.—This invention consists in laying and sewing braid or cord upon the surface of cloth in zig-zag lines by means of a rocking thread carrier, which also receives a movement to and from the needle through the medium of a curved slotted guide. These devices may, when not wanted, be thrown out of action, and the machine be used for ordinary sewing.

Claim.—First, the spindle *a*, with one or more fingers *b c*, and guide *f*, when the same are made to operate in combination with the needle of sewing machines and its operative mechanism, substantially as and for the purpose specified.

Second, the combination and arrangement described of the spindle *a*, segmental guide *f*, and yoke *i*, or its equivalent, substantially in the manner and for the purpose herein set forth.

Third, the lever 7, pins 10 and 11, and dogs 14 and 15, when the screws are combined and arranged to operate together, substantially in the manner specified.

Fourth, the lever 7 and slide 4 in combination with the fingers *b c*, substantially in the manner and for the purpose described.

No. 43,290.—C. A. CLARK, Pulaski, Iowa.—*Washing Machine.*—June 28, 1864.—This machine is composed of a series of devices designated in the claim, by means of which it is designed to wash and rinse the clothes in several successive supplies of water, or, if desired, in constantly running water, without removing the clothes from the machine.

Claim.—The combination of the box A, lever C, rod D, plunger E, perforated bottom G, spigot I, vertical strips L, and hook J, constructed, arranged, and operating in the manner and for the purpose specified.

No. 43,291.—E. B. COFFIN, Olneysville, R. I.—*Elevating and Transporting Device.*—June 28, 1864.—This invention relates to an apparatus for elevating and transporting articles from place to place, and is more especially designed for building stone walls in which large stones are used, the stones being elevated by the device from the ground and carried in a suspended state to the wall in course of construction and deposited thereon.

Claim.—The curved bar or beam E mounted on wheels and provided with a windlass composed of the shafts O H, connected by the gearing M N, and operated through the medium of the gearing I J, crank K, and pawl L, in connexion with the brake or strap W attached to the foot lever Y, and the pawl R, and lever S, or their equivalents, all arranged to operate substantially as and for the purpose specified.

No. 43,292.—CHRISTOPHER COREY, Lima, Ind.—*Mode of Preventing the Potato Rot.*—June 28, 1864.—This invention is based upon the supposition that the exciting cause of the potato disease is found in the action of certain animalcules, mites or insects, and these animalcules may be destroyed before they begin their ravages. The invention consists in exhausting the air from the potatoes and subjecting them to gases destructive of animal life.

Claim.—The invention of counteracting and remedying, in the tubers themselves, the potato rot, as a specific disease, caused primarily by insects and animalcules, and secondly by the infectious fluid and gases of the potatoes thus affected, by the direct destruction of the former, and by the timely regulation or removal of the latter, substantially as herein set forth.

No. 43,293.—GEORGE CUSTER, Monroe, Mich.—*Horseshoe.*—June 28, 1864.—This invention consists in making the lower surface of the shoe smooth and plain and without the ordinary groove, but countersinking the outer portion of the nail-holes, so as to receive a portion of the nail-head therein.

Claim.—A horseshoe constructed in the specific manner herein represented and described.

No. 43,294.—JOSEPH DALTON, Brooklyn, N. Y.—*Stop-motion for Knitting Machines.*—June 28, 1864.—This invention consists in the employment of a movable hinged piece sunk in the body of the spool, and having a tendency to fly outward from the pressure of a spring, if one be used, (if not, by centrifugal force,) is held down by the coils of yarn; when the spool becomes empty, the said hinged piece comes in contact with an arm, through which the belt shipper is unlocked.

Claim.—Furnishing the bobbin of a knitting machine with a movable piece *b*, applied to operate substantially as herein described, for the purpose of unlocking the stop-motion when the yarn gives out.

No. 43,295.—GEORGE W. DAY, Charlestown, Mass.—*Boot and Shoe.*—June 28, 1864.—This invention consists in attaching the soles of boots and shoes by means of pegs made of thread, which is stiffened by passing it through liquid glue or other similar substance, and afterwards reduced in size by compresson.

Claim.—As a new article of manufacture, a boot or shoe, having a construction substantially as specified.

No. 43,296.—THOMAS DOLAN, Albany, N. Y.—*Safe.*—June 28, 1864.—This invention consists in casting the shell of the door of a fire-proof safe with a chamber projecting outwards from the same, in which is placed the lock for further protection.

Claim.—The casting of the shell of a fire-proof safe door with an offset or chamber A, to receive the lock C, substantially as and for the purpose herein set forth.

No. 43,297.—JOHN P. ELLIS, Flushing, N. Y.—*Window Sash Fastening.*—June 28, 1864.—This device consists of a metallic case let into the stile of the sash, within which are two short arms that turn on pivots and project outwardly, being each connected at their outer extremities by a hinge joint to a plate that slides in grooves formed in the edge of the case. These arms are maintained in a horizontal position parallel to each other by means of springs. A catch attached to a spring is let into the jamb, and is forced out to lock the sash in any position desired, and when the sash is closed it is rendered self-locking.

Claim.—The combination of the hinged plate F and slide G with the spring catch B, substantially in the manner herein shown and described.

Also, the combination of the plates F and slides G, one or more of each, with the frame E, all constructed and operating substantially in the manner herein shown and described.

Also, the employment of a yielding holding surface F, or its equivalent, with the holding catch B, substantially in the manner herein shown and described.

No. 43,298.—JOHN ERICSSON, New York, N. Y.—*Gun Carriage.*—June 28, 1864.—This invention consists in operating the gun carriage by a hand crank through a system of gearing connected with the axle of the forward truck wheels. The recoil of the gun is controlled by means of a series of adjustable longitudinal friction plates beneath the carriage, fitting between a corresponding series of longitudinal bars or timbers in the chassis or platform on which the carriage runs; the said metallic plates of the carriage being so governed by a hand screw and gripping levers as to be made to clasp the interposed timber of the chassis with any desired degree of compression.

Claim.—First, providing for the working of a gun carriage by securing two of its trucks firmly to a revolving axle, and combining the said axle with a system of toothed gearing attached to the carriage, substantially as herein specified.

Second, the employment for producing the friction necessary to check the recoil of a gun carriage, or hold it securely in any position, of a system of metal plates and a system of interposed timbers, the one attached to the carriage and the other to the bed or platform upon which it works, substantially as herein described.

Third, the compresser, composed of two levers M M′, and a screw shaft P, with collars Q *k*, and a nut N, applied and operating in combination with the check plates K K, and friction timbers L L, substantially as herein specified.

No. 43,299.—William H. Fay, Chester, Mass.—*Apparatus for Exhibiting Photographs.*—June 28, 1864.—This apparatus consists of a table in which is placed a rotary top piece, and to which is hinged a cover made to close over the rotary top. To the inside of the cover is attached a spring which presses against the periphery of the rotary top piece. The top piece is made to receive and hold pictures, which may be seen through one or more openings in the cover provided for the purpose, the revolution of the top piece exposing the pictures separately to view.

Claim.—First, the cover D, having one or more openings I, in combination with the rotary picture holder C, when they serve to form the whole or a part of the top of a table, or other similar article of furniture, substantially in the manner and for the purpose herein set forth.

Second, the combination of cover D, rotary picture holder C, stationary spring F, and spring slide G, substantially in the manner and for the purpose described.

No. 43,300.—John Fichter, Newark, N. J.—*Saddle Stirrup.*—June 28, 1864.—This invention consists in constructing the stirrup with a hood and legging, so that it may be used as an ordinary, or be readily converted into a military or Mexican stirrup at pleasure.

Claim.—A saddle stirrup combined with a hood and legging, in the manner substantially as herein shown and described, so that the stirrup may be used separately as an ordinary riding stirrup, or converted into a military and Mexican stirrup, as set forth.

No. 43,301.—L. B. Flanders, Philadelphia, Penn.—*Steam Boiler.*—June 28, 1864.—This invention consists in placing shields or deflectors over the ends of the horizontal tubes of a vertical boiler, at a sufficient distance from them to admit of the free circulation of the water and the egress of the steam. Upon one side of the tube box the shield is open at the bottom but joined closely at the top to the flue box, while on the other side the shield is open at the top but joined to the flue box at the bottom. Thus the water entering at the bottom upon one side is forced to pass through the tubes and out at the open space at the top of the shield on the other side, thus keeping up the circulation of the water through the flues. One of these shields is continued over the top of the flue box to the side opposite the one to which it is affixed for the purpose of deflecting the steam chamber opposite to where it issues from the boiler, the object being to separate the globules of water from the steam to as great an extent as possible.

Claim.—First, the deflectors I, arranged in respect to the inner tubular casing of the boilers, substantially as and for the purpose set forth.

Second, the plate *f*, arranged in respect to the deflectors I, the tubular casing, and exit opening *y*, as and for the purpose described.

No. 43,302.—D. P. Foster, Shelburne Falls, Mass.—*Brace or Bit Stock.*—June 28, 1864.—The stem or body of the brace in this device is formed of a metallic tube, a socket being provided to receive the bit, within which is a sliding chuck, having upon it a screw thread. This chuck receives the bit through a slot on the side of the socket, around the fixed part of which latter is also a screw-thread provided with a nut. By the operation of the nut the chuck is moved far enough to receive the end of the bit into the mortise, the round part of the bit coming into a circular slotted recess in a cap on the end of the brace, so that when the nut is turned up, the chuck is forced up into the end of the bit, which is carried forward until the large part of the bit comes in contact with the cap and is thus held firmly in place.

Claim.—First, making the stem or body of a brace of a tube, substantially as shown.

Second, securing the bit to the brace by means of the cap *o*, chuck F, and nut G, as shown and described.

No. 43,303.—Henry A. Fox, Cincinnati, Ohio.—*Lantern.*—June 28, 1864.—This invention consists in constructing the base of the lantern in such a manner as to admit of its catching and retaining all the waste oil that escapes from the lamp. Upon the bottom of the oil reservoir is a female screw socket into which fits a male screw attached to the bottom of the lantern and projecting upwards, by means of which the reservoir may be firmly secured to the lantern.

Claim.—First, the provision in a lantern of the formed or curbed base A B, adapted to catch and retain the waste oil and prevent spilling, as herein explained.

Second, the curbed base A B, in the described combination with the detachable reservoir F G.

No. 43,304.—David Gay and John H. Purkiss, Long Bar, Cal.—*Quartz Crusher.*—June 28, 1864.—This invention consists in placing upon the inner side of the crushing wheels an overshot water wheel, the buckets of which are set in opposite directions, in order that each wheel may aid in producing the compound rotary motion required. An axle passes through the centres of these wheels, and is held in position by means of a pivot passing through its centre, upon which it revolves. From this shaft arise two standards, upon which is fixed the frame that conveys the water to the wheels. Underneath each wheel is an apron which is suspended upon the shaft that supports the wheels, and upon which the water falls as it is discharged from the wheels and conveyed to the pipes arranged in the central portion of the foundation, whence it is conveyed to any suitable place.

Claim.—The attachment of the water wheel to the side of the crushing wheel, substantially in the manner herein shown and described, so that the water wheel will drive and travel with the crusher wheel, all as set forth.

Also, the combination with the water wheels of the water-conducting aprons, substantially as herein shown and described.

No. 43,305.—Thomas W. Goodwin, Portsmouth, Va.—*Lubricator.*—June 28, 1864.—This invention consists in placing a tube inside the globe or reservoir for the oil, inside of which is a piston packed in its central part so as to form a tight joint between it and the inside of the tube. Upon each end of this piston is a valve having seats provided for the same in the tubes. The oil is poured into the cup upon the top of the lubricator and flows in through the perforations in the tubes and passes down into the reservoir, the lower valve being pressed against its seat. The piston is then raised and the upper valve is forced against its seat, which prevents the escape of oil or steam from the cup and allows the oil to pass through the perforations in the lower portion of the tube and down into the cylinder; when the lower valve is again pressed against its seat, where it remains until it becomes necessary to repeat the operation.

Claim.—First, the double-valved piston E, in combination with the tube or cylinder C C.

Second, the manner of supplying the reservoir A with the lubricating oil by the action of the piston F, in combination with the cylinder C C, and the orifices E E E, as set forth and described.

No. 43,306.—William F. Goodwin, Powhatan, Ohio.—*Breech-loading Ordnance.*—June 28, 1864.—In this invention the gun is provided with rear projections or cheeks between which the breech block is held by means of a bayonet joint or fastening, the breech block being secured by a band or sleeve to a hinged arm so as to admit of its rotation, for the purpose of releasing it and then allowing it to swing open. The novelty consists in the method of fitting the breech within its holding cheeks by a concentric flange or tongue and groove, and also in the use of a chamber or slot in the shank of the breech block, with a slot in the sleeve and a second cap so as to allow the insertion and removal of the primer.

Claim.—First, in combination with the lugs or projections B B, having bearing surfaces perpendicular or nearly so to the axis of the bore, the solid oblong breech block C, having flanges c^5, concentric with the axis, and otherwise constructed and applied as herein shown and described, so that by turning the block after its insertion its ends will occupy the concavities of the lugs B B, and the entire strength of the block will be employed to resist the explosion.

Second, the combination of the slotted shank C', and slotted sleeve D', of the hinged arm D, adapted in the manner described to permit the ready insertion of the primers.

Third, in combination with the shank C' of the block C, the screw cap C^4, for facilitating the removal of the burnt primers, as explained.

No. 43,307.—James T. Hall and Isaac Pierce, Holland Patent, N. Y.—*Machine for Loading Hay.*—June 28, 1864.—This invention consists in the attachment to a frame mounted on wheels of an endless band, to which are hinged a series of bars provided with curved tines by which the hay is elevated from the ground, in connexion with curved clearing rods extending from under the revolving tines to the upper part of the front of the machine.

Claim.—First, the hinged bars I, constructed as described, and provided with the tines T, in combination with the tines T, in combination with the spring dog S, arranged and operating as and for the purpose shown and described.

Second, the clearing rods O, arranged as shown and described, and operating in combination with the hay-elevating devices, in the manner and for the purpose specified.

No. 43,308.—Samuel B. Hartman, Millersville, Penn.—*Bridle.*—June 28, 1864.—This invention consists in the employment, in connexion with a common bridle of a strap made to pass through the rings of the bit at each end, and so attached to the bridle and the reins, that by pulling the latter tightly the bit will be raised upwards in the animal's mouth, the object being to apply the same to unruly horses.

Claim.—The application of the strap C to common bridles, in the manner and for the purpose specified.

No. 43,309.—Alonzo Hicks, Factoryville, N. Y.—*Tack Hammer and Carpet Stretcher.*—June 28, 1864.—This invention consists in the application to one side of the head of a tack hammer, of a serrated surface to form a carpet stretcher, so that the carpet can be stretched with one hand to its place while the tack can be inserted with the other hand and immediately driven in.

Claim.—The combined tack hammer and carpet stretcher, made as specified.

No. 43,310.—E. T. Jewett, St. Albans Bay, Vt.—*Cement Pipe Machine.*—June 28, 1864.—This invention consists in the employment of a pair of bevel-faced moulding jaws in combination with a horizontally moving mandrel, and used in connexion with a series of rods, toggles and levers, for the purpose of forming pipes of cement with their enlarged ends for joints; the bevelled edges of the jaws permitting the escape of the surplus clay.

Claim.—The bevelled faced jaws A A′, when constructed and operated in the manner specified.

Also, the combination of the jaws A A′ with the rods I, toggles J, and levers K K, substantially as herein shown and described.

Also, the combination of the horizontally moving mandrel B with the jaws A A′, substantially in the manner and for the purpose herein shown and described.

Also, the combination of the toggle and lever F with the mandrel B, substantially as herein shown and described.

No. 43,311.—C. Jillson, Worcester, Mass.—*Lathe Attachment for Turning Tapers on Bars.*—June 28, 1864.—This invention consists in attaching to the slide rest a box in which is arranged the cutter carrier. One side of this box projects slightly forward at the point, and the rod to be turned is supported in a hole therein by means of a stud projecting downward from this carrier through a slot in the box, and held by a spring in contact with the surface of a stationary pattern. The slide, as it moves by the operation of the lathe, causes the pattern to communicate a motion to said carrier according to the shape of the pattern, giving the cutters more or less depth as required.

Claim.—First, the combinatiou of the stock A, tool-holder B, eye *h*, and cutters or chisels *d*, operating together as and for the purpose described.

Second, in combination with the stock and with the tool-holder the buttons *k l*, for allowing the latter to be moved in the former by a gauge or pattern, substantially as described.

Third, in combination with the revolving shank or spindle a head stock attached thereto, but not turning with it, and a pattern or guide upon said head stock for the purpose of controlling the chisels or cutters and defining their working distance from the centre of the article being tapered, substantially as described.

No. 43,312.—Charles Jones, Brooklyn, N. Y.—*Lantern.*—June 28, 1864.—This invention consists in forming the sides of a lantern of a pyramidal form and of several pieces of glass fitted to each other, and connected together at the upper and lower ends by rims and guards without corner sash bars. The top and rim of the lantern are formed of two pieces of sheet metal bent and secured together, and the upper ends of the guards are formed with hooks that take into holes in the upper rim, by which means the glasses are secured in place.

Claim.—The arrangement and combination of the two pieces of sheet metal *a* and *b*, bent and secured together, as described, to form the top and rim of a four-sided lantern, including the draught protectors, substantially as described.

Also, the pyramidal lantern body or chimney made of separate panes of glass fitted to each other, and framed together by the top and bottom rims and the guards, and without corner sash bars, substantially as described.

Also, the hooked ends of the guards in combination with the top rim and panes of glass, substantially as described.

Also, in combination with the base or bottom rim of the lantern, the step or rebate on the edges of the lamp, substantially as described.

No. 43,313.—Smith M. Kellog, Battle Creek, Mich.—*Heat Regulator.*—June 28, 1864.—This device consists of two pipes, one placed within the other, so as to leave a space between the same, and provided with dampers at their upper and lower ends, arranged in such a manner as to cause the smoke and products of combustion to pass up in the centre pipe, and prevent the heat from being radiated into the room or to pass between the inner and outer pipes when it is desirable to heat the room, the device being designed to be adapted to stoves of any kind.

Claim.—The dampers *e e*, having supporting edges *i i* thereon, in combination with the pipe *b*, provided with the shoulders *i′ i′*, outer pipe *a*, and damper *d*, the whole operating substantially in the manner and for the purpose set forth.

No. 43,314.—W. B. Kimball, Peterboro', N. H.—*Stoves.*—June 28, 1864.—This invention consists in constructing the stove with an iron or metal frame filled in or provided with stone panels, the lower parts or bars of the said metal frame being made of a sufficient width to elevate the stone panels above any accumulation of ashes in the bottom of the stove, and thus prevent such unequal heating of different parts of the stone panels as would render them liable to break. The front of the door is provided with sliding doors also constructed of iron frames filled in with stone.

Claim.—A stove composed of soap-stone panels set in metal frames and recessed at bottom, as herein described, to receive the ashes and cause the lower edges of the stone to be exposed to as intense heat as the centre part.

No. 43,315.—Philetus Knapp, Woodford, Vt.—*Scaffolding, and Elevating the Same.*—June 28, 1864.—This invention consists in an arrangement of belts, guys, and gearing for the purpose of elevating a scaffold to any desired height, the same being connected to a frame mounted on wheels. The shaft or supporting column is made in sections, so that it can be adapted to the desired height without deranging the gearing.

Claim.—First, the combination of the upper slide, platform, and lower slide with their attachments and connexions for moving or holding on the shaft or mast, substantially as herein described.

Second, the attaching and detaching of the sections of the shaft or mast, in combination with the upper and lower slides as herein described and represented.

Third, in combination with the platform and its slide, the letting out and taking up of the guys by mechanical means, substantially such as herein described and represented.

No. 43,316.—George H. Lewis, Providence, R. I.—*Car Spring.*—June 28, 1864.—This invention consists of a hollow air-tight vessel or shell formed of India-rubber or other similar elastic material, and filled with water or other suitable liquid.

Claim.—The improvement in the manufacture of car and other springs, which consists in forming a hollow air-tight elastic vessel or shell, the sides or walls of which are of sufficient thickness to be practically non-collapsable, in combination with partially or wholly filling said vessel with any suitable liquid so as to add to the resisting power of the spring, as set forth.

No. 43,317.—S. Little, Loretto, Penn.—*Folding Car Standard.*—June 28, 1864.—This invention consists in making an oblong slot in the standard for the pivot pin to pass through, and a recess below the standard, so that the latter when raised may have a vertical movement on the pivot, and be sustained in an upright position.

Claim.—The combination of the slot in the standard, and the recess below the standard, with the pivot pin, so that the standard may be raised and lowered in a vertical line as well as swing on the pivot pin, substantially in the manner and for the purpose herein described.

No 43,318.—Leonard Low, San Francisco, Cal.—*Grain Separator.*—June 28, 1864.—This invention consists of a series of screens arranged in quadrant sets, and inclining towards a central shaft. Under these screens, and inclining in opposite directions to the same, are chutes, which convey a part of the grain back to the upper end of each lower screen. The lower or inner ends of the screens are attached to strips made adjustable vertically upon the shaft, so as to increase or diminish the degree of inclination of the screens. Beneath the hopper is a telescopic nozzle arranged in connexion with the cross-head, so as to adjust the feed of the grain to the screens.

Claim.—First, the arrangement of the inclined screens I in quadrant sets around a centre shaft B, substantially as herein described and shown.

Second, the combination of the screens I and chutes K, when the same are arranged around a centre shaft and operated by oscillatory motion, substantially in the manner and for the purposes described.

Third, the adjustable strips E in combination with the screen supporters for the purpose of adjusting the inclination of the screens, substantially as described.

Fourth, the hopper L in combination with the telescopic nozzle N and cross-head U, for the purpose of adjusting the feed of the grain, substantially as herein described.

No. 43,319.—Philo Maltby, Cleveland, Ohio.—*Cannon Sight.*—June 28, 1864.—This invention consists in the arrangement and combination of adjustable front and rear sights for ordnance, each comprising a system of rotary sights arranged in relation to each other so as to be mutually adapted to different ranges, and different conditions of light, &c. The front sight is secured to the muzzle of the gun by an adjustable strap or band, and the rear one to the cascabel by means of a cap, set screw, &c. The various adjustments required are made the subjects of the several clauses of the claim.

Claim.—First the combination of the rotary rear sight with the rotary forward sight, each being constructed in pairs and numbered as described, and used in connexion with each other, as and in the manner herein set forth.

Second, the herein described method of holding the rear and forward sights in place when adjusted to corresponding numbers, as described.

Third, in combination the standard A, cross-piece B, and rear sight E, arranged and operated as herein set forth.

Fourth, the horizontal adjustment of the sight E, by means of the screen C, and holding the same in position by means of the gib *a* and thumb screw *d*, as specified.

Fifth, a series of rotating rear and forward sights, when constructed and operating as herein described, the same being adapted to different degrees of light.

Sixth, the cap G′ and the herein described method of attaching it to the cascabel of the gun, substantially as described.

Seventh, the vertical adjustment of the rear sight by means of the bar G′ and set screw *e*, when arranged and operating as and for the purpose specified.

No. 43,320.—George Mann, Jr., Ottaway, Ill.—*Steam Boiler.*—July 28, 1864.—This invention consists in placing within a boiler for generating steam, a curved pipe, open at both ends, and so arranged that the gauge cocks enter one side of it and draw their supply of water from the interior; the object being to prevent any dirt that may be floating upon the surface of the water from entering the cocks, and also to indicate the correct level of the water in the boiler, whether the latter is priming or not, the water in this pipe being supposed to be solid, and not affected as the balance of the water in the boiler is by forming a priming.

Claim.—The pipe open at each end and attached to the front part of the steam boiler and connected with the water gauges of the boiler, as shown in the above specification.

No. 43,321.—Eleanor M. Marshall, Hillsdale, N. Y.—*Mammiform Breast Protector.*—June 28, 1864.—This invention consists in constructing the protector of wire wound spirally upon a former so as to assume, as nearly as possible, the shape of the natural breasts. The springs are formed from one piece of wire, each part being wound in opposite directions.

Claim.—First, making the spring A A2 mammiform, for the purposes herein specified.

Second, forming the springs A A2 from one and the same piece of wire, for the purpose specified.

No. 43,322.—R. G. McDougall, New York, N. Y.—*Construction and Equipment of Men-of-war.*—June 28, 1864.—This invention consists in the use and application to a ship of-war of sundry devices designated in the claim and which indicate the object sought to be attained. The invention does not admit of a limited description.

Claim.—First, the removable cutting edges *c c* applied to a beak or prow of any suitable form.

Second, the well or stand pipe D, closed by an adjustable valve *d*, in combination with the vessel A, constructed and operating substantially as and for the purpose shown and described.

Third, in combination with the aforesaid well D the separate hawse pipe E, extending down the bottom of the vessel and operating in combination with the chain *f*, in the manner and for the purpose substantially as described.

Fourth, forming the after part of the vessel with double ogee lines *g h*, in combination with screws and rudders, arranged substantially as and for the purposes set forth.

Fifth, in a vessel constructed substantially as herein described, the open network skegs *j* and fore and aft braces *m*, applied to the vessel A, substantially in the manner herein described, to form counter braces and to receive and protect the screws and rudders, and at the same time give free access of water to the screws and rudders.

Sixth, in a vessel constructed substantially as herein described, connecting the chains or ropes of two or more rudders upon one central drum O, substantially as and for the purpose specified.

Seventh, connecting the steering gear with the throttle valve of the engines, in the manner and for the purposes herein specified.

Eighth, the use of two or more turn-tables I, with guns J, in combination with an oblong cylindrical casemate G, constructed and operating substantially as and for the purpose set forth.

Ninth, the oblong cylindrical casemate G, with arched roof H, and radiating ports K, constructed, arranged and operating substantially as and for the purpose specified.

Tenth, in a vessel constructed substantially as herein described, the double sliding doors L, in combination with converging spring levers M, applied substantially as and for the purpose described.

Eleventh, the removable top *g* of the pilot-house F, raised and lowered, substantially as herein described, for purposes of ventilation and protection.

No. 43,323.—J. D. McLean, New York, N. Y.—*Apparatus for Forming Stereotype Moulds.*—June 28, 1864.—The object of this invention is to obtain a machine of simple construction by which moulds or matrices for producing stereotype or electrotype plates for letter press may be formed directly from dies, for the purpose of avoiding the labor and expense of setting up type and the casting or forming moulds therefrom, and the invention consists in the employment of devices designated in the claim for effecting such objects.

Claim.—First the employment or use of a sliding frame E, provided with type dies H, in connexion with parallel plates B B, a notched bar G, and a rod F, provided with an upright *k*, all arranged as shown, for the purpose of adjusting the type dies over the plastic substance which receives the impressions, for the purpose set forth.

Second, the plunger D, in combination with the die frame E, groves *f f*, in the plates B B, and slides M M in said grooves, for the purpose specified.

Third, the pawls K K, connected with the levers L L, with the springs *q s* attached, in connexion with the racks J J on the bed I, for the purpose specified.

Fourth, the pawl Q and screw R, in combination with the pawl P, at the under side of the platform O, for the purpose set forth.

No. 43,324.—Michael McManus, Brooklyn, N. Y.—*Nail Machine.*—June 28, 1864.—This invention is designed as an improvement upon the machine patented to S. J. Seely, and it consists in an arrangement of devices for arresting the motion of the hammers and reciprocating anvil while the finished nail is being cut off and the blank or bar fed forward.

Claim.—First, the combination with the lever H *h*, and the cutter E, of the sliding lifter F, slotted arm *c*, and crank *d*, whereby the cutter is thrown into and out of gear at the will of the operator.

Second, the friction brake R, and belt-tightening lever O, combined with each other and with the hammering or shaping mechanism of a forging machine, which has its cutting mechanism driven independently, substantially as herein specified.

Third, the gauge T *s n′ p*, combined with clamp *g* of the rod holder, substantially as and for the purpose herein specified.

No. 43,325.—Joshua Merrill, Boston, Mass.—*Mode of Purifying Hydro-carbon Oils.*—June 28, 1864.—This invention consists in treating hydro-carbon oils with a solution of sulphate of soda and Glauber's salt, instead of sulphuric acid in the usual way.

Claim.—In the process of purifying hydro-carbon oils, treating them substantially as hereinbefore described, with sulphate of soda, for the purposes substantially as hereinbefore set forth.

Also, in combination with the treatment by sulphate of soda, the use of caustic or carbonate alkalies, substantially as described.

No. 43,326.—Herman Miller, Hoboken, N. J.—*Can for Paint, Fruit, &c.*—June 28, 1864.—This device consists of a can the sides of which are each composed of a single plate having a groove sunk in it near the edges, termed the "solder groove." The edges are rounded and made to fit one over the other, so that the edge of the outer sheet terminates within the groove. The groove is then filled with solder which covers the joint. The plates for the top and bottom are bent over so as to fit in the groove on the edge of the side plate, and then soldered.

Claim.—Having the plates provided with solder grooves *b*, in combination with the turning of the edges of the plates into said solder grooves, substantially in the manner and for the purpose herein shown and described.

No. 43,327.—Charles A. Moorehead, Quincy, Ill.—*Hand Spinning Machine.*—June 28, 1864.—In this device the spindle frame and carriage are connected together by means of a screw and bolt, the latter acting as a centre about which the spindle frame may be turned more or less when desirable to raise the spindle. The extent of motion is limited by a stop. The journal boxes are made of metal and are secured in place by pins, the removal of which admits of the spindle being withdrawn from its frame so that the driving band can be crossed.

Claim.—First, elevating the spindle for reeling off the yarn or for other purposes by causing the spindle frame A to revolve upon its carriage without disconnecting the spinning apparatus, substantially as described.

Second, making the journal boxes of the spindle removable, in order to withdraw the spindle from its frame and thereby be able to cross the driving band, substantially as described.

No. 43,328.—Benjamin Morison, Philadelphia, Penn.—*Stoves.*—June 28, 1864.—This invention consists in combining with the fire box of a stove a stationary or fixed bottom grate and a vertically sliding front grate so arranged as to admit of the stones and clinkers being removed from every part of the bottom of the grate without discharging the whole contents of the fire box. The ribs of the vertical front portion of the grate are made so that the same shall be exclusively on the inner or fire side of the grate, and the inner or fire sides of the two side-lining bricks of the fire box are sloped and rebated so that the back lining thereof may, as a single piece, correspondingly sloped at its ends, be readily carried backward beneath the top plate of the stove and between the side lining bricks and finally dropped down with its sloped ends in the said rebate, by means of which it is firmly secured in the fire box.

Claim.—First, the stationary bottom grate D, and the vertically-sliding front grate E, when the same are constructed and arranged together in combination with the fire box of a stove, so as to operate substantially in the manner described and set forth for the purposes specified.

Second, extending the grate bars of the front portion of a stove grate so that the said extensions or their equivalents shall form ribs e° exclusively on the inner or fire side of the thin upper portion *e*4 of the same, substantially as described and set forth, for the purpose specified.

Third, the mode herein described and set forth of constructing and securing the lining of the fire box of a stove; the same consisting of the two side pieces *c c*, each sloped and rebated as described, and the single back piece *c′*, having its two ends sloped to fit in the said rebates of the said pieces as described, the front ends of the said side pieces being retained in position by means of the vertical ribs 2 2, or their equivalents, substantially as described.

No. 43,329.—David W. Nearns, St. Louis, Mo.—*Sea Pipe for Vessels.*—June 28, 1864.—This invention consists in cutting a screw upon the pipe which passes through the sides of the vessel and placing thereon two nuts, one to be upon the outer end of the pipe and having a strainer attached to it, for the purpose of preventing any foreign substance from entering the pipes. Upon the inside is placed the other nut to secure the pipe to the side in the ship and make a tight joint between the nuts and sides of the vessel. To the inner end of the pipe is attached a branch for the purpose of taking off the water to any part of the ship. Entering the end of this branch piece and through the cup is a steam pipe which is connected with the boiler in such a way that, when the pipe or strainer on the end of the pipe becomes choked up, the steam may be admitted and the pipe cleaned.

Claim.—First, the arrangement and combination of the nuts C E and pipe A, in the formation of the joints of shoes or sea pipes with the sides of vessels, substantially as herein set forth and represented.

Second, the employment of the perforated tube or pipe g in combination with the pipe A, substantially as and for the purposes set forth

No. 43,330.—JOHN B. NEWMAN, Milford, Pa.—*Mounting Heavy Guns.*—June 28, 1864.—This apparatus is composed of a pair of yokes, each being provided with pivoted sections, upon which are formed axles for the reception of wheels; these wheels are provided with notches or teeth forming a continuous rack. Projecting from the pivoted sections are slotted lugs, in which are fulcrumed levers provided at their lower ends with catches formed on a sliding pin or block and serve to turn the wheels. The sections are prevented from turning on their pivots by means of pins which may be inserted in either of a series of apertures. On the outer sides of the chassis, and inclined in an opposite direction, are supported parallel ways.

Claim.—First, the yokes F F′, supported on wheels, substantially as described, and employed for elevating and mounting guns, as set forth.

Second, the pins f, in combination with the apertures f', for adapting the yokes to convey the gun in either a direct or indirect course, in the manner specified.

Third, the lever H $h\ h'\ h'$, constructed in the manner described, and having its fulcrum in the lever I, when employed in combination with a rack g, formed on the face of the wheel G, as and for the purpose set forth.

Fourth, the angular blocks or pieces $f2$, applied to the yokes F F′, in the manner and for the purpose explained.

Fifth, the ways E, inclined in relation to the chassis A, substantially as and for the purpose explained.

No. 43,331.—SAMUEL K. PADEN, Volant, Pa.—*Harvesting Machine.*—June 28, 1864.—This invention consist in an arrangement of devices for raising and lowering the cutting apparatus, together with the means of taking up and letting out the reel-driving belt when the cutters are raised so as to keep the belt always tight. The invention also relates to the manner of bridging the double joint connexion of the cutting apparatus and main frame for the purpose of conveying the grain from the platform to the main frame.

Claim.—First, the combination of the chain, chain wheels, pinions, and curved segments for raising or lowering and holding the cutting apparatus at any adjusted height, substantially as described.

Second, in connexion with the raising and lowering mechanism the shaft P, its pinion Q, and the two racks $r\ w$, for taking up or letting out the reel-driving belt S, to keep its tension on the pulleys uniform, substantially as described.

Also, in combination with the double hinged joints $s\ o$, between the platform and main frame, the coupling p and bridge X, for the purpose of conveying the grain from the platform to the main frame by a belt, substantially as described.

No. 43,332.—EMERY PARKER, West Meriden, Conn.—*Mode of Attaching Door Knobs to their Spindles.*—June 28, 1864.—This invention is designed as an improvement upon a mode of attaching door knobs to spindles, for which a patent was granted to G. N. Cummings July 22, 1862, and it consists in interposing a slotted washer between the face of the door and the end of the sleeve which couples the knob to the spindle and prevents its turning thereon, the whole being concealed from view by the escutcheon.

Claim.—The employment of a slitted washer D, in combining the knob with a threaded spindle, by means of an independent piece of metal which embraces the spindle at its square portion, and engages with the end of the shank of the knob, substantially in the manner and for the purpose set forth herein.

No. 43,333.—SETH D. PAUL, Lawrence, Mass.—*Mule for Spinning Woollen Yarn.*—June 28, 1864.—The general object of this invention is to adapt the Sharp and Roberts mule to the spinning of wool as well as cotton, by giving automatically (instead of by a hand jack) the peculiar requisite motions for drawing and twisting, and the required form to the cap or bobbin. In addition to the special object of the several devices, as indicated by the several clauses of the claim, the shipper is so arranged as to permit the attendant to stop the mule, while standing at any point in the whole length of the machine or at the front or back of the head, a hinged spring joint on the shipper also allows it to yield in one direction and pass the belt-shipping lever, and the shapers are so formed as to build out the bobbin close to the head.

Claim.—As an improvement in the roller motion, the use or combination of roller cam 27, latch 28, latch spring 29, lever 30, the connecting gears, and worm gears, spring 37, levers 36 and 38, and stand 40, or their equivalents, operating substantially as described.

Second, the apparatus for running the carriage in while twisting, consisting of the combination of pinion 8, gears 9 9 10, swing shaft 11, gears 12 13, scroll 14, plate 17, cams 18 18, gears and pinions 19 20 21, lever 23, spring 24, and joint c, or their equivalents, substantially as described.

Third, the combination of lever 41, spring 42, spring 43, and arm 67, or their equivalents, for throwing up the winding-on ratchet from the gear and allowing the mule to back off.

Fourth, the shipper 47, running the whole length of the mule, and also at right angles across the length of the mule head, substantially as described.

Fifth, the attachment 49 to shipper 47, with its joint and spring 54, operating substantially as described.

Sixth, the combination of the spring latch 44, with the backing off relieving lever, substantially as described.

Seventh, the shapers 50 50, as described and for the purpose specified.

Eighth, the shapers 51 51, as described and for the purpose specified.

Ninth, the combination of the scroll 14 14, or its equivalent, with the roller cam, latch and spring, which govern the motion of the rollers.

No. 43,334.—CHARLES H. PARSHALL, Detroit, Mich.—*Cut-off Valve.*—June 28, 1864.—This invention consists in fastening together two plates of suitable thickness, with apertures made in them for the admission of steam to the cylinder. The inner surfaces of these plates are kept at a suitable distance from each other to allow the steam used in driving the engine to enter, being held in their position by means of studs placed upon each of their corners. The valve thus constructed is placed upon the back of the induction valve, and between it and a plate whose inner face is parallel with that of the valve, and which is held in its position by studs as in the cut-off valve. When in place the lower face of the cut-off valve works in steam-tight contact with the back of the induction valve, and its upper face with the inner face of the plates. The apertures being alike in both plates of the cut-off valve, and the steam entering between them, the steam pressure will be equal in both directions, and the valve balanced as to steam pressure. An aperture is cut through the exhaust passage in the induction valve for the purpose of balancing the weight of the cut-off valve.

Claim.—First, the plate V, constructed, arranged, and used for the purposes and substantially as herein shown and described.

Second, the balanced cut-off valve G E, constructed and operating substantially as described.

Third, the aperture D in centre of valve and over exhaust-port S, constructed, arranged, and used in combination with the cut-off valve G E, for the purposes and substantially as herein shown and described.

Fourth, the plate V, plate E, aperture D, and cut-off G, in combination, all constructed, arranged, and used for the purposes and substantially as shown and described.

No. 43,335.—W. P. PENN, Bellville, Ill.—*Seed and Grain Drill.*—June 28, 1864.—This invention consists in setting the feeders or stirrers in the grain or hopper box at an oblique angle to the axis of motion of the rock-shaft, for the purpose of keeping the openings for the discharge of the grain free from obstructions, and thus facilitate the discharge of seed and cause it to be more uniform.

Claim.—Setting the feeders F at an oblique angle with the axis of the rock-shaft E, combined with the hopper box, for the purpose of insuring a more uniform flow of seed, as set forth.

No. 43,336.—W. K. PLATT, Gloucester, N. J., and HENRY HOLCROFT, Media, Penn.—*Device for Oiling Wool in Carding and other Machines.*—June 28, 1864.—The object of this invention is, firstly, to oil the wool on its way to the carding engine. The oiling cylinder rotates in an oil vessel, and is furnished with pivoted swinging slats, which in succession dip into the oil and then assume a position such that their outer surfaces conform to the periphery of the cylinder; a rotary brush receives the oil from this cylinder, and by contact oils a fluted roller underneath, and in contact with which the wool passes on an endless apron to the feed rollers of the machine. An endless apron or burr carrier arranged to travel crosswise of the machine receives the burrs, &c., thrown off by a picker on the burring or other machine and discharges them continuously.

Claim.—First, the oil tank or cistern K, rotary oiling cylinder G G, and rotary brush F, in combination with each other and with the roller E and feed apron C, to operate substantially as and for the purpose herein specified.

Second, the rotary oiling cylinder having pivoted slats $e\ e$, operating in combination with stops $g\ g$, substantially as and for the purpose herein specified.

Third, the apron or burr carrier I, applied and operating substantially as and for the purpose herein specified.

No. 43,337.—PERLEY PUTNAM, Laconia, N. H.—*Car Wheel.*—June 28, 1864.—This invention consists in casting the wheel with a corrugated double plate around its centre, and having the flange side of the wheel cast with V-shaped arms or projections which extend from the corrugations around the centre of the wheel outward and underneath the flange of the wheel.

Claim.—A cast-iron car wheel having a double plate or two plates with corrugated surfaces or alternate projections and depressions extending around the central opening of the wheel, substantially as shown and described.

Also, the V-shaped arms or projections on the serpentine portion of the wheel, and extending along underneath the flange thereof, as set forth.

Also, the corrugated double plates *c c*, serpentine portion *d*, and arms *h*, all combined and arranged to form a new and improved cast-iron car wheel, as described.

No. 43,338.—Rensselaer Reynolds, Stockport, N. Y.—*Let-off Motion of Power Looms.*—June 28, 1864.—This invention relates to let-off motions of what are termed the "friction" kind, in contradistinction to those which have a positive action, by means of which a friction brake is so applied to a brake wheel that the friction is caused to be always proportioned to the amount of the yarn on the yarn beam. The action of the devices is also susceptible of adjustment to adapt it to heavier or lighter fabrics without changing any of the parts. The hand lever enables the operator to relieve the yarn beam from the action of the brake, whenever desirable, and permits it to be turned in either direction.

Claim.—First, the brake F, combined with the yarn beam by means of a brake wheel E, a rigid lever arm G, and a pivoted stem *d*, to which is attached a weight H and arm *e*, the whole applied to operate substantially as and for the purpose herein described.

Second, the combination of the brake with the vibrating bar K or whip roll by means of a lever arm I I attached to the brake, and a lever J attached to or forming part of the vibrating frame which carries the said bar K or roll, substantially as herein set forth.

Third, the hand lever L, applied and arranged in combination with the brake shoe, substantially as and for the purpose herein specified.

No. 43,339.—Delos E. Rice, Detroit, Mich.—*Loading Ordnance.*—June 28, 1864 —In this invention the cannon is provided with a central rear opening through the breech in the axis of the bore, through which passes a rod attached to a wad or piston for securing or drawing in the cartridge at the muzzle, and the improvement consists in operating the same by a rack in the piston rod and a pinion attached to the cascabel or rear part of the gun, rotated by a hand crank, and in the method of attaching the cartridge by a link with an eye and a a weak hook in the base of the ball.

Claim.—The combination of the cogged piston rod D, pinion E, crank F, tight piston A A, annular cartridge C, and hook and eye attachment H, all constructed, arranged, and operating as set forth.

No. 43,340.—Edward Richmond, Brookline, Mass.—*Leather Paper for Floor Cloths.*—June 28, 1864.—Leather paper, as usually made, is in comparatively narrow pieces, and when used for covering floors, &c., it is necessary to join together several such pieces, which is usually done by tacking. This method is objectionable, and in order to remedy the difficulty the inventor bevels the edges and cements together several pieces so as to form a sheet of any required width.

Claim.—As a new article of manufacture, a carpet, rug, lining, table cover, house or wall paper made of two or more sheets of leather paper united at their edges, in the manner hereinbefore described, so as to produce a continuous even surfaced sheet, substantially as set forth.

No. 43,341.—William C. and James H. Roney, Gallupville, N. Y.—*Vegetable Ointment or Salve.*—June 28, 1864.—This invention consists of a composition of beech bark, elder bark and leaves, bittersweet root and stalk, thornapple stalk and leaf, poke root, bean leaves and stalk, live-forever, rosin, and lard.

Claim.—The combination of the various ingredients above specified to produce a vegetable ointment and sticking salve, substantially as and for the purposes specified.

No. 43,342.—Daniel Sager, Albany, N. Y.—*Beer-cooler.*—June 28, 1864.—This invention consists in providing an ice chamber and a small reservoir in the same for the purpose of cooling ale, beer, &c., at the time of drawing the same. The bottom of the liquid chamber is made conical so as to prevent the deposit of dregs from accumulating.

Claim.—First, the reservoir B, provided with the tubes C and D, when used in combination with the tub or box A, substantially as shown and described.

Second, providing the exhaust pipe with the outlet *e*, in combination with the stop cocks *a* and *b*, substantially as and for the purpose herein set forth.

Third, providing the reservoir B with the tube F, having a cock *d* for the introduction of water or other liquids, as described.

Fourth, supporting the reservoir by means of the legs *f*, or their equivalents, substantially as and for the purpose set forth.

No. 43,343.—Peleg S. Sanford, Westport, Mass.—*Tightening Tires of Carriage Wheels.*—June 28, 1864.—This invention consists in a method of separating the fellies of

the wheel at two points in the circumference of the wheel by means of wedges, so as to increase the circumference of the wheel, and thus set it out firmly against the tire. To this end the extremities of the fellies at those points are capped with metal, one cap being provided with dowel pins, and the other with holes to correspond therewith, their abutting faces being grooved for the insertion of the wedges.

Claim.—Tightening the tires of carriage wheels by separating the fellies with keys, as set forth and described.

No. 43,344.—John Schrink, Toledo, Ohio.—*Sirup Gauge for Bottling Soda.*—June 28, 1864.—The tube B connects with the sirup vessel, the tube H with the soda fountain, and the tube L with the bottle. When the piston D is raised, sirup enters the chamber A′; by lowering the piston the sirup in A′ is forced into A″ and thence is carried by the soda into the bottle. The valve between the chambers A′ and A″ is so arranged that it opens as the plunger is depressed, and closes when it is up. The chamber A′, therefore, measures the quantity of sirup to go into each bottle. The sirup may be more or less concentrated to adapt the same gauge for filling different sized bottles.

Claim.—The chambers A′ A″, induction pipe H′, eduction pipe L, sirup pipe B, valve J, and piston D, these several parts being constructed, arranged, and operating substantially as and for the purpose herein set forth.

No. 43,345.—E. S. Scripture, Brooklyn, N. Y.—*Oil Can.*—June 28, 1864.—This invention consists in providing the flexible bottom of the oil can with a projecting thumb piece, in combination with an internal spiral spring.

Claim.—The use or employment of the thumb piece B, in combination with the flexible bottom A, spiral spring S′, and can P, when the same shall be combined for the purposes herein set forth.

No. 43,346.—Harris Stratton, Jr., Leavenworth, Kansas.—*Tanning.*—June 28, 1864.—This invention consists in a composition of ingredients named in the claim, 1st, for unhairing and bating, or plumping the hides, and, 2d, for tanning the same.

Claim.—First, a tanning compound, constituted of terra Japonica, Sicilian or native sumac, sulphate of soda, nitrate of potassa, and bois-de-arc, or bow-wood bark, the whole being combined and employed in the manner herein specified.

Second, the combination of sulphate of soda and lime, employed in the manner described, for softening the hides preparatory to tanning.

No. 43,347.—John Terrell, Philadelphia, Penn.—*Artificial Teeth.*—June 28, 1864.—The invention consists in the combination of horizontal and vertical openings or cavities in the tooth block to receive and hold the vulcanite base.

Claim.—First, the openings *e* and *i*, formed and arranged in respect to a tooth or a block of teeth, substantially as and for the purpose specified.

Second, the projections *a*, arranged as described for the purpose set forth.

No. 43,348.—Macklot Thompson, St. Louis, Mo.—*Mannfacture of Alcoholic Spirits.*—June 28, 1864.—This invention consists in the arrangement of the macerating tubs and the method of working them. The tubs are arranged in batteries of a pyramidal form, and provided with cocks arranged in such a manner that the contents of the tub forming the apex of the pyramid may be emptied into the series of tubs next below it, and the contents of these, in turn, emptied into the series still below. Under the whole battery is placed a receiver, so arranged that it may receive the contents of each tub of the series immediately above it. Each tub is provided with a false perforated bottom, through which extends a pipe for the admission of steam, by means of which the temperature of the contents is raised to the proper degree. To the receiver is attached a pump, by means of which its contents may be forced through a pipe into the tub forming the apex of the pyramid.

Claim.—First, the general disposition of macerating tubs and method of working the same, so that the liquid is caused to descend by its own gravity from one tub to another, and in its descent become charged with saccharine matter, being discharged at intermediate points only when the wort shall have acquired the requisite degree of density.

Second, the method of working macerating tubs in batteries arranged in cascade fashion, and connecting said batteries so that the work of one may be continued into the other.

Third, the method of working the macerating tubs of each battery at the temperature of 212° and 150° Fah., respectively, at the periods and in the manner hereinbefore set forth.

No. 43,349.—Stephen D. Tucker, New York, N. Y.—*Printing Press.*—June 28, 1864.—This invention relates to an arrangement of machinery for delivering sheets of paper from printing machines, and consists of tapes to carry the paper forward so as not to require being turned over by the fingers as usual, but by a blast pipe to be separated from the tapes and dropped downwards on the pile.

Claim.—The employment of the means, or the equivalent thereof, for discharging a current or currents of air under the sheet of paper, to hold it up against the under side of a series of tapes or cords, in combination with the fly for depressing or striking down the sheet, substantially as described.

No. 43,350.—Stephen D. Tucker, New York, N. Y.—*Printing Press.*—June 28, 1864.—This invention is mainly explained by the claim. The improvement consists in mounting the inking roller of a rotary press so that it shall bear continually against the distributing surface of the type cylinder, and at the same time remain in contact with the cylinder from which it receives ink, and in a nice adjustment for the pressure of the inking roller, &c.

Claim.—Hanging the frame which carries the roller which transfers the ink from the inking cylinder to the ink-distributing surface of the type cylinder, so that it shall vibrate on the axis of the inking cylinder, substantially as and for the purpose described.

Also, the manner of adjusting the pressure and range of motion of the roller which transfers the ink from the fountain roller to the inking cylinder, and the roller which transfers it from the inking cylinder to the ink-distributing surface of the type cylinder, or either of the said rollers, by the employment of the adjusting shaft with its eccentric pin, or the equivalent thereof, in combination with the swinging frame which carries the roller, and vibrated in one direction and against the eccentric pin by a spring, or the equivalent thereof, as and for the purpose specified.

Also, in combination with the radial bars of the rollers for inking the form of types, the shafts, with their weighted levers, or the equivalent thereof, for drawing the said rollers a short distance from the ink-distributing surface of the type cylinder, for the purpose set forth, and so that the rollers shall be restored to their operating condition when the form of types reaches them, as set forth.

No. 43,351.—Thomas Tully, Wankegan, Ill.—*Breech-loading Ordnance.*—June 28, 1864.—In this invention the rear of the cannon is closed by a hinged breech block, which is secured in place by a series of hinged arms attached around the gun; the hinged arms being closed or opened by a ring with oblique or eccentric slots, through which the said arms pass, so that by a partial rotation of the ring in one direction, by means of a hand lever, the arms are so converged at their rear overlapping ends as to confine the breech block, and by an opposite rotation the arms are so distended as to allow the breech block to swing open.

Claim.—The construction and combination of the arms C and eccentric ring D, arranged and combined with the swinging breech B, as herein described, for the purpose of expediting the loading of a cannon, and preventing the escape of gas.

No. 43,352.—George B. Turrell, New York, N. Y.—*Treating Lard, Tallow, &c.*—June 28, 1864.—Lard and tallow, which have been rendered by the direct application of steam, have particles of water mixed with them as they leave the rendering vessel. It is also desirable to partially cool the lard or tallow before running it into casks. This invention consists in first passing the lard over steam-heated coils, and afterwards over coils containing cold water. By the first treatment all the water is evaporated, and by the second the lard is cooled.

Claim.—The method herein specified of treating lard or other fatty material, for the removal of aqueous and volatile portions, and also the cooling of such materials, in substantially the manner and for the purpose specified.

No. 43,353.—Joseph E. Tynan, Paterson, N. J.—*Switching Car Trucks.*—June 28, 1864.—This invention consists in the use of a forked lever attached to the forward end of a car truck, and operated by the foot of the driver, so that when depressed one prong of the forked lever will be pressed against the outer side of the rail, in the direction of the turn-out, and the car made to enter upon it.

Claim.—The lever A, or its equivalent, as shown and described, when applied to city railway car trucks, for the purpose of switching such cars from a straight track around curves or on to other tracks or sidings.

No. 43,354.—William Vogel, Chelsea, Mich.—*Fruit Drier.*—June 28, 1864.—This invention consists in the arrangement of a series of shelves or drawers within a case containing a stove or heater, and having the latter covered by a plate, and the case provided with a ventilator in such a manner that the heat is made to pass all around the shelves and drawers, and upward through the centres of the same, for the purpose of drying the fruit expeditiously.

Claim.—The combination of the stove B, flue F, guard plate I, sliding shelves D D D, door C, and hot air passages *j h c d*, when constructed, arranged, and operating in the manner and for the purposes herein specified.

No. 43,355.—Jeptha A. Wagener, New York, N. Y.—*Braid Guide for Sewing Machines.*—June 28, 1864.—This invention consists in constructing the slotted portion of the braider foot or pad with a depressed bridge and a groove or slot in a plane above the bridge, and an intersecting needle or slot, so that the braid can be passed under the foot or pad and over the bar or bridge in a straight or nearly straight line, and also be sewed upon the cloth through the top of the foot or pad, and inspected before it passes from under the foot or pad.

Claim.—Providing for the passage of the braiding material over a bridge *b*, and through a channel *d d*, which is below the top surface of the slotted portion of the braider foot or pad *a*, substantially in the manner and for the purpose described.

Second, so constructing the slotted portion of the braider foot or pad *a*, with a depressed bridge *b*, and a groove or slot *d d*, in a plane above the bridge, and an intersecting or needle slot *c*, that the braid can be passed under the foot or pad, and over the bar or bridge, in a straight or nearly straight line, and also be sewed upon the cloth through the top of the foot or pad, and inspected before it passes from under the foot or pad, all in the manner set forth.

Third, the combination of the depressed bridge *b*, slot *d d*, and pressure foot *a*, the whole constructed, arranged, and operating in the manner substantially as described.

No. 43,356.—J. H. Walker, Worcester, Mass.—*Punch for cutting out Welts of Boots and Shoes.*—June 28, 1864.—This invention consists in the employment of a metallic or other resisting back or base in combination with a spiral or volute knife or cutter, set and held in a stock of wood. Combined with the spiral cutter is a cross-knife for the purpose of separating the strips of leather from the refuse stuff. The end of the cut strap is thrown out by means of an ejector arranged for the purpose.

Claim.—In combination with a spiral or volute knife or cutter, set and held in a stock of wood, a metallic or other resisting back or base, to prevent the cutter from being driven into the wood, by use or otherwise, beyond a given distance, substantially as and for the purpose described.

Also, in combination with a volute or spiral cutter for cutting out straps or strips of leather, a cross-knife or knives for separating said strip in part or in whole from the refuse, substantially as described.

Also, in combination with a spiral or volute knife, and a cross knife or knives, an ejector for throwing out the end of the cut strap, as and for the purpose described.

No. 43,357.—Chauncey Walton, Washington, D. C.—*Construction of Piles for Wharves, &c.*—June 28, 1864.—This invention has for its objects the preservation of piles used for wharves, docks, &c., by placing a metallic ferrule upon the pile at the surface of the water, extending above and below it a sufficient distance to always present this metallic surface to the water, and also to use a series of short thimbles, connected one with the other by these ferrules, when more than one piece is required to make the foundation.

Claim.—First, surrounding the wooden pile with a metallic ferrule at the water line, to preserve the wood, by keeping it in a uniform hygrometric condition.

Second, making the pile of two or more short pieces of timber, substantially in the manner and for the purpose described.

No. 43,358.—Anthony Welsch, Chicago, Ill.—*Machine for Cutting Matches.*—June 28, 1864.—This invention consists in the employment of semicircular grooves in the cutting plate in combination with a series of spring steel cutters placed in the rear of the grooves in such manner that by moving the cutters forward the tool will cut a round match stick of any desired length.

Claim.—First, the combination and arrangement of a series of cutting grooves *a*, with a corresponding series of flexible spring cutters *c c*, whether said cutters are arranged alternately, as shown, or not, operating substantially as and for the purposes herein described and shown.

Second, arranging the spring cutters *c c* alternately in two rows, substantially in the manner and for the purposes described.

No. 43,359.—Stephen Wiggins, Bridgeport, Conn.—*Tool for Graining Marble, &c.*—June 28, 1864.—This device is composed of a cylinder covered with elastic type, over which is arranged another cylinder covered with cloth and made to press upon the type cylinder by means of curved springs attached to the clamp, which latter is attached to centre pins on the type cylinder. A handle is secured to the clamp in front by which the device is moved over the surface to be grained.

Claim.—The combination of the elastic type cylinder A, clearing roller B, clamp C, centre pins D, springs E E, and handle F, the whole being constructed, arranged, and employed in the manner and for the purpose set forth.

No. 43,360.—Stephen Williams, Philadelphia, Penn.—*Bench Plane.*—June 28, 1864.—The object of this invention is to produce a plane that can be changed from a straight face to a convex or concave face, and it consists in attaching to the central portion or bit holder a series of movable blocks tongued and grooved together so as to freely slide on each other, and held by a band surrounding them, and when in their desired position fixed by a thumb screw.

Claim.—First, the construction of the body of the plane of movable blocks or sections, substantially in the manner and for the purpose herein shown and described.

Second, the combination of the movable sections D D, independent plane bit holder A, enclosing band E, and screw F, all arranged and employed as described.

No. 43,361.—Charles P. Wing, Fayetteville, N. Y.—*Harvester.*—June 28, 1864.—This invention relates to the peculiar construction of the main frame or beam and its arrangement in connexion with the swivelled pole or tongue, whereby the frame is allowed to vibrate so as to conform to the surface of the ground, or held at any desired angle thereto, without twisting the tongue; the rim or periphery of the driving wheel is made convex, and a hinged cutting apparatus, which may be held at any desired height from, or angle to the ground, is employed in combination therewith in such manner that when only the outer end of the cutting apparatus rests upon the ground, thereby changing the angle of the main frame with respect to the surface of the ground, a sufficient traction surface will be presented by the wheel to insure its rotation.

Claim.—First, the bar or lever F, in combination with the arm G and pins *g*, for elevating and lowering the cutting apparatus, or retaining it in a fixed elevated position, or at any desired angle, substantially in the manner and for the purpose explained.

Second, in combination with the above, the traction wheel A formed with a convex rim or periphery, for the purpose of presenting an effectual traction surface when the cutting apparatus is elevated, as set forth.

Third, the vibratory beam B, employed in connexion with the pole or tongue C, in the manner described, so as to preserve the proper position of the raker's seat H, driver's seat L, reel standard M, and whiffletree S, when the cutting apparatus is elevated by the bar F, as set forth.

No. 43,362.—Wm. Wright, New York City.—*Steam Engine.*—June 28, 1864.—This invention consists principally in the use of a segmental cylinder whose transverse sectional area is circular in form. This cylinder is placed upon a bed plate from which arise two standards terminating at their tops in bearings for the shaft which carries the walking beam. This beam is so arranged that the centre of its axis occupies a position in the centre of the circle described by a line drawn through the centre of the segmental cylinder. The piston of the engine is attached to the centre of a piston rod whose sides are flat, while its edges are rounded, with each of its ends passing through its respective cylinder head, which is provided with a packing box of peculiar construction adapted to its particular form. This piston rod, which is in the form of a segment of a circle corresponding in diameter with that of the cylinder, has its ends fastened to the opposite ends of the walking beam whose outer surface in the segment of a circle, but whose centre is provided with suitable bearings for resting in the boxes in the tops of the standards above described. A forked connecting rod embraces the sides of the beam through which a pin is put, and the rod is connected to the pin by strap joints in the usual manner; the opposite end of this rod is connected to the main shaft of the engine on the crank placed thereon in the usual manner.

Claim.—First, the arrangement of a steam engine for marine and other purposes, the steam chamber or cylinder of which is stationary and curved into a segment of a circle concentric with the centre of motion, the said chamber or cylinder being of a circular sectional area, substantially as herein set forth.

Second, in combination with a segmental steam cylinder or chamber, the piston rod traversing both ends of the said cylinder or chamber, and forming an open ring, the centre of which is the centre of motion, substantially as set forth.

Third, the combination with a stationary segmental steam cylinder piston and annular piston rod of a walking beam hung and oscillating in bearings at the centre common to the cylinder and piston rod, substantially as set forth.

Fourth, in combination with a stationary segmental steam cylinder and piston and annular piston rod, an oscillating walking beam rigidly connected and moving in unison with the piston rod, substantially as set forth.

Fifth, the combination of an annular piston rod extending through both ends of a segmental steam cylinder with a walking beam rigidly connected at both of its ends with the piston rod, substantially as set forth.

Sixth, the attachment of a connecting rod to both the beam and piston rod when the movement of the latter is thus transmitted directly to a revolving shaft, substantially as set forth.

Seventh, the arrangement of a segmental engine substantially as described, whereby two connecting rods may be used operating two different shafts on either side thereof for the perfect balancing of, and for obtaining the greatest useful effect from the engine, substantially as set forth.

Eighth, in combination with a piston rod whose transverse section is more or less oval or elongated, the method herein described of packing the same by the employment, in connexion with a suitable stuffing material, of side compression plates, substantially as set forth.

No. 43,363.—Hezekiah Bradford, assignor to Horatio Bogart, New York, N. Y.—*Desulphurizing Ores.*—June 28, 1864.—The ore to be desulphurized is placed upon a hearth upon which it is moved and agitated, being first gently heated, and, as the roasting progresses, gradually brought to a hotter part of the hearth. Hot air and steam are passed over the ore to assist in the roasting.

Claim.—First, moving the metallic ores gradually from the cooler to the hotter portions of a hearth, substantially as specified, so that the desulphurizing operation is gradually performed, as set forth.

Second, the introduction of steam, or of steam and hot air combined, into a chamber over a hearth on which the ore is gradually heated, substantially as and for the purposes specified.

Third, a series of stirrers moved by a chain, in combination with the desulphurizing hearth, for the purposes set forth.

Fourth, the flap *l l*, in combination with the stirrers and desulphurizing hearth, for allowing the stirrers to enter and leave the chamber, as specified.

Fifth, the water vessel *m*, to cool the chains and stirrers as set forth.

Sixth, the arrangement of the circulating pipes *u r* and *s*, and vessels *o* and *p*, in combination with the boiler *q*, for the purposes set forth.

No. 43,364.—Joseph Edgecomb, assignor to Thomas H. Dodge, Worcester, Mass.—*Boring Machines.*—June 28, 1864.—The object of this invention is to stop the penetration of the auger at any required depth, break the hold of the thread of the tug screw in the wood, and raise the auger out of the hole automatically while the machine is in motion, and it consists in placing a stop upon the vertical ways of the carriage at any desired depth of hole, which stops the carriage, breaks the hold of the screw thread in the wood whilst a worm screw on the main shaft acts upon a dog, causing a spring to so act that a rack is thrown into gear with a cog wheel on the driving shaft, lifting the auger out of the hole, and at this point the cog wheel enters a curved portion of the guard rack, which in turn actuates a spring that throws the rack out of gear and the auger is again held ready for a new operation.

Claim.—The combination of the stops M, with the device for automatically throwing into action the rack bar K and gear I, after the auger has made one or more revolutions to break the thread in the wood, substantially as and for the purpose herein described.

Also, the combination of the screw *m*, cam *n*, and dog *o*, with the spring rod L, for the purpose of throwing the rack bar in and out of gear from the wheel I, substantially in the manner herein described.

Also, in combination with the rod L the spiral spring *v*, for the twofold purpose of forcing said rod upwards and of imparting to it a tendency to turn so as to force the dog *o* to its original position after it has been acted upon by screw *m*, substantially as herein described.

Also, in combination with the stop M the set screw *p* and point 6, when applied to boring machines, substantially as herein described.

Also, the combination of the auger shaft G, bevel wheels F H, wheel I, screw *m*, cam *n*, rack bar K, spring L, with the several devices for operating them, substantially as and for the purposes set forth.

No. 43,365.—C. T. Fairchild, assignor to William A. Veer, Salisbury, N. Y.—*Saw Mill.*—June 28, 1864.—The object of this invention is to furnish in a saw mill a gauge by which to readily determine the thickness of plank to be cut, and it consists of a long rail, equal in length to the log, secured to two arms that move on guide ways at the ends of the platform, and are provided with toothed racks gearing into pinions on an arbor, which is operated by a lever having a spring catch working upon a hinged index, so that when the lever is moved the catch springs into holes in the index and determines the thickness of the cut by moving the log up to the rail.

Claim.—First, the rail B, bearing on the log from end to end, in combination with the arms *a*, toothed racks *c*, pinions *d*, arbors *e*, and hand lever *f*, constructed and operating substantially as and for the purpose specified.

Second, the index *i*, adjustable by means of the slotted hinge *j*, in combination with the hand lever *f*, spring catch *g*, and gauge B, constructed and operating in the manner and for the purpose specified.

No. 43,366.—Henry S. Golightly and Charles S. Twitchell, assignor to James G. English and E. F. Mersick, New Haven, Conn.—*Folding Arm-chair.*—June 28, 1864.—This invention relates to the construction of folding arm-chairs, in which the several parts are united by fixed joints, and are operated by a system of leverage or levers, the fulcra of which are fixed and determined. The seat is made of rigid material, or of a flexible fabric, when stretched upon or secured to a rigid frame. The details of construction are mainly related in the claims.

Claim.—First, the construction of a folding arm-chair by combining with the legs, arms, and back, when jointed together so as to admit of their being folded as herein described, of a seat made of rigid material or of a flexible fabric or substance when secured in or stretched upon a rigid frame, substantially as set forth.

Second, in folding arm-chairs in which the several parts are united by and movable upon fixed joints a non-flexible seat hinged to the front rail, which is the hinge bar common to the arms and front legs, substantially as set forth.

Third, locating the joints of the standards and the cross-legs at the point below the seat and out of the line and back of the rear legs, so that when folded the upper part of the legs will laterally overlap each other and allow of the seat lying within the bulk of the folded standards and legs, substantially as set forth.

Fourth, in folding arm-chairs, the several parts of which are united by and movable upon fixed joints, making the rigid seat, when hinged to the front and supported by the rear rail, as herein described, narrower in the rear than in front, so as to clear the tops of the rear legs, as set forth.

Fifth, in combination with the arrangement last referred to, studs or projections in the rear of the seat for the purpose of suitably bracing the chair when open for use, as herein set forth.

Sixth, combining with a non-flexible seat attached to the front and supported by the rear rails of a folding arm-chair, operating as described, a cam or its equivalent, for the purpose of raising the seat out of side contact with the rear legs while the chair is being folded.

Seventh, in folding arm-chairs, operating as described, the combination of a non-flexible seat hinged to the front rail and supported by the rear rail, with a strap fastened to the front and rear of the seat and passing over the rear rail, for the purpose of holding the seat within the bulk of the folded frame, substantially as set forth.

No. 43,367.—Simeon Goodwin, assignor to Charles A. Shaw, Biddeford, Maine.—*Mechanism for Filling or Building Bobbins in Spinning.*—June 28, 1864.—This invention relates to modifications of the mechanism which controls or regulates the movements of the bobbin rails, by means of which the double-headed bobbin, the double conical-headed bobbin, or the single-headed bobbin, may be built or wound in the pyramidal form. The different modes of "building" are due to certain blanks in the teeth of the rack, and to sliding nuts on a right and left hand screw, and an auxiliary adjustable piece. Different racks are used as wanted.

Claim.—First, a mechanism for building or filling the "Hussey bobbin," in the manner shown in Fig. 4, and as herein described, when constructed and used substantially as set forth and specified.

Second, a mechanism for building or filling the "Emery bobbin," in the manner shown in Fig. 3, and as herein described, and constructed and used substantially as herein specified.

Third, the adjustable auxiliary piece for building or filling the "Goodwin bobbin," in the manner shown in Fig. 6, and herein described, when constructed substantially as hereinbefore set forth.

No. 43,368.—Josee Johnson, New York, N. Y., assignor to John Ward, Jr., Brooklyn, N. Y.—*Clothes Wringer.*—June 28, 1864.—This invention consists of three uprights, between two of which the rollers operate; the other upright secures the machine to the tub by means of screw bolts and spiral springs.

Claim.—First, in clothes-wringing machines, the intermediate upright B, arranged between the uprights A and C, substantially in the manner and for the purpose herein specified.

Second, in combination with the above the employment of the spring I I, arranged at or near the middle height in the machine, substantially as and for the purpose specified.

No. 43,369.—Samuel Lauchli, assignor to himself and Wm. G. Rich, St. Louis, Mo.—June 28, 1864.—*Elevating Jack.*—This invention consists in the employment of a rotating shaft which passes through the standard, the said shaft having two eccentrics arranged on opposite sides of it, so that when the shaft is turned the eccentrics will impart to two independent alternating levers a combined vertical and horizontal movement.

Claim.—The combination of the double eccentric shaft D and independent alternating levers E E, with the rack bar C, substantially in the manner and for the purpose shown and described.

No. 43,370.—Bernard Morahan, assignor to Joseph L. Jernegan, New York, N. Y.—*Car Brake.*—June 28, 1864; antedated June 23, 1864.—This invention consists in the arrangement of a hinged or adjustable lever in such relation to a stud projecting from the side of the car wheel and to the brakes, that when the said dog is lowered, or brought in such position as to come in contact with the stud, the brakes are applied by the direct action of said stud, and when the dog is raised so as to clear the stud the brakes are taken off. In combination with the adjustable dog is a sliding or movable stop and a hinged spring latch, so that by withdrawing the stop the dog is brought in position to come in contact with the stud and to cause the brakes to be applied, and after the brakes have been applied, the latch and stop combined retains the dog and prevent its releasing the brakes until, by a new change in the position of the stop, and by the inclined face of the latch, the dog is thrown back to its original position, thereby taking off the brakes and clearing the stud on the wheel.

Claim.—First, the adjustable dog F, or its equivalent, arranged in combination with a stud or projection *h* on the side of the wheel B^* and with the brake D D, substantially as herein specified, so that, by the direct action of the stud or projection on the dog, the brakes are applied.

Second, the movable stop *j* and hinged spring latch K, or their equivalents, applied in combination with the dog F and stud or projection *h*, in the manner and for the purpose substantially as herein set forth.

Third, the weighted lever j^* and hinged cam *k*, or their equivalents, in combination with the rock shaft G, arm *i*, dog F, and stud *h*, all arranged and operating substantially as and for the purpose herein shown and described.

No. 43,371.—George W. Prince, Cambridge, Mass., assignor to Banker and Carpenter, Boston, Mass.—*Manufacture of Tin Cans.*—June 28, 1864.—This invention consists in uniting the top, bottom, and sides of a tin can by means of a double flange on one section and a single flange on the other, projecting the interlocked flanges towards the interior of the can, and soldering the joint from the outside.

Claim.—Uniting the top, bottom, and sides of a tin can by means of double or guttered flanges on one piece, and single flanges on the adjacent piece, through the intervention of solder applied thereto when the lock or joint is turned and formed on the inside of the can, which gives strength to the can and protection to the lock or joint, substantially in the manner and for the purpose described.

No. 43,372.—George C. Taft, assignor to Thomas H. Dodge, Worcester, Mass.—*Drill.*—June 28, 1864.—This invention is designed as an improvement on the drill patented by the said Taft March 24, 1857, and consists in making in the eccentric, which operates the feed lever, a slot which allows a variation of its eccentricity, giving the feed lever more or less throw, as desired. To the arms of the ratchet feed wheel is attached a cam or pawl which, while it allows the driving shaft to revolve independently of it in one direction, clutches a collar thereon, when the motion of said shaft is reversed and turns the feed wheel with it in the same direction, for the purpose of running back the drill.

Claim.—The movable slotted cam H within the recess of the lever E, to impart to said lever an oscillating motion. substantially as and for the purpose herein described.

Also, in combination with the feed wheel D, the friction wheel L and pawl M, for the purpose of coupling and releasing the screw spindle B from the driving pulley, substantially as herein described.

Also, in combination with the adjustable slotted cam H, within the recess of the lever E, the adjustable pin-supporter *h*, as and for the purpose described.

Also, the combination of the driving pulley K, cam lever E, slotted cam H, friction wheel L, pawl H, feed wheel D, and spindles B C, when constructed and operated as herein described.

No. 43,373.—J. T. Warren, Stafford, N. Y., assignor to Robert A. Chesebrough, New York city.—*Cartridge Box.*—June 28, 1864.—The inner tin cartridge case has two apartments, one above the other, each being subdivided; and when the upper one is emptied, the case can be rotated, or turned upside down, by means of two pivots on the leather box and two slots in the tin case, without detaching it from the leather box.

Claim.—The construction, arrangement, andcombination of the metallic box E, with its upper and lower apartments G and link H, operating on the pivot J of the case K, substantially as herein described.

No. 43,374.—Sam. H Witmer, assignor to Mahlon M. Wambaugh, Cincinnati, Ohio.—*Portable Coffee Mill.*—June 28, 1864.—This invention consists in constructing a coffee mill in the form of a telescope, so that the tube in which the grinding is performed will slide into the outer tubes which can be used for a cup, and the space above the grinding surfaces can be used to store the coffee.

Claim.—The portable telescopic coffee mill, constructed substantially as described.

No. 43,375.—Richard D. Chatterton, Bath, Great Britain.—*Railroad Car Coupling.*—June 28, 1864.—This invention consists in the use or employment of a shackle, in connexion with a pawl or catch placed in the draw head, and all so arranged that a self-connecting car-coupling is obtained, and one which will be applicable to the securing of draught poles and thills to ordinary horse carriages.

Claim.—The combination of the pawl B B', coupling head *d d*, and bearing D *d*, arranged and operating substantially as and for the purposes specified.

No. 43,376.—Carl Kronig, Vienna, Austria.—*Sugar Mould.*—June 28, 1864.—This invention consists in making moulds for sugar loaves of papier-maché or pasteboard instead of metal or wood. The moulds are sufficiently strong, light, and not liable to corrosion.

Claim.—The new article of manufacture herein described, being a sugar mould formed of papier-maché, in the manner substantially as set forth.

No. 43,377.—Albert Pagenstecher, Valparaiso, Chili.—*Water Defences as the Protecting Armor of Vessels.*—June 28, 1864.—This invention consists in the application to the outside of a vessel of a series of chambers, with flexible sides made of sheets of India-rubber or other suitable elastic material, to be filled with water when in action, and emptied when not in action, in such a manner that the armor can be drawn up tight to its sides, where it does not interfere with the sailing qualities of said vessel; and when preparing for action the armor can be expanded by filling the chambers with water, thus encasing the entire vessel in a water jacket, and protecting it against projectiles of any kind that may be hurled against it.

Claim.—First, the employment or use of bags made of India-rubber or other suitable material, and filled with water, substantially as herein specified, for the purpose of forming armor for a vessel.

Second, the application to the sides of a vessel of sheets B of India-rubber, or other suitable flexible and elastic material, to operate in combination with metal strips C and adjusting bolts E, substantially in the manner and for the purpose herein shown and described.

No. 43,378.—**Jean Bouvet**, La Rochelle, France, assignor to **Moritz Pinner**, New York, N. Y.—*Metal Cans, Cases, Boxes, &c., for Preserving Food, Gunpowder, Liquids, Paints, Oils, and other Articles.*—June 28, 1864.—This invention is applicable to all hermetically sealed metal vessels which it is necessary to open, such as sardine boxes, fruit cans, powder and paint kegs, &c. The invention consists in soldering a wire between the body of the can and the portion which is to be removed to effect an opening. One end of this wire is left exposed, and by wrenching the wire out the can or box is opened.

Claim.—The manufacture and use of metal boxes, cans, cases, and other metallic vessels, hermetically sealed or closed by inserting and soldering a wire between the body and the intended opening of such metal box, can, case, and other metallic vessel, one end of such wire protruding at the outside for beginning and effecting such opening.

No. 43,379.—**J. R. Agnew**, Lancaster, Penn.—*Mould for Making School Globes.*—July 5, 1864.—This invention consists in forcing the paper pulp, or other plastic material from which the globes are made, into a hemispherical mould until the two parts of this mould, which are united by springs, separate by the yielding of the springs.

Claim.—First, the combination of the two parts A B of the mould with stationary flanges $d\ e$ and movable flanges $g\ h$, constructed and operating substantially as and for the purpose specified.

Second, the plunger l in combination with the screw m, or its equivalent, and with the two parts A B of the mould, constructed and operating as and for the purpose set forth.

Third, the spring fastenings $j\ j^{*}$, in combination with the plunger l, screw m, and convex and concave mould A B, constructed and operating in the manner and for the purpose substantially as herein shown and described.

No. 43,380.—**James Amos**, New York, N. Y.—*Adjustable Skirt Former.*—July 5, 1864.—In this device the waist block is made in four sections, which are caused to move outward or inward upon rods passing transversely through the centre, the several sections being held in place by means of pins passing vertically through the said rods. The legs of the former are hinged to the periphery of the waist block, and their expansion at the lower end is regulated by a series of slides attached to the interior of said legs, and moving in guides upon an interior horizontal disk.

Claim.—A former, for use in the manufacture of skirts, so constructed that it can be enlarged or diminished in size substantially on the principle set forth, so that by means of and on the same former skirts of different sizes can be made.

No. 43,381.—**Edward R. Arnold**, Providence, R. I.—*Valve for Steam Engine.*—July 5, 1864.—This invention consists in a self-adjusting induction way, which is balanced or nearly so to connect the steam chest with the valve, the area of the said induction way being such as to counterbalance the pressure in the ports of the valve and cylinder.

Claim.—A balanced or nearly balanced, self-adjusting induction way to connect the steam chest with the valve, the area of said induction way being such as to counterbalance the pressure in the ports of the valve and cylinder, substantially as described.

No. 43,382.—**John B. Atwater**, Chicago, Ill.—*Provision for the Recoil of Ordnance.*—July 5, 1864.—This invention consists in providing an air-tight plunger or piston rod passing axially through the breech of the gun, and fixed to the chassis, or to some point outside of the gun carriage, upon which plunger the gun is allowed to recoil, thereby contracting the chamber space within the gun by the intrusion of the said plunger.

Claim.—First, a piston D, with or without head D′, adapted to be projected within the bore by the force of the recoil, in any manner substantially as described.

Second, the combination with the piston D of the hoop or frame E, adapted to hold the said piston against recoil, substantially as and for the purpose specified.

Third, the combination of the spring E′ with the piston D and hoop E, to gradually arrest the recoil of the gun, substantially as set forth.

Fourth, the combination of the stuffing box A2 a with piston D, adapted to be projected within the bore by the recoil of the gun as explained.

No. 43,383.—**Franklin L. Bailey**, Boston, Mass.—*Printing Press.*—July 5, 1864.—The general nature and object of this invention are explained in the claim.

Claim.—A rotating reciprocating or sweeping bed F, whose flat plane surface for the type stands in a plane always obliquely to its centre of motion, and obliquely to the arc of a circle which any point on its surface may scribe as the bed moves to and fro on its centre or centres of motion, so that the lower edge of any form will scribe a smaller circle than any other part of the same.

Second, a vibrating platen, which is so arranged that its face swings upwards for the reception of the sheets upon a hinge near its top edge, also the combination of the same with the bed F, also giving the same a downward sliding, or equivalent motion, for the purpose specified.

Third, the combination of the platen with its movable support or slide H, also the combination of the spring Y, or its equivalent, with the slide H.

Fourth, giving the platen its vibrating movement and period of rest by means of the cam groove Q, or its equivalent, and the moving bed F.

Fifth, the combination of the platen and a movable support H, or its equivalent, with the adjustable support plate I, for the purpose specified.

Sixth, the combination of the nipper a' and its lip b with the platen which swings upward to receive upon it the card to be printed.

Seventh, the arrangement for operating the nipper a' with its lip, for the purpose of dropping the cards.

Eighth, the combination of two or more sliding ink-distributing tables, moving laterally and going in opposite directions to one another, substantially as described; also, the combination with them of the ratchet wheel m and forked lever p, which operate them.

Ninth, combining with a rotating reciprocating bed an ink-distributing table, which moves laterally, for the purpose described.

No. 43,384.—**Alfred M. Bailey** and **John O. Couch**, Middlefield, Conn.—*Machine for Driving Screws.*—July 5, 1864.—In this machine the tool spindle passes through a sleeve, to which motion is imparted by a belt, and both the sleeve and spindle carry a collar which, when the two are brought in contact, operates as a clutch, and thus causes motion to be imparted to the spindle. Surrounding the point of the tool at the lower end of the spindle, and sustained by a spiral spring, is a cap, cone-shaped internally, which encloses the head of the screw as the latter is brought up into it, and keeps the axis of the screw in line with that of the driver. The work containing the screws to be driven is placed upon a platform, and elevated by pressing upon a foot lever until the screw head enters the conical cap, and so that the point of the tool will enter the notch; further pressure upon the foot lever will then elevate the platform and spindle until the two collars come in contact with each other, when a revolving motion will be communicated to the screw-driver.

Claim.—First, the production of an organized machine or apparatus or tool for driving wood screws, arranged and combined to operate as herein described when actuated by a prime mover.

Second, the combination with a suitable frame holding in fixed bearings the screw-driver, and with a platform to support the work to be operated upon of a mechanism for elevating the platform to the driver, together with a self-centring screw head cap for holding the driver concentrically with the screw, substantially in the manner and for the purpose described.

Third, the method of operating the screw-driver by a friction device, substantially as described, the same consisting of a pair of friction pads or clutches upon the tool holder, and its surrounding pulley shaft respectively arranged for action in conjunction with the movable platform, as described, so that by elevating the platform to the screw-driver the pads or clutches will be brought into frictional contact, whereby rotary motion may be imparted to the tool or stopped, and its speed checked at pleasure.

No. 43,385.—**Edward Bealback**, Newark, N. J.—*Process of Separating Silver and Gold from Lead.*—July 5, 1864.—This invention consists in melting lead containing gold and silver, with a small quantity of zinc, casting the metals thus combined in ingots, which latter are then placed upon an inclined hearth, and then raising the temperature so as to melt only the lead, leaving the gold and silver upon the hearth combined with the zinc.

Claim.—First, melting the lead which contains the silver and gold in a furnace with an inclined earth, and drawing it off into a kettle containing, or to contain, a proper quantity of zinc to take up the silver and gold, instead of melting it in the kettle, as and for the use and purposes herein described and set forth.

Second, casting the mixture of lead, silver, zinc, and gold, after it has been sufficiently stirred for the zinc to take up the silver and gold, into pigs or masses of suitable form and size to re-melt in the furnace.

Third, placing these pigs or blocks of lead, zinc, silver, and gold in a furnace with an inclined hearth, and then subjecting them to a low degree of heat, sufficient to cause the lead to melt and run off, but not sufficient to melt zinc, silver, and gold.

No. 43,386.—**William H. Barney**, Columbus, Ohio.—*Rest for Turning Lathes.*—July 5, 1864.—This invention consists in attaching a standard to the lathe bench, upon which is a flange guide plate of iron, in which works the wooden back rest. To this rest is attached an iron plate against which works an eccentric operated by a hand lever bent so as to be convenient to the hand, and supported on a vibrating post pivoted at its lower end. Upon the top of the said post is a pin, around which the eccentric end of the lever is placed, so that by taking hold of the end of the lever, the eccentric being slightly in contact with the plate, it will move the rest backward or forward, and then, by a slight turn to the right, firmly clamp be rest in its proper place.

Claim.—First, a back rest for turning lathes, so constructed that the operator can adjust and set the same in the desired position by the manipulation of a single lever operating substantially as described.

Second, the combination of the vibrating support D, cam lever *f g*, guide piece G, and adjusting bolts *h*, substantially in the manner and for the purpose described.

Third, the combination of the vibrating arm D and vibrating lever E, with the reciprocating support A, substantially as described.

No. 43,387.—HENRY and FREDERICK J. L. BLANDY, Zanesville, Ohio.—*Pump Gear.*—July 5, 1864.—This invention consists in transmitting motion from the crank shaft of a steam engine to a counter shaft for working the feed pump by means of a system of friction wheels, one of which is arranged as an idle wheel, to be thrown in and out of gear as required to connect the pump with, and disconnect it from, the engine; the object being to effect such connexion and disconnexion more readily than by the usual means, and to relieve the engine of all avoidable friction, and the driving gear of the pump of all avoidable wear when the pump is not in operation.

Claim.—The employment, in combination with a countershaft B, for driving the feed pump of an engine, of a friction wheel E on the main shaft of the engine, a friction wheel F on the said countershaft, and an intermediate idle friction wheel G suspended from a lever, or its equivalent, substantially as herein specified.

No. 43,388.—LEANDER W. BOYNTON, Hartford, Conn.—*Attaching Horses to Carriages.*—July 5, 1864.—This invention consists in placing upon the thills metallic tubes containing spring bolts and graduated scales, to which the horse in harness is fastened, the same to be used instead of a whiffletree. With the above is connected a breech strap provided with shifting collars passing across the thills near the cross-bar, and used for a holdback. The shifting collars serve to adjust the breeching to horses of various sizes.

Claim.—First, the draught harness, in combination with the metallic tubes, springs, bolts, and graduated scales, when the whole is constructed, arranged, and fitted for use, substantially as herein described and set forth.

Second, the above in combination with the breech strap C C, and its shifting collars *q*, for adjusting the height of the breech strap, when the whole is constructed and fitted for use, substantially as herein described.

No. 43,389.—A. G. BURTON, Shelburne Falls, Mass.—*Attaching Keys to Melodeons.*—July 5, 1864.—This invention consists in attaching the keys to the keyboard of melodeons, &c., by a flat spring, in place of a hinged attachment and additional springs.

Claim.—Uniting keys of melodeons to the keyboard, by means of springs, substantially as and for the purpose set forth.

No. 43,390.—J. N. CLEES, Darbyville, Ohio.—*Grain Separator.*—July 5, 1864.—This invention relates to that class of separators provided with a rotary cylindrical screen, one end of which is made of coarse wire and the other end of fine wire, for the purpose of separating the straw and sticks from the grain, the latter falling into a trough and carried by a spiral conveyer to the discharge spout, where it falls into bags provided for the purpose.

Claim.—The rotating screen B, composed of a fine and of a coarse portion *a b*, the spiral conveyer E, and blast spout F, all arranged and combined to operate in the manner substantially as and for the purpose herein set forth.

No. 43,391.—ORESTES CLEVELAND, Jersey City, N. J.—*Pencil.*—July 5, 1864.—This invention consists in dovetailing together the two pieces of wood of which the pencil is formed in addition to glueing them together.

Claim.—A pencil constructed with the parts glued together with dovetailed joints, substantially as described.

No. 43,392.—DANIEL CLOSE, Hammondsburg, Penn.—*Excavator.*—July 5, 1864.—This invention consists in the combination of a plough and elevators with a dirt receiver. The earth is removed by the plough and deposited upon elevators formed on the inner side of a wide wheel. As the wheel revolves the dirt is carried up, and upon reaching the upper side is deposited in the dirt box. When the latter is filled, the bottom is opened by the action of a lever, and the dirt deposited as and where desired

Claim.—The dirt-box M M, with the valves in bottom N O, constructed as described in combination with the ploughs F and elevators A; the whole, when combined, for the purpose set forth and constructed as described.

No. 43,393.—SAMUEL COBURN, Stamford, Conn.—*Detergent.*—July 5, 1864; antedated June 23, 1864.—This invention consists in the combination of soda with ammonia and chlorine, to be used as a detergent.

Claim.—A combination, for the purpose aforesaid, of soda with ammonia and chlorine, by the means and in the manner substantially above stated.

No. 43,394.—GILES H. COLLINS, Wayne, Mich.—*Weather Strap.*—July 5, 1864.—This invention consists in the employment of a sliding bar provided with a spring projecting from the same, and combined with the door. In connexion with the above is a swinging curved lever operating in combination with a tumbler, so that in closing the door the weather strip will effectually prevent the admission of air or water.

Claim.—First, the sliding-bar E having the spring-catch G projecting therefrom, when combined with a door, and operating with reference to a weather strip A and its attachments, substantially in the manner herein set forth.

Second, the swinging-lever D when operating in combination with the tumbler F, sliding bar E and spring-catch G, in the manner herein set forth.

No. 43,395.—JOHN DAVIS, Allegheny City, Penn.—*Cultivator.*—July 5, 1864.—This invention consists in attaching to the axle of a two-wheeled cultivator on each side of the seat a slotted metal plate for holding and adjusting the standards to which the cultivator teeth are attached, so that they can be raised or lowered, or separated more or less from each other, and by changing them from one to the other side of the seat, the share may be made to change their angle to the line of draught, so as to throw the earth to or from the plants as desired.

Claim.—The arrangement of the pieces *e* and *e′*, uprights *f* and *f′*, and bars *g*, with teeth *h*, the whole being constructed, arranged, and operating substantially in the manner herein described and for the purpose set forth.

No. 43,396.—ELLIOTT H. CRANE, Jonesville, Mich.—*Animal Trap.*—July 5, 1864.—This invention consists of a box provided at one end with a door hung on a vertical centre shaft, the lower end of which is connected to a coiled spring, and the upper end provided with a crank. The bait is hung in front of one side of the door to a lever connected with a spring detent, so that a movement of the bait releases the door, and drives the animal into the box; the door being caught at each half revolution by the spring detent, ready for repeated action until the driving spring is exhausted.

Claim.—The combination of the horizontal revolving door B, vertical shaft C, crank E, spring D, stop F, external trigger G, bait-hook H, and guard plates *e e*, all being arranged to operate in the manner and for the purposes specified.

No. 43,397.—JAMES FALLOWS, Philadelphia, Penn.—*Lamp Shade Holder.*—July 5, 1864.—This invention consists in constructing and attaching the springs to the upper part of a lamp shade in such a manner that they will serve the double purpose of clasping the paper shade, and holding the same firmly upon the chimney.

Claim.—Constructing and applying the springs *a*1 *a*2 *a*3 to the crown A, so that they shall serve the double purpose of clasping the paper shade adjustable in the said crown A, and of supporting the whole together upon the chimney of the lamp, substantially in the manner described and set forth, for the purposes specified.

No. 43,398—GEORGE H. GARDNER, Philadelphia, Penn.—*Pocket Knife.*—July 5, 1864.—This invention consists in casting the handle and spring of a pocket knife in one piece, and with a slot in the end opposite the blade, forming a small wrench, with a slight projection in one jaw thereof, and combining with the handle so constructed, a blade and a screw-driver.

Claim.—As a new article of manufacture, the pocket knife constructed as herein described.

No. 43,399.—JAMES M. GOW, Rock Island, Ill.—*Car Coupling.*—July 5, 1864.—This invention relates to an improvement upon a car coupling, for which a patent was granted to this inventor in February 9, 1864, and it consists in providing the coupling pin with an arm or projection, having a pin passing transversely through for the pin to swing upon and describe a short arc under the action of the entering link. At the lower part of the sides of the pin are projections, which, in connexion with the curved ledges at each side of the recess, serve as a support to the pin.

Claim.—The coupling pin B, provided with an arm or projection *h*, having a pin *i* passing transversely through for the pin to swing upon and describe a short arc under the action of the entering link or shackle, substantially as set forth

Also, in combination with the pin B, thus suspended, the projections *f f* at the lower parts of the sides of the pin, in connexion with the curved ledges *g* at each side of the recess *d*, to serve as a support for the pin, as set forth.

Also, the grooves *k k* at each side of the opening *b* and slot *c*, in combination with the pins or screws *l l*, the projections *f f* of the pin B, and the recesses *m*, in the sides of the slot *c*, all arranged substantially as and for the purpose specified.

Also, the shoulder *n* on the back part of the pin B, when arranged in relation with the back part of slot *c*, for the purpose herein set forth.

No. 43,400.—SOLOMON S. GRAY, Boston, Mass.—*Paper Collars.*—July 5, 1864.—In this invention the collar is cut from the paper in such a manner as to be expansible in the direction of its length. The collar is then formed upon the machine for which a patent has been granted to this inventor. The lower part of the collar or the band is expanded or made flaring in a downward direction.

Claim.—First, cutting out the paper strips from which the collars are to be made so as to have the greater expansibility of the paper on the line of the length of the collar when the collar is to be formed by extension of the material in whole or in part, substantially as and for the purpose described.

Second, flaring the under portion of the collar to cause it to fit more exactly the shape of the neck of the user or wearer, substantially as described.

No. 43,401.—SOLOMON S. GRAY, Boston, Mass.—*Apparatus for Forming Collars.*—July 5, 1864.—This apparatus consists of a plunger of the required shape, arranged to operate vertically through a circular opening in a table or frame upon a guide fixed to the frame, and fitting in a groove in the side of the plunger in the direction of its movement flush with the periphery thereof when the former is pressed down. An expansible zone ascends from the circular opening in the table, being continuous therefrom, around which the collar is placed, its ends being held by a jointed clamp upon the fixed guide, the collar being so cut out from the paper as to be expansible in the direction of its length. The plunger, which is a section of a cone inverted, dilates the collar into the form desired. The movement is effected by means of a crank arrangement beneath the forming table.

Claim.—First, the combination of the former D with the elastic band or its equivalent, when operating substantially as herein described.

Second, holding the strip or collar by its two ends, while the former is being forced into or through it to mould it to the desired form, substantially as described.

No. 43,402.—SMITH GROOM, Troy, N. Y.—*Valve for Steam Engines.*—July 5, 1864.—This invention consists in forming two additional recesses in the under side of the valve, and in providing apertures from the top down through the same to convey the steam to the recesses, so that its pressure there may counterbalance the pressure upon an equal area on the top of the valve. The steam induction passages are made much narrower than in ordinary engines, to enable the valve to be worked, as it is furnished with a bearing surface entirely around the recesses to prevent the passage of any steam from them.

Claim.—The recessed or chambered slide valve of steam engines, together with its respective ports or their equivalents, substantially as hereinbefore set forth.

No. 43,403—JOSEPH R. GROWS, Brunswick, Maine.—*Liniment.*—July 5, 1864.—This liniment consists of a composition of turpentine, vinegar, eggs with the shells, alcohol, gum camphor, and skunk's grease.

Claim.—Compounding the ingredients named in the proportions and manner herein described, using for that purpose the aforesaid compounds, which will produce the liniment or composition aforesaid.

No. 43,404.—LUTHER HALL, Boston, Mass.—*Sewing Machine.*—July 5, 1864.—In this machine the toe, or loop-spreading portion of the hook H, is nearly a triangle in form, two sides of which are slightly curved; its top is slightly convex, and its under side nearly flat, and provided with a cleat about an eighth of an inch thick, the side being bevelled under so as to form a shoulder to catch the loop and hold it until it has carried it past the bottom of the spool case. The looper is on a rocking arm, pivoted eccentrically on a revolving disk, and its point describes an irregular ellipse about the spool of commerce and its case and holder.

Claim.—First, seizing the needle-thread and carrying it around the under spool S and spool case N by means of the hook K, constructed and arranged substantially as described.

Second, the spool-case holder or bracket M, with a lateral opening so constructed and arranged that while it retains the spool in place it will receive the distended loop of the needle-thread when seized and presented by the hook H, to be passed under and around the spool, substantially as described.

Third, the spool case, with its horn *b*, constructed substantially as set forth for the purpose specified.

Fourth, the combination and arrangement of the wheel G, hook H, rod I, and lever J, substantially as set forth, and for the purpose of carrying a loop of the needle-thread around a spool of commerce.

Fifth, the combination of the almost stationary spool-case for containing the common spool of commerce with the hook or looper H, substantially as and for the purpose set forth.

Sixth, the combination of the bracket or spool case holder M, the spool case N, with its horn *b*, and spool S, substantially as set forth and for the purpose described.

No. 43,405.—NORMAN C. HARRIS, Poultney, Vt.—*Curry-comb.*—July 5, 1864.—This invention consists in lengthening the back edges of the teeth bars, and also in curving the same laterally, so as to give greater breadth of support to the back of the curry-comb.

Claim.—Elongating and curving or bending out laterally, on both sides, from the original plane, the back edges of the teeth bars, so as to give greater breadth of support thereto upon the back of the curry-comb, substantially as and for the purposes herein specified.

No. 43,406.—THEODORE HEERMANS, Mitchelville, Tenn.—*Curing and Drying Hay, Grain, &c., in Ricks, Stacks, Mows, or Pens.*—July 5, 1864.—The grain or hay is stored over frames, which are so constructed that openings and passages permitting a free circulation of air are formed in the rick or stack. The constructions of the frames are various.

Claim.—Curing and drying hay, grain, &c., in ricks, stacks, mows, or pens, in the manner and by the means substantially as herein set forth.

No. 43,407.—DANIEL C. HELLER, Reading, Penn.—*Shutter Bolt.*—July 5, 1864.—This invention consists in passing the bolt through a sleeve placed inside of the case, from which sleeve a stud projects outward beyond the case and through a button with a cam-shaped fan. Through the outer end of the stud is a pin upon which the cam operates when turned in one direction, to hug the sleeve and bolt up against the case, and confine it in any position desired. By turning in the opposite direction the bolt is released.

Claim.—The revolving button *f* with inclined planes *h*, in combination with the stationary stud *e*, pin *i*, and bolt A, constructed and operating in the manner and for the purpose herein shown and described.

No. 43,408.—NICHOLAS HOLDEN, New York, N. Y.—*Stitching Clamp.*—July 5, 1864.—This invention consists in the employment of a clamp for stitching or sewing loops upon, with a loop stick attached, either adjustable or stationary.

Claim.—A clamp for stitching or sewing loops upon a loop stitch attached, either stationary or adjustable, as herein described and for the purpose set forth.

No. 43,409.—JOSEPH HOUGH, Westchester, Penn.—*Motive Power Cut-off in Grist Mill.*—July 5, 1864.—This invention consists in the employment of a supplemental hopper arranged within the main hopper, and made to operate by means of a series of levers and connecting rods, the gate of a water wheel or the idle or friction wheel of a driving belt, so that when the grain has escaped from the hopper, the gate will close and cut off the water from the wheel.

Claim.—The arangement of the supplemental hopper D, levers E G M, rods F E N, and rock shaft *d*, in combination with the gate of a water wheel, or idle or friction roller of a driving belt, for the purpose of automatically disconnecting the motive power of a grist mill, substantially as specified.

No. 43,410.—J. N. HOUSTON, Decatur, Ind.—*Lever Spring Latch.*—July 5, 1864.—This invention consists of a spring lever latch, secured to the bottom rail of the sash. When the shutter is closed the outer or hooked end of the latch catches into a plate secured thereto. To release its hold the end of the latch which projects inside the rail is pressed down and held by a vertical latch catching over it, while the shutter is being removed.

Claim.—The combination of the taper-ended hook C, spring *b*, and self-acting elastic retaining catch D, when the said parts are constructed and arranged in the manner herein specified.

No. 43,411.—FRANCIS A. HOYT, Buffalo, N. Y.—*Water Gauge.*—July 5, 1864.—This invention consists in the arrangement, within the upper part of a dry steam chamber, of a valve seat, the valve being connected by means of a chain to the operating lever, so that as the gauge rises the chain will accommodate itself to the space in which it is placed, and when the gauge falls the requisite distance, the valve will be readily operated.

Claim.—The arrangement of the valve seat in the upper part of the dry steam chamber, in combination with the operating lever G and connecting chain H, for the purposes and substantially as described.

No. 43,412.—WILLIAM WHEELER HUBBELL, Philadelphia, Penn.—*Breech-loading Ordnance.*—July 5, 1864.—This invention relates to that class of faucet breech guns in which the cartridge or charge is passed through a rear opening in the gun, and through a corresponding opening in a rotating breech spigot, and the improvement consists in having the opening through one side of the faucet instead of through its centre as usual, and in having the rear portion of the gun surrounding the faucet projecting below the external line of the gun, as the faucet is rotated on a horizontal axis somewhat below the axis of the bore. An automatic finger is employed for covering the vent, so operated by the rotating faucet that the vent shall be opened only when the breech is fully closed.

Claim.—First, the peculiar combination of the loading hole *n* through the breech cylinder, with the metal solid around it, with the channel *l*, the upper side of the coned faucet breech and the chamber *f* in the barrel, for the purpose of forming a strong, light, and serviceable construction of breech-loading cannon, as described.

Second, the automatic vent-stopper or finger U, operated by the spring W and pin V, as described.

Third, enlarging the breech cylinder beyond the barrel, on the lower side of the barrel, and leaving the straight line of sight on the upper part, with loading hole *n* through the metal, to adapt it to the faucet breech for cannon, as described.

No. 43,413.—GUSTAVUS P. JASPER, Charlestown, Mass.—*Condensing Apparatus.*—July 5, 1864.—This invention consists in placing a closed vessel A at an elevation of about thirty-two feet above the other closed vessel F, and connecting the two with a pipe which extends down nearly to the bottom of the vessel F, and is open at both ends so as to communicate with both vessels. Through the top of the vessel A passes a pipe extending down about two-thirds the length of the vessel, that portion within the vessel being perforated with small holes for the purpose of forming a spray pipe. The condensing water is admitted through this pipe and is thrown into the steam in the form of spray, and then the condensation of the steam is effected. The steam is admitted to the vessel from the engine or from a number of engines through the nozzle placed upon its side, as, in consequence of the great elevation of the vessel A above the vessel F, the condensing water and the water of condensation will be taken from the vessel without the aid of a pump.

Claim.—Improved condensing apparatus made as hereinbefore described, viz: with the close vessel F provided with the eductions G H, or either of them, and combined with the stand pipe E and the condenser A, having the spray pipe and other appliances, substantially as specified.

No. 43,414.- John Johnson, Saco, Maine.—*Treating Gum for the Manufacture of Varnish.*—July 5, 1864; antedated June 18, 1864.—The object of the jacket which surrounds the sides and cover of the boiler is to prevent loss of heat by radiation. By this means the gum which adheres to the sides of the vessel is prevented from solidifying, and the melting can be conducted without the danger of raising the heat to such a degree as to cause destructive distillation and discoloration to the gum.

The exhauster is for the purpose of detaining a partial vacuum, which enables the melting process to be conducted at a lower temperature than heretofore.

Claim.—First, the application of the jacket C of a good non-conductor for heat to the body and cover of a gum boiler A, in the manner and for the purpose substantially as herein specified.

Second, the employment or use, in combination with a gum boiler A of an exhauster D, substantially such as herein described, or its equivalent, for the purpose set forth.

No. 43,415.—Jacob Kennel, Morton, Ill.—*Portable Fence.*—July 5, 1864.—This fence is made in sections by bolting together two pieces of scantling in the manner of a saw buck and boarding up on one side and laying a rider on the top. One piece of this scantling serves as a brace to prevent its blowing over, which brace may be set at any angle desired.

Claim.—The combination of the posts a of separate panels with the brace f between them and the connecting bolt o, when said posts and braces extend and cross above the top rail, forming forks for riders to rest in, in the manner described, for the purposes set forth.

No. 43,416.—Albert Kuhn and Leonard Nax, Philadelphia, Penn.—*Tobacco Pipe.*—July 5, 1864.—This invention consists in the arrangement of a pipe, bowl and stem, having an intermediate chamber with a saliva tube attached, which permits the smoke to be inhaled free from the extracts of the tobacco.

Claim.—The arrangement of the chamber C, between the bowl B and stem A, in combination with the receptacle D and the enclosed stem c', substantially as described and set forth, for the purposes specified.

No. 43,417.—Hugh Leslie, Jersey City, N. J.—*Steam Boiler.*—July 5, 1864.—This invention consists in placing in the crown sheet of the furnace a series of tubes which project some distance downward from the sheet and are open at their upper ends but closed at their lower ends, so that they are constantly filled with water on their inside and surrounded with the heat from the fuel on their outer side. Combined with the fire chamber is a set of vertical tubes, for conveying the products of combustion down to the ash pan which is placed below the boiler, from whence they pass through another series of vertical tubes up through the water space of the boiler to the steam space, and thence to the up-take. The object of this arrangement being to utilize what heat may remain in the gases after having left the water space of the boiler in drying or superheating the steam.

Claim.—In combination with the fire chamber D the flues G, to conduct the products of combustion downward, all substantially as herein shown and described.

Also, the combination with the short flue tubes G of the flue tubes H, extending through the boiler, substantially in the manner and for the purpose herein shown and described.

No. 43,418.—Harmon Lovelace, Chatfield, Minn.—*Manufacture of Sleigh Runners.*—July 5, 1864.—This invention consists in casting the runner upon or around a wrought iron rod of an equal length, previously arranged in the mould, in order to thus prevent the parts from separating in case the runner becomes broken by use or otherwise.

Claim.—A shoe for sled and sleigh runners, constructed by casting metal around wrought metal rods, in the manner substantially as and for the purpose herein set forth.

No. 43,419.—Samuel T. McDougall, New York, N. Y.—*Gas Stove.*—July 5, 1864.—This stove consists of several divisions or compartments, each of which is heated by a separate burner, and are arranged in the form of a series of steps descending from the chimney or escape pipe to the front of the stove, the waste heat from each division being conducted into the one next above. Within each compartment is a cylinder, in which is placed a gas or taper burner, or should it be desired to use coal or other fuel, by partially closing the cylinder at the bottom, it can be converted into a fire box.

Claim.—A gas stove constructed in a rising series communicating with each other, substantially as described, each supplied with a separate combination cylinder, operating as specified.

No. 43,420.—S. T. McDougall, New York, N. Y.—*Baby-jumper and Swing.*—July 5, 1864.—This invention consists of an outside frame, supporting an inside one, which forms the swing; the seat and a bed attached to the frames are the necessary springs, guides, and levers.

Claim.—First, constructing baby-jumpers and nursery-swings, in the form and composed of the various parts herein described.

Second, the combination of the baby-jumper, the nursery swing, the cradle or bed, and the baby-walker, constructed and arranged substantially as described.

No. 43,421.—Jeremiah Meyer, Bay Ridge, N. Y.—*Process for Printing from Engraved Plates.*—July 5, 1864.—This invention consists in preparing the surface of the paper before printing by the application of a mixture of chalk or other suitable material, with or without gum-arabic, and washing off this stratum after the printing has been accomplished in such a manner that engravings on steel, copper, or composition can be printed from rollers in the ordinary cylinder machine.

Claim.—The within described process of preparing the surface of paper before printing, by the application of a mixture of chalk or other suitable material, mixed with or without gum-arabic, and washing it after printing, substantially in the manner and for the purpose herein described.

No. 43,422.—Edward H. More, Moresville, N. Y.—*Grading and Road-scraping Machine.*—July 5, 1864.—This invention consists in so constructing the parts of the grading machine that a greater or less pressure may be brought to bear on the scrapers, as desired, and the scrapers may be adjusted when not in use, out of a working position—one of the scrapers being so constructed as to work over sloping ground.

Claim.—The two scrapers D D', connected to the platform A, substantially as shown in connexion with the arms F F', all arranged substantially as and for the purpose herein set forth.

Also, the adjustable wing or scraper D', constructed of two parts e e', connected by a joint f, and used with the bar F, or its equivalent, substantially as and for the purpose specified.

No. 43,423.—Robert Murphy, Jasper, N. Y.—*Churn.*—July 5, 1864.—This invention consists in suspending a barrel shaped cream receptacle on trunnions in a suitable framing, and having the receptacle cut circumferentially a suitable distance from the end, and fitted within a hoop or band, and secured in a tightly closed state by means of hooks or staples.

Claim.—Barrel churn A, rotated upon transverse trunnions a a, and provided with counterpoises d^* d, the whole being arranged to operate in the manner and for the purpose set forth.

No. 43,424.—Lewis A. Norton, Healdsburg, Cal.—*Paddle Wheel.*—July 5, 1864.—This invention consists in the employment of a series of radially rotating floats pivoted within a frame so as to turn readily and present their edges to the water, being actuated by means of stationary cams in connexion with a shackle bar.

Claim.—As my invention and improvements in paddle wheels, a series of radial rotating floats, pivoted as described, in combination with the shackle bar E, and stationary cams B B, which operate the shackle bar and floats, as described.

No. 43,425.—Wm. H. Paige, Springfield, Mass.—*Fire Escape Ladder.*—July 5, 1864.—This invention relates to a mechanism capable of being reduced to a compact form, and consists in a series of hinged ladders made in sections, that are wound up upon a reel or drum, and, by means of a guide, can be elevated to the required height, and the sections fastened as they are projected upwards.

Claim.—First, the hinged ladder N, having its several sections of unequal lengths, when said inequality is graduated, as herein described, in combination with reel I and other suitable mechanism for operating it.

Second, the construction of the hinged ladder N, swinging standards O O O, and chain p, when arranged and operating substantially as herein described.

Third, the combination of a hinged ladder with a reel I and spirally-grooved cone K, operated by chain v, or its equivalent, substantially in the manner and for the purposo set forth.

No. 43,426.—Charles Patch, South Reading, Mass.—*Sewing Machine Shuttle.*—July 5, 1864.—This invention consists of a spring catch applied to the shuttle, and so formed as that a band thereon shall serve to hold securely in place one end of the bobbin, whose other end is inserted into a socket in the heel of the shuttle. The said spring at the same time serves to produce friction, and so retard the unwinding of the thread.

Claim.—As my invention the application of a spring catch g within the bobbin recess of a shuttle, and with respect to a journal b of the said shuttle, and a recess d thereof for receiving such journal, and so as to operate with the said journal substantially in the manner and for the purpose herein before specified.

No. 43,427.—John G. Perry, South Kingston, R. I.—*Meat Cutter.*—July 5, 1864.—This invention consists of a cylindrical case, divided into an upper and a lower part. In the latter is a frame, in which are placed knives lengthwise of the case. A spiral flanged cylinder, made with flutes at one end, when turned, forces the meat against the knives to be cut. A dovetail clamp is also employed to secure the machine to a table.

Claim—First, the combination of the cylinder knife or knives and the frame or part that holds the knife or knives, substantially as described and for the purposes set forth.

Second, the arrangement of the arm j, with the platform r e c, or other equivalent devices, the whole arranged and operating substantially as described.

No. 43,428.—JOHN G. PERRY, South Kingston, R. I.—*Meat Cutter.*—July 5, 1864.—This invention consists of a cylindrical case divided into an upper and lower part, secured together by hinges and a catch. Attached to the shaft are fingers projecting forward into spiral position, and used in connexion with a series of knives set vertically in the lower part of the case. These knives are so arranged that they can be easily removed when broken, or when necessary to be sharpened. By turning the shaft the meat is forced between the knives when it is cut.

Claim.—First, making the plate to hold the knives (Fig. 3) with recesses S S, having alternate projections *l l l* and vacancies *s s s* on their sides, substantially as described and for the purposes set forth.

Second, the arrangement of parts substantially as herein described, for the purpose of holding the machine in place, as herein set forth.

No. 43,429.—CHARLES T. POTTER, Brooklyn, N. Y.—*Process of Treating Petroleum, &c.*—July 5, 1864; antedated June 21, 1864.—This invention consists in preventing the escape of the vapors arising from the distillation of coal-oils, (until a certain pressure is reached considerably above that of the atmosphere,) thus, it is claimed, preventing the formation of the less useful products, such as naphtha, benzine, tar residuum, coke, &c. No particular apparatus for performing the distillation is described.

Claim.—The method herein specified of treating coal oil, petroleum, and similar substances, or their products, for their separation and purification, as set forth.

No. 43,430.—WILLIAM F. RIPPON, Providence, R. I.—*Self-Lubricating Bolster of Spinning Machines.*—July 5, 1864.—In this device the oil, being first furnished to a channel in the top of the rail, passes through vertical saw-cuts in the head to and through chambers therein containing absorbents, thence through continuations of the cuts to each spindle. A series of spindles may thus be oiled from the same source.

Claim.—First, the combination and arrangement of the chambers *c c* in the head of a spindle bolster, for holding an absorbent, with the duct *d* through the axis of the head of the bolster, and the bearing E of the spindle, substantially as described for the purposes specified.

Second, the combination of a channel F, substantially as specified, in the rail, with a spindle bolster, constructed as herein described for the purposes mentioned.

No. 43,431.—W. M. SALMON, Edwardsburg, Mich.—*Sawing Machine.*—July 5, 1864.—This invention relates to that kind of sawing machine used for sawing logs into short blocks; and it consists in attaching to the driving power a tumbling shaft in three parts, the centre part being made to slip lengthwise, so as to be thrown out of contact with the fixed part of shaft and vice room, so that when it is in contact with the said shaft it revolves and winds up a chain or strap attached to the outer shaft and the log, (which is on wheels or rollers,) and feed the same along the length of the block or bolt to be cut without stopping the motion of the driving power.

Claim.—The sawing machine above described, consisting of the pitman D, slide E, pivot bar F, connecting bar I, head G, saw H, and feeding apparatus P T S R Q V, all arranged and operating substantially as specified.

No. 43,432.—G. W. SCHRAMM, Brooklyn, N. Y.—*File Hook.*—July 5, 1864.—This invention consists of an ornamental plate of metal hanging against a wall, and concealing a spiral spring that forms the inner end of the pointed file hook, which prevents the accidental displacement of papers, or accident from the point, which is pressed against the plate by the spring.

Claim.—The spring hook attached to the filing plate, and operating as and for the purpose herein shown and described.

No. 43,433.—THEODORE SCHUMANN, New York, N. Y., and C. G. FRASH, Brooklyn, N. Y.—*Composition for making Barrels Oil and Water tight.*—July 5, 1864.—This invention consists in a coating of glue or gelatine, which is rendered insoluble upon its surface by being brought in contact with a solution of the salts of iron, alumina, chrome, manganese, cobalt, or nickel. By the addition of a small portion of soap to the glue it is claimed that the durability and efficiency of the lining is increased. In coating barrels the process is as follows: Into the barrel is poured a solution of glue, which is then by agitation spread over every portion of its inner surface. The vessel is then filled with a solution of any of the above named salts, and the solution is allowed to remain for a time proportional to the depth to which it is desired to render the glue insoluble.

Claim.—First, the employment or use, for the purpose of lining barrels or other vessels, or for coating wooden or other articles, of a composition made of the ingredients herein specified, and mixed together, substantially as set forth.

Second, a lining for barrels or other vessels, or a coating for wooden or other articles, composed of an inner stratum of unchanged glue, and an outer stratum of glue which has been rendered insoluble in water, substantially as and for the purposes described.

Third, the use of soap in combination with glue or gelatine, and with either one of the salts herein specified, or with a combination of two or more of the same, as and for the purpose set forth.

No. 43,434.—DANIEL SCULLY, Baltimore, Md.—*Cider Mill*—July 5, 1864.—This invention consists in the employment of rotary and stationary cutters to divide the fruit by sharp cutting edges before it passes to the crushing or grinding cylinders.

Claim.—The combination of the rotating cutting cylinder, the stationary knives, and the crushing rollers, arranged and operating substantially in the manner set forth.

No. 43,435.—ADDISON SMITH, Perrysburg, Ohio.—*Paper Fastener.*—July 5, 1864.—This invention consists of an ornamental paper fastener, and is composed of sheet metal plates that are not perforated as usual, but are cut with points projecting from their sides, and bent to clasp similar plates without points on the back of the paper.

Claim.—The ornamented metallic plates B and C, with teeth D D on their sides, for the purpose of permanently fastening sheets of paper at their corners, edges, and centres, substantially as herein described.

No. 43,436.—JOHN SNYDER, Centre county, Penn.—*Wagon Brake.*—July 5, 1864.—In suitable supports attached to the axle shaft of the wagon is placed a shaft which by means of the lever P can be partially rotated. Attached to this shaft are two bent lever cranks, the ends of which play in the oblong mortises of the connecting rods attached to the rubber I. By a movement of the lever the rubber can be brought in contact with the wheel or drawn away from them.

Claim.—The shaft A, crank levers B B, operating in the mortises *c c* with the rubber I and lever P, all constructed and arranged as described.

No. 43,437.—JOHN STATZ, Washington, D. C.—*Smoking Pipe.*—July 5, 1864.—This invention consists in the arrangement of a double pin working in a cylinder and extending through the lid of the pipe bowl into the tobacco to stir it up when burning, together with a plate at the lower end of said cylinder, inside of the bowl under the lid, for compressing the tobacco; both pin and cylinder being operated by a curved spring which is fastened at one end to the top of the lid, and at the other end plays freely by means of a slot in it upon the cylinder, moving it and the enclosed double pin up and down together.

Claim.—The construction, arrangement, and combination of the double pin A, cylinder D, with its plate E, lid H, with its spring G, and double collar K and M, when arranged and combined as herein described and for the purposes set forth.

No. 43,438.—JOHN W. TANNER, New York, N. Y.—*Fife.*—July 5, 1864.—The object of this invention is to make the fife convertible so as to play in a different key. It is accomplished by an extra joint of differing size for the finger pieces with holes differently spaced.

Claim.—As an improved article of manufacture, a fife made convertible, substantially as described and for the purposes set forth.

No. 43,439.—ANDREW T. THAYER, New York, N. Y.—*Hair Pin.*—July 5, 1864.—This invention consists in constructing the pin with a circular spring at the bend or junction of the two prongs of the pin, whereby a certain degree of elasticity is obtained sufficient to cause the two prongs, when pressed in contact and inserted into the hair, to press or bear against the same and be thereby firmly held in position.

Claim.—A hair pin constructed or formed with a circular spring *b* at the junction of its prongs *a a*, substantially as herein set forth.

No. 43,440.—R. S. TORREY, Bangor, Maine.—*Mode of Attaching Car Wheels to Axles.*—July 5, 1864.—This invention consists in the construction of a car axle so that one or both of the car wheels may revolve freely, and are held in position by a screw, key, and set-screw so arranged, in respect to the axle, that the screw will not be displaced or loosened by the motion of the cars.

Claim.—The arrangement of the nut C, key *d*, and screw *h*, in combination with the shouldered axle B, for securing the wheels A A on said axle, substantially as herein specified.

Also, the series of key rockets *g g* on the nut C, in combination with the key-notch in the axle for enabling the nut to be tightened up at any time, substantially as herein set forth.

No. 43,441.—ALFRED G. TUCKER, Richview, Ill.—*Cultivator.*—July 5, 1864.—This invention relates to that class of cultivators that are constructed with a rectangular frame made to straddle the rows of corn, being mounted on wheels, the peculiarity of which is the elevating the teeth and depressing them into the ground, which is effected by means of a lever near the driver's seat, connected by jointed bars or horizontal levers to two rock shafts, by which means the machine is raised or depressed both in front and rear simultaneously.

Claim.—First, the beams E E′, suspended by means of links *m m′* and arms *n n′* from rock shafts O O′, in combination with the vertically adjustable reversible ploughs G G′, and hand lever H, constructed and operating in the manner and for the purpose substantially as herein set forth.

Second, the sockets *i i′* and set screws *j j*, in combination with the standards F F′ and ploughs G G, constructed and operating in the manner and for the purposes substantially as set forth.

Third, the screw-rods g, and nuts g', in combination with the separate laterally adjustable section of the frame A, constructed and operating as and for the purpose specified.

Fourth, the screw-rods k k', with suitable nuts, in combination with the laterally adjustable plough-beams E E′, constructed and operating as and for the purpose specified.

No. 43,442.—John Vandercar, Brooklyn, N. Y.—*Dish-pan.*—July 5, 1864.—This invention consists in the application to a dish-pan of a flanged rim which communicates with the interior of the pan through holes in a circular projection, rising above the bottom of said flanged rim, so that dishes after they have been washed can be placed on the flanged rim to drain.

Claim.—A dish-pan A, with a flanged rim B, and circular perforated projection C, or its equivalent, constructed and operating in the manner and for the purpose substantially as herein shown and described.

No. 43,443.—Joseph Weisman, Philadelphia, Penn.—*Manufacture of Steel.*—July 5, 1864.—In this process bar iron is enclosed in a fire-proof tube or chest with plumbago of high specific gravity and heated until the iron is converted into steel.

Claim.—The process herein described of making steel, which process consists in heating bars of iron in closed tubes or boxes with graphite carbon of high specific gravity, substantially as set forth.

No. 43,444.—Joseph Weisman, Philadelphia, Penn.—*Composition for Coating Metal.*—July 5, 1864.—This composition consists of finely pulverized and levigated plumbago of high specific gravity with linseed oil, or linseed and cotton-seed oil.

Claim.—The new manufacture or composition of matter prepared substantially as hereinbefore set forth.

No. 43,445.—William Wells, Middleton, Mass.—*Machine for Mixing and Kneading Dough.*—July 5, 1864.—This invention consists of a two-edged blade or spatula moved round within a suitable vessel by a cogged gearing and a pendent arm by which the material to be mixed is squeezed and cut.

Claim.—Carrying round the blade or spatula H, by any mechanical means, within a suitable vessel G, so as to rotate, squeeze and cut the materials to be mixed or kneaded, substantially as and for the purpose described.

No. 43,446.—D. J. Whittemore, Milwaukie, Wis.—*Switch Stand and Signal Target.*—July 5, 1864.—This invention consists in the combination of an upper and lower shaft operating in parallel vertical lines and combined with cog-wheels in connexion with an actuating rod in such a manner as to make the movement of the signal to correspond with that of the switch.

Claim.—The combination of the cog-wheels e and f, with their respective shafts d and g, the same being vertically parallel to each other, so constructed and arranged in connexion with the rod e, as to operate the switch and signal light or target, as herein described and set forth.

No. 43,447.—James Widney, Allegheny City, Penn.—*Car-coupling.*—July 5, 1864.—This invention consists in forming the coupling-head with two curved projections placed nearly opposite each other, near the lower one of which is pivoted a weighted trigger which supports the coupling pin when raised, and by moving the lower part of the trigger the pin will fall into the link when the latter is pushed forward to be coupled.

Claim.—The combination and arrangement of the projections g and h, and trigger B, and pin C, with the ordinary coupling link, the whole being constructed, combined, arranged, and operating substantially as herein described and for the purpose set forth.

No. 43,448.—F. R. Wolfinger, Vermont, Ill.—*Cradle.*—July 5, 1864.—This invention consists in the combination of a cradle placed on rockers with a spring and gearing similar to clock-work, all arranged in connexion with a chain or cord to give it motion.

Claim.—The combination of the wheel l and cord m, with the parts x x, spring D, shafts d i, gearing E f g h, crank-wheel j, and pitman k, all constructed, arranged, and operating as and for the purposes specified.

No. 43.449.—Solomon Andrews, assignor to Solomon Andrews, jr., Perth Amboy N. J.—*Aerostat.*—July 5, 1864.—This invention consists in constructing the apparatus so as to present to the atmosphere, on the upper and under side, the largest possible resisting surface, while the front and rear ends present as little as possible. The motive power is alleged to be the attraction of gravitation, indirectly applied through the medium of atmospheric air, causing the balloon to ascend when lightened by the discharge of ballast, and to descend when made heavier by the discharge of gas. The mode of operation consists in obtaining any desired angle of inclination by changing the centre of gravity of the aerostat and maintaining the same, so as to ascend and descend at will on inclined lines. The particular mechanical construction can only be understood upon reference to the specification and drawing.

Claim—First, the conversion of the perpendicular motion of a balloon or aerostat into a forward or horizontal motion by means of the construction or the form thereof, so as to make it ascend and descend on inclined planes in the atmosphere.

Second, the arrangement beneath a balloon of an elliptical or oblong form, to give it a semi-horizontal motion or a forward movement.

Third, constructing a balloon in the form of a cylindroid, as described.

Fourth, the combination of two or more cylindroids so as to produce a concavity between them for resisting surface.

Fifth, the changing of the inclination of the aereon or aerostat by changing its centre of gravity, and the changing of the inclination of the disk or oblong sail, substantially as shown and described.

Sixth, the arrangement of an angulometer in the aerial car, substantially as described.

No. 43,450.—William T. Anderson, assignor to himself and Hezekiah S. Archer, Brooklyn, N. Y.—*Embossed Cover for Books.*—July 5, 1864.—This invention consists in forming an embossed book cover by striking up a foundation of junk-board or other suitable material, to form the foundation of the cover, the raised portions on the innner side being filled by blocks of any suitable material, the whole to be secured to an inner board.

Claim.—A book cover, made by striking up a foundation of junk-board, or other material, to form the foundation of the cover, and filling in the raised portions on the inner side by blocks of any suitable material, substantially as and for the purpose set forth.

Also, combining therewith the inner board C, substantially as and for the purpose set forth.

No. 43,451.—J. T. Bodley, Jabez Reynolds, and Samuel Van Emon, assignees of J. T. Bodley and P. P. Lane, Cincinnati, Ohio.—*Hoisting Apparatus.*—July 5, 1864.—This invention relates to that class of hoisting machines which are designed for elevating goods to the different floors in a building, or from the hold to the deck of a vessel, and the novelty consists in the combination of devices designated in the claim, and which do not admit of a limited description.

Claim.—First, the worm-wheels G G on the shafts, in connexion with the screws H on the shaft J, when the latter is hung in the bearings a' a'' a''', to admit of the platform being properly supported in the event of the giving way of any one of the screws or worm wheels.

Second, the shaft J underneath the platform C, suspended from one end by a journal box, or bearing a''', and at the opposite end by the belt L, in combination with a brake, composed of the pulley K and a concave p, the latter being either fixed or attached to lever F′, as and for the purpose specified.

Third, the brake, composed of the brake-bars E′ E′, toggle C′, and weight D′, arranged with the mechanism, substantially as shown, so as to be operated through the medium of the rod V, for the purpose specified.

Fourth, the weighted arm h on the rock-shaft T, in connexion with the sliding pulleys P P′ and fixed pulley O, arranged to operate as and for the purpose set forth.

Fifth, the spring H, attached to the bottom of the building or structure, and in relation with the platform C and pulley K, to operate in manner and for the purpose specified.

Sixth, the shaft G′ with the projection u attached, connected with the lever F′, as shown, or in any equivalent way, or disconnected from it, and having either a fixed amount, or having an adjustable amount of end play, for the purpose set forth.

No. 43,452.—John L. Boorum and Clebron D. Palmiter, Homer, N. Y.—*Flax and Hemp Brake.*—July 5, 1864.—This machine is designed to break and scratch the material. The main shaft has secured to it two heads or disks, between which, in proper journal boxes, is arranged a circular series of fluted rollers, each of the latter receiving a motion about its own axis from a pinion thereon, meshing into a circular rack on the face of a wheel, and also receiving a motion about the axis of the main shaft. The wheel above mentioned has also cogs on its periphery, thus acting as a spur wheel; and it revolves loosely on the main shaft, deriving its motion from a pinion on the shaft of the central roller of the concave bed, and imparting motion to the other rollers of this bed. The breaking rollers are driven at a greater speed than those of the concave, and revolve on their axis in the same direction with them; and although their teeth play between the teeth of the latter, yet they are designed not to touch them.

Claim.—First, a hemp or flax breaking machine, in which the stock is subjected, at one and the same time, to the breaking and scraping action of a series of rollers which revolve about a common axis in one direction, and rotate in an opposite direction about their own axis, when said rollers thus operate in conjunction with a bed of rollers, or rolling bed, substantially as described.

Second, adapting a series of fluted rollers D to break and clean flax and hemp, and also to operate in conjunction with a concave bed of fluted rollers G without touching the latter, substantially as described.

Third, giving the several motions to the heads C C, rollers D D, and concave bed of rollers G, through a single shaft B, substantially as described.

Fourth, providing for an elastic or shaking motion of the rollers of the concave, in combination with a series of rollers which revolve about a common axis, substantially as described.

Fifth, giving a reverse rotary motion to the concave bed of rollers G to that given to the rollers D about their common axis B, substantially as described.

No. 43,453.—THOMAS CHRISTIAN, assignor to himself and Z. DE BOW, Washington, D. C.—*Wagon Brake.*—July 5, 1864.—This invention consists in the combination of a pair of levers with a rack, in connexion with a gravitating arm and pawl, so arranged that the parts will operate chiefly by gravitation, and thus obviate the necessity of employing springs and similar appliances.

Claim.—The combination of the levers G H, rack G, gravitating arm *h*, and gravitating pawl C. all arranged and operating, in connexion with a wagon brake, in the manner and for the purposes herein specified.

No. 43,454.—FREDERICK FICKEY, jr., assignor to WILLIAM H. FICKEY, Baltimore, Md.—*Stem of Tobacco Pipes.*—July 5, 1864.—This invention consists of a pipe stem provided with three tubes, connected at their ends so as to form a continuous tube, and combined with a sponge chamber and saliva cup for preventing the oil of the tobacco from passing into the mouth of the smoker.

Claim.—First, constructing a tobacco pipe stem with three tubes, arranged in the manner and for the purpose specified.

Second, in combination with the above, the introduction of a sponge chamber in the course of the tube of the pipe stem, in the manner and for the purpose described.

Third, in combination with the pipe stem, constructed as described, the removable cup *h*, arranged substantially as and for the purpose specified.

No. 43,455.—THOMAS L. FORTUNE, Weston, Mo., assignor to himself and GEORGE T. CHALLISS, Atchison, Kansas.—*Wardrobe Bedstead.*—July 5, 1864.—This invention consists in combining a wardrobe with a bedstead in such a manner that when in a vertical position the wardrobe may be used, and when placed in a horizontal position it will serve the purpose of a bedstead, the legs or posts being hinged so as to be folded when not in use.

Claim.—The combination of the wardrobe and bedstead when so constructed that it may be used as a wardrobe when in a vertical position, and as a bedstead when in a horizontal position, with the hinged posts, all arranged and operating substantially as specified.

No. 43,456.—GEORGE P. GOFF, Washington, D. C., assignor to W. O. HICKOK, Harrisburg, Penn.—*Supplemental Table for Bookbinders.*—July 5, 1864.—This invention consists of two blocks of wood of suitable size to hold a book to be tooled or ornamented, with a central pivot, and a ratchet and pawl to prevent the upper block from turning other than in one direction. the under block to be secured firmly to a table or bench.

Claim.—The revolving support or turn-table B, in combination with the parts *e f g* and *h*, or their equivalents, so arranged as to permit the revolution of the table B in one direction, and prevent it turning in the other, in the manner and for the purposes described.

No. 43,457.—NEAL MACNEALE, assignor to himself and WILLIAM B. DODDS, Cincinnati, Ohio.—*Lock.*—July 5, 1864.—The principal improvements noted in this lock are, first, that the bit which operates alternately to throw the bolt and to adjust the gated wheel is moved in and out by a screw thread upon the end of the arbor, which latter, instead of being drawn out longitudinally, as is usual, is simply rotated upon its axis; secondly, the shifting plate V and pin W and the oblique slot in the bolt, by means of which, on retracting the bolt, the gated wheels T will be thrown out of gear by the wheels 2, and thus permit a new combination to be made; and thirdly, the peculiar construction and arrangement of the loose stump N and pivoted detent O, by interlocking with the bridge plate P, prevents any movement, except to a very limited extent, of the tumbler M, and consequently of the knob K.

Claim.—First, the provision of the "travelling bit" I, which is brought in connexion either with the locking or with the detaining parts so as to throw the bolt or adjust the gated wheels by means of the spiral spindle H, journaled in a slotted hub G, confined permanently with the door, substantially as set forth.

Second, the arrangement of obliquely slotted main bolt C F, shifting stud plate U V *u v′*, gated wheels T T′ T″, and shiftable pin W, substantially as set forth.

Third, the vibrating, anti-picking detent O, having the double inclined hook *o*, and projection 10 for the automatic engagement and disengagement of said detent with a stationary part of the lock or lock case, in the manner set forth.

Fourth, the provision in a series of change wheels Q Q′ Q″ Q‴ of the shifting tongues S, each of which occupies a notch *s* in its appropriate wheel so much wider than the tongue as to compensate for the thickness of each respective impelling stud *q* on the wheel below, as and for the object explained.

No. 43,458.—CHARLES S. MOSELEY, Boston, Mass., assignor to E. W. DENNISON, Newton, Mass.—*Machine for Punching Labels or Tags.*—July 5, 1864.—The object of this invention is to cut and punch the material by one operation of a lever. It is accomplished by two punches, one of them cuts the bevel, while the other makes the hole; both being operated by the shear, which latter acts also as the lever.

Claim.—First, operating the punch H by means of the connexion thereof with the knife B, in any manner substantially as set forth.

Second, the cutter K, constructed, arranged, and operating substantially as described, and employed to cut or clip the corners of the labels or tags, in the manner explained.

Third, the combination of the knife B, punch H, and cutter K, the whole being constructed and arranged as herein set forth, and operated substantially as and for the purpose specified.

No. 43,459.—D'ARCY PORTER, assignor to himself and K. SMITH, Cleveland, Ohio.—*Straw Cutter.*—July 5, 1864.—This invention consists in the employment of a vibrating box placed upon springs, moved downward by the pressure of a projection upon the inside of the gate that carries the moving knife. A stationary knife is attached to the frame of the machine, with which the straw is brought in contact by the descent of the box. An adjustable guide plate is placed in front of the knives for the purpose of governing the length of the straw.

Claim.—The arrangement and combination of the springs D E, bottom board C, knives F and F′, and feed roller H, for the purposes herein set forth.

Also, in combination with the above-named parts, the adjustable plate J, for the purposes described.

No. 43,460.—WILLIAM H. VAN GIESON, New York, N. Y., assignor to THOMAS H. BATES, Highland, N. Y., and WILLIAM MILLS, New York, N. Y.—*Fishing-line Reel.*—July 5, 1864.—This invention consists in attaching the driving gear of a fishing-line reel to its hand crank by a plate, spring, and thumb screw, so that sufficient adhesion may be obtained by the friction to wind up the fishing line, while at the same time it is allowed to slip or run out on the occurrence of any sudden strain on the line.

Claim.—The combination of the thumb screw B, the coiled spring D, and the friction wheels E and G, with the cog wheel H, and the crank shaft F, substantially as and for the purpose set forth.

No. 43,461.—JEAN ANTOINE DE MANIQUET, Paris, France.—*Machine for Manufacturing Cords, Ropes, &c.*—July 5, 1864; antedated March 25, 1863.—Patented in England.—The object of this invention is so to twist the several strands as to render uniform the power of resistance of every part of each strand, so that when the rope is strained, the whole strain will be proportionally over each strand, and thus the maximum tension can be exerted without breaking. Each strand on its passage to be united with the others is subjected to considerable tension, and to the griping action of two revolving nippers which alternately seize and release it.

Claim.—The making of cords, ropes, and cables in the manner and by machinery constructed and operating substantially as herein described, whereby the whole strain upon the said cords, ropes, or cables is proportionately spread over each strand composing them, notwithstanding its varying thickness and torsion.

No. 43,462.—JAMES BRODIE, San Francisco, Cal.—*Amalgamating Barrel.*—July 5, 1864.—This invention consists in making the wooden lining of amalgamating barrels of blocks of wood placed so that the ends of the fibres of wood are inside and expand to the wear from the ore.

Claim.—The introduction of blocks of wood as a lining into the barrel, the ends or grain of which blocks are presented to the action of the ores being amalgamated therein.

No. 43,463.—JULIEN ROUSSEL, LAURENT DELANGRE, and LUCIEN ROBIN, Nantes, France.—*Preserve and other Cans.*—July 5, 1864.—This invention consists in printing labels and other marks on cans, and other metallic vessels, by means of the lithographic process, using metallic paints. The object of the invention is to have the label or mark indelibly fixed upon the can. The tin or metal sheet is marked before it is made into a can.

Claim.—The above described process for the production of indelible lettering, designs, and colored surfaces upon sheet tin or tinned sheet iron, by a combination of lithographic or plate printing, and the action of heat upon the surface of tin and upon the metallic colors printed on such surface of tin.

No. 43,464.—ADRIEN PHILLIPPE, Geneva, Switzerland.—*Spring and Barrel for Time Keepers.*—July 5, 1864.—This invention consists in leaving the main spring of the watch loose within the barrel instead of having its outer end attached; the outer end is furnished with a projection, which, as the spring is wound up, slips into little cavities in the barrel, and produces a click, which gives intelligence that the spring is sufficiently wound up and the signal to stop winding. There is no risk of breaking such a main spring by winding too hard.

Claim.—Constructing the springs and barrels of watches and other time keepers, substantially as hereinbefore described, whereby the mechanism known as the "fixed" stop may be dispensed with.

No. 43,465.—Sarah P. Mather, New York, N. Y.—*Submarine Telescope.*—July 5 1864.—This invention is designed as an improvement on a patent granted to the said Mather April 16, 1849. The water-tight tube containing the lamp is essentially the same as before, and the exploring tube carries two mirrors instead of one, as under the old patent, thus enlarging the field of observation.

Claim.—First, the combination of the opening *d* and the door *g* with the submarine lantern and lamp, when so arranged and operating that the pressure of the water in which the lantern is immersed shall pack the joint between the door and opening and render it water-tight, substantially as described.

Second, the combination of a double reflector with the telescope, when arranged and operating substantially in the manner and for the purposes described.

Third, the combination of the lamp with the reflector when the lantern and telescope are so united as to be used as a single instrument, and when all the objects illuminated by one side of the lamp are truly reflected by the mirrors at one observation, and to a signal station, as set forth.

No. 43,466.—William Adamson, Philadelphia, Penn.—*Process for treating Hair.*—July 12, 1864.—This invention consists in exposing the hair of hogs and other animals, after it has been washed, to the direct action of the products of combustion of coal or wood.

Claim.—Simultaneously drying and deodorizing the hair of hogs and other animals by subjecting it to the direct action of the products of combustion of coal or other fuel, substantially in the manner described.

No. 43,467.—George Albright, Oskaloosa, Iowa.—*Machine for Spinning and Reeling.*—July 12, 1864.—This invention is described as an improvement on Wilson's patent of July 13, 1827. The frame which carries the spindles is removable, and after the spindles are filled with yarn the latter is detached and hung on pins upon another part of the frame for convenience of unwinding and reeling, another set of spindles being put in; both operations of spinning and reeling can, if desired, be carried on simultaneously by the turning of a single crank by the operator; the reeling devices can be thrown out of action at will. The quality of the thread is determined by an adjustable clasp, whereby the length of the rovings drawn out can be regulated.

Claim.—First, the movable frame B, carrying a series of spindles C', in combination with the rising and falling clove frame G, reel I, and with a recess in the top cross-bars *c c'* of the main frame A and pins *n*, projecting from the front side of said main frame, all constructed and operating in the manner and for the purpose substantially as herein shown and described.

Second, the adjustable clasp *l*, in combination with the rising and falling clove frame G and spindle frame B, constructed and operating in the manner and for the purpose substantially as set forth.

No. 43,468.—Joseph M. Allenwood, Timbuctoo, Cal.—*Hydraulic Machine for Washing Ore.*—July 12, 1864.—This invention consists of a main pipe A, leading from the reservoir, and provided with a screw S, by means of which a pipe P can be fitted on at pleasure. A pipe C is fitted over the pipe P, on which it revolves, and being bent at right angles to the pipe P, can be turned to any desired point. Three diaphragms or guides are inserted in the pipe C, near the base R, for the purpose of directing the water in right lines when it is discharged.

Claim.—First, the insertion of the diaphragms or guides inside of the pipe for preventing the water from forming a spiral column or stream at the instant of discharge.

Second, the combination of the parts set forth, accompanying this specification, constituting a new and improved machine.

No. 43,469.—Francis W. Bacon, Jersey City, N. J., and Solon Dike, New York, N. Y.—*Metallic Sole Plate for Boots and Shoes.*—July 12, 1864.—This invention consists of a corrugated metal shank and plate, with a counter turned up around the heel, and formed from the same piece of metal; the same being designed for preventing the breaking down of the shank of the sole, and for retaining the whole of the sole in a proper position, at the same time preventing the counter from running over towards one side.

Claim.—A corrugated steel or metal shank and plate, with a counter turned up around the heel at any desirable height, and all from the same piece of metal, as shown in Figs. 1 and 2.

No. 43,470.—Frank Barney, Bloomington, Ill.—*Cultivator.*—July 12, 1864.—In this invention all the shovel beams are caused to have a forward and upward movement by means of a single hand lever pivoted to one of the timbers of the frame. The two inner beams receive a lateral movement by means of the same lever; both the lever and inner beams being pivoted to the frame by swivel pivots which allow of this general movement, and they are all operated through the medium of a rock shaft provided with arms, to which the beams are connected by chains or rods.

Claim.—The hand lever H, with its swivel fulcrum K, in connexion with the crank shaft G, hinged rear standard E, and swivel front standards E', all constructed and operating in the manner and for the purpose substantially as herein specified.

No. 43,471.—Henry and Frederick J. L. Blandy, Zanesville, Ohio.—*Valve Gear for Steam Engines.*—July 12, 1864.—This invention consists in the use of arms projecting from the eccentric strap, one of which rises to nearly a vertical position, and through which the end of the jointed portion of the valve rod passes. Below the above-described arm another arm projects, and is curved so as to present a surface at an angle of about 45° with the first; to this arm is attached a brace which runs diagonally up to and is attached to the jointed portion of the valve rod; the whole forming a frame which, being attached to the valve rod by a strap joint, vibrates as the eccentric is rotated, and moves the valve without the intervention of a rock shaft.

Claim.—The method of connecting the valve rod *a* with the eccentric strap G, by means of the off-set arm *c*, diagonal brace I, and rod H, forming a frame which is jointed to the end of the valve rod, substantially as described and represented.

No. 43,472.—Caleb Bond, Richmond, Ind.—*Sorghum Evaporator.*—July 12, 1864.—This invention consists in dividing the flue under the pan by a horizontal partition, so that by means of dampers the bottom of either pan, both pans, or any part of either pan, may be in direct contact with the flame and products of combustion.

Claim.—First, the combination of the furnace A and the flues D D'. E E', one above the other, with the dampers *a b c* and *d d' d''*, by which the heat is thrown at will against both, either, or neither of the pans, or against a smaller or larger portion of the rear pan, and at the same time avoid or impinge upon the forward pan.

Second, the vertically adjustable wooden rail *f*, provided with hooks *f'*, in combination with the pan G, as described, for the purpose of attaching and operating a bag containing some clarifying materials.

No. 43,473.—Wm. H. and Geo. W. Bowlsby, Monroe, Mich.—*Musical Demonstrating Board.*—July 12, 1864.—This invention consists in constructing a board, book cover, or similar device, with a sliding scale to designate all the transpositions of notes and chords used in musical demonstration.

Claim.—First, the sliding bars and scales B B, with their attachments *c c* and *d d*, in combination with the enharmonic scale, diagram G.

Second, the movable note pins E, for the purpose set forth.

Third, the combination of the said device with a book and bound into it, as shown and described.

Fourth, the combination of all the devices for the purpose set forth.

No. 43,474.—Wm. Breitenstein, New York, N. Y.—*Machine for Filling Spools.*—July 12, 1864.—In this machine the spool is secured on a shaft having a driving roller thereon, the whole attached to a hinged frame, and the roller is driven by frictional contact with a large driving wheel; the novelty consists in placing an adjustable guide under the bobbin in such position that when the latter is sufficiently full it will, by coming in contact with the thread, lift the bobbin and throw the roller out of contact with the wheel, and so stop the winding.

Claim.—The guide or arm R, arranged as described, and operating in the manner and for the purpose substantially as set forth.

Also, supporting the spindle J with its pulley H, so as to be capable of being lifted upward when arranged in combination with the guide or arm R, and acting together substantially in the manner and for the purpose specified.

No. 43,475.—Wm. Budd and J. L. Husband, Philadelphia, Penn.—*Artificial Fuel.*—July 12, 1864.—This fuel consists of corn-cobs saturated with petroleum and similar hydro carbons.

Claim.—The impregnating of corn cobs with oil, as hereinbefore more fully set forth.

No. 43,476.—Wm. Budd and J. L. Husband, Philadelphia, Penn.—*Steam Boiler.*—July 12, 1864.—This invention consists in placing a shallow fire box in the front of the boiler, with a concave bottom. To the upper rear portion of this box a flue is connected which extends back to near the rear end of the water space of the boiler, where it curves upward sufficiently far to leave a considerable space between the lower and upper portions, and it is then carried forward to the front head of the boiler, inside of which it terminates in a combustion chamber. Through the front head of the boiler perforations are made for the purpose of admitting air to the chamber. The oil is supplied to the fire box through a tube connected with a reservoir, and which conveys it to the convex hearth of the fire box, where it is ignited; the products of combustion pass through the flue above named, and upon their arrival in the combustion chamber they are met (it is claimed) by jets of air which are rushing in through the perforations in the front head, which cause them to be consumed before passing through these perforations into the counter-draught combustion chamber.

Claim.—The counter-draught combustion chamber, vicket-ports, or any opening in the nature thereof as counter-draught air holes to such chamber, and the bonnet base smoke-pipe, to form a counter-draught combustion chamber, as hereinbefore more fully set forth.

No. 43,477.—John Coleman, Argyle, N. Y.—*Turning Lathe for Wood-turning.*—July 12, 1864.—The object of the invention is to apply a device to a common wood-turning lathe by which fancy bead or spiral turning can be done, and the invention consists in attaching an iron tool-holding frame to the ways of the lathe, in which all the tools necessary for turning or cutting the desired form, whether a bead, scallop, or spiral, are held.

Claim.—First, arranging the knives H′ and H″ upon the pivoted bed-plates O and O′, as described, when said plates are operated by the hand levers D and D′ and the eccentrics E.

Second, the combination of the pivoted bed-plates O and O′ with the eccentrics E, which are operated by the levers D and D′, or their equivalents, for the purpose set forth.

Third, gauging the concentric action of the knives H′ and H″ by means of the set screws *s* tapped through the tie-bolts *c*, substantially in the manner and for the purpose described.

No. 43,478.—Jacob Clum, Shelby, N. Y.—*Grain Separator.*—July 12, 1864.—This invention consists of a series of belts running on rollers put into a proper frame, which is hung on a pivot in the centre and can be adjusted to any desired angle. The grain is conducted to the belts through a hopper, and the gravity of the grain carries it down, all the light substances and impurities being carried up over the roller and brushed off and separated from the grain.

Claim.—First, cleaning or separating grain by means of two or more endless belts, substantially as shown.

Second, mounting the belts in such a manner that they can be inclined to a greater or less angle, substantially in the manner shown, when used for the purpose herein set forth.

Third, in combination with the endless belts B, the revolving brush D, when the parts are arranged to operate as and for the purpose above set forth.

No. 43,479.—Hiram A. Crain, Whitestown, N. Y.—*Sheet-metal Can.*—July 12, 1864.—This invention consists of a can bottom, composed of a wide cylindrical band surrounding an annular plate, with a flange on its outer periphery, to which the band is attached by rivets. This plate is perforated by radial slots one-third its width, the whole surrounding the bottom of the can which it is intended to support.

Claim.—The combination of a flat metal disk or ring A. provided with an annular flange *a* with the bottom of a sheet metallic can, when the said disk or ring is so combined by means of the binding hoop C, in the manner and for the purpose herein represented and described.

No. 43,480.—G. W. D. Culp, Allensville, Ind.—*Hay Press.*—July 12, 1864.—This invention consists in the employment of a beater which is made to work in inclined ways in a box placed in either a horizontal or inclined position. In connexion with the beater and inclined ways is an eccentric, elliptical, or other irregularly formed drum, for the purpose of applying an increasing degree of power to elevate the beater.

Claim.—First, the combination of the beater D, working in inclined ways B B, with the box A, in an inclined or horizontal position, substantially as described and represented.

Second, an eccentric, elliptical, or other irregularly formed drum or roller E, employed in connexion with beater D and ways B B, to apply an increasing power to elevate the beater D, as explained.

No. 43,481.—Edward Dorr, Rockford, Ill.—*Mode of Baling Hay and other Materials.*—July 12, 1864.—The hay or other material is baled by a progressive winding of the same in layers upon itself while under pressure, and while confined laterally. Ventilating openings are left in the bale by the withdrawal of the tapering shaft upon which the material is wound, or by inserting tapering staves during the process of baling, which are withdrawn when the bale is completed.

Claim.—The mode of baling stalks and unmanufactured fibrous materials by winding the material progressively upon itself while under pressure, substantially as set forth.

Also, the mode of forming ventilating openings in bales of stalks and unmanufactured fibrous materials, substantially as set forth.

No. 43,482.—Edward Dorr, Rockford, Ill.—*Machine for Baling Hay and other Materials.*—July 12, 1864.—In this machine a rotary shaft provided at its opposite ends with disks or heads by which the material, being baled, is confined laterally, there is used in connexion a yielding spring platform which gives the required pressure to the material as it is wound in a layer upon the shaft; a second yielding roller is used in connexion with the yielding platform for the purpose of properly compressing the material into layers, and an endless apron serves to convey said material to the action of the compressing roller and baling shaft. These several parts are combined with means for raking or gathering the hay or grain in the field.

Claim.—The combination of a compressing shaft, lateral confining heads, platform, and springs, operating to compress hay, cotton, and similar materials into a bundle or bale, substantially as set forth.

Also, the combination of the preceding combination with a roller and springs operating to compress the material in the layer previous to its compression into the bundle or bale, substantially as set forth.

Also, the combination of the first preceding combination with a conveyer, the whole operating substantially as set forth.

Also, the combination of the first preceding combination with a carriage fitted with fingers, so operated that the material may be gathered and baled or bundled from the ground, substantially as set forth.

Also, the combination of the first preceding combination with a carriage fitted with fingers and gathering mechanism, operating substantially as set forth.

Also, the construction of the compressing shaft in two parts, tapering in opposite directions, substantially as set forth.

No. 43,483.—William M. Doty, New York, N. Y.—*Washing Machine.*—July 12, 1864.—This invention consists of a beater with a fluted surface, pivoted to the sides of the tub or box and provided with arms for oscillating the beater, that can be detached, in which case the upper end of the beater is hooked to the front of the tub and the surface used as a common hand washboard.

Claim.—The combination of the pivoted oscillating arms B, inclined dash board D, removable hand lever C, and stationary tub A, all constructed and operating in the manner and for the purposes herein shown and described.

No. 43,484.—John Dykeman and John Bolton, Greenbush, N. Y.—*Variable Exhaust for Locomotives.*—July 12, 1864.—This invention consists in placing upon the ends of the exhaust pipes of a locomotive engine a rectangular box with apertures in its bottom to receive the ends of the pipes. Arising above this aperture is an angular flange to which staves of steel or other suitable metal are fastened at their lower ends in such a way as to overlap each other, while their upper ends form an angular orifice capable of expanding by their elasticity, or of being contracted by a box which covers them, and which is elevated and depressed by means of the cranks and rods attached to it. One of these rods extends to the cab in which the engineer stands, and by manipulating this rod he can control the size of the blast orifice in such a way as to regulate the burning of the fuel, and consequently the generation of the steam.

Claim.—The plates C C C C, &c., fastened at their lower ends to the conical sockets B overlapping each other from a point near their attachment, and sufficiently numerous to make them readily approximate the shape of a frustum of a cone, without opening the joints in combination with the caps E E, which by depression contract the nozzles, and by elevation admit of their expansion.

No. 43,485.—Darwin Ellis, Waterbury, Conn.—*Fishing-line Reel.*—July 12, 1864.—This invention relates to a device for disengaging the reel from the hand-crank when desired, in order to allow the line to run freely out without obstruction; and the improvement consists in a particular arrangement of thumb-lever, spring-block, and internal gear wheel, whereby it may be detached from the central or reel pinion.

Claim.—The combination of the elbow-shaped lever and its appendages with the wheel, Fig. 4, and pinion *e*, when the whole is constructed, combined, and fitted to produce the desired results, substantially as herein described.

No. 43,486.—H. N. Gallagher, Geneva, N. Y.—*Heel-fastening for Skates.*—July 12, 1864.—This invention consists of a plate attached to the front part of the heel; it is provided with one or more screws, with pivoted clamping plates, with a roughened face, and combined with a crescent plate fixed at the rear part of the heel. The skate is applied to the boot by placing the heel between the clamping plates and the hand plate, and then turning by means of pins or keys the screw heads.

Claim.—The plate *b*, provided with one or more clamping screws *s* and plates *a*, in combination with the crescent plate *d*, when they are constructed, arranged, and operate conjointly in the manner and for the purpose described.

No. 43,487.—B. M. Fowler, Brooklyn, N. Y.—*Corn Harvester.*—July 12, 1864.—In this machine scythes or cutters are rigidly connected to the opposite ends of a bar placed transversely to and at the rear of the mounted framing, said bar having a reciprocating motion endwise imparted to it from a crank on the main or driving-wheel axle by means of a bell-crank lever and pitman. Scrapers or clearers are used to remove stones or other obstructions from the path of the wheels, for the purpose of steadying the action of the cutters.

Claim.—The employment or use of reciprocating scythes E in combination with the crank axle C, wheels B B′, track clearers F, and truck A, constructed and operating in the manner and for the purpose substantially as herein shown and described.

No. 43,488.—H. N. Gallagher, Geneva, N. Y.—*Skate-fastening.*—July 12, 1864.—This invention relates to that class of skates having heel and side fastenings, such fastenings being roughened on the portions which clasp the edge of the sole. In this invention the skate has two side clamps, of which one is pivoted in such a manner that the said clamps shall adjust themselves to the shape of the foot.

Claim.—First, making the side clamps B and C self-adjusting laterally by pivoting them to the foot-piece A, as set forth and for the purpose described.

Second, providing the pivoted clamp C with several adjustments laterally, substantially as shown and for the purpose specified.

No. 43,489.—Henry C. Gibson, Camden, N. J.—*Fabric for the Manufacture of Enamelled Collars, Cuffs, &c.*—July 12, 1864.—This invention consists in uniting two or more layers of cotton or linen cloth by means of cement or water-proof paste composed of wheat flour, white glue, rosin, and water. The several layers, with the paste between, are passed between calender rolls, and an enamel of white paint is added.

Claim.—The material, substantially as set forth, and its exclusive use in the manufacture of enamelled shirt collars and similar articles of dress.

No. 43,490.—Fayette S. Giles, New York, N. Y.—*Watch Case.*—July 12, 1864.—This invention consists in a peculiar arrangement and construction of the bezil and cap of the watch case by which the watch may become a hunting watch or an open-faced watch. An extra cap and bezil are provided, which are hinged together and pivoted to the watch case, and held in place by a spring stop. To make the change, the extra cap and bezil are opened and revolved half round, so as to bring either the open bezil or the close cap over the watch crystal as may be desired, the crystal being in the usual bezil of the case.

Claim.—The bezil *e* and cap *f*, combined with each other and with the case of the watch by means of the hinges *g h*, block *i*, pivot *l*, substantially as herein specified.

No. 43,491.—Mitchel Gould, Newark, N. J.—*Gas Pipe and Stair Rods.*—July 12, 1864.—This invention consists in enveloping one side and the two edges of a strip of iron by a strip of brass, forming them into a tube, and then brazing the two edges together.

Claim.—As an improved article of manufacture, a tube constructed in the manner substantially as herein shown and described.

No. 43,492.—Timothy Gray, Lowell, Mass.—*Wood Turning Lathe.*—July 12, 1864.—The object of this invention is to turn and finish a skewer in a lathe at a single operation, and it consists in arranging the cutters in movable tool stocks, so that they act in connexion with each other at the proper time, and reduce the parts of the skewer to its proper size and shape, and cut it off at the moment it is completed.

Claim.—The tool stocks H and M, with cutters attached *a b* and *e*, in combination with the squaring-down and cutting-off cutters *c* and *d* and adjustable nut *f*, on the transverse screw *g* and stop *j*, or their equivalents, substantially as described and for the purposes herein set forth.

No. 43,493.—William W. Grier and Robert H. Boyd, Hulton, Penn.—*Machine for Mining Coal.*—July 12, 1864.—This invention consists in drilling, boring, or cutting coal in the mine by means of one or more series of augers mounted in a suitable frame and operated by proper machinery.

Claim.—First, one or more series of rotating augers, constructed substantially as described, for the purpose of mining coal.

Second, mounting the augers D in the sliding frame C, in combination with the adjustable frame B, substantially as described.

Third, adjusting the frame B by means of the hinged rods *c*, screw bolt *b*, and sliding collar *d*, or their equivalents, substantially as shown.

Fourth, having the driving shaft G in the swinging frame F, substantially as and for the purpose set forth.

Fifth, the combination and arrangement of wheel E, shaft I, provided with its pinion *f*, wheels J and H, and rack K, substantially as described.

Sixth, the combination of the spring R, rack K, and frame B, substantially as and for the purpose set forth.

No. 43,494.—Thomas Hanvey, Elma, N. Y.—*Hoop Lock for Casks.*—July 12, 1864.—This invention consists in a clasp or band of malleable iron so formed as to fit the shape of bevelled-cut hoops, and at the same time fit the circular form of the barrel, and is used by putting the two ends of a wood hoop through the clasp and driving a wedge between the hoops, which holds the hoops fast.

Claim.—The above-described hoop locks, consisting of the lock casting A, wooden hoop B, and wedge C, when constructed substantially as and for the purposes set forth.

No. 43,495.—Thomas Hanvey, Elma, N. Y.—*Clasp for Hoop Locks.*—July 12, 1864.—This invention consists in a malleable cast-iron clasp for a hoop lock for casks, so constructed that it will fit the convex form of a barrel, and the mortise to fit the shape of cut hoops, as a new article of manufacture.

Claim.—As an improved article of manufacture, a hoop clasp made of malleable iron, substantially as herein described.

No. 43,496.—Giles M. Harris, Conesus Centre, N. Y.—*Washing Machine.*—July 12, 1864.—This invention consists of bearings for the rubber by which it may be adjusted near to, or further from, the bed, in combination with strips in the bottom of the tub. The strips are arranged in such a manner as to support the clothes, that are being washed, above the bottom of the receptacle, in order to keep them free from dirt, and to direct the water to the centre of the clothes.

Claim.—The bearings *f f f* in combination with the rubber D and bed C, so arranged that the said rubber may be adjusted to, or further from, said bed, substantially as herein described.

Also, the strips *i i* in combination with the bottom B, rubber D, and bed C, and arranged in such a manner as to support the clothes *c*, that are being washed, above the bottom of the receptacle to keep them free from dirt, and to direct the water to the centre of the clothes, substantially as herein set forth.

Also, the bearings *f f*, strips *i i*, rubber and bed D C, inclined bottom B, and boards H H′, the whole arranged, combined, and operating substantially as herein specified.

No. 43,497.—Thomas Harvey, Baltimore, Md.—*Percussion Cap Box.*—July 12, 1864.—This invention consists in providing an annular holder without any centre, (receiving the caps in suitable holes in its circumference,) capable of free movement within a flat cylindrical case, and operated by a thumb pinion working on internal gear within said annular holder, so as to bring the caps in succession opposite the discharge opening in the case.

Claim.—The employment of an annular cap-holder freely movable within a circular or cylindrical case, and provided on its interior surface with teeth, so as to be operated or revolved by an interior pinion, substantially in the manner shown and described.

No. 43,498.—Anthony Hanstetter, Philadelphia, Penn.—*Cooling Tub for Water and Beer.*—July 12, 1864.—This invention consists of two cylindrical vessels placed one within the other, the minor one of such a size as to leave a space between it and the outer vessel for ice. Near the bottom of the outer vessel is placed a perforated partition, and both vessels are provided with stop-cocks; that of the inner one extending through the side of the outer vessel. The inner vessel is intended to be filled with beer or other liquor; that portion of the outer vessel above the partition to be filled with ice, and the part below it to be filled with water.

Claim.—The combination of the tub A, the jar *c*, and the circular plate *f*, constructed and arranged substantially in the manner and for the purpose specified.

No. 43,499.—Enoch Hidden, New York, N. Y.—*Portable Water Closet.*—July 12, 1864.—In this device the receptacle is provided with a hinged cover having annular packing into which the receptacle is forced by a locking lever, a handle being formed upon the cover to carry the vessel when closed. The seat moves upon a hinge transversely to the movement of the cover. This hinge is connected to the outside of the receptacle by an extension which passes down through an eye cast thereon, and is thus adjustable and removable at will.

Claim.—First, providing a portable water-closet, having a sealing cover, with a hinged seat, substantially as described.

Second, the combination with a portable water-closet of an extensible jointed fastening, which will admit of the seat being adjusted, and also removed at pleasure, substantially as described.

Third, the combination of the locking lever with a portable water-closet, substantially as and for the purpose described.

Fourth, the arrangement of a handle C, or its equivalent, with the cover of a water-closet having a hinged or adjustable annular seat above it, substantially as described.

Fifth, the vessel A, which has its interior surface covered with enamel or other non-corrosive substance, and has a hinged sealing cover in combination with an adjustable seat, the whole constituting a portable water-closet, substantialy as set forth.

No. 43,500.—Eben N. Higley, Lake Village, N. H.—*Harrow Teeth.*—July 12, 1864.—This invention consists in having two or more teeth attached to a stock, which is pivoted to a frame, so that it will swing sidewise when the teeth come in contact with any obstacle that may be in the way. The teeth have webs also connected with them for the purpose of giving strength to the same.

Claim.—Making harrow teeth in sets of two or more teeth attached to the same stock, and pivoting the said stock to the harrow frame, substantially as and for the purpose herein specified.

Also, the webs *a a* on the harrow teeth for strengthening them, arranged substantially as set forth.

No. 43,501.—George Hopson.—Bridgeport, Conn.—*Lock.*—July 12, 1864.—In this lock the knob arbor, as it is gradually drawn outwards, connects successively with each one of a series of circular tumblers through which it passes, by a spur upon the free end of each of two bars located and hinged within the body of the arbor. The free ends of these bars are, by means of a spring lying between them, thrown out into notches formed in the inner edge of each tumbler whenever they are brought opposite to said notches, and as the arbor is withdrawn, the yielding spring allows the spur, by reason of its inclined edge, to be drawn forward upon the edge of the succeeding tumbler: after which the arbor is revolved until the spring falling into the notches allows this tumbler also to be set, and so on throughout the series, until the spurs are finally brought to clutch with a spur wheel which gears with the toothed edge of the bolt, which latter, by then turning the arbor, is either thrown out or retracted.

Claim.—First, in combination with the shaft B and guard wheels D of a dial lock, the spurs C' and C'', or either of them, so arranged as to rotate the tumblers thereby, and to retreat or sink into the shaft, substantially in the manner and for the purpose above specified.

Second, the arrangement of the tube K relatively to the shaft B, head B3, and guard wheels D, or their respective equivalents, as herein specified.

Third, the series of guard wheels D, with the differing notches $d1$ $d2$, and the pins O, arranged relatively to the shaft B and spurs C1 C2, so as to operate in the manner substantially as herein specified.

Fourth, in a dial lock the within-described arrangement and form of the pins O, whereby their working faces on opposite sides of a guard wheel D lie in one and the same plane, for the purpose herein specified.

Fifth, in combination with the bolt G and shaft B of a dial lock the guard bar I, arranged to strike against the tube K, or an equivalent moving stop, arranged and operated substantially in the manner and for the purpose herein set forth.

No. 43,502.—Benjamin J. C. Howe, Syracuse, N. Y.—*Pumps.*—July 12, 1864.—In this pump a hollow piston rod is provided with lateral apertures above and below the piston, and an interior slide valve which closes the upper holes as the piston descends, and closes the lower holes as the piston descends, the pumps being then double acting. The valves at the induction ports through which water is admitted both above and below the piston are rigidly connected by a lever pivoted at its centre, so that both cannot be open or closed at the same time.

Claim.—The valve d and aperture c' c', as described.

Also, the combinations of the valves h h and lever m, in combination with a pump having a hollow piston rod w, valve d, ports c c c c, piston b, rod a, as shown and described.

No. 43,503.—F. J. B. Hubert, New York, N. Y.—*Window Shade Fixture.*—July 12, 1864.—This invention relates to a means for adjusting the lever pulley over which the roller cord of the shade passes, whereby said cord may always be kept in a proper state of tension to insure the turning of the roller, in order to raise and lower the shade.

Claim.—The rack bar C, provided with the pulley E and the rack c, the latter having its teeth curved, forming parts of arcs of circles, in combination with the inclined wheel D having a coil or volute thread d on its face to gear into the rack c, all arranged and applied to the plate A and bar B, substantially as and for the purpose herein set forth.

No. 43,504.—Henry Hungerford, Brooklyn, N. Y.—*Safety Escutcheon for Locks.*—July 12, 1864.—This invention consists in supporting and confining the movable blotting plate on the outer surface of the escutcheon plate by means of guides and grooves and a thumb screw.

Claim.—Supporting and confining the movable blotting plate A on the outer surface of the escutcheon plate by means of the guides and grooves b b and thumb screw D, or its equivalent, all as set forth.

No. 43,505.—Freeman Jacobie, Albany, N. Y.—*Brick Machine.*—July 12, 1864.—This invention consists in arranging within a box a rotating conveyer, which operates as such and as a desintegrater, and forces the clay into a chamber where it is acted upon by a revolving beater and feeder, and forced into a moulding box, from where the clay is discharged under the pressure by means of a follower into moulds.

Claim.—First, the intermediate chamber B' forming a vertical continuation of the horizontal or nearly horizontal chamber B, and also communicating with the press box D, substantially in the manner and for the purpose described.

Second, the combination of the rotary discharger C' e' e', or its equivalent, with the intermediate chamber B', substantially as and for the purpose herein set forth.

Third, the combination of the three boxes or chambers B B' and D, communicating with each other with the conveyer C and revolving discharger C', all constructed and operating substantially as and for the purpose set forth.

Fourth, the adjustable hinged table F arranged beneath the press box D and clay box B', substantially as and for the purpose set forth.

Fifth, the combination of the reciprocating follower G, a platform F, and press box D, constructed and operating substantially as described.

No. 43,506—Henry Jennings, Boston, Mass.—*Arsenical Soap.*—July 12, 1864.—This invention consists in a composition of whale-oil soap and arsenical acid mixed together, with or without some coloring matter, to be used for the destruction of fleas and other parasitic insects which infest living animals.

Claim.—A combination of whale-oil soap, or other suitable soap, and arsenious acid, mixed in such proportions as to adapt the compound for the destruction or removal of vermin or impurities upon the skins of living animals.

No. 43,507.—James B. Johnson, San Francisco, Cal.—*Amalgamating Barrels.*—July 12, 1864.—This invention consists in making the outer casing or shell of amalgamating barrels in longitudinal sections, with flanges for joining them together, so that they may be easily taken off and replaced.

Claim.—Forming the outer shell of the amalgamating barrel or cylinder in several longitudinal sections, so that they may be easily taken apart and relined, substantially as and for the purpose described.

No. 43,508.—H. P. Jones, Davenport, Iowa.—*Washing Machine.*—July 12, 1864.—This invention consists in constructing the dasher of a circular shape, and formed on the concave side into regular steps with the edges rounded.

Claim.—A dasher C for a washing machine, which is constructed with a regularly stepped and concave surface in contradistinction to a flat fluted surface, substantially as described.

No. 43,509.—W. A. Jordan, New Orleans, La.—*Apparatus for Clarifying Cane Juice.*—July 12, 1864.—The sulphur fumes are generated in the furnace and pass into the upper part of a tank, where they are washed by a shower of water from a cistern, and pass on to the vessel, where they are met by the fresh cane juice from the mill. The water in the tank is kept at a constant level by a pipe, and is diffused as it enters the tank by a perforated dome-shaped cover, and the juice by a similar cover.

Claim.—First, the combination together of the stove, water tank, purifying box, and juice-clarifying receptacle, in the manner and for the purpose herein shown and described.

Second, passing the gas successively into a rain of water and a rain of cane juice, substantially in the manner and for the purpose herein shown and described.

Third, the employment of the spherically-shaped perforated covers F J to produce said rains, substantially in the manner herein shown and described.

Fourth, the combination of the waste pipe I, when constructed and operating as shown, with the water box E, as and for the purpose set forth.

No. 43,510.—Edward Kaylor, Pittsburg, Penn.—*Planing the Rim Bases of Guns.*—July 12, 1864.—In this machine, a shaft, placed perpendicularly to the axis of the cannon, carries a chuck, having in its face radial grooves, in which the cutter carriers can be adjusted towards or from the centre as required, the chuck meanwhile, during the revolution of the shaft, having given it by the latter a motion to or from the axis of the cannon, corresponding to that portion of the latter to be operated upon. This is accomplished by means of cam grooves in the periphery of a cylinder on and forming part of the shaft, the sides of which grooves, as the shaft revolves, slide against stationary studs in the frame of the machine and give the shaft its proper longitudinal motion.

Claim.—The mode, hereinbefore described, of planing irregular curved metallic surfaces by means of a revolving chuck, furnished with one or more cutters, capable of adjustment in a straight line towards or from the centre of the chuck, and whose cutting points are caused automatically to move parallel to that portion of the curved surface which it is intended they shall plane—that is to say towards or from the axis of said body—by means of curved grooves which actuate the chuck arbor, through the instrumentality of the guide-pins adjusted therein, or their equivalents, substantially as described.

Also, the use of the grooved barrel, guide-pin, or pins, and adjustable bearer, in combination with the revolving cutter, shaft, and chuck, for the purpose of communicating the required curved motion to the planer or cutting tool, or tools, so as to plane the rim bases of guns and other irregular curved metallic surfaces, substantially as hereinbefore described.

Also, the mode of planing around the "sight" masses and lock masses of guns, by giving to the gun an oscillating motion on front of a non-revolving cutter, susceptible of motion to and from the gun by means of the trunnion shaft v, pitman w, and crank shaft y, or their equivalents, in combination with the cutter shaft, susceptible of automatic horizontal motion, substantially as described.

No. 43,511.—Joel F. Keeler, Pittsburg, Va.—*Scale Beam.*—July 12, 1864.—This invention consists in making the beam of two wrought-iron plates bolted together at right angles to each other by knees or pieces of angle iron. Also, in making the main pivot of one piece of metal extend through the eye of the beam to insure a perfect correspondence of the bearing points..

Claim.—First, the wrought-iron weighing lever, constructed as described.

Second, the combined main pivots when made as described.

Third, the construction of the main pivot-holder m h, with the arrangement of the pivots therein, substantially as shown.

No. 43,512.—Folbert Kirst, Westfield, Mass.—*Turning Lathe.*—July 12, 1864; antedated July 6, 1864.—This invention consists in forming the chuck of a turning lathe with three jaws, in combination with an adjustable centre and set screws, by means of which the article to be turned can be securely held and readily adjusted in position.

Claim.—The adjustable centre i, in combination with the jaws $a\ a'\ a''$ and set screws m, when used for the purpose and in the manner herein described, and forming a part of a chuck for a turning lathe.

No. 43,513.—Patrick Killin, Mount Healthy, Ohio.—*Churn.*—July 12, 1864.—This invention consists in making the dasher of the churn in two parts, each part being attached to separate rods or uprights, and moving independently of each other vertically, or they may be attached together and made to operate as a single dasher.

Claim.—Making the dasher in two parts B B, with a separate rod $b\ b$ to each, enclosed by the loose ring c, so that the two parts may be operated separately, in the manner described; or united and operated as a single dasher, for the purpose herein set forth.

No. 43,514.—W. A. Mack, Cleveland, Ohio.—*Feeding Device for Sewing Machine.*—July 12, 1864.—In this machine the lever, which receives motion from the feeding cam when moved in one direction, forces the slides outwards in their slotted beds in a plate and against the rim of a wheel, and when moved in the opposite direction releases the slides. The toothed feed wheel is designed to be placed on the same shaft with the said wheel, but at its opposite end.

Claim.—The slides E F and cap H in combination with the lever D and rimmed wheel C, when arranged and operating conjointly as and for the purpose set forth.

No. 43,515.—David Marshall, Pittsburg, Penn., and Benjamin Marshall, Marietta, Ohio.—*Roller Press for Finishing Photographs, &c.*—July 12, 1864.—This invention consists of a roller press constructed of an upper small roller and a larger segmental hollow roller, beneath which a spirit lamp is placed. They are operated by means of an oscillating lever. The rolls are provided with a raised margin to prevent the surface of the lower or polished roll from being injured by the other.

Claim.—First, the use of a machine for finishing photographic pictures, consisting of the combination of an upper roll and a lower roll, or segment of a hollow cylinder, so constructed as to be easily heated by the flame of a lamp or otherwise, substantially as and for the purposes hereinbefore described.

Second, making either or both of the rolls in machines for finishing photographs slightly higher or of greater diameter at the edges than in the middle, so as to prevent the polished face of the lower roll being struck by the upper roll when the card is discharged, substantially as described.

Third, chamfering down the edges of the body of the segment roll, so as to allow of the easy insertion of the photographic picture between the rolls, substantially as described.

No. 43,516.—W. C. Marshall, New York, N. Y.—*Process for Preserving Meats.*—July 12, 1864.—This invention consists in rendering the water contained in the meat temporarily proof against putrefaction by salting and then expelling it, together with the air, entirely from the meat by means of heavy pressure, after which it is hermetically sealed in cans.

Claim.—First, exposing the meat to be preserved, previous to putting it up in packages, to a heavy pressure, substantially as and for the purpose herein specified.

Second, the press box C, with its movable screw top D, follower G, and hinged end I, constructed and operating substantially as and for the purpose herein shown and described.

Third, the frame L, applied in combination with the package K and press box C, in the manner and for the purpose substantially as herein set forth.

No. 43,517.—William Meigs, Waynesville, Ohio.—*Water Elevator.*—July 12, 1864.—In this invention a cross-piece at each end of the drum moves endwise upon the screw thread on the shaft, and thus the drum is moved as it receives or delivers the rope. The bucket is supported by a bar to which it is pivoted by a projection from near the top of the bucket. The upper end of this bar is bent over the top of the bucket to the middle thereof, where it is attached to a pulley sheath. The lower end of this bar carries a valve, the seat of which forms a lateral port at the bottom of the bucket. The weight of the bucket when filled presses the valve to its seat. The bucket has two horizontal rods near its top, so situated as to press against two vertical rails projecting from the front of the curb, by which means the bucket is guided perpendicularly upward until near the top of the curb, when a horizontal recess in these rails permits the buckets to approach the front of the curb. The bucket then rests by its pins upon the niches in the rails, and the rope being relaxed, the valve opens and the water flows out through a trough in the front of the curb.

Claim.—The curved bar I, attached to the bucket J by a pivot d, provided at its lower end with a valve f, and having a pulley H attached to its upper end, underneath which the rope F passes, all being arranged substantially as shown, to cause the valve f to cover and close, under the gravity of the bucket and its contents, the discharge spout K of the bucket as the latter is elevated, and also to cause the valve f to open, under the gravity of the bar I, when the bucket J is suspended or held up free from the rope F, as set forth.

Also, the pins $g\ g$ attached to the bucket J, the notches $h\ h$ in the guides L L, and the adjustable inclined planes N N attached to the latter, to operate substantially as and for the purpose specified.

Also, in connexion with the well-curb, provided with a rising and falling bucket, a windlass, having its drum arranged so as to slide longitudinally on its shaft while rotating with the latter, and by the means substantially as herein described, keeping the bucket rope f in line with the fixed pulley G, as set forth.

No. 43,518.—S. D. McLelland, McGregor, Iowa.—*Grinding Edge Tools.*—July 12, 1864.—This invention consists of a vent or forked lever, having across its outer end a handle, and at the middle, in such a position as required, an adjustable cross-bar and clamp, for holding the tool to be ground. The inner or bent end of the lever, from which projects a pointed pivot or centre, is supported against a standard rising from the frame of the grindstone. This pivot allows to the lever a vertical adjusting and a rocking and vibratory motion to suit the angle of the edge of the tool being ground.

Claim.—First, the employment or use of the forked lever with its point fulcrum in combination with the cross-bar and clamp, for the purpose set forth as described.

Second, the adjustable cross-bar with its clamps, for the purpose set forth as described.

No. 43,519.—B. E. Miles, Washington, Ill.—*Grain Shovel.*—July 12, 1864.—This invention consists in providing a grain shovel with a cover or top plate so arranged as to prevent the grain falling from the shovel while the latter is in use.

Claim.—A grain shovel provided with a top or cover, substantially as and for the purpose herein set forth.

No. 43,520.—Purches Miles, New York, N. Y.—*Meat-mincing Machine.*—July 12, 1864.—This invention consists in the employment of a series of fingers or beaters upon a revolving shaft combined with stationary cutters and a spiral wing, by which the meat is fed to the cutters.

The stationary cutters are formed with curved edges and are combined with the fingers in such a manner that the latter are caused to pass between the cutters and separate the meat with a drawing cut. A perforated detainer is combined with the above, so arranged as to detain the meat until properly minced.

Claim.—First, a straight range of fingers or beaters on a revolving shaft in combination with stationary cutters and with a spiral wing to feed the meat to the cutters, whereby the delivery of the meat from the machine is dependent upon the introduction of additional material to be cut, as set forth.

Second, a series of stationary knives formed with curved cutting edges as set forth, in combination with a series of fingers passing between such cutters, whereby the meat is separated with a drawing cut, as specified.

Third, a perforated detainer applied to a meat mincer, substantially as specified, to retain the meat until properly comminuted, as set forth.

No. 43,521.—James Minter, Worcester, Mass.—*Bolt-heading Machine.*—July 12, 1864.—In this machine the bolt is held vertically in jaws, one of which is stationary, the other movable and operated by a lever, while the heading dies are at work. Of these, two pairs are horizontal, and one single die vertical, the two pairs and the single die alternating with each other in their operation. These dies are entirely disconnected from the driving machinery and remain at rest while the bolt is being inserted, when, by depressing a treadle, a dog operated by a crank or cam is thrown in gear with a projection on each of the dies, communicating to them a proper motion. By releasing the treadle the dogs are again thrown out of gear, and the dies remain at rest.

Claim.—First, making the heads of the bolts by the squeezing action of heading dies $G\ G'\ G^{*}\ G'^{*}\ H^{*}$, operating substantially as herein described.

Second, the heading dies $G\ G'\ G^{*}\ G'^{*}\ H^{*}$, arranged in combination with each other and with the screws $d\ g\ d^{*}\ g^{*}$. substantially as herein specified, so that said dies can be readily adjusted to suit heads of different sizes.

Third, the spring dogs $f\ f'\ f^{*}\ f'^{*}\ g^{*}$, carriages $I\ I'\ I^{*}\ I'^{*}$ M, with shoulders $i\ i^{*}$, and dies $G\ G'\ G^{*}\ G'^{*}\ M^{*}$, in combination with the K-shaped piece K, or its equivalent, and with the foot lever L, constructed and operating in the manner and for the purpose substantially as herein shown and described.

Fourth, the spring rod j^{*}, in combination with the elbow lever N, dog g^{*}, vertical heading die H^{*} and foot lever L, constructed substantially as herein specified so that the dogs of the horizontal heading dies are allowed to drop into gear in advance of the dog g^{*}.

Fifth, the combination of the elastic plate p with the dog g^{*}, journal box o, and vertical heading die H^{*}, constructed and operating as and for the purpose set forth.

Sixth, the hinged lever O, and cam P, in combination with the foot lever L, and with the dogs' action upon the heading dies arranged substantially as herein specified; so that the dogs are not allowed to act upon the heading dies until the cam P and with it the several working parts of the machine have reached the desired position.

Seventh, the combination of the swivel arm W, with the hand lever R and movable jaw Q′, constructed and operating substantially as and for the purpose shown and described.

No. 43,522.—O. C. Phelps, New York, N. Y.—*Propeller.*—July 12, 1864.—This invention relates to that class of propellers which, by means of an universal joint attached to the propeller shaft, is used for steering as well as propulsion. The invention consists in giving bearings abaft to the propeller shaft, which bearings consists of two plates of the arc of a circle below which the shaft rests or has its motion. The shaft is moved by a rope or chain passing along the support of the propeller bearings into the side of the vessel, thence to the deck; provision is also made for changing the direction of the shaft for steering by an apparatus acting directly upon the shaft.

Claim.—First, the employment or use in stern propellers for vessels, of an iron frame-work, arranged so as to support the rear end of the propeller shaft, and admit of the lateral movement of the same, substantially as described.

Second, connecting the steering chains with the rear end of the propeller shaft, substantially as set forth.

Third, the shaft or stern K, when used in combination and connected with the propeller shaft G, substantially as and for the purpose specified.

No. 43,523.—John Phillips and Albert Tschop, Siddonsburg, Penn.—*Rock Drill.*—July 12, 1864.—This invention consists in the construction of a rock drill, working in a frame, so constructed as to vary the direction of the drilling operation as required.

Claim.—First, the adjustable frame A, in combination with the adjustable prop or support C, constructed and arranged, as shown and described, for the purpose of regulating the position of the frame A and drill R, to bore or drill in a vertical or in a more or less inclined position, as set forth.

Second, the combination of the endless belts H, provided with the projection *m*, the collar *r* on the drill shaft Q, the screw O on shaft N, and the worm wheel P on shaft Q, all arranged in the sliding frame E, to operate as and for the purpose herein set forth.

Third, the strap F attached to the sliding frame E, and fitted in a clamp *j* on the frame A, in combination with the collar *u* on the shaft Q, arranged in relation with the lower cross-piece *t* of the frame E, to operate as and for the purpose set forth.

Fourth, the rack M on the frame E, in combination with the adjustable or sliding pinion *o* on the shaft K, for the purpose of elevating the frame E, as set forth.

No. 43,524.—Frederick Pistorius, Chicago, Ill.—*Piano-forte Action.*—July 12, 1864.—This invention consists in a method of adapting the action of a "square" piano to operate with the hammers squarely and simultaneously upon the strings so as to produce a uniform and simultaneous vibration of the same, the hammer action admitting of being at the same time at different angles to the keys, and upon different bearings thereof. The keys may be applied indirectly to the action in such a manner that the entire key-board, or any one or more of the keys, may be readily removed and replaced at pleasure without disturbing the action, or the action removed without disturbing the keys. Other devices affecting results stated in the claim are employed, which do not admit of a brief description.

Claim.—First, adapting the action of a "square" or "square grand" piano-forte, by means substantially as described, to operate with the hammer or hammers squarely and simultaneously upon the strings and produce a vertical, uniform, and simultaneous vibration thereof; and while this is the result the hammer action may be at different angles to the keys, and upon bearings independent thereof, substantially as set forth.

Second, so adapting the action of a square piano-forte and the support thereof that the keys *i* may be applied indirectly to the action in such manner that the entire key-board or any one or more of the keys may be readily removed and replaced at pleasure, without disturbing the action, or the action removed without disturbing the keys, substantially in the manner described.

Third, adapting the hammer or the damper movements to operate in conjunction with counter keys *b* and independent removable keys *i*, substantially as described.

Fourth, the adaptation of counter keys *b*, independent removable keys *i*, and independent frame C, for application to a square piano, in the manner substantially as described and for the purpose set forth.

Fifth, the horizontal and independent action supporting frame C, when constructed so as to be adapted for use with a square piano, in combination with the removable key-board G, substantially as and for the purpose set forth.

Sixth, the arrangement of the hammers *a′*, in such relation to an independent action and the strings of a square piano-forte, that said hammers operate squarely and simultaneously upon the strings and produce a vertical and simultaneous vibration of all the strings of each hammer that is acted upon, substantially as described.

Seventh, the arrangement of the adjustable pads *j* with the independent action, for the purpose of regulating the amount of movement of the jacks upon the hammer buts, in the manner described.

Eighth, arranging the damper crank or lever H, upon frame C′, directly over and parallel to the counter key *b*, substantially as described.

Ninth, applying the hammer check *e* to the hammer ruler or back rail E, and operating said check partly by the counter *k b*, and partly by its own gravity. substantially as described.

Tenth, adapting the action of a "square" or "square grand" piano-forte, to operate when arranged at different angles to the keys and upon bearings independent thereof, substantially in the manner herein described.

No. 43,525.—J. R. Pressey, Dubuque county, Iowa, M. A. Wheaton, Suisun city, Cal., and David Sheets, Pike county, Mo.—*Harvester.*—July 12, 1864.—This invention relates to a method of operating the sickle of the reaper or mower, and of the draught mechanism, and also to the manner of adapting the grain or grass wheel to the machine; the object being to lessen the friction in the operation of the sickle, and render the machine capable of being readily turned, and also to diminish the draught.

Claim.—The combination of the wheel D, toothed rim F′, lever J′, rollers E′ E′, guides *g g*, secondary lever *j*, connecting rods *i i*, and sickle I′, all constructed, arranged, and operating in the manner and for the purposes herein specified.

No. 43,526.—Philip C. Rowe, Boston, Mass.—*Pocket Tobacco Pipe.*—July 12, 1864.—This invention consists of a tobacco pipe made of metal, for carrying in the pocket while it is smoked, having double walls to the bowl, and a chamber between them, combined with a flexible rubber draught tube through a lid and rubber stem.

Claim.—A tobacco pipe constructed with double walls to form two chambers communicating with each other by means of one or more perforations *c′ c′*, in combination with the draught tube C, a stem D, and an opening or collar provided with a plug or stopper F, all arranged substantially as herein set forth.

No. 43,527.—Daniel Shattuck and Clinton K. Daniels, Chicago, Ill.—*Manufacture of a Bi-basic Soap.*—July 12, 1864.—This invention consists in treating corn meal with an alkaline solution, and then adding it to saponified tallow or grease.

Claim.—The manufacture of a bi-basic soap, composed of corn meal and animal oils or grease, by the process herein described.

No. 43,528.—D. H. Shearer, Drakesville, Iowa.—*Washing Machine.*—July 12, 1864.—This invention consists in the combination of the ordinary circular-shaped rubber with a recess in the bottom of the tub for the collection of the dirt from the clothes.

Claim.—In combination with the two oscillating rubbers F G, the dirt chamber B arranged within the suds-box A, substantially as and for the purpose set forth.

No. 43,529.—R. D. O. Smith, Washington, D. C.—*Cartridge Retractor for Revolving Fire-arms.*—July 12, 1864.—This invention consists in a particular connexion with the hammer of a rod at the rear of the revolving cylinder, for withdrawing the spent cartridge case as it comes in position; the withdrawal being effected by the act of cocking the hammer, and the engagement of the retractor with the succeeding cartridge case being effected by the fall of the hammer. An oscillating dog or cam attached to the hammer may be so set as to entirely disconnect it from the retractor, or, if desired, to cause the retractor to act in the opposite direction by pushing the cartridge case through the cylinder instead of drawing it backward.

Claim.—First, in combination with an automatic device for removing the shell of an exploded metallic cartridge from its chamber in the cylinder, a device by means of which said automatic device may be prevented from operating when it is not desirable that it should operate.

Second, in combination with the hammer of the lock of a revolving fire-arm, the cam *o*, bolt K, and spring S, substantially as described and for the purpose set forth.

Third, in combination with the bolt K, the channel M, substantially as described and for the purpose set forth.

Fourth, in combination with the cam *o*, the lever *n*, and plate *w*, substantially as described and for the purpose set forth.

Fifth, in combination with the cylinder of a revolving fire-arm, a device to cause the said cylinder to revolve one stage during the first half of the motion of the hammer from "rest" to "full cock."

No. 43,530.—J. P. Stillman, Westerly, R. I.—*Machine for Drying Wool.*—July 12, 1864.—This invention consists in constructing the wool-holding box in a wool-drying machine with a perforated bed, the area of whose length and breadth are of equal dimensions in combination with a fan and air chamber, the sides of which latter are tapering at equal, inclinations from the borders of the box towards the centre. Combined with the central pan, situated in a horizontal plane, is a square bed arranged in a plane parallel to the fan, so that the blast may be diffused equally, or nearly so, over the whole surface of the bed.

Claim.—First, the construction of a wool-dryer, the wool-holding box of which is square or of other form substantially the same, the perforated bed being of an area whose length and breadth are of equal dimensions, in combination with a fan and the air chamber, the sides of which are tapering at equal inclinations from the borders of the box toward the centre, substantially as herein set forth.

Second, the employment, in combination with the perforated bed of wool dryers, of a fan, the axis of revolution of which is at right angles to the bed, substantially as set forth.

Third, the combination with a central pan, situated in a horizontal plane of a bed of a square, or equivalently the same area, arranged in a plane parallel to the fan, so that the blast may be diffused equally, or nearly so, over the whole surface of the bed, or substantially as set forth.

Fourth, the combination of square bed, or bed substantially the same, with an air chamber, the sides of which converge from the said bed towards a fan case, and central fan revolving upon a vertical spindle, the whole being arranged for operation in the manner and for the purpose described.

No. 43,531.—Henry K. Taylor, Racine, Wis.—*Raking Attachment to Harvesters.*—July 12, 1864.—This invention consists in the employment of a vibrating rake, operated through the medium of a crank and pinion, in connexion with a lever, connecting rod, and chain, all arranged in such a manner that a reciprocating movement is not only given the rake, but also a rising and falling motion.

Claim.—The rake D, attached to the framing A by means of the universal joint *b*, in connexion with the rod E, lever F, pitman G, crank H, and the chain K, all being arranged to operate in the manner substantially as and for the purposes herein set forth.

No. 43,532.—J. R. Terbill, Chicago, Ill.—*Washing Machine.*—July 12, 1864.—This invention consists in the employment of a circular rack, which is cast with loops on it for receiving a removable lever, in conjunction with a horizontal rubber, which has a vertical shaft carrying a pinion wheel that engages the rack, all in combination with a flanged tubular bearing fixed to the top of the wash box.

Claim.—First, the combination and relative arrangement of the toothed ring D with loops *a a* on it for receiving lever E, pinion wheel D, and the upper bearing C for this pinion, as shown and described.

Second, the toothed bevel wheel or ring D, cast with loops *a a* on it, in combination with the removable lever E, pinion D, collar bearing C, and vertical rubber shaft, carrying a horizontal rubber G, all arranged and operating substantially as described.

No. 43,533.—Daniel E. True, Leominster, Mass.—*Blind and Shutter Fastening.*—July 12, 1864.—In this machine two arms hinged together at one end, and each terminating in a toothed segment at the other, connect one with a short rack attached to the bottom of the shutter, and the other with a pinion attached to the end of a short lever, and pivoted to the window sill. By turning the last named lever around in one direction until it catches upon a stud fixed in the sill, the shutter will be opened and fastened in that position, and by turning it in the opposite way the shutter will be closed, and by means of another fixed stud be similarly fastened.

Claim.—The combination and arrangement of the toothed sector G and rack F with the slotted plate D of the blind with the stud *c* of the arm E, combined with an operating lever or arm H, as specified.

Also, in combination with the arm H, and its arm E applied to the blind, the two sectors I L, the locking crank, and the whole hung to operate as specified.

No. 43,534.—George E. Vanderburgh, Mamaronec, N. Y.—*Treating Feldspar to obtain Useful Products.*—July 12, 1864.—This invention consists in subjecting feldspar, in combination with an alkali, to the action of superheated steam, in a manner similar to that employed for liquefying quartz, patented to the same inventor May 29, 1860. The product may be used for purposes similar to those for which liquid quartz is applicable. By standing, the gelatinous mass will separate into two distinct products, the more solid of which is useful as a filling for fire-proof safes.

Claim.—A new and useful composition of matter, produced by submitting feldspar to substantially the treatment herein described.

No. 43,535.—Thomas Varney, San Francisco, Cal.—*Amalgamator.*—July 12, 1864.—This invention consists of a covered pan or tub, having an opening in the cover through which the pulp is introduced. Around the centre of the pan, and extending from its bottom (to which it is cast) to same distance above the cover, is a vertical tube, through which passes a vertical shaft. On the bottom of the pan is a circular plate or muller. The diameter of this plate or muller is somewhat less than the interior of the pan, so as to leave a space for quicksilver. Above this lower muller is placed an upper one, having shoes attached to its under surface, and rivets cast into the middle of each one by which they are attached to the upper muller. These shoes are so attached as to leave radial slots between them. In the lower muller are similar radial slots, which are filled with wood.

Over the central tube, but not in contact with it, is placed a larger tube, with its base in line with the lower face of the upper muller, and having a flange around its lower end upon which rests loosely a ring cast with and forming part of the upper muller, and is connected with it by six curved arms. Two opposite pairs of these arms are much nearer each other than the others, and the space between each is filled by a projection from the flange of the outer central tube, for the purpose of carrying the upper muller when the tube revolves.

Within the body of the pan, above the upper surface of the upper muller, are three curved plates, extending from the inner side of the pan around to a point near the outside of the large tube, opposite to that from which they start.

Claim.—First, the method of fastening the shoes to the upper muller by casting the rivets into the shoes, as shown.

Second, the use of the flanges on the lower edges of the curved places, in the manner and for the purposes set forth.

Third, the employment of the space for the quicksilver about the periphery of the mullers, with no openings therefrom in the lower muller by which the quicksilver is prevented from being ground, and at the same time is so situated that it is brought into constant and effective contact with the pulp.

Fourth, the use of the slots in the lower muller filled with wood, or its equivalent, for the purposes set forth.

Fifth, the mode of suspending and driving the upper muller by the arms *u*, and ring *h*, and flange V, with its projections.

No. 43,536.—Maurice Vergnes, New York, N. Y.—July 12, 1864; patented in England and France May 10, 1864.—*Inhalator.*—The improvement consists in a box provided with a suitable aperture to receive the mouth and nose, for the purpose of inhaling vapors or powders which are placed within the box, and agitated by a rotary fan and diffused through a fine sieve.

Claim.—The use and construction of a box to contain medicated powder for respiration, with a revolving fan for mixing them with the air to be breathed, in the manner substantially as above described.

No. 43,537.—John Voak, Penn Yan, N. Y.—*Apple-parer.*—July 12, 1864.—This invention consists in applying under the fork of an apple-parer a suitable bar with a curved projection, so that the apple may be removed from the fork by a treadle geared with a rack segment and spring, and operated by the foot.

Claim.—The sliding bar C with the circular projection *a*, or its equivalent, when made and actuated substantially as specified, and used for the purpose set forth.

No. 43,538.—Joseph W. Wayne and Joseph R. Miller, Cincinnati, Ohio.—*Folding Table.*—July 12, 1864.—This invention consists of two tables that may be connected together by hinges and with cross-legs, so arranged as to be folded very compactly for transportation.

Claim.—The double folding table, constructed and operating in the manner herein represented and described, and for the purposes specified.

No. 43,539.—Horace S. Weston, Akron, Ohio.—*Cartridge Box.*—July 12, 1864.—This invention consists in arranging a horizontal series of sharp blades at the back of the cartridge box, under the edges of which blades the loose paper ends of the successive rows of cartidges are inserted, to be held by a spring block or plate behind the said blades, so that on withdrawing the cartridge the end thereof is automatically opened by being cut off within the box.

Claim.—First, the herein-described construction of cartridge boxes provided with a series of smooth or serrated cutters, so arranged that the folded end to be torn preparatory to charging the gun are first unfolded and thrust through, or between, or under, the edge of the knife A, and secured firmly in place by the slider C and springs D D, as herein set forth.

Second, the slide C, in combination with a series of knives A and springs D D, when arranged and operating as and for the purpose described.

No. 43,540.—A. M. Whipple, North Adams. Mass.—*Whip Socket.*—July 12, 1864.—This invention consists in the use, for the purpose of fastening whip sockets, of a bolt which passes through the side of the socket and through the part of the carriage to which said socket is to be attached. Between the socket and the dash-board is placed a bevelled block of wood.

Claim.—The employment or use, for the purpose of fastening whip sockets, of a bolt *a*, in combination with the bevelled block C, applied and operating substantially as and for the purpose set forth.

No. 43,541.—N. C. Whitcomb and William Paddock, Oak Hill, N. Y.—*Pulley Block.*—July 12, 1864.—This invention consists in making the pulley block of iron, cast in one piece, with the swivel eye secured therein by casting the former around the latter.

Claim.—As a new article of manufacture, the pulley block, constructed as herein represented and described.

No. 43,542.—E. W. Woodruff, Washington, D. C.—*Farm Fence.*—July 12, 1864.—This invention relates to the mode of attaching the top rails to the posts, which is accomplished by forming the upper end of the post into a dovetail shape, and cutting the ends of the rails to correspond therewith, and also to the formation of the body of the fence of wire.

For this purpose some four or five wires are cut to the length required for four or five rods of fence; the wires at one end are firmly secured to a post, at proper distances apart, and then stretched along the line of the fence, and two rows of posts placed in a zigzag relation to each other, with the wires resting in notches upon the outside of the posts. The last post is forced into its proper position by means of the top rail and a lever of the same length at the bottom of the post, which brings the wire to the required tension.

Claim.—First, so forming the upper ends of the posts, by means of a dovetail shape, and a corresponding angularity of the rails, that when the wires forming the body of the fence are drawn to their required tension, the said rails are held firmly in place.

Second, attaching the wires to the posts, and supporting the same on intervening posts, in the manner described, in combination with the method of giving tension to the wires, substantially as specified.

No. 43,543.—William J. Young, Le Roy, N. Y.—*Field Fence.*—July 12, 1864.—The novelty in this invention consists in the arrangement of a double row of fixed posts in alternating series with interlocking panels, the panels being held together by the pressure of the posts upon opposite sides of alternate panels, thus dispensing with braces projecting out from the fence.

Claim.—The combination of a double row of fixed posts in alternating series with inter locking panels arranged to the posts, substantially in the manner and for operation as herein set forth.

No. 43,544.—Henry Bailey, assignor to G. D. Brown, Pittsford, N. Y.—*Joint Clip and Spoke Socket for Wheel Vehicles.*—July 12, 1864.—This invention consists in connecting a clip for fastening the fellies of a wheel with a spoke socket to receive the tenon of the spoke, the cylindrical tenon of the spoke being made to reach through the felly and the shoulder and rest upon the edge of a projecting collar.

Claim.—The combined joint-clip and spoke socket, when the cylindrical tenon B of the spoke is made to reach through the felly and the shoulder, to rest upon the edge of the projecting collar or socket *r*, all being constructed and arranged in the manner and for the purposes set forth.

No. 43,545.—H. K. Bugbee, assignor to The American School Apparatus Company, New York, N. Y.—*Arithmetical Frame.*—July 12, 1864; antedated July 7, 1864.—The claim describes the instrument with sufficient clearness.

Claim.—A frame containing a series of horizontal slats, revolving vertically, and provided with figures on one or both sides so arranged as to form columns of figures, the whole being constructed substantially as and for the purposes herein set forth, and forming a new article of manufacture.

No. 43,546.—Thomas W. Cummings, assignor to J. Littledale, New York, N. Y.—*Attaching Reels to Fishing Rods.*—July 12, 1864.—This invention consists in attaching to the plate of the reel frame a projecting lug or hook at one end, and an eye at the other, with a spring bolt secured within the fishing rod, whereby the reel for the fishing line may be conveniently attached to and detached from the rod as desired.

Claim.—The attaching of rests to fishing rods or poles, by means of a bolt and a hook, or its equivalent, substantially as herein shown and described.

No. 43,547.—James Fuller, assignor to Margaret V. Fuller, Yonkers, N. Y.—*Mode of Treating Wool for Removal of Burrs, &c.*—July 12, 1864.—This invention consists in placing the wool in a mixture of sulphuric acid and water, and after it has been in about fifteen minutes, removing and placing it in another and weaker mixture; then it is removed and dried and immersed in a compound solution of soda ash and Irish moss, after which it is washed in water and dried, and is then subjected to the action of a wool picker.

Claim.—The treating of the wool with the two acid solutions of different densities, substantially as hereinbefore specified, preparatory to its being subjected to the compound solution of soda ash and Irish moss.

Also, the employment of the picker, at the final stage of the process, or after the wool, with the burrs in it, may have been otherwise treated, as hereinbefore explained.

No. 43,548.—L. Held, assignor to George P. Schifflin, New York, N. Y.—*Fire-proof Composition for Crucibles, &c.*—July 12, 1864.—This composition consists of pulverized coal which has been freed from impurities by acids, mixed with clay and exposed to a red heat, after which it is pulverized and mixed with a fresh portion of the coal and clay, and then formed into crucibles, &c.

Claim.—First, the use of carbon purged, as above described, and mixed with clay in about the proportion herein set forth, and then exposed to a bright red heat pulverized, substantially in the manner and for the purpose specified.

Second, the composition obtained by mixing together the ingredients above specified, in about the proportion and substantially in the manner and for the purpose herein set forth.

No. 43,549.—Barton Bicketson, New Bedford, Penn., and A. B. Smith, of Clinton, Penn., assignors to the said Barton Ricketson.—*Cart.*—July 12, 1864.—This invention consists in providing a cart with a bent axle, having the thills attached to the vertical portion of the axle so that the cart will turn on the lower portion of the axle within the thills. The tail-board is connected by means of fastenings with the bent axle in such a manner that upon dumping the cart the said tail-board will be automatically opened or closed.

Claim.—The combination and arrangement of the bent axle B, the thills D and D, attached to the vertical portions of said axle, and the cart body C, turning on the low portion of the axle within the thills, substantially as and for the purposes herein specified.

Also, controlling the tail-board so as to open and close the same automatically, by connecting its fastenings with the bent axle, so as to be operated thereby in the act of dumping the cart, substantially as herein specified.

Also, in combination with the self-acting tail-board, as set forth, the removable portion L and securing cord *u u*, as described.

No. 43,550.—J. G. Stowe and E. F. Allen, assignors to The Burnside Rifle Company, Providence, R. I.—*Machine for Filling Cartridges.*—July 12, 1864.—This machine is provided with a hopper for supplying the gunpowder, beneath which a row of charging chambers is arranged, alternately closed and opened at top and bottom by a reciprocating slide cut off. Beneath the said charging chambers a bed frame or carriage containing the cartridge cases is made to travel by an intermittent motion, so as to successively feed the series of cartridges under the chambers to be there filled; the whole being operated by suitable gear.

Claim.—First, a charger having cut-off and delivery slides *k k* controlling a series of charging chambers, operated in the manner substantially as described, for the purposes specified.

Second, the mode of operation, substantially as specified, by means of which the delivery slide of the charging apparatus is alternately locked and tripped for the purposes specified.

Third, the mode of operation, substantially as specified, by means of which the movement of the carriage B, and of the cut-off and delivery slide of the charger K, is arrested at any determined point in the progress of the carriage, for the purposes set forth.

Fourth, the combination of the stops *s s* with the spring catches *q q*, substantially as described, for the purposes specified.

No. 43,551.—Turner Williams, assignor to himself and David Heaton 2d, Providence, R. I.—*Driving Mechanism for Sewing Machines, &c.*—July 12, 1864.—This invention consists in combining with a pair of curved connecting rods a treadle constructed in two parts, in connexion with a rocking lever and auxiliary pins, so that each part of the treadle will be susceptible of an opposite movement, the connecting rods being each attached to one of said parts.

Claim.—The arrangement of the auxiliary pins *h h*, the rocking lever *k*, and crank pin *d*, as described, in combination with a pair of curved connecting rods, or their equivalent, and a treadle constructed in two parts, as described, the whole operating substantially as specified.

No. 43,552.—W. Williamson, assignor to himself and George W. N. Yost, Goldsborough, Penn.—*Composition for Lining Oil Barrels.*—July 12, 1864.—This invention consists in coating the barrel with a composition of coal tar and plaster, charcoal, clay, or black oxide of manganese. Also, in combining with the tar some soluble substance insoluble in petroleum, such as glue, &c.

Claim.—The use of prepared petroleum tar, coal tar, or pine tar, for lining crude petroleum oil barrels or vessels to prevent them from leaking.

No. 43,553.—Lewis W. Broadwell, London, England, assignor to W. I. Townsend, New York, N. Y.—*Breach-loading Ordnance.*—July 12, 1864.—A lateral opening is made through the breech of the gun, in which slides a block which opens or closes the bore and takes the force of the discharge, forming the breech or abutment. This block has a chamber in it to receive the cartridge, carrying it in line with the bore when it is pushed forward to its bed; by a retrogade movement of the block the bore is closed. A double gas check, one in the bore and one in the sliding block, and in juxtaposition when the piece is discharged, prevents escape of gas.

Claim.—The construction of the expanding ring *n*, with the projection *p* and flange *r*, in combination with the undercut bearing *k*, substantially as and for the purposes herein specified.

Also, the combination of a perforation B in the sliding block A of an opening in the breech of the gun, or their equivalents, for admitting, and an aperture *s* in a line with the bore for driving in the cartridge, substantially as herein described.

No. 43,554.—Auguste Francais Dusantoy, Neuilly, (Seine,) France, assignor to Moritz Pinner, New York, N. Y.—*Heating Sad Irons.*—July 12, 1864; patented in France April 13, 1864.—This invention consists in supplying a sad iron that has flues in its interior chamber with gas, through a flexible tube, and at the same time forcing through another flexible tube, by means of a blower, cold air that shall carry the burning gas through the flues, and thus effectually heat the iron.

Claim.—The construction of a smoothing iron which is heated within the iron itself by a combined jet of lighting or heating gas and air, or its equivalent, and acting in the manner of a blow-pipe, substantially as herein set forth and described.

No. 43,555.—**Alois Fleischmann**, Olmütz, Moravia, Austria.—*Process of treating Maize, Barley, and other Cereals, for the Manufacture of Alcohol, &c.*—July 12, 1864; patented in Austria June 14, 1862.—This invention consists in the use of sulphurous acid gas water, in the process employed for preparing barley and other cereals for manufacturing alcohol and other spirituous liquors.

Claim.—The use of sulphurous acid gas water, in the process hereinbefore described, for preparing Indian corn, rye, wheat, barley, and other cereals, for the manufacture of alcohol and other spirituous liquors by distillation.

No. 43,556.—**Thomas Ingraham**, Bradford, England.—*Devices for supplying Weft to the Shuttles in Looms.*—July 12, 1864.—The shuttles are so formed that a box containing the cop can be forced into them at one side and out of them at the other, being detained there by springs. A hopper is supplied with any convenient number of these boxes, each containing a cop of weft, and the loose ends of weft are fastened in a clamp on the breast beam. When the weft breaks or becomes used up, the weft fork acts as usual, but instead of operating to stop the loom, it operates a pair of levers and a shaft; the end of the tongue being lifted by a pin above the incline on a thin lever, which, on the beat up of the lay, is thereby pushed back. The propeller is simultaneously driven forward and drives the bottom cop case or box out of the hopper into the shuttle; which is in the shuttle box, and so pushes out the case wherein the weft was used up or broken, the said case passing into a spout and is conducted away to be replenished. As one case is driven out another drops into position in the hopper, ready to follow when required.

Claim.—First, the combination of the lever D with the weft fork E and the tappet F, substantially as and for the purpose set forth.

Second, the combination of the lever L with the weft fork E and the shaft M, substantially as and for the purpose set forth.

Third, the combination of the lever N with the shaft M and the pin *n*, substantially as and for the purpose set forth.

Fourth, the combination of the lever J with the propeller I, the pin *n*, and the spring K, substantially as and for the purpose set forth.

Fifth, the combination of the clamps H with the hopper G, with propeller I, and the shuttle boxes of the lay or batten O, substantially as and for the purpose set forth.

Sixth, the combination of the tongue P with the pin *n*, the lever N, and the lever J, substantially as and for the purpose set forth.

Seventh, the combination of the lever S with the tumbler R and the shuttle boxes of the batten O, substantially as and for the purpose set forth.

No. 43,557.—**Fred. Weil**, Paris, France.—*Mode of Coating and Bronzing Metals.*—July 12, 1864; patented in France December 11, 1863.—This invention consists in coating metals with copper, silver, &c. without a galvanic battery, by means of an alkaline solution of copper, &c., and tartaric acid on an alkaline.

Claim.—The process herein described for metal coating, bronzing and coloring metallic articles by immersing them in an alkaline solution, containing a salt of the metal which is to form the coat, and containing tartaric acid, or any organic matter preventing the precipitation of oxide of said metal, when such solution is used with or without the introduction of zinc, and with or without the addition of cyanide of sodium, or their equivalents.

No. 43,558.—**William H. Akins**, Dryden, N. Y.—*Converting Motion.*—July 19, 1864.—This invention consists in the employment of two wheels, the peripheries of which form a series of inclined planes over which work a series of rollers. The said wheels are firmly secured to transverse shafts, and operate in connexion with drums and two large cog wheels running loosely on the same, so that in rotating a reciprocating motion is imparted to a toothed bar.

Claim.—The wheels I I′, provided with inclined planes *b b′*, and rollers *c c′*, and firmly keyed to the shafts G G′, in combination with the cog wheels J J′ and drums F F′, running loosely on the shafts G G′, and with the reciprocating bar D, constructed and operating in the manner and for the purpose substantially as herein shown and described.

No. 43,559.—**Thomas K. Alexander**, Decatur, Ill.—*Corn Planter.*—July 19, 1864.—This invention consists in the employment of a long spring extending from one section of the frame, which is hinged, to the other section. Upon the forward end of this spring is a hook, so that by bearing down upon the handles of the implement the two sections are caused to maintain their relative positions to each other, according to the circumstances under which they are used.

Claim.—The spring hook K, in combination with the hinges *a*, connecting the two parts of the frame A, as and for the purpose specified.

No. 43,560.—**Edmund P. Banning**, New York, N. Y.—*Truss for Uterine Support.*—July 19, 1864.—This invention will be understood by reference to the claim and engraving.

Claim.—First, the uterine balance J J1 J2 J3, constructed and operating substantially as described.

Second, the cap or block I′ constructed with two convexities and operating to support the vulva, in the manner described.

Third, in combination with the spring B B and uterine balance J J1 J2 J3, the curved spring I, adapted as explained, to permit the ready attachment, removal, and adjustment of the said balance.

No. 43,561.—**E. Berrey**, Auburn, Ind.—*Sawing Machine.*—July 19, 1864.—This invention consists in placing the power wheel centrally in the machine, and to which is connected at one end the driving pitman, which works on a wrist pin of the crank wheel, and the other end to a cross-head, working between slides. To this cross-head is also attached the saw pitman, which passes through a sliding gate between friction rollers at the other end, and beyond which the saw is attached.

Claim.—The combination of the fly wheel D, wrist *a*, driving pitman E, cross-head F, saw pitman M, gate J, and rollers L L, all constructed, arranged, and operating in the manner and for the purposes herein specified.

No. 43,562.—**Josiah N. Bird**, New York, N. Y.—*Manufacture of Steel.*—July 19, 1864.—This invention consists in manufacturing steel directly from blooms, without drawing them into bars. The blooms are allowed to cool, and are then cut into shavings by means of shears, or a planing machine. These shavings or scraps are put into a melting pot with carbonaceous matter and some suitable flux, such as lime, and heated until the iron is carbonized and melted. The steel so formed is then run into ingots, and may be drawn into bars.

Claim.—The manufacture of steel from non-carbonized or decarbonized iron, by cutting the latter into small pieces or shavings, and afterwards applying the carbonizing agent, all as herein described.

No, 43,563.—**John S. Boothby**, Portland, Maine.—*Tanning Leather.*—July 19, 1864.—The materials required for tanning one hundred and fifty calfskins, or sixty sides of leather, are 50 lbs. of sumac, 25 lbs. divi-divi, 25 lbs. sweet fern, 25 lbs. glauber salts, 6 lbs. saltpetre, and 170 gallons soft water. The sumac, divi-divi, and sweet fern are put into a vat with water of about 150° Fahrenheit; at the end of twelve hours the liquor is to be drawn off into the tan vat, and the glauber salts and saltpetre, in solution, added, and the whole raised to about 90° Fahrenheit. The hides, prepared in the usual manner, are then placed in the liquor, and as the tanning progresses the japonica in solution is added, so as to keep up the strength of the tanning liquor.

Claim.—The tanning composition, substantially as hereinbefore described.

Also, the above specified process of tanning by the materials as hereinbefore described.

No. 43,564.—**H. C. Boyers**, Danville, Iowa.—*Beehives.*—July 19, 1864.—This invention consists in applying to the side or front of the hive a poison trap, constructed in the form shown in the engraving, so as to be accessible to the miller and inaccessible to the bee.

Claim.—The trough D, constructed substantially as described, so as to be accessible to the miller and not to the bee, in combination with the hive, as and for the purposes herein specified.

No. 43,565.—**N. Brittan**, Chicago, Ill.—*Lightning Conductor.*—July 19, 1864.—This invention consists in forming the tips or points of lightning rods of a series of spiral coils, in combination with a tube, from whence they project, and which latter connects with continuous flat metal strips, extending over the roof and sides of the building, to which they are attached.

Claim.—A series of points or tips *i i i*, formed of spiral coils, when the same are combined in one piece with a tubular portion *h* and a continuous flat strip *f* A, all as herein described and for the purposes specified.

No. 43,566.—**Harlow Butler**, Chesterfield, Ohio.—*Manufacture of Sugar.*—July 19, 1864.—This invention consists in steeping the sorghum stalks or sugar-cane stalks in lime water previous to grinding.

Claim.—The above described process of soaking sorghum and other sugar cane in lime water, previous to grinding, substantially in the manner and for the purposes described.

No. 43,567.—**J. W. H. Campbell**, San Francisco, Cal.—*Grain Bag.*—July 19, 1864.—This invention consists in constructing grain bags with the lower portion double, and with a handle worked in the bottom.

Claim.—As a new article of manufacture, a grain bag, constructed as described.

No. 43,568.—**F. A. Calvert**, Lowell, Mass.—*Steam Engine.*—July 19, 1864; patented in England September 14, 1860.—The nature of this invention is described in the claim, the invention not being limited to the devices shown in the engraving.

Claim.—Supplying warm air or vapor to the cylinder previous to the admission of steam thereto, by means of such an arrangement of mechanical devices as will permit both the ingress and shutting off of such supply of air or vapor at the proper time to accomplish the desired result, as set forth.

No. 43,569.—H. M. Card and Thomas Tripp, Chicago, Ill.—*Car Coupling.*—July 19, 1864.—This invention consists of a draught link, rigidly attached to an adjustable hook, which is retained in position by the operation of a spring used upon each of the draw heads attached to a car, so that when the cars are run together, by the yielding of said springs, and the action of the hook and link upon one draw head, with the same devices on the other, the links pass over the corresponding hooks, when the spring adjusts and confines the links upon the hooks, and the cars are thus automatically coupled.

Claim.—First, the combination and arrangement of the slotted draw head A with the hook C, provided with the link B and the spring F, as and for the purposes specified and as set forth.

Second, the reciprocating arranged hooks C C and links B B, controlled and operated by a spring or springs, substantially as and for the purposes specified.

Third, the adjustable link B in combination with the hook C, as and for the purposes set forth.

Fourth, constructing the head of the hook of such configuration that the ordinary coupling link may be used, as herein described and shown.

No. 43,570.—H. W. Catlin, Burlington, Vt.—*Hold-back and Trace Fastening for Vehicles.*—July 19, 1864.—This invention consists in the swinging eye being slotted, through which slot the hold-back strap is put, and then placed over the rigid hook, so as to operate as a lock.

Claim.—The fixed or rigid hook A, in combination with the swinging or pivoted eye *b*, arranged to operate in the manner substantially as and for the purpose set forth.

No. 43,571.—Francis Clark, North Oxford, Mass.—*Breech-loading Fire-arm.*—July 19, 1864.—This invention relates to that class of fire-arms in which the breech is closed by a hinged block or gate swinging laterally; and the novelty consists in forming the hinge, by causing the strap of the breech-block to embrace a cylindrical portion of the stock or frame of the arm, and in having a brace or strap passing over the looped or eye-formed strap of the breech block, so as to unite and strengthen the stock.

Claim.—First, fitting the movable breech block E to turn upon a bearing which constitutes a part of the frame of the arm, and the sole or principal connexion between the stock and barrel, substantially as described.

Second, the strap piece *c* of the frame in combination with the bearing *a*, receiving the connecting pin *b*, and with the movable breech block E, substantially as and for the purpose herein described.

No. 43,572.—Hawkins Clark and Frank A. Wilder, San Francisco, Cal.—*India-rubber Overshirt.*—July 19, 1864.—The claim sets forth the peculiarities of this invention, as exhibited by the drawing.

Claim.—The combination of the India-rubber body A, close shirt *c*, collar *e*, and lapel *a*, with the buttons *f f h* and flannel lining B, all as hereinbefore described, constituting a new article of manufacture for the purpose stated.

No. 43,573.—Moses G. Crane, Charlestown, Mass.—*Scraper for Cleaning Gun Barrels.*—July 19, 1864.—This invention consists in forming an expanding or elastic split tubular shank (to be attached to a ramrod) having its rear edge sharpened and slightly bent outward, somewhat in the form of a bell or a trumpet. A suitable ring contracts and holds together these scraping edges when it is desired to enter the cleaner into the mouth of the barrel.

Claim.—The expanding gun cleaner, as made with the springs *b*, scraping edges *c*, and confining ring *d*, arranged and operating substantially as set forth.

No. 43,574.—Julius C. Dickey, Saratoga Springs, N. Y.—*Apparatus for Washing and Amalgamating Gold.*—July 19, 1864; antedated July 11, 1864.—This invention consists in constructing the machine with recesses into which may be introduced hot water, steam or hot air, for the purpose of expanding the mercury and gold in the channels, and thus aid in the amalgamation of the gold, &c.

Claim.—Making the machine A with the recesses C, for the purpose set forth.

No. 43,575.—D. F. Dimon and G. H. Carswell, Fishkill Landing, N. Y.—*Book-holder.*—July 19, 1864.—This invention consists of a crank shaft, which has its bearings in the upper ends of the upright of a frame suitable to support books, and provided with two spring arms, with the prop hinged to the crank, so that when an open book is placed on the frame the weight of the book holds the spring arms down, and the leaves are prevented from turning over.

Claim.—The arrangement of the crank shaft B provided with spring arms C, in combination with the stand A and prop D, constructed and operating substantially as and for the purpose herein shown and described.

No. 43,576.—Thomas T. Dugdale, West Richmond, Ind.—*Machine for Splitting Wood.*—July 19, 1864.—This invention consists in providing a wood splitting machine, where the work is done by a hammer, similar to a pile hammer, with wedges that enter and split the wood attached to arms in such a way that they are swung to and from the block, the block of wood being held firmly in place by a clamp, whilst being split.

Claim.—A machine for splitting fire-wood, composed of the hammer D, lever C, wedges H or H O, rods I I or I O, and M, when constructed and operating substantially as set forth.

No. 43,577.—L. B. Flanders, Philadelphia, Penn.—*Steam Boiler.*—July 19, 1864; antedated June 17, 1864.—This invention consists in constructing the boiler with an inner casing, provided with a series of horizontal tubes, the lower end of the casing flaring outwards at the lower part. The inner casing is surrounded by a cylindrical outer casing, connected with a base that surrounds the lower part of the inner casing, in such a manner as to admit of its ready attachment to and detachment from the said base. Within the inner casing is also arranged a series of vertical tubes.

Claim.—The inner casing D with its arrangements of tubes, the continuation D' of the said casing, the base B and the exterior cylindrical casing A, when the latter is arranged in respect to the base and constructed for attachment to and detachment from the same, substantially as set forth.

Second, in combination with the said casing D, the shields H, constructed and arranged in respect to the tubes of the said casing substantially as and for the purpose specified.

Third, the vertical tubes F, arranged within the casing D, in respect to the horizontal tubes, substantially as set forth for the purpose described.

No. 43,578.—Levi Fleischman, Rochester, N. Y.—*Attaching Stops to Sashes.*—July 19, 1864.—This invention consists in the employment of two spring jaws in a suitable case, attached to the jamb, between which jaws a third having a pear shaped head, and attached to the strip is thrust the jaws closing around the neck of the stud with strength sufficient for the purpose to which it is applied.

Claim.—Attaching the strip B to the casing A by means of the divided spring heads *a a* and the pin *d* or their equivalent devices, the whole arranged, combined, and operating substantially in the manner and for the purpose herein set forth.

No. 43,579.—G. W. B. Gedney and W. J. Brassington, New York, N. Y.—*Automatic Boiler Feeder.*—July 19, 1864.—This invention consists in the arrangement of an air-tight vessel having a float attached to a rod on its inside, in such a manner that when the float rises, a cock, which is also located within the vessel, is opened and communication formed with the steam space of the boiler, and any water contained in the vessel is forced through the pipe connected to the lower portion of the vessel, and the outer space of the boiler into the same. When this has been done the float falls, the cock is closed and the steam in the vessel is condensed, when water rushes in through the pipe provided for that purpose, and the float again rises, and the operation is again repeated.

Claim.—First, the arrangement consisting of the vessel A, float E, rod F, arms G H, pipes B' C D, and cock or valve M, applied on the outside of the boiler, and the whole constructed and operating substantially as and for the purposes set forth.

Second, the arrangement of the devices B2 I, with a boiler and the feed-water apparatus specified, substantially in the manner and for the purpose described.

No. 43,580.—Reuben Gipson, Shelby, Ohio.—*Washing Machine.*—July 19, 1864.—This invention consists in forming the circular bottom of the tub of narrow staves, the edges of which are united together by means of narrow strips of sheet metal, which fit in grooves, so as to make the joints perfectly tight. The other parts of the machine consist of a convex-formed rubber, with bars and rollers in the common form.

Claim.—First, uniting the staves C' by means of a plate, as shown at C'', for making the concave bottom C, as herein specified.

Second, in combination with the staves C' and plates C'', also the rollers F F F, bars E E, arranged in grooves D D, in connexion with the adjusting rubber G, having concave bars H H, the several parts being arranged and operating substantially in the manner and for the purposes set forth.

No. 43,581.—Noah H. Gillet, New York, N. Y.—*Means for rendering Artificial Light the same as Daylight.*—July 19, 1864.—This invention consists in causing the light to pass through glass of a sky-blue color.

Claim.—Rendering artificial light the same color as daylight by an intervening glass of the color specified.

No. 43,582.—Albert M. Hili, Pittsburg, Penn.—*Mode of Attaching Knobs to Spindles.*—July 19, 1864.—In this device a plain square spindle, attached to the shank of one of the knobs, enters into, but is not fastened to, a square longitudinal mortise in the shank of the other knob, Each knob shank is provided, at its inner end, with an outwardly projecting flange, which bears against an angular plate surrounding the spindle, and screwed fast to the face of the door, while the opposite side of the flange is embraced by the circular plate, or rose, which, fitting closely around the shank, is also attached to the door by means of screws. The rose is to be placed upon the shank before the latter is inserted into the knob.

Claim.—The combination and arrangement of the door knob, having a bead, flange, or equivalent device, surrounding the extremity of its shank, with a circle plate placed on its shank between the bead and the bulb of the knob, and an annular disk, or its equivalent, placed between the circle plate and the door to which the knob is attached, so that the bead or flange may be enclosed and held between the circle plate and disk, substantially as and for the purpose hereinbefore set forth

No. 43,583.—HENRY HOLCROFT, Media, Penn., and CANBY S. SMITH, Chester Valley, Penn.—*Power Loom.*—July 19, 1864.—The object of the combination of parts embraced in the first clause of the claim is to avoid the necessity for more than one shaft, and thus simplify the loom. The other devices claimed relate to a simplified means of giving the harness motion.

Claim.—First, the combination of two cams F F′ on the main or crank shaft of the loom, two levers D D′ interposed between the said cams and the picker staffs, and two movable stops G G′, or their equivalents, the whole operating substantially as herein described, to obtain the shuttle motion from the main shaft.

Second, placing the pattern cylinder S in a vibrating frame S*, when the cylinder is operated by a notched rod Q eccentrically attached to the main shaft of the loom.

Third, the rock shaft *q*, the rocker *r r′*, and the levers N N′, which carry the knives *n n′*, the whole arranged in combination with each other and with the jacks and hooks, to operate substantially as herein specified.

No. 43,584.—JOEL A. HOWE, Bangor, Maine.—*Device for Securing the Port Stoppers of Ships.*—July 19, 1864.—This invention consists in the employment of a screw connexion between the stopper and the bar, which is placed across the interior of the port as a substitute for the cord usually employed, which is passed around the bars and through eyes secured to the stopper; the object being to prevent the loosening of the stopper from any cause.

Claim.—The combination of the port stopper A, double chains D D, screw E, nut F, and bar B, when constructed, arranged and employed in the manner herein specified.

No. 43,585.—J. B. HYDE, Newark, N. J.—*Manufacture of Illuminating Gas from Peat.*—July 19, 1864; antedated July 18, 1864.—The nature of this invention is explained by the claim.

Claim.—Preparing, treating, and distilling dried peaty matter with hydrocarbon oils, for the manufacture of illuminating gas, substantially as described.

No. 43,586.—ALFRED JEFFERY, Baltimore, Md.—*Railway.*—July 19, 1864.—This invention consists in laying the rails on elastic blocks secured to the sleepers, so that the rails may have a vertical play when the train of cars passes over them.

Claim.—The employment or use of blocks or supporters interposed between the rails and sleepers of a railroad, substantially as and for the purpose herein set forth.

No. 43,587.—JAMES JENKINS, Elizabeth, N. J., and JAMES MCMAHON, Lower Sancon, Penn.—*Manufacture of Oxide of Zinc.*—This invention is designed as an improvement on what is known as the "bag process," the improvement consisting in making the bag of wire cloth instead of cotton or woollen cloth, as usual. The advantages claimed are, that the wire cloth will not be destroyed by the heat of the oxide, and the danger from fire is greatly diminished; and also a greater quantity of zinc may be made in a given sized chamber.

Claim.—The use and employment of wire cloth as a substitute, in whole or in part, for the woollen or cotton cloths now employed in the manufacture of the oxide of zinc, substantially as herein described and for the purposes herein named.

No. 43,588.—JOHN JOHNSON, Saco, Maine.—*Dentistry.*—July 19, 1864.—This invention consists in forming the plates of the electrotype process of silver, or other suitable metal, and also in attaching the teeth thereto by the same process, the molar teeth being made of metal electro deposited in suitable moulds, and the front teeth of porcelain.

Claim.—As a new article of manufacture, a metallic plate or case, to which is attached, by electro deposited metal, one or more porcelain teeth, or blocks of teeth, substantially as herein set forth and described.

Also, the plate or case formed as herein described, and prepared for the attachment of the porcelain teeth, in combination with the attached teeth.

Also, the combination of the electro deposited molar teeth, with the imbedded grinding plates forming their upper surface.

Also, the hollow electro deposited teeth, constituting a shield or protection to decayed or diseased natural teeth.

Also, a metallic plate or case, whether "struck up" or electro deposited, in combination with a full or partial set of electro deposited teeth, formed or constructed substantially as herein specified.

Also, the mode of holding teeth or blocks of teeth to the plate by means of the metallic deposit within or upon their corrugated or undercut bases, or in apertures formed in the teeth or blocks.

Also, as a new article of manufacture, porcelain teeth, or blocks of teeth, having gilded or electro-plated bosses or backs, forming a conducting surface, for the purpose herein specified.

No. 43,589.—JOSEPH KENYON, Black Hawk, Col.—*Amalgamator.*—July 19, 1864.—This device consists of a circular pan, through the centre of which passes a vertical shaft. To the upper end of the shaft is attached a cross-head fitted with a yoke, through which a screw passes and rests upon the end of a shaft. At the ends of the cross-head, bows are attached carrying the vertical shafts, upon which are pinions gearing into a stationary wheel. At the end of each shaft are placed arms, and at their ends are irons for receiving the mullers.

Claim.—First, a series of mullers connected by arms or supports, with a shaft that revolves in its own bearings, and also moves around the pan, so that each muller receives a cycloidal movement, for the purposes and substantially as specified.

Second, the arrangement of the cross-head *g*, bows *k*, shafts *l*, wheel *n*, and pinions *m m*, for giving motion to the mullers, as set forth.

Third, the yoke *h* and screw *i*, in combination with the cross-head *g* and cycloidal revolving mullers carried by the shafts *l*, as and for the purposes specified.

No. 43,590.—JOHN H. KOEL[illegible]R, New York, N. Y.—*Artificial Arm.*—July 19, 1864.—The numerous claims in this case involve too much complication of structure to be made intelligible by a brief description. The specifications and drawings must be resorted to for explanation.

Claim.—First, the shoulder cap A A, as the foundation or basis for the required movements in the arm, fore-arm, wrist, and thumb and fingers.

Second, the combination of the strap C with its hinge at the shoulder cap A and its middle hinge near C and its connexion at L to the ring L M, together with the straps D and E, with their respective hinge joints and connexions to the cap A and lower part of upper arm at D and U, for the purposes hereinbefore described and set forth.

Third, suspending the arm, fore-arm, and hand by means of the straps B C D, constructed as before described, enabling the stump of the arm, or fore-arm, by its movements within this outer skeleton, to effect or accomplish the required motions in the fore-arm, wrist, and fingers.

Fourth, the construction and application of the ring L, together with its connexion with the straps D C D and with the fore-arm at the elbow joint, guided in its movements by the slots M N. and operating for the purposes hereinbefore specified and described.

Fifth, in connexion with the strap D, the wire rod or guide Q and shield R, for the purposes and operating as before described.

Sixth, the application and construction of the bell crank at the elbow joint I K, together with the bent wire Y and strap W to which it is connected, for the uses and purposes hereinbefore set forth and specified.

Seventh, the method or mode of constructing the wrist joint, as described in the specification, and as shown in the marginal drawings A B C D E, plate V.

Eighth, the method or mode of constructing, and the application and arrangement of the wires or rods moving the thumb and fingers, together with the yoke *x x*, as specified and described and fully set forth in the central drawing, Fig. V, and in the marginal drawings F of the same figure.

Ninth, the mode or method of connecting the lever K K with the rod P, by means of the stirrup *i i*, (thus allowing semi-rotation of the hand,) as described in the specification and shown in the marginal drawing F, Fig. V.

Tenth, the method or mode of constructing the thumb and finger joints, as set forth and described and shown in the marginal drawings G H, Fig. V.

Eleventh, the arrangement of the lever K K, the spring 8, slide 5, wire rod or guide 7 7, the notches in the slot O′, and the notch in the slot I, (Fig. V and marginal drawing B,) for the purpose of connecting or disconnecting the motion of the thumb and fingers from and with that of the arm and fore-arm, as heretofore more fully described and set forth.

No. 43,591.—MARTIN LANDENBERGER, Philadelphia, Penn.—*Lady's Hood.*—July 19, 1864.—This hood is not only made ample enough to receive the mass of hair supported by a net, as now worn, but is so drawn or gathered, where the curtain is attached, as to fit close to the head beneath the netted mass.

Claim.—A hood constructed substantially as described, so that there shall be at the back of the same a bag for the reception of the wearer's hair.

No. 43,592.—James Lewis, Mohawk, N. Y.—*Lamp Chimney.*—July 19, 1864.—This invention consists in the employment of an adjustable cap or damper for lamp chimneys, so arranged as to diminish the flow of air, and thus regulate the combustion to that point most favorable to the highest degree of illumination.

Claim.—An adjustable cap or damper for lamp chimneys, when constructed and applied substantially in the manner and for the purpose hereinbefore set forth.

No. 43,593.—William Lewis, John Price, and Francis Naylor, Danville, Penn.—*Fagotting Railroad Rails.*—July 19, 1864.—In this fagot the rails are laid upon their sides, the first two with their tread surfaces turned towards each other, but sufficiently far apart to admit between them the bottom flanges of the succeeding pair, and upon this second pair a third pair is laid similar to the first. The improvement consists in the addition of two plates rolled into such shapes that they will conform to the curved surface of the rails, one of which is placed underneath, and the other on top of the fagot, thus completing it by giving to it a general square outline, and at the same time holding the several rails in place.

Claim.—The formation of files or fagots for re-rolling by the combination of the corrugated top and bottom plates A A′ with the interlocking rail bars, all in the manner substantially as herein shown and described.

No. 43,594.—Sidney Maltby, Washington, D. C.—*Letter Box.*—July 19, 1864.—This invention consists in the application of a tilting bottom to a drawer, which, when drawn out to receive a letter or package, closes up the bottom, which again flies open when the drawer is returned to its closed position by the action of a spring or weight, and the letter is deposited in another receptacle out of reach from the outside.

Claim.—First, a tilting drawer bottom, shelf, or support, as above described, the same being so arranged as to rise and receive letters when drawn out, and then tilt down and deposit or drop the letters when pushed or drawn in, substantially as set forth.

Second, the use of the automatically closing drawer for receiving and depositing letters, substantially as specified.

Third, the combination of the box A with the tilting support, and also with the automatically closing drawer, substantially in the manner and for the purposes specified.

No. 43,595.—Albert Manvel, Elizabethport, N. J.—*Manufacture of Malleable Iron.*—July 19, 1864.—This invention consists in heating cast iron in a composition of about fifty parts of iron scale with one part of oil of vitriol.

Claim.—The use of oil of vitriol or hydrated sulphuric acid in combination with iron scales or other equivalent material, substantially as herein described, to act as decarbonizing agents in the manufacture of malleable iron.

No. 43,596.—Joseph Mottet, Philadelphia, Penn.—*Apparatus for Stretching Pantaloons.*—July 19, 1864.—This invention consists of a narrow board or plate longer than the pantaloons, having a fixed cross-piece near the top, one-half of which opens and closes by a hinge. Between these parts the waistband, being distended, is compressed. A sliding cross-piece, having hinged clamps right and left, receives the hems of the legs in like manner when it is moved downward to produce the required tension. The sliding cross piece is held in position by a pin inserted in one of a series of holes in the perpendicular board or plate.

Claim.—The plate A with its cross-pieces B and C and the clamps D and E, or their equivalents, the whole being arranged and operating substantially as and for the purpose specified.

No. 43,597.—Robert Nelson, Albany, N. Y.—*Tooth Brush.*—July 19, 1864.—The brush is arranged transversely to the handle, being convex on the back and concave on the front; the trimmed bristles and the inner side of the back being in line. The object being to clean the teeth by a vertical movement.

Claim.—The method of constructing tooth brushes by arranging the brush (bristle) part thereof, in reference to the direction of the handle, in the manner described and for the purposes set forth in the above specification.

No. 43,598.—George E. Noyes, Washington, D. C.—*Governor Valve.*—July 19, 1864.—The object of this invention is to produce a valve to be operated by the governor of a steam or other engine which shall be so nearly balanced as to be free from friction practically. The novelty consists in the use of a cylindrical or cup valve, having steam ports through its top for the passage of the steam, and a perforated cylinder in combination with the partition or diaphragm of an ordinary globe valve. The diaphragm of such a valve is bored out to receive this perforated cylinder, and the cup or tube is made to fit and slide under this cylinder, having its lower edge seated upon the bottom of the cylinder, thus forming a tight joint where the tube is closed. When the tube is lifted from its seat the steam passes through the perforation in the cylinder and up through the interior of the valve to the engine.

Claim.—The combination and arrangement of the valve D, partition B, and perforated valve cup C, when constructed and operating substantially as described.

No. 43,599.—Wm. D. O'Brien, Brooklyn, N. Y.—*Railroad Rail.*—July 19, 1864.—This invention consists in the construction of brakes for city railroads, with the sleepers upon which the rails are placed crowning upon their surface, and a rail of a crescent shape to fit upon the sleepers, in order that the rain or moisture may not remain upon the sleeper and rot it.

Claim.—The crescent shaped rail forming a roof or cap to the sill, as and for the purposes specified.

Also, forming the underside of the joint plate *s* of city railroads concave, to set on to the convex surface of the wood prepared to receive said plate, for the purpose of preventing the lodging of water beneath the said joint plate and the rotting consequent thereon, as set forth.

No. 43,600.—Preston C. Pearson, Harrison, Indiana.—*Hay Press.*—July 19, 1864.—The novelty of this invention consists in an arrangement of levers, pulleys, and cords, with the follower and platform of the press, for the purpose of increasing its compressing power.

Claim.—The lever E, the follower M, the platform I, the lever P, shaft *m*, the pulley or sleeve *n*, the pulley V, and cord *r*, with weight attached, the whole constructed, arranged, and operated as and for the purpose substantially as herein set forth.

No. 43,601.—Milo Peck, New Haven, Conn.—*Patched Ball for Fire-arms.*—July 19, 1864.—A blank is first made, having a base of the calibre intended for the finished ball, and a central stem, there being an annular recess between the stem and the sides of the base. By a similar process to covering buttons and securing their covers, a patch is placed over the base, which is drawn up over the sides of the blank and forced into the annular cavity referred to. The central stem is then forced down by suitable means, thus securing the patch and forming the front of the ball.

Claim.—As a new article of manufacture, a patched ball for fire-arms when the patch is secured to the ball by compressing the metal of the ball upon the patch, substantially as herein set forth.

No. 43,602.—George F. Quick, Philadelphia, Penn.—*Cutting Apparatus of Harvesters.*—July 19, 1864.—This invention consists in providing the longitudinal knife with hubs so arranged as to turn and admit of being withdrawn from the fingers, the said knife being secured between an upper plate and lower perforated plate.

Claim.—First, a longitudinal knife D having hubs *b* arranged for turning in and for being withdrawn from the fingers *a*, as set forth.

Second, the combination of the longitudinal knife D with the upper plate E, and lower perforated plate F, the whole being arranged as and for the purpose described.

No. 43,603.—Edward Y. Robbins, assignor to W. Penn Nixon, Cincinnati, Ohio.—*Drying Apparatus.*—July 19, 1864.—This invention consists in combining with the hot air chamber a drying apparatus, so that the heated air passes from the hot air chamber into the condensing chamber, and is returned to the hot air chamber after parting with its moisture.

Claim.—The application of a condenser to a drying chamber, as above described, or any other arrangement substantially the same, and which will produce the intended effect.

No. 43,604.—E. Y. Robbins, Cincinnati, Ohio.—*Fireplace.*—July 19, 1864.—The nature and object of this invention are set forth in the claim.

Claim.—The inclination or curving forward of the upper part of the jambs, causing the arch of the fireplace and the front or breast of the mantel to project over the base of the jambs, thus affording space for a corresponding forward inclination of the fire-back without the necessity of deep jambs, which obstruct the radiation of the fire sidewise, substantially as above described.

Also, in combination with the forward inclination or curving of the jambs, the making of the large front or breast of the mantle (and the shelf if desired) a non metallic warming or radiating surface; all as above set forth, or any other arrangement substantially the same and which will produce the intended effect.

No. 43,605.—George Robbins, Watertown, Mass.—*Process for Making Soap.*—July 19, 1864.—This invention consists in mixing with the usual alkaline liquors used in the manufacture of soap a solution of gelatine, for the purpose of saponifying the fatty substances without the use of salt, &c.

Claim.—The improvement in the process of manufacturing hard and soft soap, which consists in the saponification of fatty substances by means of gelatinous alkaline solutions, as hereinabove described.

No. 43,606.—Jacob Rupertus, Philadelphia, Penn.—*Revolving Fire Arm.*—July 19, 1864.—This invention relates to that class of fire arms having revolving barrels, and is provided with a breech piece or recoil shield, capable of a limited rotation, and also with a hinged gate through which the cartridges may be supplied to the chambers. A spring is caused to hold the said rotating breech, either in a position admitting of the act of loading or in a position having its gate securely retained by the stock or frame, a notch in the said breech allowing the passage of the hammer through to the cartridge, only in the latter position.

Claim.—First, a breech piece E intervening between the rear end of the barrel and the stock when the said breech piece is arranged to turn substantially as set forth.

Second, the notch *m* formed at or near the edge of the said breech piece, as set forth, for the purpose specified.

Third, the combination of the said movable breech piece with the door G, or its equivalent.

Fourth, the said movable breech piece with its notches *t* and *g* in combination with the spring I.

No. 43,607.—MOSES SEWARD, New Haven, Conn.—*Axle Clip for Carriage Work.*—July 19, 1864.—This invention consists in upsetting on a round rod of the proper size those portions which form the shoulders of the clip, and then swaging the whole into shape in suitably constructed dies.

Claim.—As an article of manufacture, an axle clip made by upsetting a round rod of just the size necessary to cut the screws, so as to give increased strength to the shoulders of the clip, and completing the same by a drop or hammer.

No. 43,608.—WILLIAM SHAW, Hudson, N. Y.—*Sash Fastening.*—July 19, 1864.—This device consists of a case divided into two compartments, in each of which is a toothed pinion so arranged as to engage the one with a rack upon the upper sash, and the other with a rack upon the lower sash. Each pinion has upon its side an eccentric hub, to which is attached the inner end of a coiled spring, the tension of which is in constant opposition to the specific gravity of the sash. A long bent latch bolt extends back through the case, and clutches with the teeth of the pinion upon its inner edge, and is kept locked therewith by a spring, but may be disengaged from the pinion by the application of pressure upon a thumb piece attached to the outer and projecting end of the latch bolt.

Claim.—First, enclosing in a case A the two spiral springs E E′, when each is attached to the eccentric hub and arranged and combined with their respective pinions D D′, substantially in the manner and for the purpose set forth.

Second, the case or box A, constructed as set forth.

Third, the two sliding catches N N′, with their elbows, arms, and thumb pieces combined, when arranged in connexion with the pinion D D′, springs O O′, and case A, substantially as and for the purpose described.

No. 43,609.—WILLIAM and HOLLAND SIAS, Henderson, N. Y.—*Feed Rack.*—July 19, 1864.—In the construction of this rack the inventors disclaim any of the usual forms of rack, and confine themselves to particular devices for changing the position of the rack front, consisting of grooved bed pieces, in which the ends of the racks move back and forth.

Claim.—The application to feed racks of the grooved bed pieces A, the mortised perpendicular posts B, the mortised sliding bars of wood or iron C, connecting with the top rails of the racks, and the pivot pin D that passes through the posts and mortises in the sliding bars, and consequent mode of operation by which the superior qualities of durability and utility are added to the substantial manner in which our racks are constructed, and the great ease secured to the mode of operating our racks.

No. 43,610.—A. and C. D. SMEDLEY, Carthage, Ohio.—*Washing Machine.*—July 19, 1864.—This invention consists in forming the rubbing surface of a washing machine that has oscillating rubbers, moving in reverse directions, of brushes or bristles.

Claim.—The form, arrangement, and use of the brushes K K K and L L L L, when they are formed, arranged, and used in the manner and for the purpose specified.

No. 63,611.—ROBERT THOMAS, Buffalo, N. Y.—*Ship's Knee.*—July 19, 1864.—In this knee there are two side plates of iron held apart by wood. The plates extend beyond the wood in two directions, for fastening them vertically to the ribs, and horizontally to the beams of the ship.

Claim.—A ship's knee made partly of wood (as represented by the chock H) and partly of iron (as represented by the iron plate piece G,) as a distinct construction, substantially as set forth.

No. 43,612.—JOHN T. TURNER, Bridgewater, Mass.—*Valve Gear of Steam Hammers.*—June 19, 1864.—This invention consists in combining an oscillating valve with the hammer by means of the lever which is attached to the cross-head, to one end of which a link is attached, which at its opposite end is secured to an arm made fast upon the spindle of the valve. Upon one side of the valve and in the rear of the cross-head rises a standard, upon which sliding lappets are arranged in such a way as to be moved to any position to control the movement of the hammer. The outer end of the lever, which is attached to the cross-head, comes in contact with the above-mentioned lappets as the hammer rises and falls, thus giving motion to the valve, which controls the induction and eduction of the steam and the height to which the hammer is to be raised, and consequently the force of the blow to be given.

Claim.—Combining the oscillating valve with the hammer by means of a lever I, one end of which is connected by a rod *h* with an arm on the centre spindle of the valve, and the other end of which is arranged between two tappets, *j* and *k*, all substantially as herein specified.

No. 43,613.—ZERA WATERS, Bloomington, Ill.—*Ladies' Skirt Lifter.*—July 19, 1864.—This invention consists of a zone or belt, to be worn around the waist, and having attached to its under edge a tube of flexible material, on the lower edge of which tube are eyelet holes. A series of cords united by a ring to a ribbon, in an opening at one side of the wearer, descend to take hold of the skirt by hooks and eyes in front; and there is a like arrangement in the rear. These cords may be weighted below, to cause the skirt to descend when the tension is removed.

Claim.—A skirt lifter, consisting of the zone A, tube 2, with holes 3, and extension strings B, all constructed, and operating substantially as described.

No. 43,614.—A. H. WEST, Hamilton, N. Y.—*Machine for Sharpening Hop Poles.*—July 19, 1864.—This invention consists in the employment of two revolving wheels, on the inside of which are placed long inclined knives so that when the wheels are revolved, and the poles are placed upon a rest between the knives and fed towards the centre of the wheels, they will be sharpened ready for use.

Claim.—The combination of the oblique knives D D, and spring gauges E E, with the wheels C C, all arranged and operating substantially as set forth.

No. 43,615.—ELIJAH D. WILLIAMS, New York, N.Y.—*Expanding Bullet.*—July 19, 1864.—This invention consists in making the bullet in two parts, composed of a rounded front portion, and a flattened rear portion or shoe; the parts being joined by mutual projecting annular tongues, or tenons, of slightly tapering sections, each entering into a corresponding annular recess in the other part, so that when firmly driven together by the blow of the discharge, each part serves to expand the other part.

Claim.—The construction of a bullet of two pieces A and B, fitted together with a series of conical surfaces arranged substantially as herein specified, whereby in the discharge of the bullet from the fire-arm the piece B is caused to move forward both within the interior of and upon the exterior of the piece A, and each is caused to produce the expansion of the other by a double-wedging action, substantially as herein set forth.

No. 43,616.—WILLIAM WINTER, Plainfield, N. J.—*Watchman's Clock.*—July 19, 1864.—This invention consists in combining with the face of the clock a disk of slate, made to revolve once in twenty-four hours. The disk has the hours marked upon it, and these are visible through an opening in the cover of the clock. As the watchman passes the clock at a certain hour, he makes a mark with a slate pencil through the opening opposite to the hour, which is visible at the time.

Claim.—The application to the face of a clock of the tell-tale dial D, made of slate or other similar material, and marked with figures from 1 to 12, in combination with a hole *f* in the lid B, and with suitable gear wheels, causing said tell-tale dial to revolve with the same speed as the hour hand, substantially as and for the purpose set forth.

No. 43,617.—JOSIAH YOUNG, Bangor, Maine.—*Hanging Circular Saws.*—July 19, 1864.—The object of this invention is to hang a circular saw centrally, in regard to the axis of motion, and at the same time to have the saw independent of the mandrel, and it consists in providing the saw with two collars, one on each side of the saw, fastened together by screws passing through one collar, the saw and into the other collar. One of the collars is provided with a circular concentric recess, fitting over a stationary collar on the mandrel, whereby the saw is perfectly central, without contact with the mandrel.

Claim.—The permanent collar C on the mandrel B, in combination with the circular concentric recess in the collar D attached to the saw A, substantially as and for the purpose specified.

Also, the two collars D D attached concentrically to the saw A, the concentric recess *c* in D, the nut E and permanent collar C on the mandrel, all arranged substantially as and for the purpose specified.

No. 43,618.—ALEXANDER BAIN, assignor to WILLIAM H. ALLEN, New York, N. Y.—*Machine for Punching Paper for Telegraphic Purposes.*—July 19, 1864.—The complication of the machine, and numerous claims, render a resort to the specification necessary to a full understanding of the invention.

Claim.—First, the arrangement of the shaft *d*, lever *e*, and latch *e′*, to cause the band 1 from the motive power to be operative or inoperative, as set forth.

Second, a reciprocating rod actuated by an eccentric, or its equivalent, in combination with a punch, substantially as set forth.

Third, the combination of a finger key, a punch, and reciprocating mechanism, substantially as specified, whereby the punch is made to operate by depressing the key, substantially as set forth.

Fourth, the spring clamp *r* applied to the paper reel, for the purposes and as specified.

Fifth, the disk *w* and wheel *y*, applied as specified for drawing along the strip of paper or similar material, as set forth.

Sixth, the tooth *d* and stop *q'* applied to the shaft *d*, for the purposes and as specified.

Seventh, withdrawing the punch by a positive movement derived from the reciprocating mechanism through the agency of the arm 15 and pin 23, or their equivalents, for the purposes and substantially as specified.

No. 43,619.—M. W. Barrett, assignor to himself and George Milburn, Mishawaka, Ind.—*Tuyere.*—July 19, 1864.—In this apparatus the hearth plate is provided with an opening to permit the ascent of air from the reservoir to the fuel. A screw-threaded spindle having a hand wheel upon its lower end, and passing upward to a nut attached to the hinged bottom of the reservoir, bears upon its upper end a perforated disk or valve, by which means the said screw spindle and nut may at any time be forced up to close the opening in the hearth plate, and thus cut off all communication between the reservoir and the fuel, except that which is constantly maintained by the holes in the valve; or the flow of air will be increased in proportion as the valve is drawn away from said hearth plate.

Claim—The combination of the air-box B, hearth *b*, aperture *d*, valve C *g*, screw shaft *f*, removable bottom *c*, and latches *k k*, all constructed, arranged, and operating as specified.

No. 43,620.—William W. Beach, assignor to himself and Frederick Chamberlain, New York, N. Y.—*Vulcanized Rubber Cravats.*—July 19, 1864.—This invention consists in forming neck-ties and cravats of hard vulcanized India-rubber, the same being embossed and ornamented, and adapted for ventilation, by means of perforations and corrugations.

Claim.—The application of hard vulcanized India-rubber for neck-ties and cravats.

Also, embossing and ornamenting neck-ties and cravats, when made of hard vulcanized India-rubber, and of ventilating the cravats by perforation or corrugation.

No. 43,621.—H. W. Catlin, Burlington, Vt., assignor to W. H. Clarke, Brownsville, Penn.—*Metal Lock for Wooden Hoops for Casks.*—July 19, 1864.—The object of this invention is to secure the lock of wooden hoops for casks in such a way that the wood of the hoop will not be weakened by cutting notches in the wood to form the lock. The novelty consists in constructing a lock from the sheet metal, provided with two openings and of a curved form, so as to admit the two ends of the hoop to pass through and lap each other, then striking the curved part of the metal lock with a hammer, setting it firmly into the wood, which clamps the hoop and forms a complete lock.

Claim.—A lock or fastening for the wooden hoops of casks, constructed in the manner substantially as herein shown and described.

No. 43,622.—Salomon Fribourg, assignor to S. Fribourg, Cahm & Co., New York, N. Y.—*Shirt.*—July 19, 1864.—This invention consists in attaching a supplemental band around the base of the collar of different material from the same, and having a tie in front corresponding with this band, so that while serving as a band it has the appearance of a cravat.

Claim.—The shirt with the cravat attached thereto and forming a part thereof, substantially as herein set forth.

No 43,623.—Ira Merrill and Arthur Maxwell, assignors to Arthur Maxwell, Shelburne, Mass.—*Ox-shoe.*—July 19, 1864.—This invention consists in making an additional cork midway between the two usually employed at the toe and heel.

Claim.—The insertion of the third cork *c*, for the uses and purposes herein set forth.

No. 43,624.—Charles M. Miles, assignor to himself and Charles F. Jones, Vineland, N. J.—*Steam Boiler.*—July 19, 1864.—The object of this invention is to provide a boiler for the generation of steam which shall present a large amount of heating surface, and thus to economise the fuel. The novelty consists in the combination of a fire box, a smoke box, placed entirely within the water space of the boiler, and the tube or flue uniting the two, and a series of water tubes placed longitudinally in the fire box above the grate, and connecting the water spaces in the front and rear of the leg of the boiler. The heated gaseous products of combustion arising from the fuel or the grate entirely envelop the flues, and pass through the flues G into the smoke box, and thence through return flues to the chimney.

Claim.—The combination in a horizontal boiler of the fire box C, gas and smoke tubes G G, smoke box H, return tubes I, and water tubes D and F, the whole arranged substantially as herein specified.

No. 43,625.—Edward Parker, Philadelphia, Penn., assignor to himself and W. L. Jordan, Reading, Penn.—*Metallic Oil Barrel.*—July 19, 1864.—This invention consists of a barrel made of strong sheet iron, plain, and of the usual shape, all the joints of which are brazed instead of being riveted, and with bung and spriggot holes, bushed with solid metal.

Claim.—As a new manufacture, a sheet-iron cask or barrel, having body and ends brazed together, and being otherwise constructed as set forth, for the purpose specified.

No. 43,626.—M. A. Richardson, assignor to himself and W. H. Keeler, Sherman, N. Y.—*Boot jack.*—July 19, 1864.—This invention consists in hinging the toe end of a boot-jack to the base board of a wall in a room, and holding it in an upright position by a suitable spring, but connected by a handle further up on the wall by means of a strap in such manner that when the handle is drawn out from the wall the boot jack will be thrown down in the right position, so that the foot may be inserted for removing the boot.

Claim.—Hinging the boot jack C to the wall by means of a suitable joint *a*, and retaining it in a raised position against the wall by a reacting spring E, the whole combined and operating substantially as and for the purpose herein set forth.

In combination with the hinged boot-jack C and reacting spring E, also the strap or cord G and lever H, so arranged that said lever and boot jack will open and close automatically and correspondingly, substantially as herein specified.

In combination with the opening K of the boot jack C the button *d*, arranged and operating substantially as described.

No. 43,627.—Benjamin Saunders, Nashua, N. H., assignor to A. H. Saunders, Nashua, N. H., and Richard Kitson, Lowell, Mass.—*Machine for Dressing or Sizing Yarn.*—July 19, 1864.—This invention is designed to supersede the necessity of buckets for carrying the sizing liquid to the several roller boxes, and keeps up a constant current passing from the reservoir, so as to secure a continuous mixing of the sizing, which is forced up by a pump from the reservoir, conveyed through pipes with appropriate stop-cocks into flexible discharge pipes, for supplying each size box as desired. The sizing not discharged and used returns to the reservoir by a continuation of the pipes, a siphon serving to obtain the desired pressure at the moment the branch valves are opened to let the size into the various boxes or troughs.

Claim.—First, a return pipe C, in combination with the pump D, or its equivalent, and size tank A, or a reservoir connecting therewith, substantially as herein specified, for the purpose of keeping the size in continuous motion, and to distribute it in a simple and easy manner.

Second, the siphon F, or its equivalent, in combination with the return pipe C, pump D, and tank A, substantially as herein specified, for the purpose of giving the requisite pressure at the moment of opening the branch valves to let the size into the various boxes or troughs.

No. 43,628.—Emile Daire, Amiens, France.—*Candle-holder.*—July 19, 1864; patented in France April 12, 1863, and in England December 23. 1863.—This invention consists of a piece of thin metal so formed as to be placed in a candlestick to hold the candle in the cup, instead of wrapping it with paper when too small. This holder is made sufficiently elastic to suit different candles of different sizes.

Claim.—The combination of the bent body O O' O' of a candle holder with elastic, sharp-edged flanges A A' A', inclined flags E E' E', and horizontal bottom guard R, when said holder forms a segment of a polygon, for the purpose of insertion between the candle and the inside of the cup of the candlestick, as above described.

No. 43,629.—Percival M. Parsons, Blackheath, England.—*Strengthening Ordnance.*—July 19, 1864; patented in England June 5, 1862.—The nature of this invention is fully set forth in the claim.

Claim.—Constructing cast-iron guns with, and applying to them, internal tubes of wrought iron, steel, homogeneous metal, or other suitable material, inserted at the breech end into a suitable recess, and secured therein by a screw or screws, and so arranging the dimensions of the cast iron surrounding the lining tube at the reinforce that it may be subjected to an equal or nearly equal longitudinal strain or extension throughout a sufficient length of the same, and the general combinations by which the longitudinal strength of the cast iron body of the gun or mortar is imparted to and supports the lining tube, while it absorbs or relieves the cast iron of a portion of the transverse or circumferential strain, as hereinbefore described.

No. 43,630.—Charles de Bussy, Paris, France, assignor to Moritz Pinner, New York, N. Y.—*Preserving Iron from Corrosion.*—July 19, 1864.—This invention consists in heating plates, beams, &c., in a close vessel with phosphorus, arsenic, or other homologous elements, so as to cover the surface of the iron with a fusible coating of phosphide of iron, especially applicable as a means of protecting the plates of iron vessels; or the iron may be enclosed and heated with a mixture of charcoal and phosphates.

Claim.—The protecting of iron plates, beams, and other articles of iron used for ships, vessels, wharves, buildings, and other purposes, by subjecting the same to a chemical process, and covering them with a coating, so as to prevent corrosion and the other actions of water and air, substantially as herein described.

No. 43,631.—Francis E. Augustine, Dubuque, Iowa.—*Adjusting Pattern for Boots, &c.*—July 26, 1864.—This invention consists of a sectional pattern so constructed that all the sections can be adjusted simultaneously—that is, contracted and expanded by means of racks and a pinion, and can be secured in any desirable position by means of a jam nut, which works on the screw portion or staff.

Claim.—First, a sectional pattern for boots, shoes, &c., so constructed and put together that all the sections can be adjusted simultaneously, by means substantially as herein described.

Second, adjusting the sections of an expanding and contracting pattern by means of the racks and pinion, applied and operating substantially as described.

Third, the racks *d*, pinion *g*, pinion staff *h*, and the jam nut *n*, all combined with the adjustable sections, operating substantially as described.

No. 43,632.—LEONARD BACON, Charlotte, Mich.—*Churn.*—July 26, 1864.—This invention relates to the arrangement of two reciprocating dashers operated by a double crank; the dasher rods have two guides, one through the cover of the churn, and the other near the upper end. A connecting rod is attached to each near the middle. The dashers are provided with a series of fingers, which interlock or pass each other in their ascent and descent

Claim.—The specific arrangement of reciprocating dashers with the fingers *h h h'* and *i i i'*, in combination with the case A, guides *b b*, arms *c c*, rolls *a a*, pivoted to the arms, and double crank D, when operating conjointly in the manner and for the purpose set forth.

No. 43,633.—JOHN BLACKIE, Washington, D. C.—*Magnetic Annunciator.*—July 26, 1864.—Reference to the specification and drawings will be necessary for an understanding of this invention.

Claim.—First, operating an eccentrically-hung keeper or armature A by means of a series of magnets, substantially as herein set forth.

Second, the stop *i* in combination with the spring *h*, or its equivalent, for the purpose of holding the keeper A and index *a* in position.

Third, operating the catch *h* and hammer *f* by the keeper I, substantially as described.

Fourth, the connecting coils and series of plates 1^{*} 2^{*}, &c., in combination with a differential galvanometer, as shown and described.

Fifth, the wheel *o*, mounted in the adjustable frame *p*, operated by the spring arm O and shaft N, in combination with the series of plates 1^{*} 2^{*}, &c., as described.

Sixth, connecting an operating shaft N with the rudder post M, by means of the slotted arm *n'*, arm *m*, and pin *l'*, by which means the vertical movement of the rudder post is prevented from disarranging or interfering with the post N and its attachments.

No. 43,634.—CHARLES BROMBACHER, New York, N. Y.—*Gauge for Shears.*—July 26, 1864.—The object of this invention is to arrange the gauge adjustments so as to have them within reach of the person using the shears, which is accomplished by means of a rack and pinion, the latter being placed at a position to be used by one hand of the operator, and the shears by the other hand.

Claim.—The handle rack and pinion, or similar mechanism that actuates the gauge, when said handle is contiguous to the handle of the shears, substantially as and for the purposes specified.

No. 43,635.—JAMES CANFIELD, Sabula, Iowa.—*Cultivator.*—July 26, 1864.—In this machine the axles of the wheels are connected each to a section of the plough frames, and the tongue is supported upon a bow hinged to the two sections of the frame. The driver's seat is placed upon the heap, back of its point of attachment to the above-mentioned bow, so as to relieve the weight from the necks of the animals. There may be four or six ploughs, two of which are detachable, and one not used after the first hoeing. The two inner ploughs are attached to rock shafts, and are provided with handles, so attached that they can be moved laterally. Provision is also made for carrying an umbrella to protect the driver.

Claim.—The combination and arrangement of the axle E E, the bow D, plough beam H F, cross-pieces R, and bow I, the removable bar J, draught pole A, bar B, standards C, pivot *x*, and seat O, all constructed, arranged, and operating substantially as and for the purposes specified.

No. 43,636.—W. H. CARR, Troy, N. Y.—*Knitting Machine Burr.*—July 26, 1864.—This invention has for its object an improvement in the forms of the removable blade or wing, and in the modes of introducing and securing them firmly in position. The claim and drawing illustrate the new features.

Claim.—A knitting-burr blade A, having on its inner end a dovetail or flaring projection *b* and lateral shoulders *c c*, substantially as herein described.

Also, a knitting-burr hub composed of two rings D D', slotted and secured together end to end, and having an outwardly-narrowed annular space *h*, formed by and between the inner ends of the said united hub rings, substantially as herein described.

Also, the combination of a series of wings or blades A, each having a dovetail or flaring projection *b* and shoulders *c c* on its inner end, with a hub composed of two rings D D' slotted and clamped together end to end, and having an outwardly-narrowed annular recess *h*, formed by and between the inner ends of the said united hub rings, substantially as herein described.

No. 43,637.—FRANCIS A. CHASE, Jordan, N. Y.—*Double Acting Hollow Piston Pump.*—July 26, 1864.—In this pump the lateral induction port is double, opening into a divided chamber, the septum of this chamber abutting against the convexity of the centre of a winged rock valve by which the two parts are alternately opened and closed. The water from these chambers passes alternately up or down to enter the principal chamber above and below the operating piston. This piston consists of two parts, two disks held apart by legs and an annulus fitting loosely between the outer edges of these disks, both the disks and the annulus being so bevelled as to fit tightly, when the annulus is pressed by the resistance of water in the ascending or descending movement.

Claim.—First, the arrangement consisting of the three chambered cylinder or case, hollow piston rod, double acting piston and double acting oscillating supply valve, substantially in the manner and for the purpose described.

Second, connecting the piston valves, directly to the hollow piston rod by means of separated legs *k k*, substantially as described.

Third, the double bevelled ring J, working between two bevelled disks G G', applied to the piston rod F, substantially as and for the purposes described.

Fourth, the combination of the metallic wing valve E, double acting piston valve, ring piston, and hollow piston rod, with a three chambered pump, substantially as described.

Fifth, the detachable port box D, valve E, and division *a*, in combination with side passages or ports C C', constructed substantially as and for the purpose described.

No. 43,638.—JOHN D. COCHRAN, Kern River, Cal.—*Pick.*—July 26, 1864.—This pick is made in two sections, which latter abut respectively against the opposite sides of a metallic socket fitted upon the end of the handle, and are prevented from slipping upon it by short tenons which enter mortises in said socket. An arm projects inwardly from the butt end of each section, and the two embracing the two edges of the handle are confined to it, and to each other, by a band which surrounds them all, while another straight band, stretched across the end of the handle, connects the two sections on the outside, by means of a stub upon each end of the same, which fit into corresponding mortises in the two sections.

Claim.—A pick constructed as described, substantially as and for the purpose specified.

No. 43,639.—WILLIAM H. H. GLOVER, New York, N. Y.—*Fertilizer.*—July 26, 1864.—This invention consists in combining muck or its equivalent with refuse water, gurry, &c., for the purpose of preserving the fertilizing properties contained therein that would otherwise be wasted.

Claim.—The combination of the muck or its equivalent with refuse water, gurry, &c., substantially as and for the purposes set forth, by which I am enabled to save and fix in a mechanical form the fertilizing properties contained therein that would otherwise run to waste.

No. 43,640.—CHAUNCEY H. GUARD, Troy, N. Y.—*Coupling for Carriages.*—July 26, 1864.—This device consists of a clip attached at its upper end to a ball which is confined between two segments serving as a joint and acting as the "turning circle" of the vehicle. Above these segments is arranged the spring, which, with the segments and a brace, are connected together by means of bolts arranged at right angles with each other.

Claim.—First, the combination of the clip B, ball E, and segments F F, in such manner that the said ball and segments shall perform the functions of the "turning circle" of the vehicle whilst the said segments afford a seat for the reception of the spring G.

Second, combining the segments F F, spring G, and forked brace H, with each other by means of the bolts *c c* and *e e*, formed and arranged as herein represented and described.

No. 43,641.—JAMES HERRON, Washington, D. C.—*Device for Starting Sewing Machines.*—July 26, 1864.—This device consists of a pedal attached to the same shaft with the treadle of the machine in connexion with a rod attached to the same shaft at one end and extending upwards, being provided with a hook at its upper end and acting upon teeth upon the fly-wheel. The hook is connected with a cam slot that prevents it from acting upon the teeth when not required.

Claim.—First, the combination of the pedal *p p*, the rod *r r*, and the hook *v*, or their equivalents, constructed and operating substantially as and for the purpose shown and set forth.

Second, the circle of teeth *z*, constructed as described, and used in connexion with the rod *r r*, and its hook *v*.

Third, the combination of the cam slot S or its equivalent, and the rod *r*, as and for the purpose shown and described.

Fourth, the combination of the pedal *p p*, the rod *r r*, the hook *v*, the teeth *z*, and the cam slot S, in the manner and for the purpose set forth.

No. 43,642.—D. L. JAQUES, Hudson, Mich.—*Rotary Engine.*—July 26, 1864.—This invention consists, first, in the construction of the pistons or abutments which are attached to the revolving cylinder which works in an annular space formed in the enclosing case. Steam is made to enter the aperture the moment the edge of the valve passes the induction port, and has a surface nearly at right angles to the plane of motion to act against, instead of acting upon, the circular outside surface of the piston. The second feature of novelty consists of a semicircular valve, with two steam passages through it, which is made to fit steam-tight in a corresponding-shaped groove formed in the steam chest, the latter being placed directly on the annular space in the casing, and communicates with it. This valve is longer than the groove which it occupies, so that as one of the pistons approaches it the end nearest the approaching piston acts as an abutment for the steam that is forcing the receding piston from it. The valve is rounded at its ends in such a manner that when the pistons come in contact with it, its position is changed, and the induction of the steam regulated.

Claim.—First, the piston heads P P, constructed and operating substantially as set forth.

Second, the semicircular valves S S, constructed and operating substantially as specified.

Third, the combination and arrangement of the steam chest C, throttle valve *f*, and governor valve *g*, constructed and operating substantially in the manner and for the purpose specified

No. 43,643.—GEORGE F. JEROME, Hempstead, N. Y.—*Halter Holder.*—July 26, 1864.—This invention consists of a halter holder formed of a weighted rope or chain over a pulley or block provided with a hitching and a stopping ring. This halter is provided with a movable bar or stop, and the whole is combined with a weight box and enclosing case.

Claim—First, a halter holder formed of the weighted chain or rope over a pulley or block and provided with a hitching and stopping ring or its equivalent, to determine the amount said halter is taken up and thereby relieve the animal's head from the weight, as specified.

Second, the movable bar or stop *k*, in combination with the halter holder *d*, to determine the range allowed to the animal, as specified.

Third, the combination of the halter holder *d*, weight *g*, and enclosing case *i*, for the purposes and as specified.

Fourth, the weight box *g*, fitted to contain more or less weight, in combination with the halter-holder *d*, for the purposes and as specified.

No. 43,644.—B. F. MILLER, New York, N. Y.—*Corrugated Sheet Metal Fence Picket.*—July 26, 1864.—This invention consists in constructing the pickets of corrugated sheet metal attached to wooden rails.

Claim.—A corrugated sheet metal picket for a fence as a new article of manufacture.

No. 43,645.—JOHN H. RECTOR and ALVAH SWEETLAND, Syracuse, N. Y.—*Blacking Box Holder.*—July 26, 1864.—This invention consists of a frame provided with a groove and slot. In the slot is a slide which is graduated by a slotted case that holds the box of blacking securely.

Claim.—The improved blacking box adapting the wheel F, increase slot G, slide D, pivot H, hook E, combined with each other and operating substantially as herein set forth.

No. 43,646.—SAMUEL H. ROUNDS and WALTER L. STRONG, San Francisco, Cal.—*Machine for Concentrating the Dust of Ores, Mills, &c*—July 26, 1864.—The dust from mills and stamps is drawn by suction into a chamber, and through a vessel called a condenser, when it comes in contact with steam, and tubes surrounded by water, when it is collected, and may then be amalgamated.

Claim.—A machine for concentrating ore dust, with a sufficient condensing surface, for the purpose and in the manner substantially as described and set forth.

No. 43,647.—FREDERIC M. RUSCHHAUPT and GEORGE PERZÈL, New York, N. Y.—*Cleaning Wool.*—July 26, 1864; antedated April 29, 1864.—The object of this invention is to subject raw wools to a chemical process by means of chlorides of zinc, of calcium or other similar chlorides, by which the impurities are so destroyed that they can be easily and entirely removed by simple mechanical action, after which the remaining chemicals can be removed by washing.

Claim.—Subjecting the raw wool to a chemical process, as herein described and for the purpose set forth.

No. 43,648.—JOHN JOSEPH CHARLES SMITH, Philadelphia, Penn.—*Making Printers' Types.*—July 26, 1864; antedated July 19, 1864.—This invention consists of a machine for cutting printers' types of all sizes from strips of metal which are cast or made with type heads on one side. It is accomplished by a rotary saw with clamps to hold the metal strips, and feeding arrangements suited to the purpose.

Claim.—The manufacturing of printing type by first casting single strips of metal, such as above described, and then cutting up the strips into single type, substantially as set forth.

No. 43,649.—JOHN JOSEPH CHARLES SMITH.—Philadelphia, Penn.—*Machine for Cutting Printers' Types.*—July 26, 1864.—The object of this invention is to obtain printing type by casting a strip of type metal, which strip has on one edge a row of type heads or faces, separated from each other by intervening spaces, sufficient to allow a saw to be passed between to cut them apart into single type.

Claim.—First, the carriage A and saw B, arranged and operated substantially as above described, whereby the type strips can be approximated to and removed from the saw at each successive cut.

Second, the griping jaw P to be operated by hand for holding the type securely in place, during the operation of cutting, in the manner described.

Third, the movable gauge bar N for adjusting type of any size to the cutting apparatus by gauging the types between the heads, before they are cut from the strip.

Fourth, the channel O and the sliding-block S for receiving and supporting the type after they are cut off, so that they can be removed while set up in a composed condition.

Fifth, the hooked feeding bar H, arranged and operating as described for the purpose of feeding a series of strips of type to the cutter, and at the same time holding them down to the surface of the carriage, so as to secure a square cut.

No. 43,650.—ALEXANDER TYRRELL, Batavia, N. Y.—*Horseshoe.*—July 26, 1864.—This invention consists in constructing a shoe with a semicircular vertical recess inside the toe. and with vertical flanges in the upper inside of the heel.

Claim.—Making a horseshoe with shoulders or projections upon the upper side of the rear ends, and making the same narrower at the toe than the other parts of the shoe, substantially as and for the purposes described.

No. 43,651.—GEORGE H. WOODARD, Bolivar, and A. B. WOODARD, Alfred Centre, N. Y.—*Carriage Wheel.*—July 26, 1864.—This invention consists in the employment of thimble nuts in connexion with small nuts placed in the inner sides of the hub, and attached to the inner end of the spokes, by which means the spokes may be tightened up when necessary.

Claim—The combination in a suspension carriage wheel of the thimble nuts E, and the small nuts F, with the spokes or tension rods C and the hub D, substantially as and for the purpose set forth.

No. 43,652.—EDMUND W. WOODRUFF, Washington, D. C.—*Oil Can and Powder Canister.*—July 26, 1864.—This invention consists in making apartments so arranged that one of the compartments will serve to hold a polishing powder while the other will contain oil.

Claim.—The arrangement of a canister for containing cleaning or polishing material in combination with an oil can and oiler, in the manner herein specified and for the purposes set forth.

No. 43,653.—RAPHA WOODWORTH, Underhill, Vt.—*Spark Arrester.*—July 26, 1864.—This invention consists in forming the arrester of an internal pipe for the purpose of conveying the products of combustion up to the convex cap at the top, which, in consequence of its peculiar formation, gives the sparks a downward direction, the heavier portions falling into the chamber between the central pipe and the inner of the two casings which surround it. Between the two outer casings is a chamber which is to be filled with steam generated therein, or supplied directly from the boiler, and from the top of which space the steam constantly issues, so that it is brought in contact with sparks which are seeking egress from the internal chamber to the atmosphere, by which means they are extinguished.

Claim.—The construction and application to steam engines of a smoke-stack, consisting of a smoke-pipe reservoir for cinders, steam chamber and cap, so arranged (as herein described) that the sparks are brought in contact with steam, by which they are extinguished before passing from the smoke-stack.

No. 43,654.—THOMAS L. FORTUNE, Weston, Mo., assignor to himself and GEORGE F. CHALLISS, Atchison, Kansas.—*Hemp-brake.*—July 26, 1864.—This device forms part of a wagon to be drawn across the fields by an ordinary team; upon a platform of the wagon the workmen stand to feed the brake, and to feed also two sets of cleaners, one on either side of the brake. The operating parts of the machine all receive motion from the wagon wheels by means of proper cog wheels and shaft and crank connexions. The beaters strike upwards.

Claim.—First, a hemp brake operated by a wagon, substantially in the manner and for the purposes set forth.

Second, the peculiar arrangement of the cogged arms *c* in connexion with the shafts *a* and *b*, substantially as described.

Third, the use of the upper beater K when rocked back and forth against the upper beater or beaters, substantially in the manner and for the purposes set forth.

Fourth, the use of the hinged upper beaters, so arranged as to yield to the force of the under beater when the stroke of the latter is sufficient to lift or swing up the upper beaters, substantially as set forth.

No. 43,655.—THOMAS L. FORTUNE, Weston, Mo., assignor to himself and George F. CHALLISS, Atchison, Kansas.—*Breech Loading Ordnance.*—July 26, 1864.—In this invention the breech of the piece is divided horizontally, and the upper half brings the other half to the under hinges. The rear of the bore is closed by a hinged gate, and it is held securely by the hinged cap, composed of the upper half of the breech closing down over and behind it, there being suitable projections and recesses to securely resist the effect of the discharge.

Claim.—The gate G in combination with the cap B for opening and closing the breech of a fire-arm, substantially as set forth.

No. 43,656.—Joseph L. Roberts, Dorchester, Mass.; assignor to Mauran and Tuck, Boston, Mass.—*Folding Bedstead.*—July 26, 1864.—This invention consists in the employment of a spring which is arranged to act automatically to hold the bedstead in a horizontal position when the latter is unfolded.

Claim.—The combination and arrangement of the spring *h*, secured within a recess of the post A by the rivet *i*, with the side piece B and cleats *k*, as set forth and for the purpose described.

No. 43,657.—Charles H. Willcox, assignor to James Willcox, New York, N. Y.—*Hammer for Sewing Machines* —July 26, 1864; patented in England, No. 2,958, 1861.—In this machine the hammer has attached to it a flat plate, having at its end a downward projecting pin, when the whole is secured to the sewing machine table for use by the ordinary thumb screw. This pin fits snugly in a hole in the table, and this prevents a displacement of the hammer.

Claim.—The application and use, in combination with a hammer or other attachment to sewing machines, of a check or adjusting plate, substantially as herein shown and described.

No. 43,658.—Charles Adolphe Clavel, Paris, France.—*Mode of Hardening and Repairing Files and Rasps.*—July 26, 1864.—To harden new files and rasps dip them for a few seconds in a solution of one part nitric acid to three of sulphuric acid, seven parts of water by measure. Old files are immersed in the same liquid from ten seconds to five minutes, according to the more or less worn condition of the file or rasp. After the treatment with acid the files are washed first in clear water and then in lime water and dried in a stove or oven.

Claim.—The combination or mixture in the above proportions of sulphuric and nitric acids diluted with water and employed as above for repairing or recutting worn out rasps and files, and rendering them again fit for use, and for hardening the surfaces of new files and rasps, substantially as above described.

No. 43,659.—Pierre Francois Louis Bienvaux Him, Brussels, Belgium.—*Water Proof Preparation.*—July 26, 1864; patented in Belgium April 15, 1863; in England August 19, 1863.—This composition consists of drying oil and the gelatinous part of sea-wrack grass with resin and carbonate of soda. The preparation is to be applied to canvas and other table fabrics.

Claim.—The hydrofuge or water-proof preparation, as substantially described above.

No. 43,660.—James S. Arthur, Cordaville, Mass.—*Hinge.*—August 2, 1864.—This invention consists in forming a recess in each leaf of the hinge, and attaching one end of a coiled spring to one end of the recess in one leaf and the other end to a corresponding position in the recess in the other leaf, the spring by these means serving to close the hinge.

Claim.—A hinge A A′ having an interior chamber B B′ for the reception of a spring or springs C, substantially as herein described and for the purpose explained.

No. 43,661.—Selden A. Bailey, Woonsocket, R. I.—*Wringing Machine.*—August 2, 1864.—This invention consists in forming the shafts of the rollers with a number of holes bored in them towards the centre, and then casting the India-rubber when in a heated state upon the shaft, which admits of the holes being filled with the rubber, thus securely fixing the whole body of the India-rubber covering to the shaft. The invention also consists in limiting the spread of the rollers and the gearing by a slotted plate, in which the journals of the rollers turn.

Claim.—First, a core or cylinder made of wood or metal, with a number of holes bored towards the centre of the shaft, for the purpose specified, in combination with rubber vulcanized in and on to the same, forming a roller, for the purpose described.

Second, the strap or regulator, Fig. 3, in combination with geared rollers, substantially as set forth.

No. 43,662.—Joshua Barnes, New York, N. Y.—*Spring Bed Bottom.*—August 2, 1864.—This invention consists of the side bars being made thin and elastic at and near their ends, with cross-bars resting upon these and upon an elastic rubber strip in the centre, which has bearings for each slat.

Claim.—The peculiar side springs H connected by the cross bars B, in combination with an extra support to the slats A of gum elastic springs F, in the manner substantially as above described.

No. 43,663.—James Barton, Peru, Ill.—*Windmill.*—August 2, 1864.—The object sought to be attained by this invention is a regular and unvarying pressure of the current of air upon the wheel of the windmill for the purpose of insuring a more effectual operation of the grinding apparatus, and to arrest with facility and at the pleasure of the attendant the progress of the wheel. The novelty consists in the combination of the deflectors B with the sails A, the lever C, the rope D, and a suitable weight.

Claim.—First, in combination with the deflectors B the sails A, the whole being constructed and arranged in the manner herein described, and operating in mutual connexion to govern the force of the wind applied to the wheel, as set forth.

Second, the lever C and rope or chain D employed in connexion with a suitable weight to arrest the motion of the wheel, substantially as herein described and represented.

No. 43,664.—J. R. Benjamin, New York, N. Y.—*Submarine Excavator.*—August 2, 1864.—The object of this invention is to facilitate the removal of sand bars and obstructions in rivers and harbors, to deepen and open channels below the surface of the water. A suitable steam vessel is provided, and upon the bows thereof is placed a large plough shaped device that can be raised and lowered at pleasure. When in operation the plough is driven with great force into the sand bar, cutting a channel there and pushing the sand sidewise into ridges. Upon the sides of the vessel are swinging scoops which act upon the ridges and draw them down as the boat runs into deeper water.

Claim.—The combination of the excavator A with the bow of a vessel, substantially in the manner herein shown and described.

Also, the point wheel E in combination with the excavator, as and for the purpose herein shown and described.

Also, the employment of the wheel C within the excavator A, substantially as and for the purpose herein shown and described.

Also, the employment of the swinging scrapers D, constructed and operating substantially as herein shown and described.

Also, the combination of the digger F with the scraper D, substantially in the manner and for the purpose herein shown and described.

Further, the combination of the bow excavator A and the side scrapers D, substantially in the manner and for the purpose herein shown and described.

No. 43,665.—Ezechel Berg, New York, N. Y.—*Cigaretto.*—August 2, 1864.—This invention consists in forming the end of the cigaretto of a coil of stiff paper or card board. The coil answers the purpose of a mouth-piece, enabling the smoker to hold the cigaretto firmly between the teeth and preventing the passage of tobacco to the mouth.

Claim.—The employment or use of a mouth-piece formed of a coil B and applied in combination with a paper cigar or cigaretto, substantially in the manner and for the purpose shown and described.

No. 43,666.—C. Theodor Burchardt, Brooklyn, N. Y.—*Mode of Inlaying and Ornamenting Articles of Rubber.*—August 2, 1864.—This invention consists in ornamenting the surface of India-rubber by applying metal dust or filings in the required forms within the moulds in which the rubber is formed before vulcanizing.

Claim.—The process hereinbefore described of ornamenting the surface of India-rubber by applying metal dust or filings in the required forms within the moulds in which the rubber is formed before vulcanizing, in the manner and for the purposes specified.

No. 43,667.—Mills L. Callender, New York, N. Y.—*Material for Filling Shells.*—August 2, 1864; antedated December 27, 1863.—This invention consists in using asphaltum or solid bituminous material for filling shells instead of sulphur.

Claim.—The use and application of asphalt, asphaltum, or the like, or any of the solid products arising from the distillation of coal, crude coal oil, coal tar, rock oil, or petroleum, natural bitumens, peat, or the like, for filling shell and shrapnel, for the purposes and in the manner as above described.

No. 43,668.—Ralph Carkhuff, Lewisburg, Penn.—*Apparatus for Manufacturing Gas.*—August 2, 1864.—This invention consists in setting the retort back in the furnace by means of a recessed mouth, so that the whole of retort is exposed to a high temperature. The recessed mouth-piece is made in sections. The gas is taken off by an enclosed pipe rising from the hotter part of the retort, and not, as usual, from the comparatively cool or less exposed parts, as the outer end.

Claim.—First, so constructing and setting a gas retort within a furnace that the entire surface of said retort will be exposed to the heat of the furnace, employing for the purpose the flanged holding mouth C, substantially as described.

Second, constructing the flanged mouth, which sustains and keeps the forward end of the retort in place of sections, substantially as described.

Third, conducting off the gas from the retort through its crown, and also through an inclined pipe G leading into the main H, substantially as described.

No. 43,669.—William J. Clark, Southington, Conn.—*Method of Making Bolts.*—August 2, 1864; antedated February 2, 1864.—This invention consists in making the grooves in the die blocks for a portion of their length of a semi-cylindrical form, and the remaining portion of an angular form, in such a manner that when the two are clamped together, as they are required to be when used, one end of the die will present a cylindrical hole of a diameter equal to the rod of iron from which the bolts are to be made, while the other end will present a hole of the same sectional area, but of square shape.

Claim.—The combination and use of metallic dies for the purpose of giving angular shape to a portion of a cylindrical bolt by compression laterally, leaving the remaining portion of the bolt in its original form, and which dies at the same time serve the purpose of an anvil upon which the head of the bolt is formed by upsetting a projecting portion thereof, substantially as set forth.

No. 43,670.—G. F. J. COLBURN, Newark, N. J.—*Butt Hinge.*—August 2, 1864.—In this device the two leaves are formed of sheet metal, one in the usual way, the other cut in such manner that the pintles are formed of part thereof, while another part projects beyond the joint and laps when open against the back of the opposite leaf, and prevents the further opening of the hinge.

Claim.—A butt hinge constructed out of two parts and provided with pintles and a stop, substantially as herein shown and described.

No. 43,671.—GEORGE W. CONOLLY, Rochester, N. Y.—*Cultivator.*—August 2, 1864; antedated July 20, 1864.—This invention consists in a combination of an adjustable arm, carrying at its rear end a scoop shaped cultivator share arranged vertically, with vertical sharp edged shares, which latter are for the purpose of preventing a lateral movement of the cultivator as it is drawn forward, while the former or main share moves the earth sidewise towards the plant.

Claim.—The combination of the adjustable plough P with the guides M M, said guides being constructed and arranged in the manner and for the purpose substantially as described.

No. 43,672.—SETH T. CORNELL and BURTON BROWN, Jacksonville, Ill.—*Washing Machine.*—August 2, 1864.—This invention consists of a square box in which a set of arms is made to operate by a circular reciprocating movement produced by suitable gearing.

Claim.—The shaft I, the arms P, the cog wheels L K, and the square box A, constructed and used in combination, substantially as set forth.

No. 43,673.—RICHARD DUDGEON, New York, N. Y.—*Drill.*—August 2, 1864.—This invention consists in a device for drilling in metal an annular hole with a cylindrical core in the middle, and made of a strip or ribbon of iron or steel wound in a spiral form in a direction the reverse of that usually practised in making augers, with a cutter upon one or the other of the angles, as may be desired, and attached to and supported by an adjustable mandrel.

Claim.—An annular drill for drilling metal, provided with a proper cutting edge made of a piece of a sheet or a ribbon of metal bent around a mandrel and constituting a drill, substantially such as is described.

Second, a spiral drill, substantially such as is herein described, with a lip or cutting edge so arranged thereon that the resistance to the cutting tends to wind up or shorten the drill, as described.

Third, a sheet metal or ribbon drill, substantially such as is described, in combination with a cylindrical drill stock, by means of a collar and clamp screw, or other equivalent attaching instrumentality, the whole being as specified.

And lastly, in combination, a drill made of sheet metal or a ribbon of metal, as described, for boring an annular hole and centring apparatus, the latter being within or being surrounded by the former, substantially as set forth.

No. 43,674.—CHARLES B. EDWARDS, Niagara City, N. Y.—*Tension Scale for Tuning Piano.*—August 2, 1864.—This invention consists of a device for tuning pianos by means of an apparatus which the inventor has named a "tension scale," which, as applied to the instrument, is intended to show the tension of each string. Each string having been correctly tuned, a scale or register is prepared, and by means of this register the tension of the strings may be accurately restored whenever a change may have taken place.

Claim.—First, the scale C C, Fig. 1, or any marks or substitute therefor, which, in connexion with the movement of the lever A A, or other mechanical arrangement, shall show to the eye the tune tension of musical strings.

Second, the hook *f* or other device made to press against a musical string, or any wire or string, between its two ends, for purposes substantially as set forth.

Third, the notches in the rails **k* **k* and *k k* and the notched foot *g* made to hug the notches in the rail **k* **k*, substantially as and for the purposes set forth.

Fourth, the platform I I I resting at three points over the strings of a musical instrument, while on the platform is used the device to be moved over, or nearly over each string, such device itself also resting at three points on said platform, and this substantially as and for the purposes set forth.

Fifth, attaching the hook *f*, or its equivalent, to the string always at the same place (in relation to either point where the end of the string begins to vibrate) by means of a gauge or arm *a*, by having it come in contact with the hook *f*, or its equivalent, till the same is set, and then the gauge or arm removed gently.

Sixth, a tuning register, in which are so recorded the tensions of musical strings, numbered or otherwise described, that a person by aid of the proper mechanical device may put such strings in tune by the eye instead of the ear.

Seventh, the try-form, Fig. 3, substantially as and for the purposes set forth, whether adapted to the automatic tuner (with or without its platform I I I, Fig. 1) or not.

No. 43,675.—THOMAS B. FIELD, Nantucket, Mass.—*Wind Wheel.*—August 2, 1864.—This invention consists in the combination of devices for turning the wings or sails from a vertical to a horizontal position, and from a horizontal to a vertical position alternately, and at desired given points during the revolution of the wind wheel, whereby, at intervals, the wings present their whole surface as a resisting medium to the wind. The devices employed consist of teeth placed on a shaft, projections on adjustable plates, bands provided with teeth, in connexion with catches attached to slides.

Claim.—First, the turning of the wings or sails from a vertical to a horizontal position, and vice versa, by means of the teeth *e*, on the shafts D, and the projections *i*, on the adjustable or sliding plates K, or the equivalents of said teeth and projections when used with the plates K, to operate substantially as and for the purpose set forth.

Second, the bands E provided with the teeth *f*, in connexion with the catches G, attached to the slides H, for the purpose of retaining or holding the wings or sails during the intervals between their adjustment, substantially as described.

Third, the projections at the inner sides of the plates K, in combination with the slides H, to which the catches G are attached, all arranged substantially as shown for releasing the shafts D, and admitting of the turning of the wings or sails, as set forth.

No. 43,676.—HERBERT E. FOWLER, Northford, Conn.—*Key Fastener.*—August 2, 1864.—This device consists of a plate having a hole near one end, through which the key may be passed into the door lock, and carrying upon its face a sliding bolt having a notch in its end, which latter, when the bolt is thrown forward against the stern of the key, embraces a stud or projection thereon and thus prevents the key from being turned, and, when thus in contact, the bolt itself is locked in that position by a sort of bayonet catch.

Claim.—The slide bolt D, provided with a notch C, to fit over or receive a projection or lip *d*, on the key B, in combination with the slide F, with knob E attached, and the slot *f* in the cap or socket G, provided with the jog or recess *g*, all arranged substantially as and for the purpose set forth.

No. 43,677.—JAMES D. FRARY, New Britain, Conn.—*Toy Gun.*—August 2, 1864.—This device consists of a bar representing a gun or pistol, having a lever pivot at one end to about the middle of the bar; the outer end of the lever is furnished with a cup to contain the projectile, whether ball or shot. A spring trigger holds the cup back, when ready for use. The lever is operated by a spiral spring encircling the pivot.

Claim.—First, the employment of a spring trigger catch *f*, secured at *u*, arranged (between shoulders or pins *g′ g*) so as to have but a limited vibration, substantially as and for the purpose as shown and described.

Second, the arm *i* upon a fulcrum pin *s*, in combination with a detached spring *k*, vibrating between the fixed points *g′* and *x*, substantially as and for the purpose as shown and described.

Third, the combination and arrangement of the stock *a*, handle *b*, barrel *c*, case *d*, guard *e*, trigger and spring *f h*, arm and spring *i k*, substantially as and for the purpose described.

No. 43,678.—JOHN FRITZ, Bethlehem, Penn., and JAMES MOORE, Philadelphia, Penn.—*Blowing Engine.*—August 2, 1864.—This invention consists in placing the steam and air cylinder side by side and in juxtaposition with each other. A frame of iron is attached to the same plates, and rises upon each side of the cylinder, and is provided with slots for the cross-head to move up and down in. To this cross-head, and near the frame, the piston rod of the steam cylinder is attached; and to the same, and near the opposite frame, the piston rod of the air cylinder is attached. Directly underneath the bed-plate a shaft is placed, whose axis is in a line with the axis of the cross-head. Upon each end of this shaft a fly wheel is placed, into one of the arms of which a crank pin is fixed; to these crank pins a connexion rod is attached, the opposite end of which is attached to the cross-head. Thus, when steam is admitted to its cylinder, the piston is caused to move, and carry the cross-head with it, through which motion is communicated to the piston of the air cylinder and also to the fly wheel.

Claim.—A blowing engine having a steam cylinder and blowing cylinder arranged side by side, and in juxtaposition with each other, in combination with a cross-head, connecting rods, and crank shaft of a strength sufficient to resist the leverage imparted to the cross-head, by the transmission through the same of the power of the steam cylinder to the blowing cylinder, all substantially as set forth.

No. 43,679.—ORANGE M. FULLER, Catasauqua, Penn.—*Apparatus for Cooling Parts of the Body.*—August 2, 1864.—The invention consists in a bandage for the head made of India-rubber tubing so that cold water running through the tube will cool the head.

Claim.—The combination of the siphon C D, series of serpentine tubes A, and clamp E, when all are constructed, arranged, and employed in the manner and for the purposes specified.

No. 43,680.—Redmond Gibbons, Oakland, Cal.—*Muzzle Cap for Guns Exhausted of Air.*—August 2, 1864.—This invention consists in inserting an annular elastic packing ring in the face of the muzzle for the seat of a hemispherical cup of brittle material which fits close when the air has been pumped or exhausted from the bore of the gun. Upon the discharge this muzzle cap is destroyed, a new one being required at each discharge.

Claim.—The application of an annular or other recess, packed with a suitably elastic material at the muzzle and around the gun, in combination with a muzzle cap for closing said bore, so that the air may be exhausted therefrom, and a vacuum produced, substantially as and for the purpose described.

No. 43,681.—Redmond Gibbons, Oakland, Cal.—*Attaching Trunnions to Ordnance.*—August 2, 1864.—This invention consists in a particular method of applying detached trunnions to that class of cannon which is cast perfectly smooth, and without these necessary appendages. A trunnion band is fitted to the gun, provided with screw-threaded recesses on either side; a breech strap is next applied, provided with eyes at each end corresponding with the screw holes in the band; and finally the trunnions, as independent pins or bolts, are screwed through the eyes of the breech strap into the band, securing the whole together.

Claim.—The combination of attachments between the false trunnions, trunnion band, and breech strap, (said false trunnions being secured to the trunnion band by screws,) all substantially as herein set forth and described.

No. 43,682.—Joseph Golder, Sterling, Ill.—*Corn Planter.*—August 2, 1864.—This invention relates to that class of corn planters which make their own furrows, and plant two rows of seed simultaneously by one operation of the distributing mechanism, this same being so constructed that it can be operated either by hand, or automatically by the action of the machine.

Claim.—The combination of the rocking frame G, tappet J, rings *j j*, projections *k k*, studs i i', driving wheel B, hoppers D, and oscillating disks F, located near the ground at the bottom of the said hoppers, all the said parts being constructed, arranged, and operating as and for the purposes herein specified.

No. 43,683.—Samuel C. Gray, Lewisville, Ind.—*Tuyere.*—August 2, 1864.—This invention consists in the construction and arrangement of a chamber by means of which the fireplace, ash pit, and air pipe are constantly surrounded by water, the latter being kept at a certain level by means of a supply and a discharge or waste pipe, the said waste pipe being at the same level at which the water is designed to be kept in the tank.

Claim.—The combination of the air pipe F with the valve G and ash pit E, the water pipes H and I, the first for supplying the tank with water, and the second named for the escape of water, and the manner in which the water surrounds the pipe F and ash pit E, the shape of the tank A A A, &c., and fireplace B, all arranged and operating substantially as and for the purpose shown and described.

No. 43,684.—C. B. Guy, Lybrand, Iowa.—*Force Pump.*—August 2, 1864.—In this pump the induction port and the eduction port are both at or near the bottom of the cylinder. The piston rod is jointed to the piston and to an operating lever above. This lever is pivoted intermediately between the pump and a weight suspended from one end of the lever. To the other end of the lever a cord is attached, which passes downward, then horizontally beneath two pulleys, and thence upward to a windlass, which operates the pump by means of this cord.

Claim.—The pump, in combination with the force or eduction pipe, loaded lever and windlass, all arranged to operate in the manner substantially as and for the purpose herein set forth.

No. 43,685.—John D. Hall, Philadelphia, Penn.—*Newspaper Clamp.*—August 2, 1864; antedated July 21, 1864.—This invention consists in the employment of two strips provided each with a groove in which a wire or rod is fitted, the said strips being arranged with springs in such a manner that the wire or rod will be retained within the groove, and the papers, which are folded around the wire or rod, firmly secured in the groove.

Claim.—The employment or use of two strips A A, each provided with a longitudinal groove *a* to receive a metal wire or rod C, in connexion with springs arranged as shown, or in any equivalent way, to keep the parts of the strips in which the grooves *a* are made in contact, and confine the wire or rod C with the papers around it within the groove, substantially as and for the purpose herein specified.

No. 43,686.—S. Z. Hall, Camden, N. J.—*Churn.*—August 2, 1864.—This improvement consists in any convenient number of curved ribs arranged on the bottom of a churn barrel in combination with a spindle furnished with arms carrying propeller wheels which rotate in a horizontal plane above the curved ribs.

Claim.—Any convenient number of curved ribs *b* arranged on the bottom of the barrel, in combination with the spindle B, arms *e e e*, and their flutter wheels F.

No. 43,687.—Ephraim Hambujer, New York, N. Y.—*Machine for Roughening Pavements.*—August 2, 1864.—This invention consist in the application to a truck of such a kind as will operate pounders attached thereto, which pounders at the point of coming in contact with the stones of the street consist of a series of sharp points which roughen the pavement as the truck is propelled, or they can be operated by hand.

Claim.—The adjustable hinged sockets *k* applied to the pounders H, in combination with the tools L or L′, constructed and operating substantially as and for the purpose shown and described.

No. 43,688.—James Hamilton, New York, N. Y.—*Saw Mill.*—August 2, 1864.—The object of this invention is to provide a means of hanging saws so that they can be adjusted laterally to different distances apart, and it consists in separate stretchers or an auxiliary frame within the main frame, and to which the saws are attached and adjusted.

Claim.—The inner or auxiliary saw-gates or frames fitted to slide laterally in the main saw-gate, substantially as and for the purposes specified.

No. 43,689.—Charles J. Haywood, Durham, Conn.—*Making Tin Boxes.*—August 2, 1864.—This invention consists in a vertically revolving cylinder encased in a box, the periphery of which cylinder is covered by a metal band having near each edge a projecting ridge. Concentric with and at a short distance from the cylinder is a long metallic plate or die ridged near its edges in a similar manner, which die is regulated as to distance from the cylinder by wedges. The tin box to be operated upon is fed into a hopper and passes down between said cylinder and die plate, during which operation the ridges before spoken of bend the tin plate inward so as to confine the bottom on the lid of the box.

Claim.—The machine constructed and arranged substantially as and for the purpose herein shown and described.

No. 43,690.—William Hinds, Little Falls, N. Y.—*Rotary Engine.*—August 2, 1864; antedated July 25, 1864.—The advantages claimed for this invention are the avoidance of a large proportion of the friction, and causing the engine to run with equal power throughout its entire revolution. Its novelty consists in providing a number of segments in connexion with the piston, so arranged as to preserve a perfectly parallel motion in its passage through the draw, the piston being constructed with a slot or yoke so as to permit the shaft of the engine to pass through its central portion in its moves from one position to another in the eccentrically formed cylinder in which it works. In connexion with the above a valve is so constructed as to conduct the steam to and from the cylinder through a series of openings.

Claim.—First, the construction and arrangement of the segments E that guide and control the piston D, so as to avoid contact or friction with the slots or ways in which the piston moves.

Second, constructing the piston D, with a slot through it, to work over the shaft while it is moving across the cylinder.

Third, the steam valve made with a single port for the admission of steam into the chamber of the valve, to be ejected from thence through a series of ports into the chambers I and thence into the cylinders, from whence it escapes through the chambers I and ports K into the chamber M and exhausted through the port N, all of which is constructed substantially as and for the purposes set forth in the specification.

No. 43,691.—Peter Hogg, Brooklyn, N. Y.—*Injector for Heating Liquids.*—August 2 1864.—This invention consists in surrounding the eduction end of the induction pipe with a tube considerably larger than the pipe, and in providing a socket for the end of the induction pipe with rings which fit into the interior of the tube and keep the pipe in its proper position. The induction of steam causes the fluid to circulate through the tube, and the jarring and noise usual in the ordinary method, it is claimed, are prevented.

Claim.—The employment in an apparatus for boiling or heating liquids by the injection of steam thereinto of a larger open tube B surrounding the terminal portion of the steam pipe, substantially as and for the purpose herein specified.

No. 43,692.—Robert B. Hugunin, Cleveland, Ohio.—*Roller for Wringers.*—August 2, 1864.—This invention consists of a shaft with a slot in one side, in which is secured the end of a sheet of India-rubber or other elastic material which wraps once around the shaft in the operation of wringing, forming the surface of the roller.

Claim.—The slotted shafts A A and sheets B B, substantially as and for the purposes specified.

No. 43,693.—Benjamin S. Hyers, Pekin, Ill.—*Grain and Seed Separator.*—August 2, 1864—This invention relates to several devices, among which are sliding shutters mounted on rods to regulate the quantity of air to be introduced to the fan for the production of the blast. Another prominent feature of this machine is a pair of pivoted distributers which are moved simultaneously by means of two upright shafts and cross-bolts. By means of a rock shaft the two lower screens are made to move in opposite directions at the same time. There is also a hinged discharge door, arranged in connexion with a grain board, for the purpose of discharging the grain into a spout and delivering it at the side of the machine.

Claim.—First, monnting the sliding shutters C C on one or more horizontal rods *c* of metal or wood, passed through apertures in the said shutters, in the manner shown and described.

Second, the pivoted distributers D D′, adjusted simultaneously in corresponding positions, substantially as described.

Third, the combination of the hinged board I, link *i*, and pin *i*′, employed in the manner described, to support the rear end of the screen H at any desired height.

Fourth, the combination of the two screens H K moved simultaneously in opposite directions by means of the rock shaft J, arms *h*′ *h*′, and link *k*, substantially as specified.

Fifth, the combination of the series of pins *r r r* and adjustable rod or bar R wlth the rock shaft J and screens H K, for the purpose of varying the motion of the said screens without changing the motion of the shoe.

Sixth, the spout S suspended from the stationary frame by hangers *s s*, and receiving a shaking motion in excess of that of the screen by means of the rod S′ and pivoted bar *s*′, or their equivalents.

Seventh, the combination of the hinged discharge door L and button L′, arranged in the described relation to the grain board M and screens H K, for the purpose specified.

Eighth, the tooth catch U′ applied to the gate U, in the manner shown and described, so as to support the said gate at any desired height, or by pressing it upward against the gate to permit the closing of the latter.

Ninth, the strips T2, applied as described above, the joints between the hopper T and gate U, in combination with the transverse bar V, without necessitating the use of supporting strips extending lengthwise of and beneath the said joints.

Tenth, the notches *f*2 *f*2 *f*2 formed in the sides of the shoe D at right angles to and communicating with the grooves F2 therein, for the purpose of receiving the pins *e* or *f* projecting from the edges of a chessboard or riddle, and permitting the rear end of the latter to be adjusted upward or downward in relation to the pivoted strips.

No. 43,694.—A. J. Lenhart, Trenton, N. J.—*Fishing Tackle.*—August 2, 1864.—In this device the rod to which the hook is attached has a cylindrical head and plays in a hollow cylinder, and is operated by a spiral spring around it in said cylinder. When set the spring is compressed and held in place by a spring detent. This can be released by a trigger, to which the bait is attached, by means of a line, the bait being above the hook. The fish pulling at the bait moves the trigger, releases the spring detent, and the spiral spring operating on the disk head of the hook rod suddenly and with force throws it up, and the hook is likely to be buried in the under jaw of the fish.

Claim.—The combination of the hollow sinker A, spring B, and hook rod C, substantially in the manner herein shown and described.

Also, the combination with the above-named parts of the spring H, trigger E, and bait line F, operating together substantially in the manner herein shown and described.

No. 43,695.—H. S. Lucas, Chester, Mass.—*Artificial Fuel.*—August 2, 1864.—This invention consists in combining peat, in a finely divided state, with coal dust and then compressing it so as to form cakes suitable for transportation and use.

Claim.—A fuel produced by combining and compressing fine coal and peat, substantially as set forth.

Also, in a fuel made from coal and peat combined, the employment of peat from which the undecomposed portion has been artificially removed.

No. 43,696.—Edward Maynard, Washington, D. C.—*Photographic Album.*—August 2, 1864.—The object of this invention is to afford a cheap substitute for photograph albums. It is accomplished by securing the photographs within the ordinary book covers by means of eyelet holes and a cord which is fastened to an elastic loop.

Claim.—A self-adjusting photographic album or portfolio, having an electric strap or loop D secured upon one leaf thereof, and combined with a retaining cord *e* and other parts of the album or portfolio, substantially in the manner and for the purpose herein set forth.

No. 43,697.—R. W. McClelland, Springfield, Ill.—*Harvesting Machine.*—August 2, 1864.—This invention relates to the manner of securing the sickle sections or cutters to the sickle bar, and will be readily understood from the claim and drawing.

Claim.—The making of the sickle bar in a dovetail or wedge form, and forming a corresponding female dovetail on or out of the metal of which the blades are made, so as to slide over and snugly fit upon said sickle bar, substantially in the manner and for the purpose herein described.

No. 43,698.—J. S. McCune, Salem City, N. J.—*Saw Filing Machine.*—August 2, 1864.—In this machine a sliding standard moving on a way attached to one of the clamps supports on its upper end a frame which constitutes the guide of the file frame. This standard, by means of a joint and set screw at the bar, can be turned to any angle horizontally, so as to accommodate the file to any angle of the teeth of the saw to be operated on.

Claim.—First, the clamp formed of the bars A A, in combination with the slide D, file frame F, and gauge H, all arranged substantially as and for the purpose set forth.

Second, the part *e*, of the support E, provided with the uprights *f f*, in connexion with the bar *g* of the file frame, all arranged for the purpose of regulating the depth of the file cut or length of the teeth, as set forth.

No. 43,699.—O. C. McCune, Pleasant Valley, Ohio.—*Corn Planter.*—August 2, 1864.—This machine is composed of a main beam, with a beam underneath, secured in front by an elastic plate, to which is attached a furrow plough extending a short distance in front of the seed drill. The working of the machine is effected by means of an elbow lever fastened to the side of the standard carrying the covering plough and connected to the cross-bar of the handles. The handles are jointed, and as the machine is drawn along the operator lifts the handles up and down, thus operating on the elbow lever, which is connected to the slide valve in the bottom of the seed hopper.

Claim.—First, operating the seed slide I through the medium of the handles F F, the latter being connected to the former, and all arranged substantially as and for the purpose herein set forth.

Second, operating the valve L, in the tube K, through the medium of the handles F F, substantially as set forth.

Third, attaching the furrow share M to a beam O, which is connected by an elastic plate P to the main beam A of the machine, all arranged substantially as and for the purpose herein set forth.

No. 43,700.—H. H. Munroe, Thomaston, Maine.—*Rotary Harrow.*—August 2, 1864.—This invention consists in making the draught beam curved downward to its point of attachment to the central standard of the harrow, so as to permit a rocking motion of the latter, whereby it adjusts itself readily to irregularities of the surface of the ground; and, secondly, in making the side arm (which is attached to the draught rod by a joint, and which acts as a weight upon one side of the harrow, for the purpose of making the teeth take hold upon the earth, and thereby cause the harrow to rotate) adjustable, so that its weight may be applied either forward or back of the centre as desired.

Claim.—The beam B provided with the bend *f*, and having its ends elevated, in combination with the harrow A and bearing *d*, arranged and operating substantially as herein set forth.

Also, in combination with the beam B, harrow A, and bearing *d*, the elongated joint rod *k* and the hinged arm C, provided with the weighted roller *i*′, so arranged that the position of said roller on the rim may be varied, substantially as herein specified.

No. 43,701.—M. D. Mudget, Eden, Vt.—*Sugar Boiling Apparatus.*—August 2, 1864.—This invention consists first in devices for removing the pan of boiling sirup quickly from the furnace, and placing it upon a suitable stand; and, second, in causing the tubes, which convey the juice to the evaporating pan, to traverse the back part of the furnace, so as to heat the juice before it enters the pan.

Claim.—The combination for raising the sap from off the furnace, and transferring it to horses or supporters near the same, the said combination consisting not only of the carriage H with its hangers or suspension rods *m m m m*, the movable railway G, and the mechanism—that is, the lever *k*, the connecting rods *l l*, the cranks *i i*, the shafts *g g*, and the cams *f f f f*—for raising the latter and the carriage, but of mechanism, viz., the windlass *s* and the ropes *o p*, for moving the carriage along on the railway, as specified.

Also, the combination of the siphon supply tube with the furnace A, substantially in manner and so as to operate with it, the reservoir and sap pan, as specified.

No. 43,702.—John Partridge, Pittsfield, Mass.—*Horse Rake.*—August 2, 1864.—The rake head is connected by hinged bars to the thills or mounted frame in such a manner as to be allowed to follow the undulations of the ground, while at the same time, by means of peculiarly arranged locking levers, it is prevented from casually rotating and discharging the load, without, however, preventing the ready discharge thereof at the pleasure of the attendant.

Claim.—The attaching of the rake head G by hinges *c* to bars E, which are connected to the thills C C by hinges *b*, in combination with the levers Q R, provided respectively with the shoulders *g j* to sustain the bar J and the bars E E, all arranged in connexion with the arms L M and the rock shaft N, to operate substantially as and for the purpose set forth.

No. 43,703.—John H. Pein, New York, N. Y.—*Measuring Nozzle for Liquid Jars.*—August 2, 1864.—This device consists of a tube which is inserted in the mouth of a jar, and bent at an angle of about forty degrees at any convenient distance from the jar, whence it is continued and enlarged to the desired measure. A key, like that of a bugle or flute, is pivoted at the bend of the tube, near which it closes a minute vent, while at the extremity of the tube it closes the mouth of said tube, an elastic band embracing the tube and key and holding the latter in position. The key is operated by pressure upon a short and flattened extension near the mouth of the jar. The measure being fitted by tilting the jar, the latter may be placed in an upright position again without the liquids receding from the measure.

Claim.—The measuring tube, substantially as herein described.

No. 43,704.—P. B. Perkins, Almond, N. Y.—*Sawing Machine.*—August 2, 1864.—This invention consists in a reciprocating saw hinged directly to the cross-head of a steam piston, and guided by rollers secured in a standard, which rises from a tilting adjustable platform in such a manner that by the action of a double crank head lever on the platform the saw can be raised or lowered without stopping the engine, and the power with which the saw bears upon the log can be regulated at pleasure; and by dropping the hand lever into notches in the share end of the tilting platform, the outer end of the same, together with the saw, are held in an elevated position, thus giving a chance to the operator to shift his log or perform any work of a similar nature without stopping the engine or paying any attention to the saw.

Claim.—The tilting platform H with nicks *h*, in combination with the double crank hand lever I and saw G, all constructed and operating in the manner and for the purpose substantially as herein shown and described.

No. 43,705.—O. C. Phelps, New York, N. Y.—*Feed Wheel of Sewing Machines.*—August 2, 1864.—This invention consists in operating the clutch or driver from the lever by means of a link arranged between the fulcrum of the lever and the flange, which is clamped by the driver in turning the feed wheel.

Claim.—Operating the clutch or driver from the lever through the medium of a link which is between the fulcrum of the lever and the flange, which the clutch or driver grasps or clamps in turning the feed wheel, substantially as described.

No. 43,706.—George E. Randall, Yaphank, N. Y.—*Bag Holder and Measure.*—August 2, 1864.—This invention consists in combining a grain measure with a bag holder, the same being provided with rods or shafts, having hooks to hold the bag, and slides in the bottom of the measure, so that the bag may be firmly held with an open mouth for receiving the grain or other substance, and the latter measured before it is allowed to enter the bag; the whole operation being readily performed by one person.

Claim.—First, the slides G G in combination with the measure E and frame A, or any suitable support, all arranged substantially as and for the purpose set forth.

Second, the shafts L arranged in quadrangular form, provided with hooks N N′ and connected by gears M, for the purpose of holding the bag and admitting of the same being liberated therefrom with facility, as herein described.

Third, the combination of the measure, slides, and shafts provided with hooks, all arranged and applied to a suitable frame or support, substantially as and for the purpose set forth.

No. 43,707.—George Rehfuss, Philadelphia, Penn.—*Machine for Cutting Button Holes.*—August 2, 1864.—This invention consists in the construction of the anvil or block on which the cloth is laid in such a manner as to admit of its being moved upon its axis by loosening a set screw, the length of the button hole being thus determinable by the extent of resisting surface opposed to the descending blade; the movable anvil being of an eccentric form.

Claim.—A movable base F, constructed substantially as described, and having two or more incisions of different lengths, in combination with a button-hole cutting die.

No. 43,708.—G. Adolph Riedel, Philadelphia, Penn.—*Car Spring.*—August 2, 1864.—This invention consists in the construction of springs for cars, combined in one or more sections of sheet metal, for the purpose of obtaining a plurality of resilient parts to each sheet or layer—the series, one being placed above the other, constituting the spring. Between the ends of the said plates are interposed washers, and at the centre is also a washer placed between two series of the springs, and confined by a central shaft or rod.

Claim.—First, constructing a spring in one or more sections, which have one or more sheets, plates or layers, in which each sheet has a plurality of resilient parts, centrally arranged or otherwise, substantially in the manner and for the purpose above set forth.

Second, the washers C C C when interposed between the spring plates B B B, substantially in the manner described.

Third, combining one or more central washers F with the resilient parts of the spring, substantially as described and for the purpose above set forth.

No. 43,709.—Charles Robitaill and Florian Dahis, Brooklyn, N. Y.—*Revolving Fire Arm.*—August 2, 1864.—This invention consists in forming the chambers of a revolving fire-arm with a slight enlargement just within the front end of the cylinder, so that a metallic cartridge of proper length, and provided with short slits in front, to give it a slight elasticity, shall, when inserted into a chamber, spring into said enlargement of the chamber, and be thereby held in place until forcibly pushed out after having been discharged.

Claim.—A groove inside the front end of the chamber of a revolving cylinder receiving the springing edges of the cartridge case, for the purposes and as specified.

No. 43,710.—Leopold Sanders, New York, N. Y.—*Hoop Skirt.*—August 2, 1864.—This invention consists in a device for the skirt expansible, the ends of the hoops overlapping in front, and each end being secured to a perpendicular tape previously passing in and out of two eyelets in the opposite tape.

Claim.—An expanding and contracting hoop skirt having its front tapes A A′ provided with eyelets D, for the hoops B to pass through, substantially as herein specified.

No. 43,711.—A. A. Sawin, West Irving, Iowa.—*Evaporator for Saccharine Juices.*—August 2, 1864.—This invention consists of a divided central pan, under which is a fire box, with a pan on each and return flues under the side pans. The bottom of the side pans are curved to fit a hollow cylinder or plunger, which is used to drive the sirup out of the side pans. Scum boxes are suspended at each end of the main or central pan.

Claim.—First, the employment or use in a sugar-evaporating pan of side pans *c c′*, one or more, arranged in connexion with return flues D D of a furnace provided with suitable dampers F, substantially as and for the purpose herein set forth.

Second, the movable partitions K K, one or more, arranged in the side pan *c′*, and notched at their lower ends, substantially as and for the purpose herein set forth.

Third, the sinker or dumb waiter M, one or more, when used in connexion with a sugar-evaporating pan, for the purpose herein set forth.

Fourth, the scum receptacles or vessels L placed at each end of the box G, as set forth.

No. 43,712.—Samuel Severance, Pittsburg, Penn.—*Machine for Making Spikes.*—August 2, 1864.—In this machine the heading tool vibrates upon a pivot, and as it moves forward its free extremity comes in contact with an inclined guiding surface, by which an oblique direction is imparted to its forward movement, which greatly facilitates the bending of the blank to form the head. There is also an arrangement of devices by which the blank may be projected to a greater or less distance beyond the dies, and thus accommodate the machine to the manufacture of spikes having heads of different shapes, suitable for railroad or other purposes.

Claim.—First, the means, substantially as herein described, for giving a lateral movement simultaneously with its advancing movement to the heading tool *b*, for the purpose set forth.

Second, adapting spike and bolt or rivet machinery for making heads of various sizes on the rods by the employment of an adjustable cutter *g*, applied, operated, and operating substantially as described.

Third, the combination of the griping jaws *c c′*, pivoted header *b*, guide *d′*, and cutter *g*, operating substantially as described.

Fourth, the combination of the retractor *h* and the lever J with an adjustable cutter *g*, substantially as and for the purposes described.

No. 43,713.—Joseph Shipe, Upper Augusta, Penn.—*Corn Sheller.*—August 2, 1864.—This invention consists in providing corn shellers with a circular concave spout, in addition to the ordinary shelling devices, for the purpose of rendering the operation of shelling more perfect, and enabling fresh or undried corn to be shelled with greater facility than can be done with the machines as ordinarily constructed, for the reason that the ear of corn is caused to follow a curved track, and is hence kept longer in contact with the shelling surface.

Claim.—The spout G, when constructed and operating substantially as and for the purpose herein set forth.

No. 43,714.—William D Sinclair, Trenton, N. J.—*Device for Preserving the Shape of Pantaloon Legs.*—August 2, 1864.—The object of this device is to preserve the form of the pantaloons over the boot or shoe, which is effected by means of a band of metal or other sufficiently rigid material of the desired shape inserted within the hem at the end of the pantaloon legs.

Claim.—The employment or use in the bottoms of the legs of pantaloons of hoops or bands, constructed of sheet metal, whalebone, wood or other suitable material possessing a requisite degree of firmness and elasticity, substantially as and for the purpose specified.

No. 43,715.—Frederick Smith, Allegheny City, Penn.—*Machine for Enamelling Oval Picture Frames.*—August 2, 1864.—This invention consists in the employment of an adjustable cam connected to an upright piece by means of a set screw, together with a sliding table, in combination with a base and tool-holder, to which devices are applied a circular and reciprocating motion, by means of which they are readily adapted to the purpose of enamelling picture frames of an oval form.

Claim.—First, the use of the adjustable cam *e* and sliding table *b*, when used in combination with the base *a*, upright piece *g*, trammel *i*, and tool-holder *s*, constructed, arranged, and operating substantially as herein described and for the purpose set forth.

Second, the combination of the circular and reciprocating motion when used in connexion with the above device and for the purpose herein set forth.

No. 43,716.—John W. Smith, Iowa Point, Kansas.—*Corn Harvester.*—August 2, 1864.—In this machine the platform to which the cutter is rigidly attached, and which receives the cut stalks, is applied to the runners of the machine, by means of crank arms, in such a manner as to allow of its vertical adjustment, thereby varying the height of the cut, the cranks supporting the platform being prevented from casually rotating, and thereby dropping the platform, by means of chains and hooks. A stubble cutter is arranged beneath the platform at right angles, or thereabouts, to the stalk cutter, for the purpose of counteracting side shaft.

Claim.—First, the application of a vertically adjustable platform to the sled runners A of a corn harvester having the stalk cutter to said platform, substantially as hereinafter described.

Second, a corn harvester which has an adjustable platform carrying a stalk cutter, in combination with a stubble cutter arranged on one side of the stalk cutter, and operating simultaneously therewith, substantially as described.

Third, the combination of two knives in a cornstalk and stubble cutting machine, when these knives are arranged at right angles, or at opposite angles to each other, or in such a manner that the stubble cutter will counteract the side draught on the stalk cutter, substantially as described.

Fourth, the use of the side guides D D, in combination with a platform which is vertically adjustable on its carriage A A, substantially as described.

No. 43,717.—T. H. Squire, Elmira, N. Y.—*Shingles for Roofing.*—August 2, 1864.—This invention consists in bevelling or tapering one or both ends of shingles used for roofing purposes.

Claim.—The constructing of shingles for roofing purposes with one or both ends bevelled or tapered, as herein shown and described.

No. 43,718.—Henry Stanley and Reuben Cornins, Troy, N. Y.—*Fastening Timbers.*—August 2, 1864.—This invention consists in fastening timbers together by means of clamps secured to the same, and connected together by means of clamps, in connexion with screw bolts and nuts.

Claim.—A clamp composed, constructed, and combined with the timbers to be joined, in the manner substantially as and for the purposes herein described and set forth.

No. 43,719.—John Christopher Stuck, Boston, Mass.—*Bedstead Bottom.*—August 2, 1864.—This invention consists in the combination of two rods with India-rubber loops or rings, on which the slats of the bottom are hooked, making an elastic bottom.

Claim.—The above-described combination and arrangement of the slat-supporting rods *d d*, the series of elastic rings or loops *e e e*, and their sustaining rods *c c*, with the series of slats *g g*, &c., and the bedstead frame.

Also, the combination of the two hooks *h h* with each of the slats *g*, the rods *c c d d*, and the series of elastic loops or springs *e e e*, supported by or applied to such ends, substantially as described.

No. 43,720.—William Stark, Bronson, Mich.—*Stock Car.*—August 2, 1864; antedated July 21, 1864.—This invention has for its object the ventilation of cars for carrying stock, and arrangements for feeding and watering the same while in the cars; a reservoir on the top of the car furnishing the supply of water, which is distributed as desired, by means of tubes, &c., to the troughs. The novelty consists of devices specified in the claims in their several combinations.

Claim.—First, the arrangement of the X-shaped hinges *p*, in combination with the shutters *o* and hooks *r*, as and for the purpose set forth.

Second, the arrangement of the vertically movable eye-bolts *m*, in combination with the hinged caps *l*, apertures *k*, and hooks *m'*, as and for the purpose described.

No. 43,721.—Thomas Thomas, Plattsmouth, Nebraska Territory.—*Combined Seeder and Cultivator.*—August 2, 1864.—This invention consists in constructing and arranging the several parts of the same machine, so that by different adjustments it may serve as a corn-planter, cultivator, wheat drill, roller or broad-cast sower; when used as the latter, wings are coupled upon either side, operated by the one crank connexion.

The depth of the drills and the direction of the machine are varied by extending the tongue to the driver's seat, and securing it by a spring clamp or catch to a movable standard, sliding on a rod in the arc of a circle. Between the wheels, each of which has a circular recess around its rim, is fitted a metallic cylinder which forms a roller, as wide as the central part of the machine. This cylinder may be removed at pleasure by withdrawing the shaft which is fastened to the frame by a pivoted hook. A vibrating metallic fork, its height varied by means of a set screw, is placed near the plough points for the purpose of cleaning out and straightening up young plants and in cultivating. The fork is operated by a rock shaft, connected by gearing to the traction wheel. The quantity of seed sown is varied by changing a crank screw or pin, thereby lessening or increasing the amount of motion communicated to the slide in the seed box.

Claim.—First, the construction and arrangement of the frame and the mode of attaching and detaching the several parts, so that it is convertible into a corn planter and cultivator, a wheat drill and roller, or a broadcast sower.

Second, the cross-bars *p p*, in the hopper, over the holes in the bottom of the same, in combination with the holes *n n*, and the vertical pins *r r* in the slide, and the manner of regulating the quantity of seed to be sown, by changing the crank screw or pin *o*, in the manner herein described.

Third, the vibrating fork H, arranged and operating in the manner as and for the purpose herein set forth.

Fourth, the mode of attaching the draught pole to the machine, so that the depth of planting or drilling in the seed and the position sideways, may be controlled by the driver in his seat.

No. 43,722.—Henry Thompson, Palmyra, Wis.—*Tightening Fellies.*—August 2, 1864.—This invention relates to an attachment for the wheels of vehicles, and is designed to compensate for the shrinkage of the wheel, so that the fellies or rims may be expanded whenever required, to cause the tire to fit snugly to the same, thereby avoiding the necessity of cutting and re-welding the tire or shrinking the same, as is usually done when the tire becomes loose from the shrinking of the wheel.

Claim.—The metallic box composed of two parts A A, provided each with a partition *a*, to divide said parts into two compartments *b b'*, in connexion with the guide plate B and the adjustable wedge-shaped head C, all arranged and applied to the wheel, substantially as and for the purpose herein set forth.

No. 43,723.—A. W. Todd, Chicago, Ill.—*Fumigator.*—August 2, 1864.—This device is intended for generating and blowing smoke into beehives, &c., and is composed of an ordinary hand bellows, with a chamber containing a perforated false bottom, to keep the fire away from the top of the bellows and a perforated cover for letting in air.

Claim.—The arrangement and combination of the parts consisting of the bellows A, with the smudge chamber B over its valve, with a perforated partition I, to sustain the smoking material, and a perforated lid C to admit air, as described and represented.

No. 43,724.—E. Totman, Columbus, Penn.—*Sawing Machine.*—August 2, 1864.—The object of this invention is to simplify that class of machines for sawing logs transversely into short lengths, as it consists only in a particular arrangement of devices, whereby the working parts of the machine are more compact, easier adjusted, and better adapted to moving from one place to another than the ordinary sawing machine.

Claim.—The frame M, attached to a box G on a vertical shaft C, and provided with a shaft K, having a wheel L upon it near one end and connected at its opposite end by a universal joint *a* to a shaft H, in connexion with the bevel gearing I J placed on the shafts H and C, the crank wheel D on the lower end of the shaft C, the pitman E and saw F, all arranged to operate substantially as and for the purpose set forth.

No. 43,725.—Henry Underwood, Tolland, Conn.—*Potato Parer.*—August 2, 1864.—This invention consists in providing an ordinary knife blade with a bit or reamer at its end, so constructed that after the skin is cut or pared from the potato, it may be inserted in the recesses or eyes, and turned within them to remove the exterior coat or skin within said recesses or eyes, with great facility and without waste.

Claim.—A knife for paring potatoes, provided with a bit or reamer at the end of a blade B, substantially as herein set forth.

No. 43,726.—Dewitt C. Wade, Holley, Mich.—*Soda Fountain.*—August 2, 1864.—This invention consists of a generator for carbonic acid gas, which is connected by means of a flexible tube with a bellows. From this bellows another tube extends to a drinking glass passing through the side near the bottom, and terminating beneath a perforated plate or false bottom.

Claim.—Passing the carbonic acid gas through a tube D directly to the tumbler or drinking glass containing the fluid designed for a drink, substantially in the manner herein shown and described.

No. 43,727.—C. F. Walker, Benford's Store Post Office, Penn.—*Strap for Holding Down Pantaloons.*—August 2, 1864; antedated June 14, 1864.—This invention will be understood by reference to the claim and engraving.

Claim.—The device composed of the parts C D and E. when the same are used in combination with the sticks *a b b*, or equivalents, secured in the hem of the pants, substantially as herein set forth.

No. 43,728.—S. W. H. Ward, New York, N. Y.—*Colored Paper Shirt Collars.*—August 2, 1864.—This invention consists in making paper collars in imitation of calico, gingham, and other colored and figured materials, as they have heretofore been made in imitation of linen.

Claim.—As a new article of manufacture, a colored paper collar, made as set forth.

No. 43,729.—Charles and Stephen Weed, Eldorado, Iowa.—*Rotary Engine.*—August 2, 1864.—This invention relates to the combination and arrangement of the parts, which consists of a hollow shaft, one end of which is used as the induction port, and the opposite end as the eduction port. To the central portion of this shaft a piston is attached, which revolves with it. The case which envelops the piston is so formed as to receive two sliding abutments which are kept in close contact with the piston and spiral spring located in recesses formed in the case. The steam enters at one end of the shaft, passes to near its centre, when it comes in contact with the partition between the induction and the eduction port, when it passes to the cylinder through an aperture in the piston, presses against the abutment, which at this time is stationary, and forces the piston around until the opposite abutment is drawn back into its recess, when it again passes into the shaft and out through the eduction end.

Claim.—The combination of the hollow shaft D, curved piston E, partition *c*, supply port *b*, exhaust port *b′*, plurality of sliding abutments *d d′*, closed cavities *a a*, and springs *e e*, when all the said parts are constructed and arranged in the manner and for the purpose specified herein.

No. 43,730.—William Westlake, Milwaukie, Wis.—*Lantern.*—August 2, 1864.—This invention consists in the method of attaching the guards to the top part of the lantern, and the globe or glass to the lower part, by which the guard and the upper part may readily be attached to or detached from the bottom and globe part.

Claim.—The guard *a* with the top part or dome *c*, and the globe or glass *d* with the base or bottom part of the lantern, by which the guard and upper part of the dome may readily be attached to or detached from the bottom part or body and globe or glass, substantially as herein set forth.

No. 43,731.—S. Lloyd Wiegand,—Philadelphia, Penn.—*Adhesive or Gum Paper.*—August 2, 1864; antedated July 25, 1864.—In this invention it is claimed that the usual gum or adhesive material, if used hot, will dry sufficiently quick to dispense with the usual drying apparatus used with envelopes and similar machines; and thus envelopes or gum papers so made can be folded without adhering together, and are ready to be used on the application of moisture.

Claim.—The application of gums, substantially in the manner, or in any equivalent, and with the effect hereinbefore set forth.

No. 43,732.—C. V. Wilson, Newark, N. J.—*Composition for Carbonizing Iron.*—August 2, 1864.—This composition consists of prussiate of potash, common salt, wood ashes, and charcoal, in fine powder. The iron is enclosed in a box, surrounded by the composition, and uniformly heated for an hour or more.

Claim.—The employment of a composition made of the ingredients herein specified, which are applied in about the proportion above set forth, in combination with or without a case.

No. 43,733.—James Bowness, Prince Edward's Island, assignor to himself and William Ross, Boston, Mass., assignors to said Bowness.—*Breech Loading Fire Arm.*—August 2, 1864.—This invention relates to an arm provided with an open barrel, capable of a limited longitudinal movement in the stock, and with a tilting or oscillating chamber mounted on trunnions, and having an annular tongue or projection entering into a counterbored recess at the rear of the barrel, as the same is closed back upon the said chamber when in longitudinal position; and the improvement consists in the application of a retreating catch or spring latch for locking the barrel firmly in contact with the chamber. A peculiar cutting edge is also arranged within the chamber for slitting the cartridge as it is being loaded.

Claim.—The improved gun as constructed with the sliding barrel C and the tilting breech B, and as having the recession spring *e*, combined with the locking spring catch *f* and the thumb-piece or projection *d*, as arranged together and applied to the stock and barrel, substantially as specified.

Also, the improved gun as constructed with the sliding barrel C, the tilting breech B, the recession spring *e*, the locking catch *f*, the thumb projection *d*, and the retaining catch *g*.

Also, the arrangement of the cartridge cutter *h* within the rotary or tilting breech B, as described, viz., so that the cartridge, while being forced into the said breech B, shall be cut or torn longitudinally by such cutter.

No. 43,734.—Ebenezer Carey, assignor to himself and Horace H. Hawley, Burlington, Iowa.—*Car Coupling.*—August 2, 1864.—This invention relates to a car coupling which is long, and is self-acting, and it consists in the employment of a suspended pin support, a pin of peculiar construction, and the ordinary link or shackle, all so arranged as to admit of the ready self-coupling of the cars as they come together

Claim.—The suspended or swinging plate or pin support B, fitted within the draw-head A, and provided with a projection *f* at its upper end, in combination with the pin C, and link or shackle D, all arranged to operate substantially as herein described.

No. 43,735.—Oliver P. Chase, Boston, Mass., assignor to himself and Lewson E. Chase, Charlestown, Mass.—*Machine for Making Confectioners' Pipe.*—August 2, 1864.—This invention consists of two upright plates mounted upon a bed, and forming a frame for the working parts of the machine. Within said frame is arranged a series of endless bands, one of which is placed in the rear part of the machine, and is called the feeding band, and is designed to carry the paste to the cutting roller. The band D is placed under the band E, and is made to travel faster than it, by means of suitable gearing. The band D is also made to extend under the cutter, in order to catch the paste as it falls. Above the band C and near the cutter is a roller designed to regulate the thickness of the paste, and the length of the pipe is regulated by the cutter as it drops from the machine.

Claim.—The combination and arrangement of the series of endless aprons C D E, with a cutting apparatus or rotary knife G.

Also, the combination and arrangement of the knives or cutters S S′, with the endless aprons or bands D E, substantially as and for the purposes set forth.

Also, the combination and arrangement of the condensing or gauge roller R, the series of endless aprons C D E, and the revolving cutter G, the same being substantially as and for the purpose specified.

No. 43,736.—William P. Clark, Charlestown, Mass., assignor to himself and William T. Vose, Newtonville, Mass.—*Basin Faucet.*—August 2, 1864.—In this device the lateral eduction passage is in line with the valve seat; the valve being held in position by a valve stem, enlarged at two points to secure the central bearing of the valve, and screws into a hollow key handle. This valve stem is made in two sections, screwed together so as to embrace the inner portion of a flexible septum, the outer portion of which is held in an angle of the perimeter by the pressure thereon of the base of the bell-shaped key handle.

Claim.—The improved faucet as made with the elastic and water-proof septum S, the means of confining such septum to the valve stem and valve case, (such means being the shaft *h*, the septum holder C′, the parts *e f*, and screw *g*,) the mechanism for guiding and operating the valve, (such being the recesses *m m*, the studs *t t*, the screw D, and the key E,) and finally the recess *i*, and projection *k*, or their mechanical equivalents, the whole being arranged and so as to operate together substantially as hereinbefore specified.

No. 43,737.—J. H. Darlington, assignor to himself, H. B. Tainter and F. D. Jackson, New York, N. Y.—*Folding Paper Collar.*—August 2, 1864.—This invention consists of a horizontal blade ascending and descending through a slot in a table by means of a cam movement. An adjustable guide on the table determines the position of the fold. The descending blade carries the collar down, folding it in the descent.

Claim.—Folding paper collars by means of a folder or blade that carries the collar through a slot or mortise in a bed, substantially as specified.

No. 43,738.—George Lewis, assignor to himself, Ralph Hoyt and C. W. Hoyt, Panama, N. Y.—*Horse Power.*—August 2, 1864.—This invention consists of a revolving frame connected to and adjustable on the sweep which turns loosely on a vertical shaft, passing through the centre of the stationary master wheel, in combination with suitable pulleys and belts, one of which winds around the master wheel and around a pulley mounted on an arbor which has its bearings in the revolving frame, and which also has another pulley mounted on its upper end, from which a second belt extends to a pulley on the upper end of the central shaft of the master wheel, in such a manner that by turning the revolving frame towards or from the centre, the belts which transmit the motion from one shaft to another can be slackened or tightened as may be required, and by carrying the movable frame round the master wheel a rotary motion is imparted to the central shaft, which can be transmitted by suitable belts or pulleys to the working machines which are to be set in motion by the horse power.

Claim.—The adjusted frame E, secured to the revolving sweep D, in combination with the stationary master wheel A, central shaft C, and secondary shaft F, all constructed and operating in the manner and for the purpose herein shown and described.

No. 43,739.—Robert H. Long, assignor to himself, Joseph H. Grice, of New York, and Samuel B. Grice, Philadelphia, Penn.—*Locomotive Car Truck.*—August 2, 1864.—This invention consists in the combination at one end of the car of a four-wheeled truck or frame, and a vibrating truck or frame; the former having the axles arranged within it in the usual manner, and being pivoted between the axles to the vibrating truck or frame, and the latter being pivoted to the main frame or body of the car at a point not over or between the axles; the object being to enable railroad cars to turn freely upon curves of short radii.

Claim.—The combination at one end of the car or locomotive of a four-wheel truck C, and a vibrating truck E E′, pivoted together and to the car body in the manner and for the purpose herein set forth.

No. 43,740.—ALGERNON S. PETTICREW, Dayton, Ohio, assignor to OWENS, LANE DYER & Co., Hamilton, Ohio.—*Saw Mill.*—August 2, 1864.—The object of this invention is to prevent the springing of the log whilst in the process of being sawed, and it consists in providing auxiliary dogs and their operating devices whereby they act as braces to hold the log from springing or cambering, and it further consists in counter dogs attached to the main holding dog, dropping down near the bottom of the log where they are driven in, thus preventing the log from turning or canting.

Claim.—First, the auxiliary dog J, with its accessories D E F G G' H I i K, or their equivalents, for counteracting the spring of the log, in the manner described.

Second, the provision of the counter dog M m N, for the prevention of canting or rolling, as set forth.

No. 43,741.—EDWARD E. RANOUS, assignor to H. B. TAINTER and F. D. JACKSON.—New York, N. Y.—*Pressing Paper Collars.*—August 2, 1864.—This collar is cut and folded previously to being operated upon by this machine. It is then fed through a guide adapted to its shape, and so constructed that as the collar passes through it the folded part of the collar is kept in line on one side by a strip of sheet metal held between the folds. It is then delivered upon a cylinder and carried horizontally and downward between this cylinder and a succession of smaller ones of conical form, which press firmly upon the fold and gradually relax their pressure from that side, so as to give the collar a tendency to flare outward and afford room for the neck-tie.

Claim.—The rollers, constructed substantially as specified, to act only upon the fold of the collar, in combination with a guide for keeping the collar in its position as presented to such rollers, as set forth.

No. 43,742.—GEORGE REHFUSS, Philadelphia, Penn., assignor to THE AMERICAN BUTTONHOLE SEWING MACHINE COMPANY.—*Sewing Machine.*—August 2, 1864.—The object of this invention is to convert the button hole machine patented to the applicant October 13, 1863, No. 40,311, into a lock-stitch machine. This is done by the removal of certain devices operating underneath the table and substituting therefor a forked bracket carrying a spool-case holder, the latter having two journals or trunnions pivoted in the bracket; one of these journals has on it a cog wheel, which gears into a segment, the latter forming a part of an arm, which receives motion from the forked arm operated by a cam on the main shaft. The spool case has a curved point, and receives an oscillating movement on its trunnions, causing it to enter the loop of the needle thread, and be carried through it far enough to allow it to escape at the rear of the case. The change in the devices is easily effected.

Claim.—First, the spool-case holder T operated by the scroll cam g, arms P and P''', segment q, and wheel v, or other equivalent devices, for communicating an oscillating motion to the said spool-case holder.

Second, the spool-case holder T, with its journals or trunnions u, in combination with the detachable bracket S, or its equivalent, the whole being constructed substantially as and for the purpose herein set forth.

Third, the detachable arm P'' and its segment q in combination with the spool-case T and the wheel v, on one of the trunnions of the said case.

No. 43,743.—JOHN FINDLEY RIGGS, Fremont, Nebraska Territory, assignor to himself and S. G. DAILY.—*Skimming Attachment for Sugar Evaporation.*—August 2, 1864.—This invention consists in the employment of a skimmer operated by means of a lever, cam, or other suitable device, through a series of levers so pivoted as to be readily operated. The skimmers are caused to move in an exact plane across the surface of the liquid by means of cords and hinged wires or rods suitably arranged for the purpose. The useful is separated from the worthless scum by means of partitions in the trough.

Claim.—First, the skimmer I I operated by a lever, cam, or other suitable device, through the medium of pivoted levers D E F H J J, substantially in the manner and for the purposes herein set forth.

Second, the cords M O O and hinged wires or rods N N, arranged substantially as described, and operating to cause the skimmers to move in an exact plane across the face of the liquid being evaporated, as explained.

Third, the partitioned trough P P1 P2 P3, employed for separating the useful from the worthless scum, substantially as described.

No. 43,744.—JOHN B. ROOT, assignor to ROOT'S ROTARY ENGINE COMPANY, New York, N. Y.—*Rotary Engine.*—August 2, 1864.—The object of this invention is to provide a centre bearing for that class of rotary engines in which the inner and rotating cylinder is arranged eccentrically to the outer cylinder for the purpose of providing a greater amount of space for the steam to rest upon in revolving the engine. Its novelty consists in placing a pin or bearing in the outer cylinder head opposite the one through which the shaft passes, to which the pulley is fixed for the purpose of communicating motion to the machinery. To this pin one end of the piston or slide is attached, by which, in its motion around the main shaft of the engine, it causes the piston to be alternately drawn into and forced out from the inner

cylinder and kept constantly in contact with the inner surface of the outer cylinder. The inner cylinder being arranged eccentrically within the outer one gives the steam more surface to act upon, as the piston presents a large amount of surface during a portion of its revolution, and is drawn entirely within the cylinder during another portion of it, so that no surface is presented.

Claim.—The stationary pin I secured in the centre of one of the cylinder heads entering a central cavity in the piston drum, and connecting and serving as centre bearing for the several pistons within the drum, substantially as herein specified.

No. 43,745.—WILLIAM H. RYAN, assignor to himself and T. E. C. BRINLEY, Louisville, Ky.—*Wood Bending Machine.*—August 2, 1864.—The object of this invention is to bend wood for rough handles and similar purposes, and it consists in a metallic former, around which the wood is bent or formed for particular shape, so that the plate that is attached to the strap can be hooked on to the projection on the former, and when the wood is bent the strap is tightly fitted to the outside of it, and when the wood is brought to its desired position it is clamped by a connecting rod and held firmly in its place to season.

Claim.—The combination of the forming block B with its hooked projection for the retention of the plate d by its lugs g in the act of springing the timber, the strap D, and the rod E, by which the bow is retained in its bent condition.

No. 43,746.—WILLIAM WEBB, assignor to THE SCOVILLE MANUFACTURING COMPANY, Waterbury, Conn.—*Hinge.*—August 2, 1864.—The hinge is formed in the usual way, except that their projects form one leaf, of which it forms a part, a T-shaped strip, which, being bent over, lies in a notch in the edge of the opposite leaf, the T head of said strip thus preventing one leaf from being thrown back beyond a right angle with the other.

Claim.—A hinge provided with a stop formed during the process of the manufacture of the hinge and out of the same parts or pieces composing the same, substantially as herein described.

No. 43,747.—GEORGE W. GRISWOLD, New York, N. Y.—*Removable Corks for Horseshoes.*—August 2, 1864.—In this invention the shank of the cork is surrounded by a case of India-rubber or other elastic substance, and in this condition forced into and held by the hole in the shoe for that purpose.

Claim.—Surrounding or imbedding removable corks or toe pieces for horseshoes in vulcanized rubber, or other equivalent elastic materials, for the purpose of holding the corks firmly in place and relieving the strain or jar upon the foot of the animal, substantially as described.

No. 43,748.—EDWARD BEANES, London, England.—*Mode of Treating Animal Charcoal.*—August 2, 1864.—This invention consists in "treating animal charcoal" which has lost its absorptive power with such chemical compounds which, like hydrochloric acid or chlorine gas, have the power of removing or rendering soluble the lime and other earthy metallic and alkaline substances with which it is contaminated. Sal ammoniac and nitrate of ammonia will answer the purpose.

Claim.—The employment or use in treating animal charcoal with such other chemical compounds besides chlorine or hydrochloric acid gas, which, when brought in contact with the contaminated coal, will form soluble compounds with the lime and other metallic earthy and alkaline impurities contained therein, so that the same can be washed out, and the original decolorizing and absorptive properties of the coal are restored.

No. 43,749.—LOUIS EMILE CONSTANT MARTIN, London, England.—*Steam Boiler.*—August 2, 1864; patented in England November 12, 1863.—This invention consists in constructing and placing one within the other of two vertical concentrically framed boilers, with an annular combustion chamber between. This chamber is divided midway between the bottom and the top by diaphragms, through which pass a series of vertical tubes (which are surrounded by water) for the purpose of conveying the products of combustion from the upper to the lower annular combustion chamber, from which they pass through horizontal tubes to the space underneath the central combustion chamber, the bottom of which is composed of two diaphragms perforated to receive a series of vertical tubes through which the gases pass and mingle with the incandescent fuel in this chamber, when they pass off through a pipe placed on the top of the boiler, in the outlet of which is a fan for the purpose of controlling the draught through the boiler. Underneath the central chamber a register is placed, which is designed to admit fresh air at this point when necessary. Underneath the lower annular combustion chamber there is provided a superheating chamber, through which the steam is passed on its way to the engine for the purpose of superheating it. The fuel is fed to the inner chamber through a pipe which passes down through the steam space in the top of the boiler, and which is controlled by a revolving hopper for measuring the amount of coal. The annular chambers are fed through apertures in the outer wall of the boiler. The ashes are removed through apertures in the lower portion of the boiler closed by suitable doors.

Claim.—First, constructing a steam boiler by combining a central with an external boiler and uniting them by a tubular water space, substantially as and for the purpose set forth.

Second, the combination of the central, horizontal waterspace, having vertical heating tubes within the central boiler, and the horizontal heating tubes passing through the central boiler, substantially as and for the purpose set forth.

Third, the combination of an annular combustion chamber between the boilers with a central combustion chamber, so that the heated products of combustion from the former shall pass through the latter, as and for the purpose set forth.

Fourth, the combination of a pan and the register with the central combustion chamber, substantially as described, to regulate the draught through the chamber and the quantity of combustion in both chambers, as set forth.

Fifth, the combination of the annular combustion chamber between the boilers with the base plate of the whole boiler and the annular chamber beneath the plate for superheating steam, substantially as and for the purpose set forth.

No. 43,750.—Louis Emile Constant Martin, London, England.—*Feed-water Heaters for Steam Boilers.*—August 2, 1864; patented in England January 12, 1864.—This invention consists in constructing a vessel having a series of removable plates fixed in it in such a way that they can be easily removed and the sediment that may have collected upon them taken off. The water enters at the top of the vessel through a pipe provided with enlargements for receiving finely perforated diaphragms, which divide the water into finely comminuted parts before entering the vessel, where it is subjected further to comminution by being forced through a perforated diaphragm, when it falls upon the removable plates, which are also perforated, and finally falls to the bottom of the vessel, from which point it is taken by the force pump and injected into the boiler. To heat this water a steam pipe is attached to the bottom of the vessel for conveying superheated steam to the interior thereof, where it comes in direct contact with the water by being allowed to pass through a perforated diaphragm placed in or near the bottom of the vessel. The steam passes up and heats the plates through which the water falls to such an extent that the earthy matters held in solution by it are deposited thereon, and may at any time be removed therefrom, as above described.

Claim.—First, a heater for the supply of water of steam boilers having movable plates, whether separate or united with an internal cylinder, when constructed, arranged, and operating substantially in the manner and for the purpose set forth.

Second, the combination of the perforated diaphragm C' with the pipes C and the diaphragm C'', on the upper chamber of the heater A, constructed substantially as and for the purpose set forth.

Third, supplying feed-water to steam boilers in minute drops or spray when heated by the direct contact of superheated steam, substantially in the manner and for the purpose set forth.

No. 43,751.—George Milsom, Henry Spendelow, and George W. Watson, Buffalo, N. Y.—*Mode of Unlading Vessels.*—August 2, 1864.—This invention consists in operating a number of scoops, shovels, or rakes within the hold of a vessel, for the purpose of bringing the grain from all parts of the vessel up to the foot of the elevating leg, extending through one of the hatches, by which it is taken from the vessel to the building.

Claim.—The supporting sheaves $E\ E'$, and ropes or chains D, and one or more scoops C, or shovels K, or rakes L, or the equivalent of either thereof, arranged or used within the hold or compartment of the vessel where the grain is, in combination with a reciprocating motion communicated to said scoops, shovels or rakes, substantially as described, for the purposes set forth.

No. 43,752.—William H. Alcorn, New York, N. Y.—*Knife and Scissors Sharpener.*—August 9, 1864.—This invention consists of a three or more sided file, attached to a horizontally swinging lever, by means of sleeves, so that it can be readily removed and turned to bring a fresh side into use, in combination with a suitable socket to hold a knife, or a pair of scissors, in such a manner that when an oscillating motion is imparted to the lever, and the knife or scissors are placed into their respective sockets, the file will act on the cutting edge and sharpen the same.

Claim.—The use of a file C, secured by sleeves D, or their equivalents, to a horizontally swinging lever B, in combination with guide strips *d* or notch *e*, to retain the knife or scissors to be sharpened substantially in the manner and for the purpose shown and described.

No. 43,753.—David H. Baker, Jersey City, N. J.—*Mode of Locking Railroad Car Seats.*—August 9, 1864.—This invention consists of a movable locking bar extending along the car to the extent of several of the seats, and fitted with pins, hooks or slots, in connexion with the movable backs of the seats, in such a manner that by means of a locking device, the key of which is in possession of the conductor, or other person in charge, the seats can all be locked or unlocked simultaneously, by moving the said bar, the object being to prevent the turning over of single backs by the passengers.

Claim.—A movable locking bar extending along the car, the distance of several seats, and fitted with pins, hooks or slots, substantially as specified, in combination with the movable backs of the seats and the locking device, whereby said locks can be all locked or unlocked simultaneously by moving the said bar, as set forth.

No. 43,754.—H. V. Belding, Oppenheim, N. Y.—*Milking Machine.*—August 9, 1864.—This machine is intended to act upon the teats of the cow to be milked much in the same manner as the human hand acts in the operation of milking. In operating the machine the teat is first pressed at the upper end, and gradually to the lower end, thus expelling the milk.

Claim.—The use of one or more pressers $G\ G'$, acting substantially in the manner and for the purpose herein shown and described.

Also, the combination of the plates $L\ L'$ with the pressers $G\ G'$, substantially as herein shown and described, for the purpose set forth.

Also, the combination of the winged shaft E with the pressers $G\ G'$, substantially in the manner and for the purpose herein shown and described.

Also, the springs H H, in combination with the pressers $G\ G'$, substantially as herein set forth.

Also, the adjusting screw rods I, in combination with the plates $L\ L'$, substantially as and for the purpose herein shown and described.

Also, the arrangement of the pan K, with the pressers $G\ G'$ and plates $L\ L'$, as herein shown and described.

No. 43,755.—William A. Bemis, Lyndon Centre, Vt.—*Pump.*—August 9, 1864.—This invention consists of a submerged valve chest, having a transverse vertical septum and an interior flap valve at the bottom of each division over the induction port. A flapvalve covers the eduction port of each division, which eduction ports open into a central discharge spout. The piston rods ascend above a platform, and are so shaped at their upper extremities as to permit the feet of the operator to rest thereon. Below the platform these rods are pivoted within slots on the outer ends of a cross-bar, which latter is pivoted at its centre to the central discharge spout frame. At each extremity of this bar an arm is pivoted in the slot, which ascends higher than the piston rods, and is there pivoted to a short lever, which is connected to a fixed cross-bar in such manner that the operator, while giving his weight alternately to the piston rods on which he stands, at the same time aids the movement by pressing upon these levers with his hands.

Claim.—A pump provided with two plungers, the rods $E\ E'$ of which are connected by a lever G, having rods H H and levers I I connected to it, and all arranged with a platform F, to operate substantially in the manner as and for the purpose set forth.

Also, in combination herewith, the packing *e*, arranged and applied to the plungers $D\ D'$, to operate in the manner described.

No. 43,756.—T. F. Bingham, Gowanda, N. Y.—*Beehive.*—August 9, 1864.—This invention relates to the arrangement of means for protecting the bees from the effects of extreme cold or heat; the hive being constructed with triple walls, with spaces between, and provided with bee entrances and ventilating openings adapted to such construction. An extension cup is provided for the hive, so arranged that supplemental spare honey boxes may be added or applied when necessary, and also a box and cup for the proper feeding of the bees, when needed.

Claim.—First, a beehive constructed with triple walls *a b c*, with spaces *d d* between them, substantially as and for the purpose specified.

Second, the bee entrance, composed of two parts *f f*, both parts being provided with openings or slots, and the inner one *f* made adjustable, substantially as and for the purpose specified.

Third, the comb frames, composed of the horizontal bars *s t*, and pendent bars *u u*, all arranged and combined as and for the purpose specified.

Fourth, the rim A, in combination with the cover B, arranged and applied as and for the purpose specified.

No. 43,757.—I. W. Bowers, Cincinnati, Ohio.—*Valve Gear for Steam Engines.*—August 9, 1864; antedated January 27, 1864.—This invention consists of a series of devices designated in the claim for operating the port or steam valves, and also the exhaust or outlet valves, a forked sliding bar being combined with a vibrating bar and cam rod, together with a connecting bar and pawls and a series of short cranks.

Claim.—First, operating the valve H by the lifters, or their equivalents, when they are arranged within the valve chamber, as shown, and for the purpose described.

Second, the combination of the valves H, rock shaft *m*, and cranks m', with the weights m''', substantially as described and for the purpose set forth.

Third, the several devices in combination, by which the port or steam valves and the exhaust or outlet valves are operated, when combined substantially as described and for the purpose set forth.

Fourth, the combination of the forked sliding bar L with the vibrating bar K and cam rod D, when constructed and arranged substantially as described

Fifth, the construction and arrangement of the connecting bar *g* and pawls *r r* with the cranks $m'\ m'$, when constructed substantially as described and for the purpose set forth.

No. 43,758.—D. B. **Chapman**, Hopedale, Mass.—*Soap.*—August 9, 1864.—This invention consists of a soap made by incorporating a soft soap, made with potash lye, in which the ley is retained, with a hard soap from which the ley has been precipitated, which may be made with or without an alkaline silicate.

Claim.—The compound soap, made substantially as hereinbefore described.

No. 43,759.—**Isaac S. Clough**, Brooklyn, N. Y., and **Vincent Fountain**, Jr., North Shore, N. Y.—*Automaton Dancer.*—August 9, 1864.—The invention consists in suspending a jointed figure from an elastic cord stretched between posts over a platform made of sheet metal, so that when the cord is tapped the figure assumes various dancing attitudes, and produces a sound by striking the platform.

Claim.—Suspending the figure A from an elastic cord B, stretched between uprights C, over the sounding disk E, attached to the platform D, so that the motion of the figure is produced by the swaying of the cord, and the contact of the feet of the figure with the bell or disk produces a musical sound.

No. 43,760.—**Joseph H. Connelly**, Wheeling, West Va.—*Composition for Desulphurizing Coal.*—August 9, 1864.—This invention consists in the use of desulphurizing agents, such as common salt or lime, in combination with petroleum, forced, in the form of spray, by means of a jet of steam, into the furnace upon the burning coal, in the manner described in the patent of Connelly and Phillips, January 21, 1862.

Claim.—The use of desulphurizing agents, such as common salt and lime, in combination with petroleum, or its products, forced, in the form of spray, in a steam boiler, or other furnace, substantially in the manner and for the purpose herein specified.

No. 43,761.—**John H. Daniels**, Boston, Mass.—*Ferrotype Card Mount.*—August 9, 1864.—The improvement in ferrotype card mounts consists of a card with the usual oval aperture and a square depression, struck up at one operation of a die, so as to require but one thickness of card.

Claim.—As a new article of manufacture a plate or card mount, made of a single sheet of paper, recessed for the reception of the card or plate, and perforated so as to frame the same, in the manner substantially as herein set forth.

Also, the method, herein described, of cutting and recessing plate or card mounts at one operation.

No. 43,762.—A. **Eliaers**, Boston, Mass.—*Elastic Stud or Button*—August 9, 1864.—This invention consists of an elastic hollow shell of rubber, having a shoulder or projection on its inside, so that when placed on a chair leg it will fit into a groove formed for the purpose, and thus be held in its place.

Claim.—Forming an elastic hollow socket, with a projecting rim or shoulder on its inside that fits into a corresponding groove on the outside of the article to be protected, as described.

No. 43,763.—**Philip Howard Colomb**, Fulham, England.—*Apparatus for Signalling.*—August 9, 1864—In this apparatus lights or opaque objects are exhibited to view for given intervals of time, and to regulate these intervals the cover of the light, or the opaque object, is moved by a lever, which is operated upon by passing in succession over projections on a revolving drum, arranged to suit the signal required.

Claim.—First, the use, for night signalling, of a light, (or lights,) shown or exposed during varying points of time, regulated as described.

Second, the use, for day signalling, of an opaque or other clearly visible body, (or bodies,) shown or exposed during varying periods of time, regulated as described.

Third, the use, for the purposes described, of a notched bar, or other equivalent arrangement, for enabling the levers, or other connexions whereby motion is imparted from the pins' projections, depressions or holes, to be adjusted so as to be acted upon by the required sets of projections, depressions or holes, or to be thrown out of action, as required.

Fourth, the employment of levers or equivalent parts, adjustable endwise upon an angular or other bar, for the purpose of imparting the motion received from the projections, depressions or holes, so as to regulate the appearance and disappearance, or expansion and contraction, or change of position or form, of the signalling object or objects.

Fifth, the use of a drum, endless belt, chain, or equivalent arrangement, provided with projections, depressions or holes, and capable of being driven with a continuous motion, for the purpose of regulating the appearance and disappearance, expansion and contraction, or change of position or form, of figures or objects used in signalling.

No. 43,764.—**William M. Everitt**, Malden, N. Y.—*Tuyere for Blast Furnaces.*—August 9, 1864; antedated February 4, 1864.—This invention consists in providing the lower part of the tuyere with a removable bottom, formed with bevelled sides, so as to fit over the conical part of the tuyere. The upper part is provided with a slide, combined with two arms, and having a set screw, so that the opening can be adjusted as required.

Claim.—First, the combination and arrangement of the removable bottom R with the conical portion of the tuyere O and the bevelled pieces S S, substantially as and for the purposes set forth.

Second, in the combination and arrangement of the adjustable slide C with the arm D and the arm E and the set screw J, substantially as and for the purposes set forth.

No. 43,765.—**William Fuzzard**, Malden, Mass.—*Machine for Surface-sizing Fibrous Materials.*—August 9, 1864.—In this machine an adjustable roller is made to throw the glazing or sizing upon the heated cylinder or web at different points, as circumstances may require; the glazing not being thrown upon the material from the sizing roller as in the inventor's patent No. 41,214, but from the roller E, which deflects the bristles for this purpose, the roller C not so deflecting them. A guard F prevents the throwing off of the glazing at the back, and assists in controlling the direction of it towards the roller E.

Claim.—First, a revolving brush cylinder D, or its equivalent, in connexion with a partly submerged roller C and an adjustable roller or bar E, arranged to operate in the manner substantially as and for the purpose herein set forth.

Second, the shield or guard, arranged and combined with the brush cylinder, or its equivalent, and with the roller or bar E, to operate as and for the purpose described.

No. 43,766.—**Daniel Geiser**, Waynesboro', Penn.—*Grain Separator.*—August 9, 1864.—This invention consists in separating the grain from the straw by means of bars, provided with teeth, projecting from the upper surface of said bars, and having a longitudinal and vertical motion imparted to them by means of a crank, thus carrying forward the straw, while the grain falls below upon screens, and is conveyed to proper receptacles.

Claim.—First, the combination of the stationary notched bars D D and reciprocating toothed bars B B, constructed and operating substantially as and for the purposes herein shown and described.

Second, the combination of the reciprocating toothed bars B B and toothed rock shaft E *e*, constructed and operating as and for the purposes specified.

Third, the swinging plate G, composed of one or more parts, and placed on the box or case A, when used in connexion with the toothed bars B, for the purpose set forth.

Fourth, the metal screen J, placed at the outer ends of the bars D, when used in connexion with the toothed bars B, for the purpose set forth.

Fifth, the reciprocating bar O, provided with notched plates *j*, and fitted in a box N having a perforated bottom *t*, for the purpose of conveying the tailings into the elevator box P, as set forth.

No. 43,767.—**Franklin A. Gleason**, New York, N. Y.—*Mitre Dovetailing Machine.*—August 9, 1864.—This invention is designed as an improvement on a former patent granted to the same inventor, and it consists in providing two reciprocating carriages, upon which are mounted the tools that at one cut make the mitre joint, tongue, and groove on each end of a board, the carriage being so arranged that any desired length of stock can be cut, or the mitre and dovetail of any desired angle, by adjusting the carriage for such purpose.

Claim.—The construction and arrangement of the dovetail cutters, the V-cutter *s*, the stops P and *r*, the base from which to set the mitre cutters *e e*, the oblique position of the cutter edges, the base R, in combination with the adjustable bed plates G G′, substantially as described.

No. 43,768.—**James Joseph Gorman**, Cincinnati, Ohio.—*Obtaining and Transmitting Power.*—August 9, 1864.—This invention consists in the application of two weights suspended from arms which project from an oscillating frame with a variable fulcrum, in combination with a rolling or movable weight, which moves on inclines, and is made to bear alternately on the oscillating frame, so that by the aid of the variable fulcrum and movable weight the oscillating motion of the frame and the main weight is facilitated. A dog is hinged to the rod or pitman, which transmits the motion of the oscillating frame to the working machine.

Claim.—First, the variable fulcrum $c\ c'\ c''$, in combination with the oscillating frame B, carrying the weights D D′, and with the rolling weight E, constructed and operating in the manner and for the purpose substantially as herein shown and described.

Second, the weights $g'^{*}\ g'^{*}$, arranged in combination with the rolling weight E, automatically rising and falling guide ways *i*, stationary frame G, and oscillating frame B, with weights D D′, all constructed and operating in the manner and for the purpose substantially as set forth.

Third, the dog I, spring O, and rocker arm M, and cam S, with cavities $l\ l'$, in combination with the oscillating frame B, or its equivalent, and with the shaft K, constructed and operating substantially as and for the purpose set forth.

Fourth, the spring O and rock shaft *o*, in combination with the hooked rod P, eccentric wrist pins $q\ q'$, dog I, cam J, shaft K, and oscillating frame B, or its equivalent, constructed and operating in the manner and for the purpose substantially as described.

No. 43,769.—Solomon Greenhalgh, Newark, N. J.—*Steam Generator.*—August 9, 1864.—This invention consists in the combination and arrangement of the parts composing a series of oval pipes placed immediately above the fire, and to which are joined, upon their sides, a series of pipes which lead to the upper portion of the box case which encloses the whole, where they are connected to the sides of the trapezoidal steam chambers which secure the steam formed in all the lower pipes, and which are surrounded by the heated products of combustion, by which means the temperature of the steam is considerably increased before it enters the distribtuting pipes. Directly in the rear of the grates there is located a water back, against which the products of combustion impinge, and by which they are directed upwards, where, by means of abutments and flues, they are compelled to pass backward and forward the entire length of the apparatus before passing to the outlet, thus imparting their heat to the steam in the steam chambers.

Claim.—The trapezoidal steam chambers F, arranged in combination with the horizontal water tubes A, vertical tubes E, water backs H, plates I, and abutments *c d d'*, in the manner and for the purpose substantially as herein shown and described.

No. 43,770.—John P. Gruber, New York, N. Y.—*Apparatus for Forcing Water by Pneumatic Pressure.*—August 9, 1864.—This apparatus consists of a condensed air reservoir, which is kept charged by a pneumatic force pump. A pipe leading from this reservoir to a water reservoir is regulated in its flow by a stop cock. The water discharge pipe descends nearly to the bottom of the water reservoir, and ascends thence to the desired place of delivery. A valve for the admission of water into the water reservoir is located in the top of such reservoir, and is so balanced that when the pressure within exceeds the outer atmospheric pressure the valve will close; but when said internal pressure is removed it will open by gravitation and allow the water to flow in and fill the reservoir.

Claim.—First, in a fountain which is to be operated by the elastic pressure of condensed air, the arrangement herein described, that is to say, a reservoir containing the water or other liquid to be operated upon, so contrived that it may at pleasure be subjected to or relieved from the elastic pressure of condensed air, in combination with a valve so constructed and arranged that it shall automatically close when the pressure is applied, and open when it is removed, substantially in the manner and for the purpose hereinbefore set forth.

Second, in a fountain which is to be operated by the elastic force of condensed air, so constructing the same that the valve through which the fluid is to be received into the reservoir shall be kept closed by the pressure of the air from within, and shall open automatically when that pressure is removed, substantially in the manner and for the purpose hereinbefore described.

No. 43,771.—George Himrod, Chicago, Ill.—*Hearth of a Cooking Stove.*—August 9, 1864.—The ordinary mode of supporting the hearth cover within the hearth of cooking stoves is upon a continuous ledge or shoulder along the hearth opening. This invention consists in substituting two or three projecting shoulders on each side in place of the continuous ledge.

Claim.—First, supporting the removable top B upon the isolated supports *a*, arranged and operating substantially as and for the purposes herein specified and shown.

Second, in combination with the above, the employment of the stops or projections *b*, for the purposes specified.

No. 43,772.—Orin L. Hopson and Herman P. Brooks, Waterbury, Conn.—*Pointing Wire for Pins.*—August 9, 1864.—In this device there is a horizontal, cylindrical mandrel, in the operative end of which is a slot reaching to its centre or axis; in this slot is a close fitting bar of metal hinged to the mandrel at its inner end, its outer end forming a vibrating jaw, and so curved transversely upon its outer surface that when the end of the wire is inserted in the tapering cavity of the die, made equally in the mandrel and jaw, it will be forced somewhat outside the surface of the mandrel. Surrounding the end of the mandrel, but separated from it, is a fixed stock, its face being flush with the end of the mandrel, and having four radial grooves, in which are fitted steel blocks, which may be so adjusted by set screws that the rounded back of the hinged jaw will come in contact with each one of them during each revolution of the mandrel, and thus by a rapid succession of blows or compressions educe and point the wire

Claim.—First, pointing wires or rods by a revolving divided die that is pressed together, substantially as and for the purpose specified.

Second, the arrangement of the adjustable radial cams *k*, revolving shaft *b*, jaw *d*, and dies *i*, substantially as specified.

Third, the ring *f* and screw *g*, in combination with the jaw *d* and dies *i i*, for regulating the amount said dies shall be allowed to open, as set forth.

No. 43,773.—J. M. Hurd, Auburn, N. Y.—*Machine for Making Flour Sacks.*—August 9, 1864.—This apparatus consists of a frame made to hold the paper cylinder, provided with a two-leaved top, upon which the bottom of the bag is folded in a square form; when finished, a pedal is made to raise the two leaves, by which means the bag is folded and delivered from the frame by one operation.

Claim.—First, the two leaves A and B, or their equivalents, substantially as and for the purpose specified.

Second, the combination of the two leaves A and B with the lever K, substantially as above specified.

No. 43,774.—Robert Jackman, New York, N. Y.—*Apparatus for Heating Glue.*—August 9, 1864.—This invention consists of an iron tank cast in one piece, and having apertures for the glue kettles. The steam pipe enters the tank at the lower part so as to cause the steam as it enters to pass up through the water. The tank is also provided with a waste pipe, and a cock is attached to the pipe by means of which hot water can be drawn off for use.

Claim.—A glue-heating apparatus adapted to apply steam directly to the water in which the kettles are immersed and to supply a liberal quantity of distilled water when required, substantially in the manner and for the purposes herein set forth.

No. 43,775.—J. Nelson Jacobs, Worcester, Mass.—*Construction of Round and Half-Round Files.*—August 9, 1864.—This invention consists in constructing a file of sheet steel, by first cutting a blank of the proper shape, then nicking it, and afterwards bending it around in a cylindrical, semi-cylindrical, or other form, as may be desired.

Claim.—The process herein described of constructing round and half-round files, to wit, by forming the blanks of flat metal plates, cutting the same, and then bending them in the round or half-round form.

No. 43,776.—C. Jillson, Worcester, Mass.—*Device qr Cutting Tenons on Metallic Rods.*—August 9. 1864.—In this device a metal stock, with a longitudinal slot in one end, has secured against that end a metallic plate pierced with a hole, into which latter is fitted an eye or thimble. Through one arm of the stock, just behind the plate, is a mortise, which admits the cutting tool, and is so arranged as to be controlled by a set screw, and a hole drilled longitudinally in the body or handle of the stock serves for the reception of a gauge rod, which may be adjusted and fixed by a set screw. Thus, by using thimbles of different sizes, rods or tubes of various diameters may be operated upon; the cutting tool may be set for tenons of various diameters, while the gauge rod may be adjusted to tenons of different lengths.

Claim.—The combination of the cutter, eye, and gauge, operating together, substantially in the manner and for the purpose described.

No. 43,777.—John and Joseph H. Kendrick, Providence, R. I.—*Machine for Dressing Weavers' Harness.*—August 9, 1864.—In this machine a horizontal intermittently reciprocating frame, carries the harness which is stretched thereon. The dressing brushes revolve on opposite sides of the harness, both in the same direction, and extend across the machine. The said brushes are automatically caused to approach towards and recede from each other during determined periods, so that while the harness is travelling in one direction, the brushes will not touch it, but on the return movement they will close upon it and perform their office. By this means all the fibres upon the outside of the twine composing the harness are laid uniformly in one direction only, so that the surface will be perfectly smooth, and hence not liable, in weaving, to injure the warp of the cloth.

Claim.—First, the method, substantially as specified, of dressing weavers' harnesses by the combination of a reciprocating carriage H upon which the harness is strained, with brushes G G, or their equivalents, revolving in the same direction, between which the harness to be dressed is made to travel, as herein described.

Second, the mode of operation, substantially as specified, by means of which the revolving brushes G G, or other equivalent instruments, for dressing the harnesses are made to have a motion relatively to each other and to the harness carriage, so as to act upon the harness only during its movement in one direction, as herein described.

No. 43,778.—L. King, Cleveland, Ohio.—*Machine for Making Chains.*—August 9, 1864.—This invention consists of an arrangement of devices by means of which the wire that forms the chain is drawn into the machine, the blanks cut off, bent into the proper shape, and attached to the next preceding link by one continuous operation or process. The details of the machine are of such a character as to require full description to enable the invention to be fully understood.

Claim.—Constructing a chain, of the orm herein represented, from a single rod or wire, by one continued process, by means of an automatic machine, constructed, arranged, and having all its parts operated substantially as described.

No. 43,779.—Joseph Lash, Mount Vernon, Territory of Nebraska.—*Beehive.*—August 9, 1864.—This invention relates to a mode of ventilating a hive, and protecting it against moths. A tube extends in an inclined direction from an under side of the hive, through which the bees and fresh air are admitted to the interior. Attached to the rear of the hive are thin ventilating tubes, through which the foul air escapes. Moths are attracted by the scent of honey to these ventilators, but cannot enter through the small holes, and fall into a trough below.

Claim.—First, the ventilators F F, in combination with the trough E, substantially as shown and described.

Second, the tube D, constructed and used substantially as set forth, in combination with the ventilators and trough or trap.

No. 43,780.—CHARLES H. LAVIS, Philadelphia, Penn.—*Machine for Loading Metallic Cartridge Cases.*—August 9, 1864.—In this machine a circular table, having holes through it which fit the cartridge cases, is made to revolve around a vertical axis. The metallic cases are arranged concentrically to the axis, near the circumference of the circular table. A circular groove is in the bottom of the table, underneath the cartridge cases, and of the same or greater width; on the bed plate underneath there is secured a wedge-shaped projection which fits this groove. As the cartridge cases come to it, they mount up on it, and in passing over it there are two level portions, in which positions the balls are introduced into the cases, and afterwards crimped.

Claim.—Cutting a groove *l* in the under face of the loading wheel B, and fastening a block *m*, with one or more resting flats *c* and *d*, and one or more inclined planes *a* and *b* on its upper face to the bed plate A, the groove and block being arranged with reference to each other substantially in the manner as and for the purpose herein described.

No. 43,781.—ENOCH H. LE BARON, Mattapoisett, Mass.—*Horse Halter.*—August 9. 1864.—This invention consists of a rope halter made by "unlaying" the strands of a part of the rope, and plaiting or braiding up that portion which forms the "headstall," and splicing it together.

Claim.—A rope halter made by "unlaying" the strands of a part of the rope, and plaiting or braiding up that portion which forms the "headstall," and splicing it together, in the manner substantially as described.

No. 43,782.—FREDERICK LOOS, Denver City, Territory of Colorado.—*Corn Planter.*—August 9, 1864.—This invention consists in placing a cylinder in a frame and providing it with a cell, in which is a piston worked by a cam. When the cell comes in conjunction with the hopper the cell is filled with seed, and carried around to the opening or spout, when the piston is pressed out and the seed deposited in the ground.

Claim.—The cylinder E, its recess *e*, piston *f*, spindle *h*, and the projection *j*, the whole being arranged within the packed box B, in respect to the hopper *c*, and tube D, substantially as and for the purpose herein set forth.

No. 43,783.—WILLIAM MARTIN, Philadelphia, Penn.—*Apparatus or Cutting out Knitted Stockings.*—August 9, 1864 —This invention consists in so arranging a series of blades, that when the knitted tubular material shall be pressed vertically upon their cutting edges the foot part may be formed by doubling the cut part back upon itself and sewing together the cut edges thus brought in contact.

Claim.—The arrangement described of knives with straight cutting edges B B, and zigzag cutting edges *a* and *a'*, for the purpose specified.

No. 43,784.—CHARLES MAYER, New York, N. Y.—*Boot and Shoe.*—August 9, 1864; antedated June 3, 1864.—This invention cousists in attaching to the rear of the shoe or boot, above the heel, a series of hinges, through which is passed a pin that serves to keep them together, and by simply withdrawing the pin the shoe can be removed from the foot without unlacing; the invention being more particularly designed to be applied to laced shoes, or "Balmoral boots."

Claim.—The employment of the pin *c* and hinges *a*, in combination with boots and shoes, substantially in the manner and for the purpose herein shown and described.

No. 43,785.—ALEXANDER MCGUIRE, Winsted, Conn.—*Manufacture of Table Cutlery.*—August 9, 1864.—This invention consists in the application of what is known as the "drop" process for forming the "nib bolster" for knives and forks, in securing the handle to the blades.

Claim.—Forming a "nib bolster" for table cutlery by the "drop" process, substantially as and for the purposes described.

No. 43,786.—GEORGE R. MOORE, Lyons, Iowa.—*Flat Iron Heater.*—August 9, 1864.—This invention consists of a metal case, within which is enclosed a fire chamber, having an annular space or chamber between them, which space serves as a flue leading to the smoke-pipe, the plate or griddle on which the irons are placed resting directly upon the fire chamber and extending to the inside of the case, so as to cover the annular chamber. An outer case, forming a rim or flange, extends above the level of the griddle, for protection against cold-air currents.

Claim.—First, the arrangement of a sadiron heater, having an outer casing D, surrounding an annular chamber *a*, between it and the fire chamber B, upon which rests the griddle E, substantially as described and for the purposes set forth.

Second, the rim or flange *h*, of the casing D, extending above the griddle E, for the purpose of protection against cold currents of air.

No. 43,787.—JOSEPH MOUREN, Marseilles, France.—*Tanning Apparatus.*—August 9, 1864.—This invention consists in a tanning vessel made of cast-iron, and lined with lead, sufficiently strong to bear the pressure of the tanning liquid which is forced into it, upon the hides, by means of force pumps.

Claim.—First, the method of tanning hides or skins by placing them in a vessel each between two layers of tan before injecting the tanning liquid, substantially as described.

Second, the construction of the tanning vessel—that is to say, making the same of cast-iron, and of a columnar form, lined with lead, substantially as set forth.

No. 43,788.—FRANCIS V. NOETTE, Brooklyn, N. Y.—*Umbrella.*—August 9, 1864.—In this device, where the ribs radiate from the top of the umbrella, and the braces from the sliding part, hinge-like joints are formed, of a double tube upon the staff, in the sliding part, the inner tube turning outward and downward at the top, and the outer tube turning outward and upward at its bottom, and the reverse at the top, thus forming an annular groove. for the reception of the enlarged ends of the ribs and braces; these flanged ends of the tubes being slotted to permit the movement of the ribs and braces.

Claim.—The construction of umbrellas and analogous folding structures, the employment of metal sockets D and E, formed from tubes as described, and adapted to confine and release the folding parts of the framework, substantially in the manner and for the purpose herein set forth.

No. 43,789.—A. M. OLDS, Chicago, Ill.—*Lumber Measure.*—August 9, 1864.—This invention consists in making the wheel which trails over the lumber expansible, so that it will make a greater or less number of revolutions at pleasure. The wheel is of a conical form, of staves of steel springs provided with a button or disk, which by a screw is moved to or from the base of the cone so as to spread or contract the periphery of the base which constitutes the travelling portion of the wheel.

Claim.—First, the expansible wheel B provided with the adjustable disk C, or its equivalent, operating substantially as and for the purposes herein set forth and shown.

Second, the combination of the disk C, the shaft J, and bent rod *d*, arranged and operating substantially as and for the purpose specified.

Third, the combination of the expansible wheel B and the worm D with the system of wheels E F G H I, or their equivalents, substantially as and for the purposes herein delineated and set forth.

No. 43,790.—JEROME PALMER, Painesville, Ohio.—*Fence Post.*—August 9, 1864.—This invention consists in the combination of a wood post with an iron sill for fences and other structures, for the purpose of securing solidity, durability, and cheapness, and at the same time to prevent premature decay of the wooden portion of the post. The sill projects some inches above the ground, terminating in a tapering blade, and the post is provided with a slot into which the tapering blade fits, where it is secured by bolts passing through the whole.

Claim.—The manner of combining a wood or other post with an anti-destructible base by constructing the upper portion of the base or sill A with the broad and elongated wedge-shaped tongue C, the said tongue being provided with a notch, or its equivalent, on its upper edge, and bolt holes through its lower part, as shown, in combination with a wood post having faces, or an open aperture *c* corresponding to the faces of the said tongue C, and provided with the bolts *b* and *a a* for insuring the post against splitting, and securing it to the said tongue, and located as shown, or iron posts with such corresponding faces or planes, as shown in Fig. 6, substantially as herein stated and for the purpose specified.

No. 43,791.—A. JUDSON PALMER, Brooklyn, N. Y.—*Dough Kneader.*—August 9, 1864.—This invention consists of a conical hopper, with a stirrer or kneading bar pivoted to the lower part of the hopper by means of staples operating like a universal joint, so that the dough can be pressed and worked against the inner sides of the interior of the hopper.

Claim.—The conical hopper A, in combination with the stirrer or kneading bar B, arranged within the hopper, to operate substantially as and for the purpose herein set forth.

No. 43,792.—CHARLES PERLEY, New York, N. Y.—*Clasp for Bank Bills.*—August 9, 1864.—This invention consists of a clasp made of a strip of spring metal doubled on itself, and having a spring catch or lock where the ends join.

Claim.—A metallic spring clasp or file for bank bills, &c., held together in substantially the manner described and shown.

No. 43,793.—CHARLES PERLEY, New York, N. Y.—*Hawse Pipe Stopper.*—August 9, 1864.—This invention consists in forming the stopper in divisions, in which are recesses fitted for the links of the chain to be used. The weight of the chain will serve to bring the stopper firmly and tightly against the sides of the hawse pipe, or a packing of India-rubber may be used.

Claim.—A divided stopper adapted to receive the cable and fitting into the pipe passing said cable, substantially as specified.

No. 43,794.—HYLAND RAYMOND, Racine, Wis.—*Damper.*—August 9, 1864.—This damper is applied within a drum or radiator. A plate of less diameter than the drum is fixed within it, and an annular plate, whose circumference reaches close to the sides of the drum, is placed above the fixed plate. This latter plate is movable to and from the fixed plate by means of diagonal slots cut in opposite sides of the drum, one of which slots is notched so as to detain the damper rod in any desired position. The products of combustion will pass between the sides of the drum and the circumference of the fixed plate, and thence through the opening in the centre of the annular plate.

Claim.—The annular plate E, in combination with the plate C, of less diameter than the drum A, the two plates being arranged within the drum, and one of them being movable, to operate in the manner substantially as herein set forth.

No. 43,795.—ALEXANDER N. REDMAN, Boston, Mass.—*Machine for Cutting Rasps.*—August 9, 1864; antedated July 23, 1864.—This invention consists in operating a cutter lever by an armed wheel, in a manner similar to a trip hammer; another arm of the said wheel operating at the same time and in the same manner a short pivoted lever, to the outer end of which is suspended a stirrup; the lower end of the latter resting upon the cutter lever, and being attached to the frame of the machine by an elastic cord, adds the force of tension of the latter by its own weight to the force of the blow. The blank is moved longitudinally by means of a sliding carriage, while the tool is made to traverse back and forth across its surface by a cam operating in a sliding bar to which the cutter lever is attached.

Claim.—First, the arrangement of mechanical devices herein described for forming rasps, the whole operating together substantially as described.

Second, imparting to the rasping tool employed the necessary up and down movements to form the rasp, by means of the arm wheel *g*, lever frame *k*, and horizontal lever arm *q*, arranged and operating together as specified.

Third, the combination of the cam groove *s*, horizontal shaft or fulcrum *r*, and lever *g*, arranged and operating together, as hereinabove set forth, across the blank bar while it is fed along to the said tool at regular and proper intervals of time.

No. 43,796.—EDWIN REYNOLDS, Mansfield, Conn.—*Lithographic Power Press.*—August 9, 1864.—This invention relates to the construction and arrangement of parts of a lithographic printing press in which a stationary stone is used, the tympan being made to vibrate to and from the surface of the stone, and pressure of the tympan upon the stone being produced by a reciprocating scraper, platen, or pressure bar. Reference to the description and drawings will be necessary for a full understanding of the invention.

Claim.—Regulating the throw of the scraper by means of the set screw *m* and the adjusting slot *l*2, as described.

Also, the employment of a distributing cylinder and ink rollers *a b c*, when having regular lateral movements imparted to them, substantially as and for the purpose set forth.

Also, giving to the front roll *c* a forward movement above and out of contact with the stone and a back movement upon the stone, substantially as specified.

Also, giving to the roll *c* and to the damper their vertical movements by the sliding incline plate, as set forth.

Also, the method of operating the carriages S and W by one oscillating plate *h* (or one on each side of the machine) actuating the two levers, substantially as set forth.

Also, in a machine organized with a stationary bed, reciprocating rolls, damper, and scraper, and a vibrating tympan working the roller and damper carriage and the tympan and scraper carriage alternately. the mechanism on one side of the stone being stationary while that upon the opposite side is operating.

Also, the manner of interrupting or throwing out of action the tympan and scraper, substantially as shown.

Also, the mechanism for operating the nipper fingers, closing them upon the sheet when the tympan begins to move, and opening them and releasing the sheet when the tympan returns to its normal position, substantially as set forth.

Also, actuating the tympan by the scraper curved arm *v* and projection *u*, operating substantially as set forth.

Also, adjusting the stone by means of a series of elevating screw shafts geared to and operating by a centre screw shaft, substantially as described.

Also, the combined employment of the tympan and nippers for the double purpose of carrying the sheet to the stone and back therefrom to its first position.

No. 43,797.—GEORGE W. SAYRE, Pisgah, Ohio.—*Churn.*—August 9, 1864.—This invention consists in a mechanical arrangement for communicating motion from the crank to the churn dasher. A double rebated central upright is provided with clasps and adjusting pins for the dashers, which are moved by connecting rods attached to the crank.

Claim.—The arrangement of the double rebated central upright D, provided with the clasps *a b* and slides E E, furnished with adjusting pins for the dashers, when operated together in the manner described, for the purpose set forth.

No. 43,798.—CARL SHULTZ and THOMAS WALKER, New York, N. Y.—*Soda Fountain.*—August 9, 1864; antedated July 28, 1864.—This invention consists in surrounding the fountain or vessel which contains the soda with an outer casing or shell, leaving a space between the two in which is forced atmospheric air at a pressure equal to that of the gas contained in the fountain. Proper inlet and outlet valves are attached to the inner vessel and outer casing.

Claim.—First, surrounding the soda fountain A with an atmosphere of a pressure equal to that of the gas contained in the said fountain, substantially in the manner and for the purpose described.

Second, the inlet and outlet valves *d d'*, in combination with the vessel A and shell D, constructed and operating in the manner and for the purpose substantially as specified.

No. 43,799.—REUBEN SHALER, Madison, Conn.—*Toy Hoop.*—August 9, 1864.—This invention consists of a wheel, and handle to trundle it by, and a figure of a horse or other animal hung upon the axis is made to appear as if running or galloping by means of a spring and catch operated by the spokes of the wheel while in revolution.

Claim.—The combination of a spring, or its equivalent, with hoop toys, when arranged so as to give to the toy a tilting motion from the revolving hoop, substantially as specified.

No. 43,800.—CHARLES E. SILSBEE, Detroit, Mich.—*Soap.*—August 9, 1864.—This invention consists in melting common hard soap by a gentle heat, and mixing with it sal soda and naphtha, after which it is cooled and dried and then reduced to a fine powder.

Claim.—The producing of soap in the form of a fine dry powder, with powers of cleansing as aforesaid, using for that purpose the aforesaid ingredients, or any others substantially the same and which will produce the same effect.

No. 43,801.—C. W. SMITH, Evans, N. Y.—*Igniting Fuzes for Shells.*—August 9, 1864; antedated February 1, 1864.—This invention consists in the construction of a portable fuze which is adapted to be transported separately from the projectile and applied to the end of a time fuze just previous to the insertion of the shell into the gun, so that the fuze can be ignited at the moment of discharge, by which means the danger of explosion of the projectile during transportation is prevented.

Claim.—A portable fuze primer adapted to be transported separately, and to be attached at the end of a time fuze just previous to the insertion of the shell in the gun for the purpose of igniting the fuze at the moment of discharge.

No. 43,802.—WILLIAM H. STARRY, Franklin, Ohio.—*Grinding Mill.*—August 9, 1864; antedated February 28, 1864.—This invention consists in arranging within the hopper of a grinding mill a slide, the movement of which is effected by the grain in the said hopper. To this slide is attached a hinged rod connected by a series of rods and levers to the operating power of the mill, so that when the hopper is empty the movement of the slide will cause the water gate to close and shut off the supply of water that drives the machinery.

Claim.—The mode substantially as described of automatically arresting the motion of a grinding mill when running empty by means of the disengaging mechanism C D E *e m* N O Q, or devices substantially equivalent.

No. 43,803.—O. M. STILLMAN, Westerly, R. I.—*Combined Air and Steam Engine.*—August 9, 1864.—This invention consists in surrounding the air-heating chamber of a steam generator in such a way as to employ the waste heat in generating steam, which, when generated, passes down below the grate and enters the chamber provided for that purpose through a small annular furnace formed around an air-induction pipe in such a way that the air necessary to propel the engine is carried into this chamber and up through the fuel without the use of a compressing pump, and thus the engine is relieved of so much of the pressure as would be required to drive the pump.

Claim.—First, in an engine operating with the aid of the pressure in the furnace, relieving such engine of resistance by maintaining the steam in the steam generator B at a pressure much higher than that in the furnace through the nozzle G3, or its equivalent, so as to perform the triple functions, substantially in the manner and for the purpose set forth.

Second, in combination with an engine operating by the pressure in the furnace A, the steam generator B, steam blast F3, and air-induction H1, arranged relatively to the furnace A, and to each other, substantially as and for the purposes herein set forth.

Third, in such engines, regulating the temperature of the gaseous matter passing to the working cylinder by means of the valve *f*, arranged relatively to the passages F F1 F2 F3, or their equivalents. substantially in the manner and for the purpose herein set forth.

No. 43,804.—DRAPER STONE, Pittsford, N. Y.—*Gang Plough and Seeder.*—August 9, 1864.—This invention consists of a main beam in connexion with a diagonal cross-beam, to which is attached a seed box having a slide valve worked by a lever coming in contact with the spokes of a wheel that carries the rear end of the machine. In front of the main beam are two wheels that support and carry the front end of the machine. Upon the diagonal beam is secured a series of ploughs forming a gang. The machine is guided by two handles similar to the common plough.

Claim.—The combination and relative arrangement of the draught beam A, diagonal plough beam B, ribbed jointed plate C, tie bolt *t*, (one end of which is connected to the ear *e* of the washer plate w'',) with the seed box B, and its appurtenances, all being arranged and operating conjointly in the manner and for the purposes set forth.

No. 43,805.—Macklot Thompson, St. Louis, Mo.—*Apparatus for Rectifying Alcohol.*—August 9, 1864.—This invention consists of a boiler within which is a serpentine steam jacket. The boiler is also provided with a steam discharge cock, supply cock, water gauge, and discharge cock. Upon the top of the boiler is a copper column composed of sections, each section carrying a diaphragm plate provided with three caps. These caps terminate on their under sides by a flange, and each diaphragm is provided with an overflow tube enlarged at the top in order to accelerate the flow of the liquid. The column is connected to the refrigerator by means of a tube.

Claim.—First, the employment in rectifying stills or apparatus of columns composed of diagram sections in combination with inverted cups having horizontal flanges at their borders, substantially in the manner and for the purposes set forth.

Second, the employment in rectifying stills or apparatus of columns composed of diagram sections in combination with projecting overflow pipes whose orifice is enlarged or funnel shaped, substantially in the manner and for the purposes described.

Third, the employment in rectifying stills or apparatus of columns composed of diagram sections provided with flanged inverted cups in combination with funnel-shaped overflow pipes, substantially in the manner and for the purposes described.

No. 43,806.—Charles F. Toll, Boston, Mass —*Lock.*—August 9, 1864.—In this lock a curb in the case, having a mortise cut through it corresponding to and being a continuation of the hasp mortise in the case, forms an interior case, in which are placed loosely three circular tumblers alternating with stationary divisional plates. Each tumbler has a short concentric slot near its edge, and a radial slot leading from its edge into it, the point of intervention of the two slots varying for the three tumblers, so that they will leave on each tumbler a projecting tongue of a length different from that of the other two. The stationary plates also have each a similar radial slot, and are so located that the said slot will be in conunction with that in the curb. A hole made through the centre of the series of plates and tumblers admits the key, the bits of which, though acting simultaneously through all of the tumblers, will, owing to the varying distances of the ends of the tongues from the hasp, pass said tongues successively through the hasp.

Claim.—An improved lock, hereinbefore described as having the series of rotary tumblers, stationary, divisional, and recessed plates and friction springs made and arranged together and applied to a box or case, substantially in manner and so as to operate and be operated by a key, as described.

No. 43,807.—Albert W. Upton, Lowell, Mass.—*Shoulder Brace.*—August 9, 1864.—This invention consists in the arrangement of a series of straps designated in the claim, and which will be understood upon reference to the engraving.

Claim.—The combination and arrangement of the auxiliary brace straps F F with the shoulder straps A A and the arm straps B B, the said shoulder straps being connected by a strap C, and provided with means (viz., suspension straps D D E E, or their equivalents) by which the brace may be connected with the pantaloons or a body belt.

No. 43,808.—W. Wadsworth, Sacramento, Cal.—*Tilling the Soil.*—August 9, 1864.—This invention consists in the arrangement of a series of tines placed upon a rock shaft at such an angle and position in relation to the surface of the soil that as they are caused to move forward they penetrate and raise the soil, which is then acted upon by a toothed cylinder placed immediately above the tines. The toothed cylinder is rotated by means of a belt or band from a pulley upon a toothed roller behind the rotating tooth cylinder.

Claim.—The employment or use of a series of tines or teeth *d* attached to a suitable rock shaft D, and having an oblique or inclined position relatively with the surface of the soil to be operated upon, so that as said teeth or tines are propelled or drawn along in the soil the latter will be forked up, while weeds, straw, and similar trash will pass over the teeth or tines to the rear of the machine, substantially as herein set forth.

Further, the combination of the teeth or tines *d*, rotary toothed drum G, and roller C, all arranged substantially as and for the purpose specified.

No. 43,809.—Theodore Wallis, Scipio, N. Y.—*Shears.*—August 9, 1864.—In this device the shear blades are attached, respectively, to two levers of unequal length hinged together at one end. A long, open link attached by a bolt to the long lever is connected at the other, and in a similar manner to the end of a third lever, (the end of the short lever lying free to play up or down within the link,) and this third lever is in turn connected with the free extremity of the short lever by two open links, within which is arranged a friction roller that just fills the space between the two levers, and turns upon the bolt which connects these two open links together.

Claim.—The pulley I and the connexions G and H in combination with the levers C and B, as set forth.

No. 43,810.—William Washburn, Boston, Mass.—*Radiators.*—August 9, 1864.—This invention is designed as an improvement upon the heat radiator of Jos. H. Davis, patented July 31, 1860, and consists in placing a hot-air chamber within the radiator, as projected by Davis, and connecting it with the external air and also with the air of the room by pipes.

Claim.—In combination, the chamber A, tubes C C, &c., and the passages B B, with the openings G G, substantially as herein described.

No. 43,811.—D. H. Whittemore, Worcester, Mass.—*Straw Cutter.*—August 9, 1864.—This invention consists in so constructing and arranging the parts that when the lever and knife are in position for cutting, the knife will be inclined towards the face plate, and not work away from it to allow the straw to pass through uncut, and requiring the use of but one bolt. The ears are also properly adjusted to the face plate for cutting, and are securely held in place.

Claim.—First, the lever *b*, ears *c d*, convex surface *c*, with the corresponding concave of *d*, when combined and arranged as and for the purpose specified.

Second, the inclined plane of the step *h* when combined with the corresponding shape of *c*, and used as and for the purpose specified.

No. 43,812.—John Bryant, assignor to himself and Allen L. Bailey, Akron, Ind.—*Hemp and Flax Brake.*—August 9, 1864.—The object of this invention is to operate the vibrating slotted beater in such a manner that in the event of its being impeded by tough hemp or flax, or other material, it may yield, and thus avoid undue straining or breaking. To this end the rod which connects this beater with the working beam is pivoted at its upper end to a Z-shaped piece, which has a limited range of motion on a pivot which secures it to the working beam; a strong spring upon the top of the latter bears constantly on the Z-shaped piece to hold it quite rigidly, but yet allow it and the beater to yield slightly when necessary.

Claim.—The walking beam F connected to the bar or rod E, which is attached to the vibrating jaw C of the brake, through the medium of the zig-zag bar E′ and spring G, arranged and applied substantially as and for the purpose herein set forth.

No. 43,813.—Thomas Chappell and Wm. Ashley Jones, Winona, Minn.—*Process of Hardening Iron.*—August 9, 1864.—This process consists in bringing the heated bar or piece of iron to be hardened at a white heat in contact with melted cast iron, and then cooling the iron in water; or the bar of iron may be dipped in molten cast iron and then cooled in water.

Claim.—The within-described process of hardening iron or other metal by bringing the article to be hardened when heated to a white heat in contact with a piece of old cast-iron kettle, or other similar cast iron, heated to a melting heat and then cooling suddenly, substantially as herein specified.

No. 43,814.—Gurdon Conkling, assignor to Caroline A. Conkling, Conklingsville, N. Y.—*Device for Tapping Boots and Shoes.*—August 9, 1864.—This invention consists in a cast-iron sole plate, with a projecting toe flange, to be used in combination with a piece of board cut out according to the outlines of a last, and with a wedge, in such a manner that by means of the sole plate, last-shaped board, and wedge, the sole plate can be secured firmly on the inside of a boot or shoe, and a new half sole can be put on without the necessity of having a full last, so that soldiers or others in the field will be enabled to provide themselves with the necessary means for tapping their own boots and shoes.

Claim.—The employment or use of the sole plate A in combination with a last-shaped piece B and wedge C, all constructed and applied in the manner and for the purpose substantially as specified.

No. 43,815.—George Himrod and C. G. Moulton, assignors to said George Himrod, Chicago, Ill.—*Stove Cover of Cooking Stoves.*—August 9, 1864.—This invention consists in making the edge of stove covers convex, and in making a concave bed in the edge of the boiler holes of the stove to receive the convex cover, thus doing away with the angular edges hitherto used.

Claim.—The combination of the cover B provided with the convex perimeter, as shown, with the concave bed of the boiler hole C, arranged and operating as and for the purposes herein specified and shown.

No. 43,816.—Timothy K. Reed, North Bridgewater, Mass., assignor to Elmer Townsend, Boston, Mass.—*Eyeletting Machine.*—August 9, 1864.—This machine consists of a hopper, an inclined chute leading therefrom, a striking-up device, and the means of actuating these parts. The hopper is cylindrical and placed in an inclined position. Within it a brush radiates horizontally from the centre nearly half way round the circumference, and by a rocking movement presses the eyelets through properly shaped lateral openings in the perimeter directly into the chute, with their flaring or flange parts down so as to keep the chute full of them, a spring stop at their lower end preventing their escape. The die which forms the new flange is fixed in a socket over this end, and beneath it a pin passes up loosely through an anvil and through the lowest eyelet and through the work to be eyeletted. The movement that strikes up the eyelet elevates the chute and carries it out of range of the striking-up device, the spring stop yielding in the lateral movement of the chute. The hopper, being connected with the chute, is thus brought to a less inclined position, and the brush within the hopper is rocked by the same movement. When these parts descend the guide pin goes down into its eyelet.

Claim.—In connexion with an inclined chute and hopper, constructing the hopper with eyelet passages leading from the side thereof when said passages are so arranged as to direct and convey the eyelets immediately into the chute, substantially as described.

Also, operating the vibrating chute and the lower set simultaneously by the lever *g*, or its equivalent, substantially as set forth.

Also, causing the pin *o* to withdraw during the descent of the lower set and enter the lower eyelet in the chute as said eyelet comes over the set, substantially as set forth.

Also, the combination of the lifter bar *g*, spring *s*, and rod *v*, operating in the manner described, for effecting the movements of the pin *o*.

No. 43,817.—OTIS W. STANFORD, assignor to himself and ROBERT W. GILCHRIST, Lebanon, Ohio.—*Grain Separator.*—August 9, 1864.—This invention consists in suspending the shoe at its rear end in an open-sided frame by means of yielding side straps or bars, and poised at the forward end upon a single pallet having arms arranged to strike the shoe as it is agitated laterally by a cam. Beneath the hopper is arranged a chute, from which project a series of fingers above the upper surface of the chute, and also to the rear beyond its edge. The screens are held by means of a spring catch so arranged as to admit of their being readily liberated when desirable.

Claim.—First, the arrangement of the shoe B suspended near mid height, at its rear end, in the open-sided frame or casing A, by means of the yielding side straps or bars L, and poised in front upon the single pallet P *p p′*, whose arms act to strike the shoe when the latter is laterally agitated by the zig-zag cam N, or its equivalent, substantially as set forth.

Second, the arrangement immediately beneath the discharging aperture of the hopper of the chute G, from which a series of fingers H project above the upper surface of the chute and rearward beyond its edge, for the purposes set forth.

Third, the arrangement of grass-seed screen I, double inclined chute J, and side ducts K K′, substantially as set forth.

Fourth, the provision of the spring bar or catch T for the secure holding and ready liberation of one or more screens, as set forth.

No. 43,818.—MOSES G. WILDER, Meriden, Conn., assignor to himself and H. B. BIGELOW, New Haven, Conn.—*Power Press.*—August 9, 1864.—This invention relates to devices for regulating the motion of the cross-head of the slide back, and it consists in the employment of two eccentrics, one within another. When the punch is not in use these eccentrics set in opposition, and being so held by a friction plate, revolve together in the head of the pitman and communicate no motion thereto. To operate the punch a spring latch in the pitman is allowed to enter a recess in the periphery of the outer eccentric and prevent its moving with the other, it then merely forming the head of the pitman, to which the inner eccentric communicates a movement corresponding to its own eccentricity.

Claim.—First, the combination of the latch bolt with an eccentric wrist and roll when arranged to catch and release the roll, as and for the purpose specified.

Second, the adjustable friction plate described, in combination with the eccentric roll and wrist, for the purpose specified.

No. 43,819.—CHARLES H. WILLCOX, assignor to JAMES WILLCOX, New York, N. Y.—*Sewing Machine.*—August 9, 1864; patented in England May 31, 1862.—A cam on the main shaft is grasped by one end of a lever D, and a spring secured thereto; the upper end of the lever is hinged; the usual tension disks, between which thread passes, are centrally placed on a fixed stud screw, which also passes through the lever a little below its fulcrum; these disks constantly exert their pressure on the thread, due to the force of the usual spiral spring; but the intermittent griping of the thread is effected at the proper periods by the positive force of the lever against the inner disk, this action being caused by the revolution of the above-mentioned cam.

Claim.—The combination of devices for producing in sewing machines a self-acting intermittent tension of the needle thread by holding such thread rigidly between suitable nipping surfaces until the stitch or loop is nearly or quite drawn up to the surface of the material being sewed, and then releasing the thread suddenly, so as to allow sufficient thread to be drawn through the apparatus, with little or no tension or friction, for the forming of the next stitch, substantially in the manner herein set forth.

No. 43,820.—ALFRED KRUPP, Essen, Prussia.—*Breech Loading Fire Arm.*—August 9, 1864.—Through a lateral breech lock works a breech screw, which pushes forward a valve or breech block, to which is attached a gas cup; by this means the rear of the box is securely closed.

Claim.—First, the valve F and screw D, in combination with the transversely sliding breech block B, constructed and operating in the manner and for the purpose substantially as herein specified.

Second, the notched socket *m* in the breech block, in combination with the expansion washer G, constructed and operating substantially as and for the purpose set forth.

No. 43,821.—PAUL EMILE PLACET, Paris, France.—*Photo-Galvanography.*—August 9, 1864.—This improvement in galvanography consists in exposing the back of the negative to the light, and in giving the photographic impression to surfaces prepared with bi-chromate of potash, or other substance.

Claim.—The method of producing engraved surfaces by employment and application of substances which light renders insoluble to and upon the side of the subjectile which is directly exposed to the light, in combination with the dissolving operations and the production of reliefs or plates engraved in intaglio, by moulding or galvanoplasty, substantially as herein described.

No. 43,822.—FRANCOIS WILLÉME, Paris, France.—*Photo-Sculpture.*—August 9, 1864.—This invention consists of an arrangement of a number of cameras or dark chambers, so that any desired number of photographs can be taken simultaneously, the model being the centre. The photographs may be enlarged, if desired, by means of a magic lantern or pantograph. By a similar arrangement the patterns, taken as above stated, are transferred to a central mass of clay, or other material, and as many outlines obtained as would be equal to the cameras used.

Claim.—The process by means of which is obtained sculpture, of any desired size, from a living or inert subject, said process consisting in the application of photography under certain conditions, in combination with one or several pantographs, or equivalent apparatus, and of a platform for carrying the subject, which is divided into as many parts as there are views of the subject, model, or object to be photo-sculptured; this platform being capable of assuming all the positions corresponding to those of the views of the subject as hereinbefore described.

No. 43,823.—JOHN ABBOTT, Frederick City, Md.—*Cigar Knife.*—August 16, 1864.—This invention consists of a gauge board for the base or foundation of two knives that cut, in pairs, like scissors; the lower cutter is raised above the base, so as not to press the edge of the cigar during the process of cutting the end. At the rear of the upper cutter is a spiral spring for the purpose of raising the knife.

Claim.—A machine for gauging the length and cutting off the ends of cigars in the process of their manufacture, constructed and operating substantially as described.

No. 43,824.—WM. H. AKINS, Dryden, N. Y.—*Cylindrical Steam Valve.*—August 16, 1864.—This invention consists of a solid plug, provided with a cavity in one portion of its outer circumference for the passage of the steam, and fitted in a case surrounded by an annular steam chamber, which is furnished with three or more ports, and divided off in three or more compartments, one to communicate with the interior of the cylinder, and one with the steam, and the other with the exhaust ports. The steam is admitted to the chamber on one side through a pipe, and is exhausted through another pipe located near the steam pipes, so that the arm which is attached to the plug moves through a short arc of its circle in admitting the steam to and exhausting it from the cylinder. The valve is moved by a cam or an eccentric, and as only a small portion of its surface is exposed to the pressure of the steam it is claimed that the friction will be but slight, while the small distance that it is required to move renders it capable of instantly changing the direction of the steam.

Claim.—The solid plug or plugs E E′, provided with cavities *e e′*, and fitted in cases F F′, with ports $f\ f^{*}\ f^{*}\ f\ f^{*}\ f^{**}$, to operate in combination with the annular steam chambers *g g′*, each divided off in three compartments, to communicate with the interior of the cylinder, with the steam pipe, and with the exhaust pipe, in the manner and for the purpose substantially as herein shown and described.

No. 43,825.—HORATIO AMES, Falls Village, Conn.—*Manufacture of Wrought Cannon.*—August 16, 1864.—This invention consists in building up a wrought iron cannon of a series of compound rings around a mandrel, commencing with a base or breech plate, and welding the first ring to it, and afterwards welding them, one at a time, to each other; each successive ring, after being welded on, having its salient extremity rounded off in such a manner that its weld, with the plane surface of the ring which is to succeed it, will begin immediately adjacent to the bore and gradually extending outward towards the surface of the gun. Each compound ring is formed of two or more plane rings planed up and turned and accurately fitted one within the other.

Claim.—First, giving a convex form to the face of the plate and rings after being welded, for the purpose set forth.

Second, the use of planed and turned rings, Figs. 3 and 4, and the heating of the same in an upright position, substantially as set forth, in combination with the pin, Fig. 7, and convex surface of the rings, as shown in Fig. 2.

No. 43,826.—OREN BALDWIN, Summitville, Iowa.—*Pump.*—August 16, 1864.—To the lower part of the penstock is attached the cylinder, arranged so as to be readily detachable, above which is the head. The piston rod works through a stuffing box, which is made removable. The piston is constructed of two perforated disks of equal diameter with the cylinder; the aperture of one disk being opposite the solid portion of the other, and both applied to a stud on the piston rod.

Claim.—First, the combination of a penstock A with the head C, removable stuffing box *g g′*, and detachable cylinder D, constructed substantially in the manner described.

Second, the construction of the valve or piston of the pump of two perforated disks *m m′*, of the same diameter as the pump cylinder, and with the aperture of one disk opposite solid portions of the other; these disks being applied to a stud G, and operating substantially as described.

No. 43,827.—ALBERT BALL, Worcester, Mass.—*Self-feeding Breech Loading Fire Arm.*—August 16, 1864.—In this invention the arm is provided with a cartridge magazine in the stock beneath the barrel, and the novelty consists in the particular arrangement of a ratchet, pawl, feeding bar, &c., operated by the movement of the trigger-guard lever, for transferring the cartridge from the magazine to the chamber of the arm.

Claim.—The combination of the rack bar *c*, the spring presser F, or its equivalent, and the impelling and retaining pawls G H, the whole being applied to the magazine B and the trigger-guard lever E, and so as to operate together and with the charging carriage, substantially as specified.

Also, the combination of the pawl elevator *l* with the pawls G H and the rack bar *c* and spring presser F, when applied to a magazine B and trigger-guard lever E, substantially in manner and so as to operate as specified.

Also, the arrangement of the pawl spring I with reference to the two pawls G H, whereby it is caused to operate both of them.

Also, the combination of the magazine cover R and its band or attachment S with the separate tubular magazine B and the barrel A.

No. 43,828.—SUMNER R. BIXBY, Worcester, and JOSEPH B. BANCROFT, Milford, Mass.—*Shuttle Guide or Guard for Looms.*—August 16, 1864.—The claim and drawings fully explain this invention.

Claim.—The combination of the clamp screw and nut, and the arm socket or sockets, or the equivalents thereof, with the guard supports and the guard, constructed and applied together substantially as described, viz: so that the guard may be capable not only of being turned laterally, but of being moved longitudinally within the said supports, and either into or out of the socket or sockets, in manner and for the purpose specified.

No. 43,829.—J. DAVIS BRADLEY, Washington, D. C.—*Billiard Table.*—August 16, 1864.—This invention consists in making a billiard-table frame of cast metal, with a cover of wood, so that it may be used for ordinary purposes, and having casters on cam pivots, so that it can be moved or set solidly down on its legs, when needed.

Claim.—First, the iron frame A, in combination with the adjustable legs B B, substantially as shown, for the purposes set forth.

Second, the combination of the removable cover C with the adjustable legs B B, substantially as shown, for the purposes set forth.

Third, the combination of the iron frame A, the adjustable legs B B, the removable cover C, and the adjustable caster G, substantially as shown, for the purposes set forth.

Fourth, the adjustable caster *g*, provided with the lever D, having a detached handle *n* and arm *h*, working against a cam *m*, or their equivalents, substantially as shown, for the purposes set forth.

No. 43,830.—J. DAVIS BRADLEY, Washington, D. C.—*Caster for Furniture.*—August 16, 1864.—This invention consists of a cylinder and piston, in connexion with a caster wheel, combined with a double cam, so arranged that when attached to the legs of a piece of furniture, by turning the cam with a key, the weight of the furniture may rest upon the floor, or on the casters, when the furniture may be easily moved.

Claim.—First, the cylinder A and piston B, in combination with the double cam C, substantially as shown, for the purposes set forth.

Second, the combination of the wheel D with the piston B and cylinder A and cam C and wrench or lever E, substantially as shown, for the purposes set forth.

No. 43,831.—FRANCIS BURROWS, Peoria, Ill.—*Photographic Printing Frame.*—August 16, 1864.—This photographic printing frame is constructed so as to hold the negative in a spring frame, and the paper is held over the negative by a pressure bar on one side, while a cushion on the door presses the paper upon the negative, for the purpose of allowing the whole picture to be inspected in the course of printing. For vignetting, an additional frame is fitted in front with an adjustable aperture, and a cone protector reaching nearly to the surface of the negative.

Claim.—First, a spring diaphragm, moving in a recess, which is lined with elastic material for the reception of the negative, substantially as described.

Second, an attached hinged shutter, with stationary padding closing on the spring diaphragm, secured by a latch or spring snap, or its equivalent.

Third, a removable vignette panel, with bevelled opening, widening towards the negative, and excluding all extraneous light, in the manner described.

No. 43,832.—F. E. CALKINS and D. E. WING, Coxsackie, N. Y.—*Hay Elevating Fork.*—August 16, 1864.—This invention relates to a hay fork for elevating hay and discharging the same into the mow by means of a horse; and it consists in the employment of a bar connected by a hinge to the handle and to another bar at its front part, and operated by means of a sliding bolt placed under the handle and a cord attached to the same.

Claim.—The bar D, connected by a hinge or joint *a* to the handle B, in combination with the bar E at the front of D and the side bolt F, or its equivalent, all arranged and applied to the fork in the manner substantially as and for the purpose specified.

No. 43,833.—AUGUSTINE CAMPBELL, Brooklyn, N. Y.—*Self-regulating Pressure Valve.*—August 16, 1864; antedated September 22, 1862.—This invention consists of a pressure regulator, composed of a flexible diaphragm, on one side of which is a balanced valve connected thereto without packing, and on the other side a loaded lever, for the purpose of resisting the pressure upon the diaphragm with the force desired, and also of indicating to the attendant when the pressure has reached, and how much it exceeds, that required. The parts are so arranged that water will accumulate or may be introduced to protect the diaphragm from injury by the contact of the steam or other fluid.

Claim.—First, a pressure regulator, composed of a flexible diaphragm and of the following elements combined and arranged on the opposite sides thereof, as follows, to wit: on one side of said diaphragm a balanced valve, connected thereto without packing, through a free communication between the proper surfaces of the valve and that side of the diaphragm, and on the other side of said diaphragm a loaded lever, performing the double functions, 1st, of resisting the pressure upon the diaphragm with the force desired; and, 2d, of indicating to the attendant when the pressure has reached, and approximately how much it exceeds, that required.

Second, so arranging the parts of the above-described apparatus that water will accumulate or may be introduced to protect the diaphragm from injury by the contact of the steam or other fluid, substantially in the manner herein set forth.

No. 43,834.—H. A. COLLINS, Springfield, Mass.—*Check Hook.*—August 16, 1864.—This invention consists in forming the check hook of a harness saddle in such a manner that the check rein can be introduced into the same and taken therefrom without twisting it by merely pressing it against the lever or tongue.

Claim.—In combination with a harness, saddle, and check hook, a spring lever arranged to close, or nearly close, the hook, substantially in the manner and for the purposes set forth.

No. 43,835.—B. C. CONVERSE, Cincinnati, Ohio.—*Projectile for Rifled Ordnance.*—August 16, 1864; antedated August 5, 1864.—This invention relates to a projectile having a central projecting point wholly or in part circumscribed by a bevelled cutting edge, so that when the projectile is fired against an iron plate or other body the point will indent or bend the same, and thus adapt the cutting edge to more readily penetrate it. In connexion with the above the invention consists in filling the annular cavity around the projecting point with wax, tallow, or analogous material, in order that the said cavity shall not retard the flight of the shell.

Claim.—In combination with a circular cutting edge and central projecting cone, constructed and combined as specified, filling the annular cavity which surrounds the base of said cone with any soft substance non-resisting to the impact of the projectile, as and for the purpose specified.

No. 43,836.—JOHN COX and JOHN A. THROP, Three Rivers, Mich.—*Cultivator.*—August 16, 1864.—The object of this invention is to facilitate the raising and lowering the shovel frame by placing the driver's seat on the opposite side of the fulcrum from that upon which the frame of the machine rests, so that the weight of the driver when in his seat will balance, or nearly balance, the weight of the frame, and also so that both shall bear directly, or nearly so, upon the fulcrum or bearing wheels.

Claim.—First, so constructing the axle C that it constitutes a rocking lever support for the frame A and driver's seat G′, and a means by which said frame can be raised or depressed, substantially as herein described.

Second, the combination of the lever D, or its equivalent, with an axle, the points of support of which for the driver's seat and shovel frame are arranged on opposite sides of the fulcrum, or axis of motion of said axle, substantially as described.

Third, arranging the driver's seat and frame of the machine upon a supporting axle in such manner that the weight of one can be made to counterbalance the weight of the other whether the point of rest of the driver's seat be on the opposite side of the fulcrum from that upon which the frame rests, or directly over the fulcrum, or at any point between the fulcrum and the frame, substantially in the manner set forth.

Fourth, the connecting or stray rod F, or its equivalent, in combination with the driver's seat, sustained substantially as described.

Fifth, the combination of pivoted lever H, loop *j*, slide J, guide rod J′, shovel standards *a*2 *a*2, pivoted stray rods *a*3 *a*3, and wooden pins *n n*, all constructed and arranged substantially as described.

No. 43,837.—Ephraim Culver, Shelburne, Mass.—*Meat and Vegetable Cutter and Grater.*—August 16, 1864.—This invention consists in the employment of a knife secured in a frame to which a vertical motion is given by suitable gearing with a crank and pitman, so that meat and vegetables placed in a movable trough can be cut and minced; the knife frame also contains a roughened surface for grating vegetables. There is also attached a wheel with a surface for polishing knives.

Claim.—The combination and arrangement of a trough *b* with the knife *i*, and the grater *h*, and the polishing wheel *c*, substantially as and for the purposes herein set forth.

No. 43,838.—Daniel Doncaster, Punnsutawney, Penn.—*Water Wheel.*—August 16, 1864.—This invention consists in placing between the bucket wheel and concave of a turbine water wheel a flanged sliding rim or plate. Upon the main shaft is arranged a conically-shaped hub, which, in connexion with a bevelled flanged top in the guide plate, forms a water-tight joint between the shaft and plate, and admits of the ready removal of the latter when necessary.

Claim.—First, the flanged sliding rim or plate between the bucket wheel and concave of a turbine water wheel, substantially as and for the purpose described.

Second, the combination of a conical hub on the main shaft with a bevelled flanged top in the guide plate to form a water-tight joint between the shaft and plate, and permit the removal of the latter with ease, substantially as set forth.

No. 43,839.—Frederic H. Drake, Middletown, Conn.—*Thread-winding Device for Sewing Machine Bobbins.*—August 16, 1864; antedated August 4, 1864.—This invention consists in the employment of a pressure pad upon the bobbin in combination with an adjustable grooved roller, which serves as a guide to the thread as it is wound upon the bobbin of a sewing machine.

Claim.—The employment of a pressure pad in combination with a horizontal shaft or axle, having thereon an adjustable grooved roller as a guide to the thread, for the winding of thread upon the bobbins of sewing machines, as is described in the above specifications and accompanying drawings.

No. 43,840.—Wm. H. Elliot, Plattsburg, N. Y.—*Double-barrelled Breech-loading Fire-arm.*—August 16, 1864.—The arm to which this invention relates consists of two barrels, which rotate laterally on a horizontal and longitudinal spindle fixed underneath and firmly attached to the metallic breech or frame, a hammer being provided for each barrel. Either hammer, however, is capable of discharging the cartridge in both barrels, or either barrel which may be rotated opposite to it. Suitable stops are provided to limit the degree of rotation, and devices also attached for retracting the cartridge cases.

Claim.—First, so constructing the joint of the arm that while in a proper position for firing it holds the barrel and breech piece firmly together, but when the barrel or barrels are turned over they readily separate, as and for the purpose herein set forth.

Second, the employment of stop *f* in combination with locking lever *m*, for locking the barrels in the lateral positions, as and for the purpose herein specified.

Third, the employment of one or more cams *b* in combination with the centre pin *c*, as and for the several purposes herein set forth.

No. 43,841.—Lewis Fitzpatrick and Wm. Gardner, Nicholsville, Ohio.—*Railroad Signal.*—August 16, 1864.—This invention consists in a method of giving notice of an approaching train by the automatic operation by treadles connected to a bell, so that when the wheels of a train depress the treadle the bell or alarm is sounded.

Claim.—The arrangement of the treadle or trigger F connected by devices C H I I′ J K L M, or their equivalents, to a bell N suspended near a railway crossing, by which the said trigger is depressed and the bell rung by all trains approaching the crossing, and only deflected by trains leaving the crossing, substantially as set forth.

No. 43,842.—L. B. Flanders, Philadelphia, Penn.—*Means of Affixing Propeller Blades to the Shaft.*—August 16, 1864.—The invention consists of devices for the attachment of propeller blades to a cast-iron shaft without enlarging the shaft into a boss. The attachment is formed by an interior pin connecting the shaft and blade, the blades being set apart on the axis of their motion.

Claim.—First, a propeller composed of blades fitted on and secured directly to an enlarged portion of a propeller shaft by pins passing through or fitting in the said shaft, and arranged apart from each other, all as set forth.

Second, the combination of the journal *n*, shoulders *x*, chambered bearing B, and the rings *p*, to which a constant pressure is imparted through the elastic mediums described, or their equivalents, all being constructed substantially as described.

No. 43,843.—F. G. Fowler, Mechanicsburg, Penn.—*Wind Wheel*—August 16, 1864.—The object of this invention is to change the position of vertical vanes which are hung to horizontal arms, so that the vanes shall readily be presented most advantageously to the wind. The novelty consists in the employment of springs placed near the shafts and connected to the vanes, which latter are hung upon pivots to allow them to turn easily outside of their longitudinal centres and revolve with the shaft. Combined with the springs are tension regulators.

Claim.—First, the springs *b* connecting with the vanes C at points on either side of the line of their axes, in combination with said vanes hung on pivots at points outside their longitudinal centres, and revolving with the shaft A, in the manner and for the purpose substantially as herein specified.

Second, the tension regulators *d* in combination with the springs *b* and vanes C, hung as described, and applied in the manner and for the purpose substantially as set forth.

No. 43,844.—D. Frey and Delos Sanders, Homer, N. Y.—*Churn.*—August 16, 1864.—This invention consists in the employment of revolving beaters in conjunction with a centrally reciprocating dasher, so that motion may be imparted to both of these devices at the same time, or, if desirable, to either one separately, by a simple manipulation, and without removing any of the parts from the machine.

Claim.—First, the use of a shifting pinion F, or its equivalent, in combination with devices applied to the dasher and beaters for driving them, substantially as described.

Second, communicating a reciprocating motion to the dasher through the medium of a driving wheel E, shifting pinion F, pin *i* and thimble G, substantially as described.

Third, the pivot-bearing box *b* and removable pin *b*′, applied to the staff of the dasher, substantially as and for the purposes described.

No. 43,845.—William Fuzzard, Malden, Mass.—*Feed Mechanism of Batting Machines.*—August 16, 1864.—The object of this invention is to avoid the uniformity of feed, arising from the fact that the blast produced by the revolution of the toothed cylinder meets with frictional resistance at the sides of the case, causing the blast to be stronger at the centre of the case, and hence throwing an excess of fibre towards the centre of the compressing drum, and producing an uneven sheet. The shape given to the draught board compensates for this, and equalizes the distribution of fibre.

Claim.—The employment or use, in machines for forming fibrous sheets, of a draught board or draught plate, provided with a recess of V-shape, or an equivalent form, to increase the length of the draught chamber from a central line outward towards each side, substantially as and for the purpose herein set forth.

No. 43,846.—Albert H. Gilman and James S. Berry, Biddeford, Me.—*Spinning Machine.*—August 16, 1864.—This invention is designed as an improvement upon Hunt's patent of September 28, 1852, and relates to mechanism for producing and regulating the vertical movements of the spindles, in order that the yarns while being spun may be properly wound on their bobbins, and it consists in the employment of a "let off" or escapement mechanism to be used in connexion with a reciprocating mangle wheel, and the gear of the shaft with which the curved links or "goose necks" employed in operating the spindle rails are applied. The claim indicates the new elements employed.

Claim.—The combination applied to the reciprocating mangle wheel I and the gear H of the shaft F, the same consisting of the pinion *r*, the sectoral gear lever C, the escapement wheel *v*, its shaft *u* and pinion *w*, and tripper *c*, the whole being arranged and so as to operate substantially in manner as hereinbefore described.

Also, the arrangement of the sectoral lever C, with respect to the main shaft F and the gear H thereof, substantially in manner as specified.

Also, the combination of the studs or stops *d′ e′*, with the sectoral lever C and gear H, the mangle wheel I, the shaft F, the pinion *r*, the wheel *v*, the shaft *u*, pinion *w*, the tripper *c*′, the spindle rail and its connexions with the shaft F, the purpose of such stops being as hereinafter described.

No. 43,847.—Julia E. Gould, Jamestown, N. Y.—*Liniment.*—August 16, 1864.—This invention consists of a composition of oil cajeput, oil origanum, oil of sassafras, olive oil, oil of cedar, oil of spearmint, spirits of ammonia, tincture of camphor, red sanders and alcohol.

Claim.—A liniment composed of the ingredients and in the proportions herein set forth.

No. 43,848.—George Hancock, Holyoke, Mass.—*Loom.*—August 16, 1864.—This invention consists in attaching to the main or crank shaft two variable eccentrics, which actuate respectively the elevating and depressing rods, and thus raise and lower such harnesses as the chain motion brings into action. The object is to operate the harness by an easy and uniform motion, and with the least injury to the warp.

Claim.—The combination of variable eccentrics with the lifter and depresser rods, respectively, and actuating the harnesses thereby, substantially as and for the purposes set forth.

No. 43,849.—WILLIAM HINDS, Little Falls, N. Y.—***Rotary Pump.***—August 16, 1864; antedated August 1, 1864.—This invention consists of a drum within a cylinder having two pistons formed of segments of its periphery, each of which segments opens out against the external cylinder by moving upon a ginglyneous joint at one end. The external cylinder is rendered elliptical by the insertion of a tapering abutment at its eduction port.

The pump is surrounded by a chest, the induction port of which is above the induction port of the pump, so that the pump may be kept submerged.

The pump is operated by an endless chain passing around two wheels having spurs upon their peripheries to fit in the links, the chains having handles externally, and a shaft from one of said wheels operating, through suitable gearing, the shaft of the pump.

Claim.—First, the combination and arrangement of the cylinder E, drum N, valves *v v*, and abutment *k*, substantially as shown and described.

Second, the arrangement of the above-described parts within a chest, the induction port of which is above the induction port of the pump, so that the pump may be kept submerged when at rest, or when being transported from place to place in its ordinary use.

Third, in combination with parts E N *v v* and *k* the chain A, spur wheels B B, shaft *s*, and wheel C as connected with shaft *f*.

Fourth, the combination with said chain, as arranged, of handles, substantially as described.

No. 43,850.—WILLIAM HINDS, Little Falls, N. Y.—*Water Wheel.*—August 16, 1864; antodated August 1, 1864 —This invention consists in combining with a water wheel two spiral outer ways by which the water is guided to the under side of a wheel, one portion of it striking the bucket on one side of the wheel, and the other portion being impinged against the buckets when on the opposite side, by which it is alleged that a more advantageous application of the water is made to the wheel. Combined with the cup of the scroll of the wheel are two or more flues or funnels placed directly over the points where the water impinges against the bucket. These funnels are designed to convey the water from the wheel when it is placed below the level of the water in the stream, it being claimed that a considerable gain is received by sinking the wheel below the level of the bed of the stream, and allowing it tc rise again through these funnels.

Claim.—The funnels or passages F F, for conveying the water away from the wheel after its force has been expended in turning it, when the funnels are combined with the wheel, substantially as described.

Also, in combination with the funnels F F and water wheel, the chutes or sluices leading from the ports *m* and *n*, all of which is constructed substantially as and for the purposes set forth in the specification.

No. 43,851.—GEORGE C. HOWE, Worcester, Mass.—*Metallic Cartridge.*—August 16, 1864.—This invention consists in placing at the rear end of a plain cylindrical cartridge case a thick disk or diaphragm for confining the fulminate or priming behind it, and perforated at its centre; the said disk being firmly held in place by a groove or depression around the rear portion of the cartridge. The cartridge is also provided with indentations, forming interior projections within the case, and just behind the bullet.

Claim.—The combination of a perforated diaphragm with the rear end of the shell of a cartridge case in such manner that the diaphragm forms a perforated partition between the primer, and the powder is rigidly secured to the cartridge case so as to support the primer against the blow of the hammer, and by its breadth of rim protects the part of the cartridge case surrounding it from the explosive force of the powder, substantially as set forth.

Also, a cartridge case constructed with a groove in its periphery behind the position of the charge, substantially as herein set foith.

Also, a cartridge case constructed with projections in its interior, subtantially as herein set forth.

No. 43,852.—HENRY HUNTINGTON, Chicago, Ill.—*Soap.*—August 16, 1864.—This invention consists in adding to the ordinary soap a compound composed of bi-carbonate of potash, concentrated ley, spirits of turpentine, kerosene oil or benzole, and aqua ammonia.

Claim.—The manufacture of a "laundry soap," by the combination of the following ingredients: ordinary soap, concentrated ley, bi-carbonate of potash, spirits of turpentine or kerosene oil or benzole, and aqua ammonia, in the proportions and substantially as and for the purpose herein set forth.

No. 43,853.—WILLIAM W. HUSE, Brooklyn, N. Y.—*Reducing Stems of Tobacco Leaves.*—August 16, 1864.—This invention consists in providing shafts with wheels placed parallel to each other with projections on the periphery, one having a cutter fitting into a groove of the other. The stem of the leaf is introduced to this cutter and split from end to end and reduced in another pair of rollers.

Claim.—The employment in combination of two rollers or wheels, the periphery of one being grooved to receive and guide the stem of the leaves, and the periphery of the other being formed with a fillet or bead to fit in the said groove to crush the stem, substantially as described.

Also, the cutting edge on one of the rollers or wheels for splitting the stem in combination with the groove and bead or fillet for guiding and crushing the stem, substantially as described.

No. 43,854.—C. JILLSON, Worcester, Mass.—***Callipers.***—August 16, 1864.—That part of the invention embraced in the second claim is fully explained by the claim itself. The other feature of improvement consists in prolonging the legs of the inside callipers to fine points so as to answer the purpose of compasses.

Claim.—Prolonging and forming upon the legs of the inside calliper the dividing points ***g g***, as and for the purpose described.

Also, the rounding off of the points of the outside calliper, from the outside towards the inside of the bows, when used in connexion with a scale for the purpose of more accurately registering the distance between the contact points as the calliper is widened, as herein set forth and explained.

No. 43,855.—ALBERT JOSSELYN, Pembroke, Mass.—***Window Screen.***—August 16, 1864.—This invention consists of a stile hooked to one side of the window, and attached to the stile is the millinet or mosquito bar and extending across the window to a roller which is secured in a suitable frame with a ratchet and a pawl, so that the mosquito bar can be wound up or adjusted to the width of the window.

Claim.—The combination and arrangement of the screen *c*, the stile *d*, the stock *j*, the rollers *h* and *i*, and the ratchet wheel *n* and pawl *o*, as an "improved mosquito screen," adapted and adjustable to windows of various widths, substantially as set forth and described.

No. 43,856.—ABRAHAM KIPP, jr., Sing Sing, N. Y.—***Blast Regulator.***—August 16, 1864.—This invention consists in combining a lever or rod, the position of which is governed by the opposing action of a weight or spring in one end, and of the steam in the opposite direction, with suitable shafts and a train of wheels, and with the bolt shipper which controls the position of the driving belt of the blast machine in such a manner that, according to the higher or lower position of said lever or rod, the position of the wheels is changed, and the belt shipper moved in one direction or the other, causing the driving belt to be put on when the steam goes down, and taken off when the steam rises.

Claim.—Regulating the pressure of steam in a steam boiler by the employment or use of an outside power transmitted by a suitable medium, such, for instance, as the belt *m*, in combination with the lever A, or its equivalent, and with the mechanism required to change the motion of the shaft *j*, substantially as herein specified, so that the change in the motion of said shaft is produced by the direct action of the steam, whereas the power requisite to throw the belt or shift the cut-off is derived from an outside source.

No. 43,857.—JOHN H. MARTIN, Hartford, N. Y.—***Ventilating Attachment for Bedsteads.***—August 16, 1864.—This invention consists of devices to be applied to bedsteads for raising and opening the bed-clothes for the purpose of ventilating them, the operation of which will be understood by reference to the claim and illustration.

Claim.—First, the two bars D H of the device applied to the side rail A of the bedstead, substantially as shown, to admit of being adjusted in a horizontal and vertical position, and provided with the expanding arms M and cords *i*, to which the bed-clothes are secured, all being arranged substantially as and for the purpose specified.

Second, the legs J J, attached to the slide I and fitted in dovetail grooves *f* in the block G, in connexion with the cam K, or its equivalent, substantially as and for the purpose set forth.

Third, the combination and arrangement of the block G, rod F, and hinged block E and the rod C in the socket B, as shown, for the purpose of admitting of the latent adjustment of the bar H, and the consequent oblique adjustment of the device relatively with the bedstead, substantially as described.

No. 43,858.—CHARLES B. MOREHOUSE, Newcastle, Ind.—***Whip Socket.***—August 16, 1864.—This invention consists in the employment of clamps or arms, which are secured by screws and nuts, and embrace the bar of the dasher of the carriage without having the leather perforated.

Claim.—As an article of manufacture the clamps or arms B and *b* and the nuts C C, substantially as described, for the purpose of attaching a whip socket to a dash without making a hole in the leather or dash.

No. 43,859.—HENRY T. NEUSS, Williamsburg, N. Y.—*Lubricator.*—August 16, 1864.—The object of this invention is to improve the method of lubricating pulleys and wheels which run loosely on shafts, and the shafts at the point where they act upon the pedestals. Its novelty consists in combining an oil cup of peculiar construction with the hub of a loose pulley and the shaft upon which it revolves. The lubricator consists of a tube of brass or other metal closed at the end which enters the hub, except that there is a small aperture for the escape of the oil. Inside this tube is placed a spiral spring, which rests upon the closed end thereof, and extends up to the top, where a conical valve is placed in it which bears against a correspondingly-shaped seat in the cup fitted upon the outside of the tube at this point. When it is desirable to fill the lubricator, the spout of the oil can is thrust against the valve, which causes the spring to yield, and the valve is pressed back from its seat; the lubricator is filled from the contents of the can, when it is withdrawn, and the valve returns to its original position, and the oil is prevented from escaping during the revolution of the pulley.

Claim—The combination of the spring valve oil cup, pulley or wheel G, and shaft P, substantially as described, so that while the oil is confined from dust and other matters by the spring valve, the lubrication will be controlled by the shaft, as set forth.

No. 43,860.—Samuel Nowlan, New York, N. Y.—*Manufacture of Paper.*—August 16, 1864.—By this machine paper is manufactured in the particular form desired for the production of various articles, such as envelopes, collars, boxes, &c. Combined with the paper machine are two or more cutting or pressing rollers, having cutting edges so formed and arranged as to deeply indent the paper in the forms desired; endless aprons then carry it between them over steam-heated cylinders, which cause it to shrink, and thus separate at the indentations, but prevents its shrivelling. It is then calendered between other endless aprons passing over other calender rollers.

Claim.—First, the combination with a paper-making machine of otherwise ordinary or suitable construction of cutting rollers, operating in the manner and for the purpose described.

Second, in combination with the cutting rollers, the steam-heated calenders and endless aprons, under the arrangement and for operation as set forth.

No. 43,861.—S. M. Parish, Baldwinsville, N. Y.—*Apparatus for Drying Bricks, &c.*—August 16, 1864.—This invention consists in the combination of adjustable supports to prevent the weight of the bricks from sagging the board which rests on a carriage. A rod which connects the slats is pivoted on journals, and used in connexion with a carriage and movable rails; covered tracks are also combined with adjustable loading stays, movable extension rails, and a return track.

Claim.—The combination of the adjustable supports G and connecting rod H with the carriage E and tracks B B, arranged and operating substantially as and for the purposes set forth.

Also, the combination and arrangement of the series of covered tracks B, adjustable loading stays G H, with movable extension rails B′ and posts A, stringers I and return track *c*, substantially in the manner and for the purpose shown and described.

No. 43,862.—Dan. Perry, Pawtucket, R. I.—*Water Elevator.*—August 16, 1864.—In this device two buckets are suspended apart by the ends of a chain or rope passing over two pulleys, one supplemental, small and plain, and adjustable by a slotted carriage and set screws in its distance from the other, which is larger, and fixed on the main shaft, its two sides being united by bars made convex toward the perimeter and oblique to the sides, so that a chain or knotted rope may be thereby held from slipping. Exterior to the curb the hub moves in a cylindrical box. This hub is formed first of a thin disk in the thick central part. At opposite points of this thick part are projections extending from the larger disk, and at two other points, on a transverse line, are indentations in the thick part,

Claim.—First, the pulley C, provided with or composed of oblique plates *c* fitted between disks *b b*, arranged to operate upon the bucket chain or rope, in the manner substantially as and for the purpose set forth.

Second, the adjustable supplementary pulley E, arranged to operate in connexion with the pulley C, substantially as and for the purpose set forth.

Third, the strap or bucket-retaining mechanism, composed of the cam K on the shaft B, the stationary cylindrical box L attached to the curb concentrically with the shaft B, the rollers M interposed between the cam and the box, the pins *l l* on the flange *k* of the cam, and the pins *m* on the plate O of the crank N, all arranged to operate substantially as set forth.

Fourth, the friction rollers *i* placed on the ends of the projections *h′ h′*, for the purpose herein specified.

No. 43,863.—Stuart Perry, Newport, R. I.—*Equalizing the Temperature of Milk.*—August 16, 1864.—This invention consists in separating the water in contact with the milk vat from that in contact with the heater by a thin wooden latticed partition, with small openings near together, the size of the openings increasing with the distance from the fire. Thus, at the end furthest from the fire, the largest openings allow the greatest contact of the heated water with the water directly beneath the milk, producing the same temperature as a lesser contact at the end nearer the fire.

Claim.—The employment of a partition having graduated openings through it, and placed between the vat containing the milk and the heater that heats the water by which the milk is heated, the smaller openings being more directly over the fire or source of heat, and the larger openings more distant therefrom, substantially as and for the purpose set forth and explained.

No. 43,864.—George B. Price, Watervliet, N. Y.—*Pea-Sheller.*—August 16, 1864.—This invention consists in the employment of elastic rollers between which the peas are passed by an endless apron; the rollers, being elastic, do not injure the peas.

Claim.—The employment of the elastic surfaces D E for the purpose of shelling green peas, beans, and podded substances, substantially in the manner shown and described.

Also, the employment, in combination with the said elastic surfaces, of a feeding and also of a discharging device, operating substantially as herein shown and described.

No. 43,865.—Horace Prindle.—Spafford, N. Y.—*Washing Machine.*—August 16, 1864.—This invention consists of a concave bed and convex rubber, so arranged that the rubber will readily adjust itself to the thickness of the clothes by standards passing through slots in the rock shaft or roller as the rubber is moved back and forth.

Claim.—The construction of a washing machine provided with the adjustable rubber D, when combined with the standards R R, roller E provided with slats to receive said standards, and the corrugated end B, in the manner and for the purpose herein specified.

No. 43,866.—Mary Ann Ragsdale, Grass Valley, Cal.—*Medicine for the Cure of Scarlatina, Sore Throat, &c.*—August 16, 1864.—This invention consists of a medicine composed of gum myrrh, pulverized Cayenne pepper, strained honey, table salt, and vinegar, to be mixed and used as a gargle, in connexion with an ointment composed of dog-fennel and hog's lard.

Claim.—The ointment and gargle compounded as herein described, the same being a new manufacture.

No. 43,867.—Benjamin T. Roath, Norwich, Conn.—*Machine for Trimming Corks.*—August 16, 1864.—The object of this invention is to trim the ends of the corks after being cut out of the slab, so that they will be equal in length and the ends parallel; and it consists in a receiving tube into which the cork is placed and drops down upon a revolving table, and is there held until a notch in the table comes under the cork when the cork falls into the notch, and is clamped by the action of a cam-movement, and finally held and carried round in the notch between two circular revolving knives, which cut the cork to the proper length, and at the same time the cam operates to relieve the clamp, and the cork falls out of the machine.

Claim.—The rotary disk D, provided with the clamps or holders F, in combination with the circular rotary cutters I I, all arranged to operate substantially as and for the purpose herein set forth.

No. 43,868.—L. L. Shaw, Lewiston, Maine.—*Take-up Motion for Looms.*—August 16, 1864.—In this device an intermittent positive rotary motion is imparted to the cloth beam, which is susceptible of ready adjustment, to make either close or loosely woven cloth, by means of an oscillating lever, carrying a set of pawls of slightly different lengths which gear into the broad teeth of a ratchet wheel connected with the cloth beam. An adjustable rest supports the other end of the lever, and the driving shaft carries a crossbar, having an adjustable pin on each end, and which, during the revolution of the shaft, lift the lever and operate the pawls. The number and length of the pawls insure their action on the teeth of the ratchet, however delicate may be the adjustment of rest or pin.

Claim.—The adjustable rest *f* and adjustable pins *g g* on the revolving arm or disk *h*, in combination with the lever C, pawls *e*, ratchet wheel *f*, and cloth beam B, constructed and operating in the manner and for the purpose substantially as herein shown and described.

No. 43,869.—Nathan Ames, Saugus Centre, Mass.—*Weed-puller Hoe.*—August 16, 1864.—This invention consists in combining a grasping hand or nipper with a common hoe. The nipper may be made of wire bent in the shape of a triangle, the base comprehending the lower edge of a hoe blade. It is pivoted to the handle, and kept back from the hoe by a spring. One leg of the triangle is extended beyond the pivot, and serves as a lever to which a cord is attached reaching to the operator's hand. By pulling the cord, the nipper is brought tightly against the hoe, grasping the weed to be pulled.

Claim.—First, the combination of the nipper D, or its equivalent, with a hoe or other analogous tool or tools, substantially as and for the purpose described.

Second, actuating the nipper by means of the cord *f*, or its equivalent, reaching up to the operator's hand, substantially as described.

No. 43,870.—David M. Smyth, New York, N. Y.—*Apparatus for Making Paper Collars.*—August 16, 1864.—In this apparatus the paper, being cut into slips the width of which is the length of the collar, is passed between two plates of a cutting and embossing machine. Two collars are operated upon at a time. The front part of the bed plate has three holes for the band, and a double twist of wire to imitate the stitching, while the upper block has three corresponding button-hole punches. The rear part of the bed plate is so mortised out as to leave space for an entire collar to fall through, leaving a clear edge at the upper part of the mortise. The upper block carries a vertical cutter which descends through this mortise. The continued revolution of a cam above the platen produces the desired reciprocating movement.

Claim.—The reciprocating plunger, with its cutting edge inclining downwards from the middle towards each end, in combination with the mortise in the bed formed with a sharp and square-cutting edge, constituting, as described, a pair of shears to cut the collars by a shearing cut from each end towards the middle without bending the paper at or near the edge, as described.

Also, in combination, the embossing dies, the punches for punching the button holes, and the punching shears for cutting the collars in succession from a sheet of paper, as described.

Also, in combination with the bed and follower of a paper collar embossing machine, the twisted wires for embossing the surface near the edge in imitation of stitching, as described.

No. 43,871.—Ariel B. Sprout, Hughesville, Penn.—*Process of Tempering Steel.*—August 16, 1864.—The nature and object of this invention are explained by the claim.

Claim.—A solution of soap suds, or the component parts thereof, adapted to be increased or diminished in strength when employed as a medium for tempering steel in order to give it any degree of hardness, and prevent the same from cracking or checking during the tempering process, as explained.

No. 43,872.—Albert C. Stimers, Castleton, N. Y.—*Marine Steam Boiler.*—August 16, 1864.—This invention consists in the arrangement of the tubes in such a manner that the vertical water spaces between the rows thereof shall have a regularly increasing width of area from the bottom to the top row. The object of this arrangement is to provide an uninterrupted passage for the steam generated in the lower portion of the boiler to the surface of the water without being brought in contact with anything to check its progress. These increasing spaces are made by gradually decreasing the diameter of the tube from the lower to the upper ones, and placing them in vertical rows one directly above the other.

Claim.—So arranging the tubes as to result in regularly increasing the vertical water spaces between the tubes in what is known as the horizontal fire-tube boiler from the lower to the upper part thereof, and furnishing a greater cross area for the flow of the heated gases through the lower than through the upper tubes, all for the purposes and in the manner substantially as described.

No. 43,873.—G. W. Talcott, Buffalo, N. Y.—*Floating Device.*—August 16, 1864.—This invention consists in the arrangement of a series of arches upon the decks of two barges, each being bisected vertically, and the sections arranged so as to turn inboard upon the vessel and outward to meet the corresponding arches upon its fellow barge, and are then united by a series of rods and catches in a firm manner, and in connexion with these arches is a hoisting machine for the purpose of raising heavy bodies, &c.

Claim.—First, the vertically bisected arch or arches B, in combination with the barges or hulls A A, when the same are so constructed that the sections may be disconnected and swung on board the vessels for sailing, or connected with corresponding sections on another vessel to form a complete arch, substantially as and for the purpose set forth.

Second, in combination with the bisected arch or arches B, the tubular turn-table D, arranged and operating substantially as and for the purposes described.

Third, in combination with the bisected arches B, the tackle L and movable bearings E E', arranged and operating substantially as and for the purposes set forth.

Fourth, in combination with the adjustable turn-table D, the chocks or bearings H H, for receiving the weight of the arches B B and their burden directly on the sides of the vessels after the turn tables have been lowered away, substantially as described.

Fifth, working the arch sections B in or out board on the barges A A by means of the rack on the cord *d* and pinion on the bracket J, or their equivalents, substantially as and for the purposes set forth.

Sixth, the hoisting apparatus, consisting of the drums L L' L'', pinions *o p* M, in combination with the divided swinging arch sections B and tackle L, substantially as set forth.

Seventh, the combination and arrangement of the movable tackle-bearing blocks or carriages E E' with the truss brace K, which forms a track for the same, substantially as shown and described.

Eighth, forming the arches B, divided at the base or chord and united at the crown, for the purpose of giving greater steadiness and stability, substantially as described.

Ninth, the self-connecting grapple Q, constructed substantially as described, for fastening to projecting parts of a wreck without the aid of a diver.

Tenth, the diver's grapple S, consisting of the stock *w*, toggle bar *x*, and brace *y*, for fastening to the side of a vessel, as set forth.

Eleventh, the clutch ring F, constructed with the yoke *v*, in combination with the chain G, tackle block L, trip line *b*, and guy *a*, arranged and operating substantially as set forth.

Twelfth, the combination of a series of swinging bisected arches B B, tackle L, grapples Q and S, with hoisting machine and engine for each arch section, and the two hulls or barges A A, all arranged and operating together for the purpose of raising sunken vessels, &c., substantially as set forth.

No. 43,874.—Isaac P. Tice, New York, N. Y.—*Cutting and Twisting Paper.*—August 16, 1864.—For the purpose of making paper threads or twine suitable for being woven or knitted, &c., into fabrics, this machine cuts into narrow strips a continuous sheet of thin paper delivered from a roll, passes each strip through a common sewing machine hemming or folding guide, between pressing rollers, and over a pointed cylinder, which gathers the strip to a point just in advance of the spindles which give the twist.

Claim.—First, the combination of a paper-cutting device and a throstle or spinning frame, arranged substantially as shown, for the purpose of cutting paper into strips from a continuous roll, and twisting the same into threads or twine, the work being done simultaneously or at one operation, substantially as herein set forth.

Second, the pointed cylinders H applied to a throstle or spinning frame in relation with the paper strips *a*, to operate substantially as and for the purpose herein set forth.

No. 43,875.—Roswell Van Buskirk, Newark, N. Y.—*Expansive Envelope.*—August 16, 1864.—This invention consists in forming the ends of the envelope with a double fold, a part of the end folded in between the ends, so that the envelope may be expanded out when necessary to receive additional papers.

Claim.—The folds *c c c* and the tag D, for the purposes herein specified.

No. 43,876.—James S. Watson, Newton, Mass.—*Writing Desk.*—August 16, 1864.—This invention consists in the arrangement of a flexible cover for the inkstand and a pen case with the drawer in such a manner as to cause them to move and uncover the inkstand and pen case by and during the pulling out of the drawer, and to move back and cover over the said inkstand and pen case by and during the return movement or closing of the drawer.

Claim.—The combination and arrangement of the flexible cover for the inkstand and pen case with the drawer, so as to be operated thereby and with respect to the inkstand and pen case of the writing desk, substantially in the manner as hereinbefore specified.

Also, the arrangement of either or both the slanting covers E E' of the desk with the flexible cover, in manner substantially as described—that is, so that the said flexible cover, when closed, shall rest upon and close down such slanting cover or covers, as specified.

No. 43,877.—Warren Wilder, Wilkinsonville, Mass.—*Shuttle for Looms.*—August 16, 1864.—The spring E, which serves by its pressure on projection 2 to hold the spindle in position, both when down in the shuttle or when turned up out of it, is adjustable by means of the screw *g*. All the parts being on the outside of the shuttle can easily be adjusted without taking the shuttle to pieces.

Claim.—The combination of the spindle head *a* with the heel *c*, upper extension 2, spring plate A, pivot G, spring catch D, when constructed and arranged as herein described.

Also, the combination of the top spring E with the extended head 2 and projecting heel *c* of the spindle head, substantially as and for the purposes described.

No. 43,878.—Amasa Woolson, Springfield, Vt.—*Cloth-shearing Machine.*—August 16, 1864.—This invention is designed as an improvement on Woolson's patent of May 28, 1850. The "feelers" which produce the automatic extension and contraction of the flexible "rest" are reduced to two on each side of the machine, and they are combined and operated in such a manner that the movable rests are kept stationary, except when the edge of the cloth runs unevenly. Sliding covers are also used for covering all the mechanism by which the rests are operated, except protruding portions of the feelers. By these improvements the filling up of the spaces between the feelers with the flock and dust, and the liability of breakage of the frames when using a large number of feelers in a small space, are avoided.

Claim.—First, the attachment of the feelers to the gauge bars *e e*, or their equivalents, substantially as and for the purpose herein specified.

Second, the two feelers B B' combined with each other by means of a slot *i'* and pin *i*, and combined with the mechanism by which the shifting of the movable rests is effected by means of a double ratchet, or its equivalents, substantially as herein specified.

Third, the sliding cover M M' applied in combination with the feelers and rests, substantially as and for the purpose herein specified.

No. 43,879.—John H. Wygant and Charles W. Vanderbeck, Hackensack, N. Y.—*Lamp Burner.*—August 16, 1864.—This invention consists in placing a friction device inside of the burner in combination with an opening, so that by forcing the match toward the top of the wick tube by hand the match is ignited within the burner.

Claim.—The employment or use, in connexion with a lamp burner provided with a draught chimney, of a match-igniting device, so constructed and arranged in such relation with the wick tube thereof that a friction match may be inserted into the burner from its outer side by hand and be ignited, and by such insertion be brought in contact with the wick to light the same, substantially as herein set forth.

No. 43,880.—MORGAN J. DAVIES, assignor to himself and WILLIAM T. DAVIES, Zanesville, Ohio.—*Puddling Furnace.*—August 16, 1864.—This invention consists in making the inside faces of the boshes with a series of slip-like ridges or corrugations, so as to hold or retain a protecting composition, which is thrown upon the ridges preparatory to charging the furnace.

Claim.—The construction of the inside faces of the boshes of iron with projecting recesses, ridges, or corrugations, set at any given angle, to prevent the falling down of the protecting compound, substantially as herein shown and described.

Also, the use of a protecting compound in combination with boshes that are ridged or corrugated, as above described, all as set forth.

No. 43,881.—RALPH GRAHAM, assignor to himself and SAMUEL BOOTH, Brooklyn, N. Y.—*Fire Arm.*—August 16, 1864.—This invention consists in placing in the front end of a gunstock a barrel sufficiently large to hold a grenade or small bomb, and arranging a hammer so as to explode the grenade in that position; the hammer being operated by means of a rod extending back to the trigger, which is placed in the usual position.

Claim.—First, a hand fire-arm, adapted to projecting grenades or small bombs, consisting of a barrel sufficiently short to prevent injurious recoil against the person, as set forth.

Second, the hammer *e*, rod *g*, and trigger *f*, in combination with the short barrel mounted at the end of the stock, as and for the purposes specified.

No. 43,882.—LOOMIS G. MARSHALL, New York, N. Y., assignor to himself and ANDREW COCHRAN.—*Stone-crushing Machine.*—August 16, 1864.—This invention consists in the arrangement of boxes which move upon an eccentric shaft, and operate inclined jaws, between which the stone is crushed.

Claim.—The arrangement and combination of the movable boxes, eccentric shaft, and working jaw, all as herein described and for the purposes set forth.

No. 43,883.—CHARLES W. PACKER, assignor to himself and GEORGE BATES, Philadelphia, Penn.—*Machine for Cutting Ovals.*—August 16, 1864.—The object of this invention is to cut, by a machine, paper for boxes into a perfect oval form; and it consists in a table made to revolve on the same principle that an oval figure is drawn by a tram, which carries the article to be cut to a pair of revolving circular cutters in such a manner that they will cut the paper to a true oval.

Claim.—The combination, for the purposes specified, of rotating knives J J with a plate F, which is caused to traverse in an oval course by the devices herein described, or any equivalent to the same.

No. 43,884.—BENJAMIN SAUNDERS, Nashua, N. H., assignor to ALBERT H. SAUNDERS and GEORGE DRAPER.—*Machine for conveying Warp Beams from one Machine to another, &c., in Factories.*—August 16, 1864.—The object of this invention is to convey the beam from place to place, or from one machine to another, in a factory. A frame on wheels supports a horizontal shaft in fixed bearings, the shaft carrying two pulleys, one fixed and one capable of sliding on a feather; on each pulley is wound a strap, the free end of which passes upward over a guide pulley on the frame, and has at its end a loop to receive one of the journals of the warp beam. By turning a crank the shaft is revolved, and the loops raised or lowered, as desired, to the level of these journals, which are then inserted therein; and thus suspended the machine is drawn to any other part of the mill, conveying the beam to any convenient position for depositing the same into the place or machine intended to receive it.

Claim.—The said machine, constructed substantially in manner and so as to operate as and for the purpose specified.

No. 43,885.—JOHN P. TOWNSEND, New York, N. Y., assignor to TAPPAN TOWNSEND. Brooklyn, N. Y., and CHARLES SEARS, Middletown, N. J.—*Manufacture of Dry Moulds for Casting, &c.*—August 16, 1864.—The nature of this invention is explained by the claim.

Claim.—First, making durable dry moulds for casting metals in crucibles, pots, and like articles, of a composition of fire clay, soapstone, and umber, in the manner and proportions of material substantially as described, whether the said mould, crucible, or like article be made in one or several pieces.

Second, the combination of plumbago and paste, or their equivalents, for making the facing or glazing of dry moulds, crucibles, pots, and the like articles, as described.

Third, the manufacture and use of moulds, crucibles, pots, and the like articles, made of fire clay and soapstone, with or without a portion of quartz sand, substantially as described.

No. 43,886.—DANIEL E. TRUE, assignor to himself and GEORGE T. LINCOLN, Leominster, Mass.—*Device for Turning Spheres or Balls.*—August 16, 1864.—This invention relates to a device to be attached to a turning lathe holding a block to be turned into a sphere or ball; and it consists in the frame of the device, the bottom plate of which rests upon the lathe bench upon suitable head blocks, and works a revolving shaft, curved to pass around the ball and carrying the tool stock and adjusting screws, so that balls of different diameter may be cut by simply turning the shaft by hand, the tool cutter being carried in a perfect semicircle, so that by one-half revolution of the shaft the work is done.

Claim.—The combination of the adjustable tool carrier D and its adjusting mechanism, viz: the screw E and nut F, with the rotary shaft B, the same being as and for the purpose specified.

Also, the rotary shaft B, as made with the crook or bend *a*, when such shaft is combined with the tool carrier D, for use substantially as explained.

Also, the combination and arrangment of the stop screw H with the rotary shaft B, the tool carrier D, and its adjusting mechanism.

Also, the combination of the stops I K with the rotary shaft B, the tool carrier D, and its adjusting mechanism.

Also, the combination of the thumb lever M with the rotary shaft B, the tool carrier D, and its adjusting mechanism.

No. 43,887.—GEORGE W. WITSIL, assignor to himself and CLEMENT CRESSON, Philadelphia, Penn.—*Washboard.*—August 16, 1864; antedated August 1, 1864.—This invention consists of a washboard having annular recesses and annular ribs, over which the clothes are to be rubbed by hand.

Claim.—A washboard, having the concavities, annular recesses, and intervening ribs, arranged substantially as set forth.

No. 43,888.—J. B. F. JOUANNIN, F. M. BAUDOUIN, and ACHILLE BAUDOUIN, Paris, France.—*Loom for Making Fishing and other Nets.*—August 16, 1864; patented in England September 19, 1861.—This machine embraces many of the features of the applicants' English patent, of September 19, 1861, No. 2,340, and also some improvements thereon. The invention relates to the mechanism used for framing the loops and tying the knots; to the construction of the shuttles, and the mode of operating them; to the use of an automatic "take-up" regulator, which also serves to regulate the length of the meshes; to the arrangement and disposition of the warp threads, whereby the length of the net becomes unlimited, and each thread can be readily tied in case it breaks; and to the means for keeping the warp threads stretched, and taking up the slack. The hooks take up the weft and warp threads, twist them, draw them out to form loops, and deposit these loops on each of the series of peculiarly formed shuttles; to effect these results the hook box is raised and lowered, moved back and forth, reciprocates laterally, and turns partially on its axis; in addition to which motions the hooks have each a partial rotation on their several axes. A full description would occupy too much space.

Claim.—First, the employment or use in a loom for making nets of a series of spools *a* carrying the warp threads, in combination with a stationary comb *b*, rods *c c′*, and rough surface roller *e*, all constructed and operating substantially as and for the purpose set forth.

Second, the rod *d*, in combination with the warp threads and rough surface roller *e*.

Third, the friction driver e^* and conical roller e'^*, in combination with the rough surface roller *e* and with the warp threads, applied and operating substantially as and for the purpose set forth.

Fourth, the movable comb *f*, in combination with the twisting hooks *g* and with the warp threads, constructed and operating substantially as and for the purpose set forth.

Fifth, the hooks *g*, hook box *g*1, and rod *g*2, arranged in combination with cam grooves *g*4 and cam $g4^*$, in the manner and for the purpose substantially as described.

Sixth, the toothed rack bar *g*9 and cam groove *g*11, in combination with the hook box *g*1, applied and operating substantially as and for the purpose set forth.

Seventh, the straps *g*6 and cam grooves *g*8, in combination with the rods *g*3 and hook box *g*1, constructed and operating substantially as and for the purpose specified.

Eighth, the lugs *g*12, with projections and corresponding cavities, acting in combination with the bar *g*13 and hook box *g*1, in the manner and for the purpose substantially as described.

Ninth, the flanged circular shoes *h*3, with notches *h*4, in combination with the shuttles, constructed and operating substantially as and for the purpose set forth.

Tenth, the hinged needles *h*5, applied in combination with the shuttles *h*1, in the manner and for the purpose substantially as specified.

Eleventh, the carriage *h*7 and rails *h*8, in combination with the shuttles *h*1 and hooks *g*, constructed and operating substantially as and for the purpose described.

Twelfth, the stretcher *i*, arranged and operated, in combination with the shuttles, in the manner and for the purpose substantially as set forth.

Thirteenth, the combination of the adjustable take-up rollers *l l*1, *l*2, with the hooks *g* and shuttles *h*1, constructed and operating substantially as and for the purpose specified.

Fourteenth, the adjustable tappet *m*, acting in combination with the pendent lever *n*, pawl *n*1, ratchet wheel *n*2, and take-up roller *l l*1 *l*2, substantially in the manner and for the purpose herein shown and described.

No. 43,889.—THOMAS McDONOUGH, Middletown, Conn.—*Steam Engine.*—August 16, 1864.—This invention consists in attaching chambers to each steam port between the valve and the point where the steam enters the cylinder. These chambers have a valve in their outer ends, opening inwards, for the induction of air, and are connected to the steam port of the cylinder by means of a pipe which is perforated with small holes in all that portion of it embraced within the chamber. When steam is admitted to either end of the cylinder it rushes into this chamber and closes the valve and mingles with the air contained in this chamber, and by its heat expands the volume of the air, in conjunction with which it enters the cylinder, by which (as is claimed) an increase of power is obtained as a consequence of the expansion of the air. When the piston reaches the end of its stroke, and the valve is changed, the steam is exhausted, and the chamber at the same time filled with a fresh supply of air, preparatory to the repetition of the operation. There is a chamber for each end of the cylinder, and the operation is the same in each.

Claim.—The chambers, substantially as above described, so arranged that the exhaust steam may also exhaust the chamber, and the steam on entering may reach the piston before the mixed air and steam.

No. 43,890.—Joseph Anger and Joseph Prestele, New York, N. Y.—*Sewing Machine.*—August 23, 1864.—The object of this improvement is to reduce the noise and insure greater certainty of action, which is effected by using gearing of raw hide tightly compressed; also friction rollers of the same material, susceptible of close adjustment to the bearing surfaces, and by an arrangement of the devices which operate the feed wheel.

Claim.—First, the employment or use of a toothed disk *c* of untanned leather or raw hide, and meshing with the ordinary driving gear D of a sewing machine, as and for the purpose described.

Second, the arrangement of the adjustable friction rollers *p p′* upon the cam lever F, in combination with the projecting rim *e*, of the cam E, constructed and operating substantially in the manner and for the purpose herein specified.

Third, the arrangement of the adjustable jaw-piece N and toggle-piece *u*, in combination with the feed lever S and feed wheel R, constructed and operating substantially as and for the purpose set forth.

No. 43,891.—William M. Arnold, New York, N. Y.—*Composition Iron.*—August 23, 1864.—This invention consists in mixing copper, tin, and zinc, using borax as a flux, with common iron.

Claim.—Mixing copper, tin, and zinc, using borax as a flux, with common iron, in about the proportions and in the manner substantially as described, bearing in mind that the relative increase by any common multiplier of the ingredients of copper, tin, and zinc will relatively increase my purposes and objects in making the said composition.

No. 43,892.—William Waelden Ball, Grandview, Ill.—*Tuyere.*—August 23, 1864.—This device consists of a square box forming the sides and bottom, while the top is dome-shaped with a central opening, from the rim of which, projecting downward, is a flange passing below and within another larger flange which rises from the rim of a concave recess in the centre of a second inner dome or diaphragm and forms the bottom of the fireplace. Between these two domes and their respective flanges is the air channel, and their position relatively to each other prevents the ashes or cinder from filling the tuyere.

Claim.—The cap C provided on the under side and around its central opening with a downwardly projecting flange *c*, in combination with the dome-shaped plate A, having a depression A2 in the top, the edge of which dome-shaped depression rises above the edge of the flange *c*, as shown and described, and all parts arranged for joint operation in the manner and for the purpose specified.

No. 43,893.—William Barker and Gaylord Martin, Schenectady, N. Y.—*Brick Machine.*—August 23, 1864.—This invention consists in automatically feeding the mould boxes from one side of and near the front part of the machine by giving them a transverse and a longitudinal movement; in the employment of two followers, in combination with platforms and press box; in making one of those platforms vertically adjustable; in the construction of a vertically reciprocating plunger frame, guide rods, pawls, adjustable cross-heads and reciprocating cross-heads; in making one of the followers adjustable; in giving the required movements to the several parts of the machine from a single central shaft, and in arranging a receiving platform and follower on one side of a brick machine having a press box applied to a pug mill.

Claim.—First, automatically feeding the mould boxes from one side of and near the front part of the machine up to their work by giving to said boxes a transverse and longitudinal movement, substantially as described.

Second, the employment of two followers E E′, in combination with the platforms D D′ and press box C, the same being arranged to operate substantially as described.

Third, making the platform D vertically adjustable when this platform is pivoted at one end and supported at or near the other end upon a rocking bar or rocking arm, or their equivalents, substantially as described.

Fourth, the construction of the vertically reciprocating plunger frame of guide rods *j j*, pawls *l l*, adjustable cross-head *k*, and reciprocating cross-head *k′*, substantially as and for the purposes herein described.

Fifth, making the follower E adjustable, substantially as and for the purposes described.

Sixth, giving the required movements to the several parts of the machine from a single central shaft B, through the medium of spur wheel B′, pinions *b′ b*2, and cranks *g*2 *g*3, in combination with the finger *m a l*, operating substantially as described.

Seventh, the arrangement of a receiving platform and follower on one side of a brick machine, having a press box applied to a pug mill, substantially as and for the purposes described.

No. 43,894.—Samuel Baxendale, South Malden, Mass.—*Machine for Surface-sizing Wadding, &c.*—August 23, 1864.—The object of the deflector claimed is not only to intercept the surplus size that may be thrown off by the brush, but also to break the current of air induced by the brush and cause a part of it to pass downward towards the trough, while the rest of it may be carrying size upon the bat by passing over the upper edge of the deflector.

Claim.—The combination of the deflector I with the rotary brush G, the sizing roller and trough, and machinery for supporting the bat, and moving it along substantially as specified.

No. 43,895.—Alonzo Beebe and Francis L. Bestor, Enfield, Mass.—*Friction Device for the Yarn Beam of Looms.*—August 23, 1864.—The object of this invention is to avoid the disadvantages arising from the use of the metallic friction straps heretofore used, and which nearly surround one end of the warp beam. The strap being of a yielding instead of a rigid material adapts itself closely to any inequalities in the surface of that part of the beam over which it is passed.

Claim.—The employment of a flexible friction band of leather, or other similar material, upon the drum C, regulated as to tension by the two crossed levers E E′ and their tightening screw F.

No. 43,896.—Edwin Chamberlin, Lansingburg, N. Y.—*Whip-socket Fastening.*—August 23, 1864.—This invention consists in so combining in a detachable whip-socket fastening jaws for clamping or griping a rod or bar in the end of a covered dash, or other part of a vehicle, for receiving and clasping a whip socket. The whip socket can be readily removed from the fastenings, and the latter freely detached from the bar or rod when desirable.

Claim.—A whip-socket fastening having a clamp or holder B B for a whip socket, combined with jaws A A, for embracing or griping a bar or rod in a covered dash, or other part of a carriage or other vehicle, substantially as herein described.

No. 43,897.—Gardner Chilson, Boston, Mass.—*Draught Regulator and Ventilator.*—August 23, 1864.—This invention is designed as an improvement on the draught regulator and ventilator patented by G. Chilson April 29, 1862, which is found in a prolongation of the air register and its air chamber, making a continuous pipe perforated with a series of air holes.

Claim.—My improved draught regulator as made with a continuous pipe A, perforated with a series of air holes *a a a*, the air register B, and the chamber D, being arranged with such pipe and holes, substantially as specified.

No. 43,898.—Isaac H. Congdon, Springfield, Ill.—*Locomotive Engine.*—August 23, 1864.—The object of this invention is an improvement in the smoke arch of locomotive engines by which the sparks are to be ejected and the fire extinguished from them. Its novelty consists in attaching to the exhaust pipes a small pipe which leads down through the bottom of the smoke arch and through a pipe which is secured to the bottom thereof, and which extends to within a short distance from the ground. This last-named pipe is located near the front end of the arch, and it is presumed that the steam which passes through the small pipes from the main exhaust pipes will produce a sufficient current to prevent the influx of air through the large pipes, and also that it will be of sufficient force to carry out all the sparks which usually collect there, and that in their passage any fire they may contain will be extinguished by its contact with the steam.

Claim.—The jet pipes D D communicating with the exhaust pipes C C, and employed in conjunction with the hopper-shaped box E′ and discharge pipe E, to cause the sparks, &c., to pass out and be deposited at the under side of the engine, and at the same time deaden or extinguish the same, substantially in the manner and for the purpose specified.

No. 43,899.—John Cram, Boston, Mass.—*Washing Machine.*—August 23, 1864.—This invention consists in the employment of a vibrating roller with knobs on the surface, in combination with a lower rubbing surface formed of twisted strips of India-rubber.

Claim.—The combination of a vibrating or reciprocating roller C, or its equivalent, with a series of flexible or elastic bands *c c c* arranged below it and for use in a tub, substantially in the manner and for the purpose described.

Also, the elastic or flexible bands *c c*, as made square or several-sided in transverse section and twisted, or as having helical grooves when such bands are combined with a roller and for use in the manner and for the purpose as herein specified.

Also, the combination of the looped springs *h h* with the vibrating roller C and its frame and the series of flexible or elastic bands *c c c*, arranged together as specified.

Also, the combination of the grating or series of parallel bars *a a a* with the elastic bands *c c c* and the roller C, arranged in the manner and so as to operate together as specified.

Also, the series of flexible or elastic bands arranged together and in a frame B, and for use in a tub, in the manner and for the purpose as specified.

No. 43,900.—JOSIAH CROSBY, Manchester, N. H.—*Invalid Bed.*—August 23, 1864.—This invention consists in the employment of a trundle bed, upon which the patient is laid, and which is run under a bedstead frame provided with revolving rails bearing cross straps to be passed under the body of the patient. These straps being attached to the rails, the latter are revolved by a windlass so as to elevate the patient above the bed whenever it may be necessary.

Claim.—First, the combination of the bedstead A, and revolving bed rails *a* and *a′*, and the device for operating the same with the adjustable transverse bands *j j*, constructed substantially as described and for the uses and purposes set forth.

Second, the combination of the bedstead A and revolving bed rails *a* and *a′*, and adjustable bands *j j*, with the trundle bed so arranged that it may be raised in contact with the bands *j j*, substantially as described.

Third, the combination of the bedstead A, bed rails *a* and *a′*, the devices for operating the same and the transverse bands *j j*, with the bands *h h*, the hooks *p p*, and the trundle bed B, substantially as described for the uses and purposes set forth.

No. 43,901.—D. M. DAVIS, assignor to himself and W. L. F. JONES, Asbury, Ill.—*Cultivator.*—August 23, 1864.—This invention consists in having a long crossbar in front of the machine provided with slots in each end in which movable devices are placed and to which the cultivator beams are attached. At the rear end of the beams is placed another crossbar with joints, for the purpose of adjusting the teeth to the irregularities of the rows.

Claim.—The combination and arrangement of the lever *l*, the rod *r*, the vibrating lever C, the rod *r′*, and the plough beam E, when constructed and operating substantially as herein delineated and described.

No. 43,902.—WILLIAM C. DODGE, Washington, D. C.—*Calf Feeder.*—August 23, 1864.—This invention consists of an artificial teat made of India-rubber or other suitable substance, and of suitable size and form. The teat is secured to a metallic socket which is furnished with an arm and screw for securing it to the edge of a pail or tub. A tube extends some distance into the teat above and reaches to the bottom of the pail below. The teat may be also secured to a floating disk of wood or other material.

Claim.—First, an artificial teat constructed substantially as described, for feeding calves and similar young animals.

Second, providing the same with means whereby it can be readily attached to, or detached from, the vessel containing the food.

Third, securing the artificial teat to a float, substantially as and for the purpose as set forth.

No. 43,903.—WILLIAM DOUGLASS, Corry, Penn.—*Battery Gun.*—August 23, 1864.—Upon a horizontal platform is secured a rectangular iron frame in a vertical position. On each side of it may be hinged another frame held at any desired angle. These frames contain others which have horizontal trunnions working in the outer ones, and by suitable means they can be thrown out of a vertical position. The barrels are secured to the front face of these frames, and in the rear are revolving disks or cylinders containing charges so arranged and operated that they may be rotated or discharged at the proper time.

Claim.—First, the same operated by the lever N or its equivalent, so that the two can be brought in a horizontal position as described, when the same are constructed as described and in the aforesaid combination.

Second, the cylinder *w w*, in combination with the lever G, the slides *y x*, the pawls *v v′*, and the ratchet wheel *u u*, in combination with the lock, Fig. 8, constructed as described and in the aforesaid combination for the purposes set forth.

Third, the iron frames D D hung on pivots in the frames B B B′ B′ B″ B″, in combination with the plate E, the cylinder *w w*, the lock, Fig. 8, when the same is constructed as described in the aforesaid combination for the purposes set forth.

No. 43,904.—JAMES FAYE, Philadelphia, Penn.—*Apparatus for Displaying Bills of Fare.*—August 23, 1864.—This invention consists of a box to display a "bill of fare," hung in any conspicuous place on the wall of a dining room. It is provided with turning slats, the slats each having the name of a dish painted on one surface, which is turned out of sight when the dish is exhausted, thus saving the trouble of an erasure. Fresh slats are inserted as fresh dishes are prepared.

Claim.—A bill of fare whose lines shall be movable, rotary, and mutually independent, maintaining, at the option of the caterer, a position on either edge or on either side, by means of the axes and bearings above described, or by other adjuncts essentially the same; the whole being constructed and operated substantially in the manner and for the purpose set forth.

No. 43,905.—HENRY E. FICKETT, Brooklyn, N. Y.—*Clothes and Hat Rack.*—August 23, 1864.—This invention consists in combining reversible hooks, with adjustable bars or rails, in such a manner that the hooks shall serve to hold the rails together, and also serve as pivots upon which the rails must turn, the whole being made to fold into a small compass.

Claim.—The use or employment of the reversible hooks A, in combination with the rails B, when said hooks A shall be so constructed that they shall form pivots upon which the rails B turn, for the purpose herein specified.

No. 43,906.—D. D. FOLEY, Washington, D. C.—*Cigar-shaped Smoker.*—August 23, 1864.—This invention consists of an external case containing a long tobacco chamber which is held in place in the outer case by means of studs or projections so as to leave a space between the two in order to admit of the condensation in any liquid formed and passing into said space.

Claim.—The construction of a cigar-shaped smoker with an external shell or case A, containing a long bowl or tobacco chamber B, supported and held in place by the small studs or projections *b b b b*, so as to leave a space around it, combined and arranged substantially as described and for the purpose set forth.

No. 43,907.—D. D. FOLEY, Washington. D. C.—*Tobacco-pipe Stem.*—August 23, 1864.—This invention consists of an outer cylinder attached at its lower end to an inner cylinder or smoke tube, so as to leave an air space or receptacle between the two for the reception of the saliva in the same.

Claim.—The double cylinder pipe stem constructed of an outer cylinder B attached to the lower end of the inner cylinder or smoke tube C, and with the air space or receptacle for saliva E surrounding it, formed and arranged substantially as described.

No. 43,908.—ANDREW GOODYEAR, Springport, Mich.—*Turning Lathes.*—August 23, 1864.—The object of this invention is to produce a machine for turning wagon hubs, and it consists in providing on the ways of a common lathe a carriage to slide longitudinally, upon which are a series of slides that work transversely and carry the tool stock heads, in which are placed the tools that perform the turning and cutting to the proper length, and mark the hub for the spoke mortises. The cutting tools are provided with an adjustable gauge, so as to cut at any depth desired, all operated upon by levers attached to the lathe bench and carriage, so that the tools can be brought in contact with the block revolving on a mandrel in the lathe, and reduce the hub to the desired shape at one operation.

Claim.—First, the arrangement and combination of the sliding carriages and rests F′ F2 F3, cutters *c c c*, &c., sliding frame, (composed of the sides D D and transverse guide bars E E E E,) and stationary guide bars C C, arranged and operated in relation with the lathe proper, substantially as and for the purposes herein described.

Second, combining with each set of cutters *c c*, &c., one or more of the cutter guides J, as set forth.

Third, marking for the spoke, creases, automatically by the use of the lever I and screw stop S, in combination with the spring rod R and marker M, as specified.

No. 43,909.—SAMUEL HAIR, Kankakee City, Ill.—*Hog Snout-cutter.*—August 23, 1864.—This invention consists in the employment of a cutter blade made lance-shaped, and passing it through a slot in the bit. It is operated by means of a lever attached to the cutter blade and to the support of the slotted bit.

Claim.—First, making the cutting edge *a* of the bit A pointed, curved, or lance-shaped, substantially as and for the purpose specified.

Second, the slot *b*, in combination with the bit A, when the latter is made with a lance-shaped edge or a straight cutting edge, for the purpose specified.

Third, the combination of the bit A, bars B and E, and handle or lever F, substantially as and for the purpose described.

No. 43,910.—HERMAN HAUPT, Cambridge, Mass.—*Rotary Steam Valve.*—August 23, 1864.—This invention is designed as an improvement in that class of valves known as rotary valves for steam engines. Its novelty consists in the arrangement of the induction and eduction ports, and the partition between the two, by means of which one end of the valve is used as the induction end, and the opposite one as the eduction end, and at the same time the valve is made to work in equilibrio with reference to the steam pressing upon it.

Claim.—An equilibrium valve constructed as described with reference to the steam, gas, air or water induction and eduction openings or passages and partitions, for operation substantially as set forth.

Also, the herein described arrangement of balance valves for operation in the manner and for the purposes described, whereby the usual outside contrivances for actuating the valve may be dispensed with, as set forth.

No. 43,911.—Benjamin E. Hebard, Dorchester, Mass.—*Lamp.*—August 23, 1864.—This improvement consists in forming the wick tube of two materials, making the tip of a good conductor and the tube proper of block tin or other poor conductor of heat.

Claim.—Forming the wick tube of a fluid lamp of otherwise ordinary or suitable construction of two different materials; that is to say, making the tip or burner of a metal and good conductor of heat and of a length to vaporize the requisite amount of fluid drawn up by the capillary action of the wick, and the tube proper of block tin or other bad conductor of heat, so that the heat of the burner may not be transmitted to the vessel containing the fluid, substantially as set forth.

No. 43,912.—Michael Hittinger, Charlestown, Mass.—*Hydraulic Press.*—August 23, 1864.—The object of this invention is to introduce, by mechanical devices, a retaining power, whereby the difficulties heretofore encountered by leakage of water from the cylinder are to be overcome. The novelty consists in the combination and arrangement of the projecting cams and recesses attached to the platen, with the rotary annulus, with cams and recesses to fit these, which annulus surrounds the piston and is supported by resting on the top of the cylinder, and which is adjustable to suit the gradations of the piston's movement.

Claim.—The combination of the stationary cammed projections and recesses applied to the platen, with the rotary annulus provided with fellow-cammed projections and recesses, and applied to the piston, and so as to operate thereon, and on the cylinder, substantially as specified.

No. 43,913.—John Headley, Zanesville, Ohio.—*Rotating Plough.*—August 23, 1864.—This invention consists in a series of ploughs placed upon a revolving shaft, with the under side carved to form the arc of a circle. The ploughs are put in motion by means of gears driven by a large traction wheel, and are elevated and lowered by means of levers.

Claim.—First, in combination with the shaft i and guide wheel r, the arm t, lever u and wheel v, for elevating, lowering and regulating the depth of the furrow, when constructed in the manner as and for the purpose set forth.

Second, the guide wheel r, when arranged in the manner set forth for supporting the plough when operating or ploughing.

Third, the combination of the wheels r and l, arranged and operating substantially as set forth, for regulating the depth of the furrows.

Fourth, the brace n, connecting the axle $c\ c'$ of the walking wheel with the plough shaft $i\ i$, and supporting the latter outside of the walking wheel d'.

Fifth, the use of the rotating ploughs attached to the shaft outside the walking wheel, when said shaft is supported by a brace or other equivalent device, attached to the outer end of the axle of the walking wheel.

No. 43,914.—Charles Joseph Howell, Washington, D. C.—*Hair Pin.*—August 23, 1864.—This invention consists in giving a spiral form to one or both of the prongs of a hair pin.

Claim.—Giving a spiral form to a hair pin, substantially as shown and described.

No. 43,915.—Enoch Jacobs, Cincinnati, Ohio.—*Lock for Jail Doors.*—August 23, 1864; antedated October 19, 1861.—This invention consists in the employment of a long longitudinal bar made to slide in a casing over the cell doors and connected with the locks of each door by a vertical rod and an arrangement of levers, so that all the doors can be locked and unlocked by one movement, and each door be detached and separately locked and unlocked. The clutches or dogs are operated by the same key that operates the lock and bolt simultaneously therewith.

Claim.—First, the combination of the longitudinal sliding bar G, swinging bars f, and clutches or dogs c, the latter so constructed and arranged as to operate the swinging bars f, or to be separately disengaged from the same, substantially as and in the manner and for the purpose set forth.

Second, the combination of the elbow X, and vertical bar Y, with the pawl clutches or dogs c, by which the latter or either of them may be disengaged from its respective swing bar f, permitting any number of cells to be opened by the movement of the longitudinal bar G, while the rest remain locked, as set forth.

Third, operating the clutches or dogs by the same key which operates the lock bolt, and simultaneously therewith, substantially in the manner described.

Fourth, enclosing the bar G, and pawl clutches or dogs c, in the casing F, for the purpose set forth.

No. 43,916.—Edwin A. Jeffery, New Haven, Conn.—*Coal Hod.*—August 23, 1864.—This invention consists in providing a coal hod with a spiral screw, which is turned by a

crank hand under the bottom, and the motion of which agitates the coal while being emptied, so as to facilitate the operation.

Claim.—A coal hod provided with a spiral agitator B, or its equivalent, to cause the coal to pass to the lowest part and flow therefrom with greater facility.

No. 43,917.—William S. Kelley, Schenectady, N. Y.—*Double-acting Pump.*—August 23, 1864.—This invention is designed as an improvement upon a pump patented to the said Kelley, and it consists of a cylindrical piston carrying within it a large ball valve provided with a seat in the upper as well as the lower end or disk of the valve. Two hollow legs spanning the upper port, or valve seat, and thus carrying the valve, are confluent in a hollow piston rod; which rod plays into a chamber intermediately between the pump cylinder and the air chamber, from which air chamber proceeds the pump nozzle; the hollow cylinder being grasped by the operating rod between the piston and the intermediate chamber.

Claim.—First, the use of a water-receiving chamber H, intermediate or between the piston and the discharge pipe, when the piston is operated from a point below the receiver, and the piston rod terminates within the receiver and plays water-tight in the stuffing box thereof, substantially as and for the purposes set forth.

Second, the construction of the piston A, with a valve chamber B, and inlets C D, above and below, and one or more outlets above the chamber and leading into the piston rod, substantially in the manner described.

Third, so constructing the chamber B, with its inlet and its outlet passages C D and E2, and employing a single valve therein, that the piston will enable the pump to operate substantially in the manner set forth.

No. 43,918.—Casper Krogh and M. G. Hogness, Kroghsville, Wis.—*Mode of Raising Sunken Vessels.*—August 23, 1864.—This invention consists in a device for raising sunken vessels, means being provided for the admission of air to expel the water through tubes constructed for the purpose, and a sliding weight attached to a rod running the whole length of the vessel used for raising sunken vessels, keeps it in a position so that, being connected with the air tube, it carries it with it, and the water is expelled from one or both ends of the vessel, and when the same is thus filled with air the lifting process commences.

Claim.—First, the combination and arrangement of the tubes A B and C when operating substantially as and for the purpose set forth.

Second, the combination and arrangement of the rod E, the weight D, and the tube C, when operating and constructed substantially as herein described.

Third, the tubes or pipes F and H when constructed substantially as delineated and set forth.

Fourth, the braces $b\ b$ provided with the links N, substantially as and for the purpose set forth.

Fifth, the combination and arrangement of the tubes F and H and the valves J, when operating substantially as described.

No. 43,919.—William H. Lewis, Greenwood, Mass.—*Wheel Carriage.*—August 23, 1864.—This invention consists in the arrangement of a semi-elliptical spring with the thorough-braces. Instead of looping the thorough-braces to a crossbar they are connected with the two free ends of the spring, which spring is attached to the rear crossbar, said crossbar being attached to the wooden side springs, which are arranged at an acute angle with and project from the shaft.

Claim.—The combination of the semi-elliptic spring G with the thorough-braces E E, the side springs F F, and their crossbar c, the whole being arranged and so as to co-operate substantially as hereinbefore explained.

No. 43,920.—K. H. Loomis, Baltimore, Md.—*Governor Cut-off Valve.*—August 23, 1864.—This invention relates to that class of cut-off valves which are controlled in their movements by the governor. Its novelty consists in attaching to the spindle of a cylindrical valve a block fitted to secure a sliding arm, which moves freely up and down upon it. To the outer side of the upper end of this arm a stud is affixed, to which a connexion with the governor is made by means of a rod in such a way that in the event of any increase in the speed of the engine the sliding arm is raised upon the block, and the arc of a circle through which the valve moves is shortened, and consequently the amount of steam admitted to the cylinder is decreased and the speed checked when the arm returns to its normal position. The vibratory motion necessary to open and close the apertures of the valve is communicated through the medium of a rod attached to an eccentric, the opposite end of which rod is secured to a stud in the lower end of this movable arm, and which rises and falls with it as it is controlled by the governor.

Claim.—The employment in combination of the block A secured to stem d, arm e, wrist pin h, face plate f, stud g, in the manner substantially and for the purpose of regulating the flow of steam to the cylinder of steam engines, as set forth.

No. 43,921.—Thomas H. Mathews, Rushville, Ill.—*Beehive.*—August 23, 1864.—This invention consists of a method of protecting beehives from the moth. A metallic curtain is hung before the entrance to the hive constructed by suspending from a horizontal rod any small brass rods barely touching each other, and not quite reaching to the floor or ground. Through these rods it is claimed the bees will freely pass while the moth will not.

Claim.—The application of the metallic curtain, as above described, to the bee entrances of the beehive, through which the bees will pass freely, and through which the bee moth or miller will not pass, and thus preventing the moth or miller from depositing its eggs in the hive.

No. 43,922.—**Martin McDevitt**, Beloit, Wis.—*Time Fuze for Explosive Shells.*—August 23, 1864.—This invention consists in having attached to the central columnar fuze tube two or more radial stems to arms containing the fuze composition and suitably graduated, which stems or arms extending over the front portion of an elongated shell are fitted within appropriate grooves or recesses therein, and are designed to be all alike punctured at the desired time graduation, so as to be ignited by the windage of the charge in the usual way.

Claim.—The T-shaped fuze A B, the central stem being introduced into the axis of the projectile at the front, while the arms are bent to correspond to the shape of the projectile held in longitudinal channels in the same and filled with composition, and graduated so as to be cut to suit the time of flight, substantially as and for the purpose set forth.

No. 43,923.—**Gordon McKay**, Boston, Mass., and **Lyman R. Blake**, Quincy, Mass.—*Channelling Machine.*—August 23, 1864.—This invention consists in the employment of a spring placed upon the surface of the lower feed roll and beneath the knives, one end being free, the other fixed to the frame, the said spring serving to lift the stock off from the feed teeth and hold it by simple pressure between two smooth surfaces of the spring and the lower edge of the presser roll, so that the sole can be easily turned. An adjustable presser foot is employed to alter the depth of the channelling without disturbing the set or adjustment of the knives.

Claim.—The spring f, when applied to operate in connexion with a toothed feed wheel and presser bar or roll.

Also, the adjustable presser foot g operating in connexion with the feed wheel a or the spring f, to regulate the depth of cut of the channelling knives without displacement or adjustment of the knives.

No. 43,924.—**Marshall B. Ogden**, Fond du Lac, Wis.—*Door Bell.*—August 23, 1864.—This invention consists in the adaptation of a gong bell to the door of a dwelling and operated by means of a pull, hammer, and springs, in a peculiar manner.

Claim.—First, the arrangement and combination of the hammer F with the hinged piece H, coiled springs G and L, and hook M, for striking the gong, substantially in the manner set forth.

Second, the hinged piece H, for facilitating the tilting of the hammer and the return of the hook M, substantially in the manner and for the purposes set forth.

No. 43,925.—**Timothy G. Palmer**, Greenville, N. Y.—*Derricks for Stacking Hay.*—August 23, 1864.—This device consists of a frame placed upon bevelled sills passing forward of the braces that sustain the long arm, so that the sills will pass readily from under the stack when the latter is completed.

Claim.—The combination of the derrick and frame work when the latter is constructed with the bevelled sills a a, passing forward of the braces d d that sustains the arm c, in the manner specified, so that the derrick and its bevelled sills can be withdrawn from the stack when formed as specified.

No. 43,926.—**William Pearson**, Windsor Locks, Conn.—*Pipe Wrench.*—August 23, 1864.—This device consists of a long lever or handle having a curved jaw at its end, at the rear of which is a recess provided with a pivoted jaw operating as a level r and held in position by means of a spring attached to the under side of the handle.

Claim.—The arrangement of the lever 1, jaw 2, knuckle 3, jaw 4, pin 5, and spring 6, in combination with each other, by which arrangement the result set forth is accomplished.

No. 43,927.—**Louis Planer**, New York, N. Y.—*Sewing Machine.*—August 23, 1864.—The object of this invention is to reduce the noise and friction in sewing machines, and to afford an adjustment of the crank pin when it becomes worn by use; the devices claimed being the several parts by means of which two parallel shafts communicate the requisite motions to the needle and shuttle.

Claim.—The arrangement of the driving shaft A, the second shaft B, the crank pin o', the peculiarly shaped slotted piece O upon the needle slide, the collars D D′, the connecting rod E, in combination with the adjustable crank pin f, crank F, shaft C, connecting rod g, and crank G, all constructed and operating in the manner and for the purpose herein shown and described.

No. 43,928.—**T. K. Reed**, East Bridgewater, Mass., and **H. F. Packard**, North Bridgewater, Mass.—*Spring-catch Button.*—August 23, 1864.—This invention relates to the fastening of the back and side flaps of carriage tops to their frames, and it consists in a peculiarly constructed rotating button, having the tap or button part movable with respect to its seat, in such manner that it is confined in position in recesses in the bearing tube by means of a spring.

Claim.—The improved rotating spring-catch button, when made and operating substantially as described.

No. 43,929.—**George J. Richardson**, Philadelphia, Penn.—*Breech-loading Fire-arm.*—August 23, 1864.—In this arm the barrel is secured to the frame by means of a slot and recess in the lug of the barrel, two pins being made to pass through the frame and the slot or the slot and recess.

Claim.—Securing the barrel to the frame by the combined use of the slot and recess in the lug of the barrel, and the two pins passing through the frame and the slot, or slot and recess, substantially as and for the purpose set forth.

No. 43,930.—**L. S. Scofield**. Boston, Mass.—*Skirt-supporting Corset.*—August 23, 1864.—In this invention loops are formed on the corset at the waist, before and behind, to admit the belt of the skirt and thus support the skirt. The loop piece may be sewed to the corset at one end only, and buttoned at the other, either above or below, by which means the skirt may be readily adjusted upon the wearer.

Claim.—The improved corset, as constructed with the skirt-supporting straps, arranged and operating substantially as set forth.

No. 43,931.—**Israel H. Southworth**, Essex, Conn.—*Toilet Comb.*—August 23, 1864.—This invention consists in forming the comb in two parts made exactly alike, and secured to each other at their rear or thick ends in a proper handle.

Claim.—A comb composed of pieces a a, matched and secured in a handle b, substantially in the manner herein described.

No. 43,932.—**Samuel S. Stone**. Troy, N. Y.—*Machine for Incising Button Holes and Embossing Printed Articles of Wearing Apparel.*—August 23, 1864.—In this machine the ready-made articles are fed in by the operative, one at a time, between a reciprocating platen and a stationary bed plate. The platen receives motion from a rotary shaft carrying eccentrics on its end that are coupled by pitmen to rods that support the platen, and on which it is adjustable, to control with precision the distance of its movement. The platen carries three adjustable punches to punch the button holes in the several articles at the place and in the direction desired, and the bed plate supports disks to correspond with the punches and give a plain surface support to the fabrics, with guide pins to receive them in position to be rightly punched. The platen receives embossing plates to ornament cuffs, collars or wristbands, and a printing plate to mark the number, trade mark, or name of the manufacturer. The movements of the platen are under the control of a foot lever and break, that enables the operator to suspend or permit the impression at pleasure. Thus the machine at each impression punches, embosses, and points, or, in other words, finishes a cuff, collar or wristband at every reciprocation of the platen.

Claim.—First, the combination in one machine for finishing cuffs, collars, and wristbands, of a pressing, punching, printing, and embossing mechanism, with a break and belt shipper, substantially as and for the purpose described.

Second, the combination of two end button-hole punches for cuffs, collars, or wristbands, having longitudinal and axial adjustment, with a reciprocating platen and corresponding receiving dies having a like adjustment on a stationary bed plate, substantially as and for the purpose described.

Third, the central button-hole punch having an adjustment across the collar as well as an axial one, in combination with the platen and end punches, and with a central receiving die having like adjustment in the fixed bed plate, substantially as and for the purpose described.

Fourth, the vertically adjustable and reciprocating platen, in combination with embossing plates, and with end or end and central adjustable button-hole punches and their dies on the fixed bed plate, when operating to ornament and punch cuffs, collars, or wristbands, substantially in the manner described.

Fifth, the combination of a printing block with the adjustable reciprocating platen, button-hole punches, embossing plate, receiving dies, and stationary bed plate, for the purpose of printing (while punching and embossing) cuffs, collars, or wristbands, substantially in the manner described.

Sixth, the reciprocating adjustable platen with its punches, types, and embossing plates, in combination with guide pins and fixed bed-plate when the guide pins can be varied in position to secure a perfect register of the punching, printing, and embossing of cuffs, collars, and wristbands, however varied in size or form, substantially as set forth.

No. 43,933.—**William Trapp**, Elmira, N. Y.—*Machine for Dressing Heads to Barrels.*—August 23, 1864; ante-dated August 16, 1864.—The object of this invention is to more perfectly dress to the thickness ready for use pieces for forming the heads of barrels, and it consists in the construction of the bed plate attached to the endless chain that carries the heading to be dressed, presenting it first to a revolving cutter which nearly reduces the stuff to the right thickness, after which it passes under a stationary planing knife which completes the process. This bed plate is divided into sections so that two-thirds of said sections will admit the machine to dress the heading, one edge thick and the other thin, and the third to dress the middle piece, (when it requires three pieces to form the head,) both edges being of the same thickness.

Claim.—First, the shape and construction of the bed plate T, attached to the endless chain N, as herein described, and for the purposes set forth.

Second, the combination of the revolving cutter and planing knife with the feeding apron, when they are constructed and arranged substantially as described.

No. 43,934.—William Trapp, Elmira, N. Y.—*Machine for Dressing Staves to Barrels.*—August 23, 1864; antedated August 16, 1864.—This invention has for its object the improvement in that class of machines for dressing the staves of barrels, so that the staves that are split and are not straight in the grain, or are winding, can be dressed with the grain without loss of timber, and it consists in the employment of corrugated and nearly spherical feed rollers which carry the stave to be dressed over an inclined and removable bed, that allows the stave to pass through the machine and be dressed with the grain of the wood.

Claim.—First, the use of the bed O when inclined sidewise in relation to the cutters, for the purpose of cutting mostly from the thick edge of the stave in rounding and backing the same without wasting the thin edge of the stave, substantially in the manner set forth.

Second, inclining the beds O and *k*, before and behind the cutters, so that a crooked or winding stave may easily pass through the machine, touching the beds only at or near the cutters.

Third, the use of the changeable beds O and O′, for altering the machine and thus adapting it to working different kinds of staves, substantially as set forth.

Fourth, the sliding frame T for carrying the feed works up and down, substantially as set forth.

Fifth, the employment of the feed works or feed devices, as a weight acting on the binder to hold the stave steady, substantially as described.

Sixth, the arrangement and combination of the feed rollers D and E, the cog wheels I and L, and the pinions H and K, with the sliding frame T, substantially as set forth.

No. 43,935.—William Trapp, Elmira, N. Y.—*Machine for Jointing Heading for Barrels.*—August 23, 1864; antedated August 16, 1864.—The object of this invention is to dress the joints of barrel heads concave or hollow, in order to have the joint more perfect when the hoops are driven upon the barrel or cask; and it consists in providing an upright circular revolving wheel, with plane bits inserted and so formed that its planing face is not a perfect plane or straight line from one side of the wheel to the other, but is at a slight angle from a line thus drawn as it rises towards the centre from the right line, so that when the wheel revolves the inner part of the cutting edge of the planing bit will cut a trifle further into the centre of the heading than the outer part of the bit which cuts the joints at the ends of the heading, thus forming the desired joint perfectly and cheaply. In connexion with the above-described device is an adjustable table upon which the heading is placed to be jointed and the bits that bore the dowel holes, so that the boring for the dowels and the planing the joints are performed at one operation without leaving the hands of the operator.

Claim.—First, the above-described rotary jointer B, with its face looking obliquely outward, for the purpose of jointing pieces of heading, hollow or concave, and thus making an open joint, substantially in the manner and for the purposes set forth.

Second, the construction and arrangement of the above-described jointing and boring machine, provided with the rotary jointer B and bed E and the bits N and movable carriage O, all operated substantially in the manner and for the purpose described.

No. 43,936.—Seth Turner, Onargo, Ill.—*Derrick for Stacking Hay.*—August 23, 1864.—This invention consists in the employment of an arm attached to the lower part of the revolving standard, and to the cross-piece is attached a pulley that sustains a rope carrying at one end a weight, the same operating in connexion with the hoisting rope of the derrick.

Claim.—The arm *l* and weight *p*, in combination with the ropes *m* and *g* and revolving derrick, for the purposes and as specified.

No. 43,937.—Florence Veerkamp and Francis Leopold, Philadelphia, Penn.—*Machine for Weaving Cords or Coverings around Cords.*—August 23, 1864.—In this machine are two fixed annular plates, one surrounding the other, and with annular openings between them. There are also a series of radial openings in both plates, in which are slides, each carrying a bobbin of warp thread. In the annular opening travels a vertical and supporting bobbin carrying the weft thread; this rod is secured to a horizontal disk which revolves underneath the plates, and which has two crossing grooves, by which a motion is given to each slide to and from the centre and across the path of the weft bobbin, thus opening and closing the shed. A central tube permits the introduction of the cord to be covered, if desired.

Claim.—First, a series of bobbins, so arranged as to move radially from and towards a given centre, in combination with a bobbin which moves continuously around the said centre and across the paths of the other bobbins, substantially as and for the purpose set forth.

Second, the plates A and A′, with the openings *a* and *b*, when constructed and arranged for the reception and operation of the plates *d* and rod J, substantially as specified.

Third, the disk G, with its grooves *c* and *c′* and rod J, when arranged and operating substantially as described, for the purpose specified.

No. 43,938.—Samuel Wethered, Baltimore, Md.—*Thimble for Steam Boilers.*—August 23, 1864.—This invention consists in the employment of a split tube having a grooved face flange for protecting the ends of the flues of steam boilers, super-heaters, &c.

Claim.—A device for protecting the ends of flues of steam boilers, superheaters, &c., constructed of a split tube with a grooved face flange *c*, substantially as and for the purposes herein described.

No. 43,939.—James A. Whitney, Maryland, N. Y.—*Hay Elevating Fork.*—August 23, 1864.—This invention consists in attaching a rope to a projection on the head of the fork, the rope being carried over a curved tongue so as to release the hay without the use of a bail.

Claim.—Attaching the draught rope F directly to the fork at or near its head B, when the said rope operates in connexion with the tongue C, rigidly secured to the head B, and with a catch *n d m*, or its equivalent, as shown, whereby I am enabled to dispense with the bail usually employed in such devices, all for the purpose and in the manner substantially as herein set forth and described.

No. 43,940.—Warren Wilder, Wilkinsonville, Mass.—*Shuttle for Looms.*—August 23, 1864.—The object of this invention is to facilitate the insertion and removal of the bobbin, and adapt the same shuttle to the use of bobbins having different sized heads, which is effected by means of an extended spindle head combined with a spring on the upper side of the shuttle and a catch spring below; the spindle heads being made to come in contact with and operate said spring and catch.

Claim.—The combination of the extended spindle head B, as seen at 1 and 3, with the top spring E and shuttle and catch spring C, when the extensions of said spindle heads are in contact and operate upon spring E and catch C, in the manner and for the purposes shown and described.

No. 43,941.—Joel Wisner, East Aurora, N. Y.—*Sawing Wood by Wind Power.*—August 23, 1864.—The object of this invention is to saw wood by wind power, and to admit of its being so regulated by the attendant that it shall act with regard to the wind with increased and diminished force, or its whole power be at once suspended. The novelty consists in the combination of the wind-wheel with flat wings and their flanges, a shaft, pivoted standard, and platform, with a saw and crank.

Claim.—A wind-wheel constructed with the flat wings O and flanges *i*, in combination with the shaft F and pivoted standard A, constructed and operating substantially as and for the purposes set forth.

Also, the combination and arrangement of the wheel O, pivoted standard A, and platform B with the saw L, pitman *i*, and crank K, substantially in the manner and for the purposes described.

No. 43,942.—John B. Wood, Swansey, Mass.—*Road Scraper.*—August 23, 1864.—This invention consists in combining with the blade that is attached to the main beam a guard arranged parallel with the handles, together with a roller attached to the rear of the beam.

Claim.—The combination and arrangement of the guard E with the blade B and roller C, applied to the beam A, provided with handles, as specified.

No. 43,943.—Henry S. Brown, New York, N. Y., assignor to Alfred Arnold, North Englewood, N. J.—*Gathered Fabric.*—August 23, 1864.—This invention relates to the product of the "gathering mechanism for sewing machines," patented March 22, 1864, to Alfred Arnold, assignee of Henry S. Brown. Curved corrugations being formed with perfect uniformity, the thread passes over each convexity on the "right" side, and through the intermediate cloth at the fold, forming on the wrong side a chain stitch as the most suitable. Thus each "gather" is held firmly in place by a thread.

Claim.—As a new manufacture a gathered fabric, wherein each gather is held firmly in place by a thread which necessarily and invariably passes through the cloth between the gathers, and wherein the gathers resemble curved corrugations rather than more sharply defined folds or plaits, substantially as herein described.

No. 43,944.—Willard E. Cronkhite, assignor to Henry Noxon and Orville M. Cronkhite, Syracuse, N. Y.—*Composition for Paint.*—August 23, 1864.—This invention consists of a composition of any kind of pigment, such as white lead, yellow echre, oxide of zinc, Venetian red, lampblack, &c., with linseed oil, shellac, beeswax, lard oil, and litharge or other drier.

Claim.—The combination of the several ingredients as described, in the manner substantially as and in about the proportions set forth.

No. 43,945.—George Havell, Newark, N, J., assignor to Frederick Stevens, Harrison Township, N. J.—*Buckle.*—August 23, 1864.—This invention consists in forming projections upon one of the faces of each of the side bars of a buckle for the reception of the pivots, and securing the latter by compressing over them the above-mentioned projections.

Claim.—The projections *a a*, forming the notches *g g*, for the reception and securing of the pivots *c c*, in the manner and for the purpose described.

No. 43,946.—John B. Hawley, assignor to Peter Mesick, Albany, N. Y.—*Hay Elevating Fork.*—August 23, 1864.—This invention consists in the arrangement of a lever, in combination with the jointed brace which holds the parts in working position, in such a manner that the attendant is enabled readily to break the joint for the purpose of discharging the load.

Claim.—A lever applied to a brace in a hay fork, and connected to the discharging rope or cord to move the said brace in discharging the hay, substantially as specified.

No. 43,947.—Joseph A. Latham and George W. Tileston, assignors to said George W. Tileston, New Haven, Conn.—*Folding Cradle.*—August 23, 1864.—This invention consists in the construction of a cradle with cross legs pivoted to rockers with a slot in each, so that the whole can be folded into a small compass.

Claim.—The combination of the legs A B with rocker C, when constructed and arranged to fold, substantially in the manner described.

No. 43,948.—Hugh L. McAvoy, assignor to himself and Elias S. Hutchinson, Baltimore, Md.—*Apparatus for Carburetting Air.*—August 23, 1864.—This apparatus consists of a cylinder within which projects a tube communicating with the receiver. Into this vessel or receiver water is introduced in such quantity that it shall reach nearly to the terminus of the above-mentioned tube. A cylinder, closed at the top and open at the bottom, is placed within the first-named cylinder in an upright position. The smaller cylinder is provided with a valve, which is automatically thrown open when the cylinder is raised, and allows the air to enter. The smaller cylinder is also provided with a metallic flange, by the weight of which the cylinder is caused to descend and drive the air through the tube into the receiver which contains the hydro carbon oil.

Claim.—The combination of the gravitating air holder B, charged, in the act of raising, by an automatic valve, with the generating apparatus C, substantially as herein described.

No. 43,949.—John Jacob Miller, assignor to himself and Ernst Prussing, Chicago, Ill.—*Valve for Steam Engines.*—August 23, 1864; antedated February 15, 1863.—This invention consists in the employment of a fixed cylindrical valve seat combined with a cylindrical valve, which latter is attached to a rod operated by means of a wheel, so that the stroke of the said valve can be regulated at pleasure. In a projection or collar on the under part of the wheel is an aperture, in which is fitted a pin, held in place by means of a spring, and which, in connexion with a slot in the valve rod, serves to lock the wheel, or permit it to be turned up or down thereon to move the cylindrical valve.

Claim.—First, the combination of the fixed cylindrical seat A and cylindrical valve D with an adjusting wheel G, or other substantially equivalent device to regulate the effective stroke of the said valve, as explained.

Second, the spring J and pin K used in the described combination with the aperture *g*, in the wheel G, and the slot *f*, in the valve rod F, to lock the said wheel to the said rod, or permit it to be turned up or down thereon, as and for the purpose explained.

No. 43,950.—John Jacob Miller, assignor to himself and Ernst Prussing, Chicago, Ill.—*Piston Packing.*—August 23, 1864; antedated February 15, 1863.—This device consists of a piston composed of segments, which are formed with angular or expanding joints, and filled with fibrous or other elastic and permeable filling. In the end of the piston are two regulating screws.

Claim.—First, the combination of the fibrous or other elastic and permeable filling D or D′ with segments C or C′ formed with angular or expanding joints, substantially as and for the purposes explained.

Second, the regulating screws E or E′ used in the described combination with the segments C or C′ and filling D or D′, constructed and operating as explained.

No. 43,951.—John Jacob Miller, assignor to himself and Ernst Prussing, Chicago, Ill.—*Liquid Separator.*—August 23, 1864; antedated February 15, 1863.—This invention consists in arranging within a suitable vessel a float, which is made to open and close ports arranged at different levels, so as to effect a separate and automatic discharge through the said ports of two or more fluids, which will be separated from each other in the vessel by their

unequal specific gravities. Below the float are arranged perforated plates for the purpose of lessening the commingling of the inflowing liquids with those already contained in the vessel.

Claim.—First, a float operating within a suitable containing vessel to open and close ports on different levels in such a manner as to effect the separate and automatic discharge through the said ports of two or more fluids separated in said vessel by their unequal specific gravities.

Second, in combination with a float operating within a containing vessel to automatically open and close ingress or egress ports, the use of perforated plates K to lossen the commingling of the inflowing liquids with those already contained in the vessel, as explained.

No. 43,952.—John Jacob Miller, assignor to himself and Ernst Prussing, Chicago, Ill.—*Steam Pump.*—August 23, 1864; antedated February 15, 1863.—This invention consists in the employment of a float attached to a rotating shaft, in which latter is a spiral groove operating in such a manner as to open and close the steam or water ports of the cylinder. Near the upper part of the cylinder is a perforated plate, which is attached to the rotating shaft, and serves in connexion with the float to distribute the condensing water. Below the float is a series of curved plates for the purpose of preventing the mingling of the heated with the fresh water. In the pump is placed a stratum of some fatty matter for the purpose of preventing any injurious contact between the steam and water.

Claim.—First, the combination of the float E and rotary shaft B, operating substantially in the manner explained to open and close the steam or water ports of the cylinder A, as explained.

Second, the perforated and rotating plate D, employed in the described combination with the shaft B and float E, to distribute the condensing water, as explained.

Third, the plates G G1 G2, employed in the described combination with the float E, to prevent the mingling of the heated with the fresh water, as explained.

Fourth, the use of a stratum of fatty matter employed in a steam pump, operating substantially as above described, to prevent injurious contact between the steam and water, as set forth.

Fifth, the manner of regulating the length of stroke by adjusting the cams 1 2 3 4, substantially as set forth.

Sixth, the combination of the cylinder A, spiral shaft B *b*, perforated plate D, float E, plates G G1 G2, and valves L M, all constructed, arranged, and operating substantially as and for the purposes set forth.

No. 43,953.—Jacob Mowery, assignor to himself and James H. Spencer, Philadelphia, Penn.—*Coal Oil Lamp.*—August 23, 1864; antedated June 16, 1863.—This invention consists in arranging upon the dome of the burner perforated plates which curve outwardly from the wick tube, so as to supply air and spread the flame from the wick.

Claim.—The curved and perforated plates H and H′, arranged on the dome or its equivalent, of a coal oil lamp, in respect to the wick tube, substantially as and for the purpose herein set forth.

No. 43,954.—Edward Parker, assignor to Hotchkiss Manufacturing Company, Middletown, Conn.—*Eyelet.*—August 23, 1864.—This invention consists in first punching a hole through the centre of the blanc or disk, out of which the eyelet is afterwards formed by swaging in the usual manner.

Claim.—The use of perforated flat surfaced disks in the manufacture of eyelets, substantially as described.

No. 43,955.—E. L. Pratt, Boston, Mass., assignor to George R. Carter, Boston, Mass., and D. H. Goodell, Antrim, N. H.—*Apple Parer.*—August 23, 1864.—This invention consists of a series of devices which give the apple a rotary motion on the fork, while the knife passes over the surface of the apple from end to end. A cam is arranged in such a manner as to throw the knife beyond the path of motion of the fork and gears.

Claim.—So constructing a segmental rack paring machine that the fork revolves opposite the centre of the rack, substantially as specified.

Also, the employment of the cam *m* to throw the knife beyond the path of motion of the fork and gears, substantially as described.

Also, the construction of the slot or bearing surface over which the knife rod moves for the purpose of paring to the centre of the apple, as described.

No. 43,956.—E. L. Pratt, Boston, Mass., assignor to George R. Carter, Boston, Mass., and D. H. Goodell, Antrim, N. H.—*Peach Parer.*—August 23, 1864.—This invention consists in an arrangement of devices for paring peaches, in which a spring and crank rod are used to regulate the action of the knife. The fork for grasping and holding the stone of the peach is constructed of inclined prongs provided with grooves or depressions.

Claim.—The combination of the spring and crank rod operating in the manner and for the purpose substantially as set forth.

Also, the means of regulating the extent of movement of the knife by the action of the screw *g* upon the end of the knife rod, which is inclined, and made movable with respect to the surface of the arm *c*, to which it is jointed, the screw arm and knife rod being constructed and operating with respect to each other, substantially as specified.

Also, constructing the inclined prongs with grooves or depressions to hold the peach stone, substantially as above set forth.

No. 43,957.—Wilson H. Smith, assignor to himself and Royal M. Bassett, Birmingham, Conn.—*Breech Loading Fire Arm.*—August 23, 1864.—This invention consists in providing the arm with a hinged compound breech block, the two sections of which are connected by a link, so as to separate when thrown upward by a movement of the trigger-guard lever. The forward section of the hinged breech block is chambered, so as to admit a metallic cartridge from its rear, and the rear section, which forms the breech and abutment of the chamber, is furnished with movable spring jaws or hooks for engaging the flange of the cartridge, and for introducing and throwing out the cartridge shell when the said breech block is raised and opened.

Claim.—First, the combination of a breech piece containing the cartridge chamber with a sliding wedge like abutment or back piece, substantially as described for the purpose set forth.

Second, the employment, in combination with a movable chambered block and a sliding abutment, of a mechanism or device for extracting the cartridge case and discharging it from the gun, substantially in the manner set forth.

No. 43,958.—E. M. Stevens, assignor to Alfred B. Ely, Boston, Mass.—*Rounding Machine.*—August 23, 1864.—This invention consists in the use of a stationary pattern in combination with a continuously travelling cutter; in the combination of a yielding and sliding cutter with a travelling cutter; in so constructing the travelling cutter that its cutting edge will correspond with the centre of motion of its shanks, or in so forming the travelling cutter that while in operation its edge shall be turned at all times so as to cut the material in a line parallel to the edge of the pattern; in so arranging the travelling knife that it may be set or adjusted to cut the edge of the leather to any required bevel; in combining a spring with a travelling cutter for the purpose of keeping the latter up to the pattern; in so constructing the pattern and clamp that one or both of them may be turned for the purpose of cutting the heel and toe alternately; and, finally, in a lever in combination with a spring and slide, for the purpose of adjusting the pressure of the rounding knife to patterns of different sizes.

Claim.—First, the use of a stationary pattern in combination with a continuously travelling cutter.

Second, combining a yielding or sliding cutter with a travelling carriage.

Third, so constructing and arranging the travelling cutter that its cutting edge shall substantially correspond with the centre of motion of its shank.

Fourth, so forming and arranging the travelling cutter that while in operation its edge shall be turned and presented at all times so as to cut the material in a line substantially parallel to or in the same plane with the edge of the pattern.

Fifth, so arranging the travelling knife that it may be set or adjusted to cut the edge of the leather, &c., to any required bevel.

Sixth, the combination of a spring with the travelling cutter, for the purpose of keeping the latter up to the pattern.

Seventh, so constructing the pattern and clamp that one or both of them may be turned for the purpose of cutting heel and toe alternately.

Eighth, the lever P in combination with the spring *n* and slide *e*, for adjusting the pressure of the rounding knife to patterns of different sizes.

No. 43,959.—Jean Sebastian Bolette, Goffontaine, Cornesse, Belgium.—*Apparatus for Feeding Wool, &c., to Carding and other Machines.*—August 23, 1864.—The wool is placed in a case or receptacle, at the lower part of which is an endless belt moving horizontally, which brings the wool against an inclined or vertical endless belt armed with hooked teeth or blades. These blades carry up the wool to a height level with the entrance into the carding engine or machine to be fed, to which it is delivered by means of a roller furnished with teeth and with lathes and a short, endless belt. At the front of the short belt is a roller armed with teeth for the purpose of taking off the excess of wool raised by the vertical belt and returning it to the case.

Claim.—The method of and apparatus for feeding wool and other textile and filamentous substances into carding, combing, and other machines for treating such substances, as hereinbefore described.

No. 43,960.—Paul Marcelin, Chambery, France.—*Mercury Packed Pumps.*—August 23, 1864.—The construction and operation of this invention will be evident from the engraving. The object of the mercury in the chamber in which the tube works is to prevent air from entering when the tube is raised, and also to resist the pressure by the water contained in the tube when it is depressed.

Claim.—A pump composed of one or more reciprocating tubes or cylinders communicating with induction and eduction pipes, and working within a chamber of mercury or other fluid, or semi-fluid, of a much greater specific gravity than the atmosphere, said chamber being between two cylinders or tubes, and all arranged to operate in the manner substantially as herein set forth.

No. 43,961.—John H. Aldrich and S. L. Pattee, Northbridge, Mass.—*Flyer for Spinning Frames.*—August 30, 1864.—The claim and engraving fully present the invention, the object of which is to prevent the accumulation of lint or dirt in the socket of the flyer, through which the roving passes, and between it and the spindle, and the consequent tendency of the flyer to fly off; it also facilitates the "piecing up."

Claim.—A flyer for fly frames or other frames, in which the flyer is removed in doffing, having a curved passage for the roving, distinct from the socket, essentially as above described.

No. 43,962.—Charles G. Angeroth, Philadelphia, Penn.—*Treating Moss for Mattresses, &c.*—August 30, 1864.—This invention consists in first dyeing the moss in a decoction of logwood, and dyeing, and then steeping it in a solution of alum, by means of which it is curled.

Claim.—Treating moss with alum, as set forth for the purpose specified.

No. 43,963.—J. W. Arnold and H. W. Couch, West Macedon, N. Y.—*Sawing Machine.*—August 30, 1864.—The object of this invention is to improve the drag sawing machines, so that they will be more perfect in their adjusting devices and easily worked, and the invention consists in a vertically adjustable gate, operating concentrically with the axis of the crank wheel, and in which plays the pitman in such manner that when the saw is raised it will not "jump," together with a hinged guide that holds the saw when raised.

Claim.—The vertically adjustable gate D, with its slide *b*, in combination with the saw E, pitman C, and driving wheel B, in such a manner that when sawed away from the log, the saw may run on a line toward the axis of the driving wheel, but when lowered it may produce a slight rocking motion to clear the kerf, substantially as herein set forth.

Also, in combination with the gate D, saw E and driving wheel B, we claim the arm I and bar H, the latter provided with the support *h*, or equivalent, the whole arranged substantially in the manner and for the purpose herein specified.

Also, the arrangement of the gate D, ways G G, arm I, and bar H, saw E, hinged guide M, and pressure slide L, substantially as and for the purpose herein set forth.

No. 43,964.—John B. Atwater, Chicago, Ill.—*Machine for Loading Hay.*—August 30, 1864.—This invention consists in the method of attaching the teeth to two plates and arranging a spring in the rear of the said teeth, all being secured to endless bands arranged to operate in an inclined frame, for the purpose of raising hay to a cart.

Claim.—The combination of the plates *n r*, concave teeth *p*, spring *s*, with the bands *e e*, of a hay-raking and loading apparatus, substantially in the manner and for the purpose described.

No. 43,965.—Cyrus Avery, Ashtabula, Ohio.—*Frying Pan and Kettle.*—August 30, 1864.—This invention consists in attaching a catch or fastening of an adjustable handle to a combined frying pan and kettle.

Claim.—The adjustable catch E, or its equivalent, in combination with the handle and pan, for the purpose specified.

No. 43,966.—H. J. Bailey and S. S. Williams, Pittsburg, Penn.—*Water Elevator.*—August 30, 1864.—This invention consists in arranging across the top of the bucket, in line with the bail, a narrow board having a perpendicular pin at each side of its centre. The tilting bar is swung centrally from the ends of the curb, and, as the bucket ascends, causes the bail to come in line with it; thus, whichever side of the bucket is next to the trough, the pin on that side is sure to be caught by the tilter. A roller passing from end to end of the curb, transversely to the direction of the crank shaft, has a groove for each rope to rest in so as to steady the movement thereof.

Claim.—First, the bars *e e*, pivoted at their upper ends to the sides of the curb A, and connected at their lower end by the rod *g*, in connexion with the roller I, or its equivalent' all arranged to operate in the manner substantially as and for the purpose herein set forth.

Second, the pawl M, provided with or attached to the rod *j*, and balanced on the pivot *l*, in connexion with the ratchet D, all arranged to operate in the manner substantially as and for the purpose herein set forth.

No. 43,967.—Thomas Bradford, Boston, Mass.—*Water Back for Ranges.*—August 30, 1864.—This invention consists in combining with an open front grate a water back arranged in the rear, and extending around the sides of the said grate, with a supply and a discharge pipe properly connected at one end.

Claim.—The combination of the water-back C, the end water chambers *a a*, supply pipe D, discharge pipe D′, and open front grate B′, all constructed, arranged, and employed as and for the purposes herein specified.

No. 43,968.—John H. Broad, Lodi, N. Y.—*Corn Planter.*—August 30, 1864.—This invention consists in giving an intermittent rotary motion to the seed cups and agitators, by means of ratchet wheels and pawls and a rock shaft. Motion is imparted to the machine by spurs or pallets secured to the hub of the driving wheels.

Claim.—First, giving an intermittent rotary motion to both the seed cup drums a a, and the agitators g' g', by means of ratchet wheels and pawls g g h h, rock shaft k, and a spurred hub, operating upon a dog m, all arranged and operating substantially as described.

Second, the combination of a spurred hub dog m, and toothed plate n, with the rocking pawl shaft k, and seeding mechanism, substantially as described.

Third, the catch-plate s, and lever arm l, in combination with the rock shaft k, substantially as and for the purposes prescribed.

No. 43,969.—Wm. C. Bussey, Jackson, Cal.—*Car Coupling.*—August 30, 1864.—This invention consists in the employment of a hook wheel formed eccentrically and operated by means of a lever provided with a hook, together with a trigger by which the shackle or link is automatically attached, and readily detached when desired. The shackle is kept in place by means of a spring clamp and pendants.

Claim.—The eccentric hook wheel B, in connexion with the lever D, plate E, and trigger F, all arranged to operate with the shackle or link G, in the manner substantially as and for the purpose herein set forth.

Also, the spring clamp, composed of the spring H, and pendants l, one or more, substantially as and for the purpose specified.

No. 43,970.—John Chilcott, Brooklyn, N. Y.—*Composition for Luting Gas Retorts.*—August 30, 1864; antedated August 24, 1864.—This invention is explained by the claim.

Claim.—The addition to the loam, clay, or lime luting used for luting gas or other retorts, or other purposes, of fresh clay and graphite, either with or without a small quantity of lime, whereby it is rendered capable of being used repeatedly, substantially as herein specified.

No. 43,971.—L. N. Clark, Brighton, Mich.—*Threshing Machine.*—August 30, 1864.—The feature that distinguishes this improvement from others of like character is, that while straw carriers in others are made of one, or at most of two sections, and require to be removed in the transportation of the machine, this is securely folded up and held in that position by the rope and windlass that is used in elevating and depressing the carrier when in use.

Claim.—Making the carrier frame of three or more sections, and hinging them together as described, and attaching the lower section to the threshing machine in the manner described, in combination with the ropes D, and windlass E, when these several parts are constructed, arranged, and combined as and for the purpose herein set forth.

No. 43,972.—John H. Caldwell, New York, N. Y.—*Baby Jumper and Walker.*—August 30, 1864.—This invention consists in attaching a seat to a curved bar, which is secured by a pivot in a socket attached to a base; the seat bar having a spring connected to it, and so arranged that it may be used as a jumper or walker, as required.

Claim.—The base A, provided with the socket B, in combination with the seat bar C, and spring D, all being arranged to operate substantially as and for the purpose set forth.

No. 43,973.—Samuel S. Cole and Gideon W. Cole, Canton, Ill.—*Apple Bin.*—August 30, 1864.—This device consists of a double-walled bin provided with non-conducting substances between the walls into which pipes are introduced for thorough ventilation. After the sweating of the apples has ceased they are frozen, and all the ventilators then closed and spaces filled with saw dust. The apples remain frozen until late in the summer, without losing any of their flavor.

Claim.—First, the principle and process of ventilating and freezing a bin or bulk of apples, substantially as set forth, for the purpose of preserving their flavor and preventing their decay until late in the ensuing summer.

Second, the method and means, substantially as set forth, of so constructing a bin as to control the ventilation and freezing of apples, for the purpose herein set forth.

No. 43,974.—Charles Crozat Converse, Dubuque, Iowa.—*Fruit Basket.*—August 30, 1864.—This invention consists in cutting out a basket from a single piece of strawboard or other cheap material, in such a manner as to give the centre of its bottom a conical shape, and providing the sides with openings.

Claim.—First, the construction of a fruit basket out of a single blank of any suitable material, in the manner and for the purpose substantially as described.

Second, forming a fruit basket out of a single blank, so as to give the centre of its bottom a conical shape, substantially as described.

No. 43,975.—John P. Cowing, Seneca Falls, N. Y.—*Pump Pipe.*—August 30, 1864.—In this invention the pipe is made of wood in the usual manner, and the several sections thereof are coupled together by a cast-iron thimble, screw threaded internally, which, in conjunction with corresponding male screws cut upon the contiguous ends of the two pipes, hold the same firmly together, end to end, and at the same time serve the purpose of strengthening bands to prevent the ends of the pipes from splitting.

Claim.—A pump pipe coupled together and otherwise constructed as described, as an article of manufacture.

No. 43,976.—Jean Paire Florimond Datichy, New York, N. Y.—*Hydro Atmospheric Condenser.*—August 30, 1864.—The object of this invention is an improvement in condensers, by which it is proposed to use air and water combined, or either of them separately, for condensing the steam. Its novelty consists in attaching to the condenser, which is composed of two cylindrical vessels, one within the other, the inner one being filled with small tubes, a blower so arranged as that the wind or air in passing from it shall surround the pipe which conducts the water to the condenser, (when water is used,) thus inducing the entrance of a supply of water in conjunction with the air, which by their joint action condense the steam which is inducted from the engine in the usual manner. A system of valves is adopted, by which either the water or air can be dispensed with and either used singly. An air pump is attached which performs the functions usual in condensing engines.

Claim.—First, the application of water or air, separate or together, so as to condense the exhaust steam of an engine and return the same to the boiler by the means and devices herein described.

Second, a ventilator or blower at top, so arranged as to conduct the air around the pipes conducting the water into the air chamber of the condenser, as herein described and for the purposes set forth.

Third, the air chamber or column U, having four valves, independent of the valves of an ordinary pump, two of them above and two below, the upper ones working in opposite directions to the lower ones, so as to pump and discharge the air alternately, according to the escape of any air, as herein described.

Fourth, the arrangement and construction of the double condenser with its centre pipe and tubes surrounding it, in combination with its wire gauze top, and chamber underneath, for the purposes specified.

No. 43,977.—S. W. Davis, Wilmington, Del.—*Horse Shoe Machine.*—August 30, 1864.—In this apparatus the bender slides vertically up and down against the face of a standard, and a part of the improvement consists in arranging in the face of the standard a series of friction rollers, so as to avoid the friction which would otherwise be produced. Also, in the continuation of two cams and a spring, one cam for the purpose of forcing the horizontally working die forward to its work, and then immediately passing out of gear and allowing the spring to withdraw the die from contact with the heated iron, while the other cam afterwards carries said die entirely back to its normal position.

Claim.—First, the adjustable rollers e, in combination with the reciprocating slide C, its curved slot and the crank pin by which the said slide is operated.

Second, the shaft I, with its cam J and J′, the sliding frame which carries the indenting die and spring t, or its equivalent, whereby a backward movement may be imparted to the said die independent of that derived from the action of the cam J′, as herein set forth.

No. 43,978.—John Dement, Dixon, Ill.—*Plough.*—August 30, 1864.—This invention relates to the peculiar form of the standard upon the land side of the plough, the same being curved inwardly so as to avoid friction against the unploughed land; also, to the manner of attaching and adjusting the handles.

Claim.—The standard A, the brace B, with connecting braces $g1$ and $g2$ and rod m, the whole constructed and arranged in the manner and for the purpose substantially as herein set forth.

No. 43,979.—August Destouy, New York, N. Y.—*Moulding of Metal.*—August 30, 1864.—This invention consists of a platform or table, upon which is mounted a stationary frame of an oval shape, and a pair of sliding jaws or clamps, of a shape corresponding thereto. Between this frame and the jaws, the moulding, whose transverse shape is already formed, is placed; the sliding jaws or clamps are then forced up towards the former by means of the lever and bell cranks, arranged to operate from below.

Claim.—First, the use of T-shaped metal mouldings, made substantially as and for the purpose specified.

Second, the jaws B or D D, either straight or curved, and tool C, constructed and operating substantially as herein set forth, for the purpose of imparting to the mouldings the final touch before they are applied to the article to be ornamented.

No. 43.980.—S. Eberly, Mechanicsburg, Penn.—*Horse Rake.*—August 30, 1864.—In the rear of the axle is a transverse bar, provided with a series of holes, through which the rake teeth pass. The rake teeth are attached to a shaft above the axle at their upper ends, upon which shaft they work loosely. Projecting from the front of the said shaft is a bar having a weight upon its end to serve as a counterpoise to the rake and its shaft, and attached to the frame is an upright lever to be operated by hand, and also a foot lever.

Claim.—The bar F, provided with holes *c*, for the rake teeth E, to pass through, and connected by arms *d*, to the shaft D, on which the hubs *b* of the rake teeth are fitted or placed loosely, in combination with the bar G, provided with the weight or counterpoise H, the upright lever I, and foot lever K, all arranged and applied to operate substantially in the manner as set forth.

No. 43,981.—Otto Ernst, New York, N. Y.—*Metallic Shirt Collar.*—August 30, 1864.—Near the base of the back part of this collar is a slit, having at each end a hole for the button to pass through. In front a hole, narrowing toward the end, receives a rivet formed on the outside of the opposite end. Beneath this rivet is an elliptical button-hole, its greatest diameter being longitudinal with the collar, a nick at the bottom of the other end, beneath the hole for the rivet, serving to press downward upon the thread that attaches the button, and to hold it firmly against the lower side of the elliptical button-hole.

Claim.—A metallic shirt collar formed in the manner specified, to retain the button by the introduction of the part *d*, behind the button in the act of clasping the ends of the collar together, as set forth.

No. 43,982.—Thomas R. Ferris, Monroe, Mich.—*Washing Machine.*—August 30, 1864.—This invention consists in the employment of a spirally fluted cylinder and an endless apron, with supplemental pressure roller, having a concave bearing below the upper portion of the apron. The apron is operated by a ratchet and pawl by means of a cam on the shaft of the cylinder.

Claim.—The spirally fluted cylinder B, in combination with the endless apron C, and concave G, arranged to operate substantially as and for the purpose set forth.

Also, operating the endless apron C, through the medium of the ratchet H, and the pawl I, the latter being attached to the swinging bar J, operated by a spring *h*, and a cam K, on the shaft of cylinder B, substantially as described.

Also, in combination with the cylinder B, and the endless apron C, the supplemental roller L, arranged and applied substantially as and for the purpose specified.

No. 43,983.—W. R. Frink, Virginia, Nevada Territory.—*Process for Amalgamating Ores of Silver.*—August 30, 1864.—This invention consists in the use in the amalgamation of silver ores of metallic copper, in a finely divided state, such as copper precipitated by iron or zinc.

Claim.—The use of finely pulverized or precipitated metallic copper in combination with or without the sulphate of iron or other material used in precipitating, applied in the manner substantially as herein specified, for the purpose of facilitating the process of amalgamating silver with the least possible loss of quicksilver.

No. 43,984.—John G. Gehring.—Baltimore, Md.—*Oil Cup on Smoking Pipe.*—August 30, 1864.—This invention relates to a smoking pipe in which is employed a spring and cup as a receptacle for oil and saliva formed in the process of smoking, and descending directly from the bowl through a duct or channel.

Claim.—The combination of the lever E′, spring *e*′, and cup E, with the chamber D, and apertures *a a*′, substantially as and for the purposes herein specified.

No. 43,985.—Edmund Greenlee, Summerhill, Penn.—*Machine for Making Heads to Barrels.*—August 30, 1864; antedated August 1, 1864.—The invention consists of a tool holding three bits, which plane the head upon the top and bottom sides to the right shape, and at the same time true it to a perfect circle and size; the tool being held in a tool stock, which is operated in the ordinary manner of tool stocks in lathes.

Claim.—The tool N, when constructed, arranged, and operating in the manner described, for the purpose set forth.

No. 43,986.—Sam Hague, Utica, N. Y.—*Horse Holder.*—August 30, 1864.—The object of this invention is to provide for the hitching of a horse's head by means of the reins to a wagon to which it is harnessed. It consists of a standard applied to the axle, and so geared with one of the wheels that when the reins are hitched to it, the starting of the horse will instantly produce such movement of the said standard as to draw in the reins; and for that purpose use is made of the combination of a jointed standard, sliding rod, toothed sector, plate, roller springs, and toothed ring with the axle and wheel of a wagon.

Claim.—First, a horse holder consisting of a standard so applied to the axle of a wagon or other vehicle, and capable of being so geared with one of the wheels thereof that when the reins are hitched to it the starting of the horse or team will instantly produce such a movement of the said standard as to draw in the reins, substantially as herein specified.

Second, the combination of the jointed standard A C, sliding rod *l*, toothed sector G, plate F, roller *h*, springs *g* and *j*, and toothed ring D, the whole applied in combination with each other and with the axle and wheel of a wagon or other vehicle, to operate substantially as and for the purpose herein specified.

No. 43,987.—Charles Hall, New York, N. Y.—*Machine for Stretching Chains.*—August 30, 1864.—This invention relates to a device for stretching chains, such as are designed to work over pulleys, whereby the links are all brought to a uniform length, so that they will all engage with the teeth on the pulleys or fit snugly in recesses made therein. The great difficulty of driving machinery or shafting by means of pulleys and chains has hitherto been owing to the variations in the length of the links, so that many would not engage with the teeth of the pulleys or fit properly in recesses made in the peripheries of the pulleys to receive them.

Claim.—First, the employment or use of the two pairs of tongs D E, or other suitable clamps, in connexion with the screw H, or its equivalent, arranged substantially as and for the purpose specified.

Second, the chain F, or its equivalent, in connexion with the swivel G, for conveniently connecting the tongs E to the screw H, as set forth.

Third, the gauge C, when used in combination with the tongs D E and screw H, or its equivalent, for the purpose specified.

No. 43,988.—Thomas Hazard, Wilmington, Ohio.—*Hay and Straw Cutter.*—August 30, 1864.—This invention consists in operating the pawl and ratchet that moves the endless apron by a cam upon the power wheel, and in raising the press board by the upward stroke of the knife.

Claim.—First, operating the endless feed apron B through the medium of the ratchet D attached to the shaft of the front roller *b* of said apron, and a slide E having a pawl D′ attached to it, together with a wheel F provided at its periphery with a cam shaped projection *k*, all arranged to operate substantially in the manner as and for the purpose set forth.

Second, raising the press board L through the medium of the knife J, the latter as it is raised striking against the rod P, substantially as described.

No. 43,989.—James P. Herron, Washington, D. C.—*Mode of Cutting Envelopes from Sheets of Paper.*—August 30, 1864.—The object of this invention is to obtain the greatest number of envelopes of a specified shape from a sheet of paper with the least possible waste of material, which is effected by cutting the paper in the shape shown in the engraving.

Claim.—The cutting of the paper or other material for envelopes economically, in the form substantially as represented.

No. 43,990.—S. S. Hersey, Farmington, Maine.—*Apple Parer.*—August 30, 1864.—This invention consists in the means of operating the knife, whereby the same is made to act upon the apple, while moving in both directions, in passing from the butt to the point of the fork and vice versa, due time being allowed for the removal of a pared apple from the fork and the placing of an unpared apple upon it under a continuous motion of the driving wheel of the machine.

Claim.—First, an apple paring machine having its knife bar arranged and operated so as to move or describe a semicircle and pare the apple while moving in the lower part of the semicircle in either direction, and the knife be thrown out from the apple while the knife bar is moving in the upper part of the semicircle, substantially as set forth.

Second, the swinging or oscillating frame M, clutch L, and wheels K K′, in connexion with the knife bar O attached to the frame M and provided with a spring and arranged with a projection *i*, to operate with a stationary cam on the bar I′ of the frame A, or other equivalent device for throwing out the knife from the apple, substantially as described.

No. 43,991.—H. Holcroft and C. S. Smith, Media, Penn.—*Cart.*—August 30, 1864.—The body of the cart which forms the subject of this invention is connected to the axle of the driving wheels so that it can rise and fall in the centre, and when the brakes are applied the action of the wheels on the brakes causes the body of the cart to rise and thus throw the weight of the rear end of the load upon the wheels, the weight of the load itself assists in keeping the brakes applied and prevents the cart from crowding on the horse.

Claim.—The slotted ears *c*, in combination with the box A, thills D, and brake E, constructed and operating substantially as and for the purpose herein shown and described.

No. 43,992.—Isaac L. Holmes, Haydenville, Mass.—*Drum Stove.*—August 30, 1864.—This invention consists in the combination of the following devices: Two conical drums connected by pipes, the upper chamber having a damper and the upper part of the lower chamber having a box opening into it which arrests the sparks and soot.

Claim.—Two conical chambers A A, connected by a series of tubes or pipes B, with a damper C, in the upper chamber A, and the spark arrester D, in the lower chamber A, all arranged substantially as and for the purpose herein set forth.

No. 43,993.—B. B. Hotchkiss, Sharon, Conn.—*Percussion Igniter of Time Fuzes for Explosive Shells.*—August 30, 1864.—This invention consists in providing a short cylindrical box of sheet metal to be inserted within the front end of a columnar fuze stock, within which thin metal box (perforated at each end) a priming or fulminating wafer is applied at each end, and a grooved plunger or striker is secured in the middle by a weak attachment, so by whichever end the primed box is inserted into the fuze the concussion of discharge of the gun will cause the plunger to strike back against the inside priming of the box, and thereby ignite the fuze on the starting of the shell.

Claim.—First, enclosing the striker D within a thin protecting case B, and securing the parts B and D together, as herein shown, so that the striker and its case may be transported and handled with the fulminate between them protected from friction or abrasion, substantially as and for the purposes herein set forth.

Second, constructing the case of a fuze igniter in two parts, A and B, with the base and sides of each part formed in one piece, and one part fitted within the other nearly the whole length of each, substantially as and for the purpose above described.

Third, in connexion with the above, providing both ends of the device with fulminate C, so as to adapt it to operate equally well with either end forward, substantially in the manner herein set forth.

No. 43,994.—C. F. Hunter, Adrian, Mich.—*Handle for Files.*—August 30, 1864; antedated August 16, 1864.—The object of this invention is to supply to metal workers a handle that can be used to operate a file in places where the common handle driven straight on to the shank of the file could not be used, and it consists in a clamp formed of two pieces of metal held together centrally by a set screw, in one of which the handle is inserted, and held in place by a bolt passing through the clamp and shank of the handle. The other ends of the jaws of the clamp are turned inward, and fit in grooves cut in the shank of the file, where they are held firmly in position by the set screw; at the same time the handle can be turned so as to be used in an upright or horizontal position.

Claim.—A file handle constructed as above described, with its clamps B B, bolt C, bolt E, and handle G, for the purposes set forth and described.

No. 43, 995.—William Ironside, Jennerville, Penn.—*Combined Seeder and Cultivator.*—August 30, 1864.—This invention consists of a rectangular frame with a seed hopper placed upon it, in which are suitable valves worked by gears, and elbow levers driven by means of a roller placed at the rear of the frame. In front of the frame is a guide roller hung in an adjustable frame, and in this frame are two bars pivoted and running back and underneath the main frame, in the rear end of which are placed coverers. The machine may be driven by hand or horse power.

Claim.—First, the arrangement of a single guide pulley M and slotted side supports L, when combined with the vibrating arms K for the covering scrapers Q, and the means of raising them from the ground by a strap I and securing them, or its equivalent, substantially in the manner and for the purpose specified.

Second, the construction of the slide IV (Fig. IV, No. 2) with the ends on the underside centrally chambered, open on the outer edge *b*, operated in a sunken portion Y of the centrally open ended bottom with its slot *u* by the combined action of the forked rocker *r*, its arms H, and the connecting rod G, pinion F, and spur wheel E, all operated by the roller D, when arranged as shown for the purpose specified.

Third, the loose or false hopper bottom U with its upright *x*, long slot, and central opening *x′*, in combination with the brush block V, all covering the vibrating slide IV, secured and arranged in the manner specified.

No. 43,996.—S. S. Jackson, Cincinnati, Ohio.—*Knife for Nurserymen.*—August 30, 1864.—This invention consists in the employment of a standard with its upper end bevelled and a metallic shank holding the cutter, which works through the standard at right angles. The shank after passing through the standard curves so as to throw its cutter directly upon the bevelled edge. An upright metallic post is screwed into the piece near the handle, and serves as a stop to the stroke. The main standard is in two parts, and encloses a piece of wood armed with a rubber pad, upon which the cutting rests and the knife falls.

Claim.—First, the knife or cutter C attached to a curved bar D, in connexion with a standard B, provided with an oblique or inclined surface *f* and the fulcum pin *e*, on which the knife bar D is fitted, as and for the purpose specified.

Second, the adjustable pin or rod E fitted in the bed-piece A, when used in combination with the knife bar D and standard B, for the purpose set forth.

Third, constructing the standard B in two parts *a a* connected by screws *b*, when said standard thus constructed is used in combination with the knife bar D, as and for the purpose specified.

No. 43,997.—George R. Kelsey, West Haven, Conn.—*Buckle.*—August 30, 1864.—This invention consists in making the buckle of three pieces of wire, the bow loop, the cross bar, to which is attached the tongue, the front and rear of the buckle being provided with antifriction rollers, and the two ends of the wire forming the loop being joined together underneath the antifriction roller of the rear part.

Claim.—As a new article of manufacture, a buckle, when constructed and fitted for use, substantially as herein described.

No. 43,998.—S. C. Ketchum, Winchendon, Mass.—*Mode of Attaching Pipes to Sinks.*—August 30, 1864.—This invention consists in making the hole at the upper surface of the bottom of the sink of increased size, and also slightly countersunk. The lead pipe is brought up even with the bottom of this countersink, and a short tube of a size internally corresponding with that of the pipe, slightly conical in its external shape, and having a screw thread cut upon its surface, is then forced into the end of the pipe, which it thus forces outward close against the wood of the sink bottom, whilst a flange at its upper end, projecting outward somewhat like the head of a screw, laps over the edge of the zinc lining, and holds it closely compressed against the end of the pipe.

Claim.—In combination with the sink bottom A B and the pipe C of ductile material, the hollow tapering nut D, threaded on its external surface, and fitted and secured into the pipe C, in the manner and for the purposes shown and described.

No. 43,999.—Patrick Killin, Mount Healthy, Ohio.—*Churn.*—August 30, 1864.—This invention consists in attaching to an upright revolving shaft a spiral crescent shaped break or paddle perforated at its sides, and in connexion with this a tube funnel shaped at its base, which, by its revolutions, creates a partial vacuum, and thus facilitates the passage of air through the cream.

Claim.—Suspending tube D, funnel shape at its base, upright and parallel from the side of shaft B in churn A, in combination with the spiral perforated breaker C, substantially as and for the purpose herein set forth.

No. 44,000.—Frederick Klinkerman, Farmers' Retreat, Ind.—*Grinding Mill.*—August 30, 1864.—This invention relates to devices intended to facilitate the turning of the spindle. The frame of the grinding mill is made with the bed stone capable of adjustment to a bevel by means of wedges, the foot beam supports a pedestal which constitutes the guide and lateral support of a step, the spindle rests in the step, and is supported at its upper part by a divided box, so that it can be adjusted laterally when desired.

Claim.—First, the arrangement of foot beam D, laterally adjustable pedestal E, vertically adjustable step F *f*, bridge tree G, and shifting foot or fulcrum H, for the purpose set forth.

Second, in combination with a vertically and angularly adjustable mill spindle, the vibratable box L L′ *l l′*, ledges *m*, shoulders N, and keys O, substantially as set forth.

No. 44,001.—F. Lambrun, New Orleans, La.—*Composition for Preventing Incrustation in Steam Boilers.*—August 30, 1864.—This invention consists of a composition of chloride of potassium, carbonate of soda, carbonate of potash, sulphate of potash, and silicate of potash, for the purpose of preventing the formation of scales on the inner surface of steam boilers, and keeping the impurities contained in the water in suspense therein, so that they may be easily blown out.

Claim.—The within described composition for preventing the incrustation of steam boilers, consisting of the ingredients above specified, and mixed in about the proportion and in the manner herein set forth.

No. 44,002.—A. H. Langholz, Chicago, Ill.—*Bridle Bit.*—August 30, 1864; antedated August 15, 1864.—This invention consists in a double round bar bit, with a convex and concave projection at the centre and square slots at the top of the levers. These are slightly bent outward and rounding at top, so as to prevent the cheek of the horse from being chafed; side rein hangers operating on a pivot swing to either side of the bit as the bit is reversed or changed. The bit has a curved centre piece. Its convex side acts as a mild bit; but the contrary takes place when the bit is reversed. Thus the same bit, by being reversed, operates as a severe or mild bit.

Claim.—The double round bar bit with its concave and convex projection H, as described and for the purpose set forth.

Also, the square slot G, at the top of the levers, for the purpose set forth.

No. 44,003.—Lebbeus W. Lathrop, Philadelphia, Penn.—*Sewing Machine.*—August 30, 1864.—In this machine the common spool of commerce is used for supplying its lower thread; and the claim and engraving define the character of the invention, which is designed to make more efficient this class of machine.

Claim.—First, passing a loop of needle thread over a common store spool, substantially in the manner described, said spool having an oscillating vibratory motion to release and relieve the thread in its passage over it.

Second, attaching a take up to the spool frame inside the revolving cup, substantially as and for the purposes specified.

Third, the combination of the stationary and the vibrating spool frame controllers described, to alternately keep the spool frame from revolving with the cup without producing friction on the needle thread.

Fourth, the combination of an upper tension on the needle bar with a spring tension on the spool holder, constructed and operating together, substantially as described.

Fifth, oscillating the spool holder, substantially in the manner described, to permit the loop of needle thread to pass between the spool case and the case holder.

Sixth, the combination of the hollow grooved revolving hook and the flanged and oscillating spool holder, constructed and operating together, substantially as described

Seventh, the bevelled hook described and shown, so long and slender pointed that the point, after entering the loop, shall not begin to spread it until after the eye of the needle has reached the cloth in its ascent.

No. 44,004.—Lewis Leigh, Seymour, Conn.—*Machine for Stretching and Glossing Silk, &c., in the Skein.*—August 30, 1864; patented in England September 17, 1862.—In this invention the skeins, while being steamed and stretched, move gradually over the stretching rollers, so that all parts of the skein are equally acted upon.

Claim.—The revolving sleeves or stretching pins in combination with the enclosing case, for stretching and glossing skeins or hanks of silk or other fibrous material, substantially as specified.

No. 44,005.—Lewis Leigh, Seymour, Conn.—*Lubricator.*—August 30, 1864.—The object of this invention is to provide a self-feeding lubricator for spindles running in pipe boxes. Its novelty consists in combining an ordinary cup lubricator having a wick inserted for supplying oil to the spindle by capillary attraction, with a pipe box for the spindle to revolve in, which box is, through a portion of its length, made spheroidal, and is placed in a socket corresponding in form, for the purpose of allowing for any slight deviation in the alignment of the spindle.

Claim.—The combination of the said lubricator with the pipe shaped globular bolster *c*, for the purposes and as specified.

No. 44,006.—Levi E. Lincoln, (Elizabeth K. Lincoln, administratrix,) Lowell, Mass.—*Steam Whistle.*—August 30, 1864.—This invention consists in so constructing the whistle as that the tone given shall be the same at all times, without reference to the pressure of the steam in the boiler. This is effected by making the bell of the whistle movable upon the stem, so that when the pressure of the steam in the boiler is low it will rest down upon the shoulder provided for that purpose; but as the pressure increases the bell rises upon the stem just in proportion to the pressure, and the tone is preserved. To further facilitate this the lower edge of the bell or edge of impact is formed in arcs of unequal radii, or are sectionally unequally distant from the plane of the annular opening in the whistle.

Claim.—First, the use of radial arms within or without the bell of a steam whistle, by which to retain said bell in the annular steam current.

Second, the use of openings in the discharge chamber of a steam whistle, in addition to the annular opening thereof, to the effect of preventing excessive discharge through said annular opening into or upon said whistle's bell.

Third, the use of a steam bell the edges of whose mouth, sectionally or wholly, are unequally distant from the plane of the whistle's annular opening, to the effect of providing bell surfaces differently attached by the same current.

Fourth, the making of the edges of the mouth of a steam bell in arcs of unequal radii, to the effect of securing upon said bell a unitive or an alternate and changing impact.

Fifth, the fitting of the bell of a steam whistle loosely around its supporting or guiding post in such manner that the said bell may rise perpendicularly and float above the annular opening of the whistle in and by force of the steam that attacks it.

Sixth, the combination in a steam whistle of a valve seat and valve with a bell whose edges of impact are in arcs of unequal radii, or with a bell whose edges, wholly or sectionally, are unequally distant from the plane of the whistle's annular opening, substantially as set forth and described.

No. 44,007.—William Lorenz, Lebanon, Penn.—*Lock.*—August 30, 1864.—This box consists of a circular box or case, within which is a ring to which a hasp is attached. The latter, passing through an open space in the periphery of the case, then bends to a right angle, so that its extremity may enter a hole formed in a lug which projects from the periphery of the case. Three radial bolts are so arranged within the case that when the end of the hasp has entered the hole in the lug they will be forced by a spring into as many notches in the ring, and thus effectually prevent the latter from being turned within the case, except by means of the key.

Claim.—First, constructing the hasp B′ so that its hinge shall form the notched ring B, which can be moved only when the tumblers *a a a′* are lifted out of the notches in the ring B, substantially as set forth.

Second, constructing one of the tumblers with a knife edge, to be operated by the key in the manner and for the purpose substantially as set forth.

Third, the spiral spring F attached at one end to the case A and the other end to the ring B, operating substantially as described.

No. 44,008.—Orlando Lund, Nashua, N. H.—*Safety Guard for Locks.*—August 30, 1864.—This invention is designed as an improvement upon the device patented to A. Westcott, February 10, 1863, in this, viz., the opening for the passage of the key is in shape, the same as that in the escutcheon, and when the plate is raised up and the key locked thereby, it completely covers the key hole, with the exception of that portion occupied by the shank of the key.

Claim.—Improved construction and application of the safety-guard, whereby it, by being raised upward, is not only caused to lock the key by the action of the part *t* thereof and the bit passage of the key hole of the said guard, but to close the key-hole of the lock or the escutcheon plate thereof, all substantially as specified.

No. 44,009.—James F. Mallett, New York, N. Y.—*Horseshoe.*—August 30, 1864.—This invention consists in constructing the shoe in five sections, the under half of the hinged joint by the sections are connected together, having the pintle projecting upwards and the cork downwards from its lower surface, both formed from the same solid material with the section. The toe cork under the middle section extends from the middle of the joint at one end to a corresponding point at the other, each heel section having a cork at the outer end.

Claim.—First, a sectional jointed horseshoe, which is so constructed that it can be expanded or contracted in width either at the heel or at an intermediate point between the heel and toe, or at both of said points, at pleasure, substantially as described.

Second, a sectional jointed horseshoe, which is constructed with one or both of its heel sections jointed to forward jointed sections, substantially as and for the purposes described.

Third, so constructing the pivot pins of a sectional jointed horseshoe that they constitute a part of the underlapping portions of the sections, substantially as described.

Fourth, the use of projections g g^1 g^2 applied to a sectional jointed horseshoe in such manner as to strengthen the sections at the joints, and to constitute corks for preventing the horse from slipping, substantially as herein described.

No. 44,010.—Cornelius Mesler, Almond, N. Y.—*Hydraulic Motor.*—August 30, 1864.—The object of this invention is to obtain power by the action of water on buckets secured to an endless chain. The novelty consists in the combination of a sprocket wheel and endless chain, with buckets attached to it at equal distances apart, a penstock, a stationary tube, and an adjustable tube arranged within the penstock.

Claim.—The wheel E, endless chain F provided with buckets G, penstock A, stationary tube B, and adjustable tube C, all arranged substantially as and for the purpose herein set forth.

No. 44,011.—F. H. C. Mey, Buffalo, N. Y.—*Grain Separator.*—August 30, 1864.—In this machine the grain is received upon a wheel constructed like an overshot water wheel. The momentum thus given to the wheel acts upon a governor, and by this means regulates a valve which controls the strength of the blast from the fan wheel. If the quantity of grain admitted is small the valve is partially closed by the action of the governor, and as the quantity of grain is increased, thereby requiring a stronger blast, the increased velocity of the wheel, through the governor, opens the valve to admit a stronger blast.

Claim.—First, the wheel I, constructed and adapted to be rotated by the weight of the descending grain, and arranged in relation to the feed spout J, as shown, in combination with the governor N and valve K, all arranged to operate substantially in the manner as and for the purpose herein set forth.

Second, the self-adjusting or counterpoised valve H′, in combination with the governor wheel I and with the rotary discharging plate Q, arranged in relation to the draught passage of the device, and operating substantially as and for the purposes specified.

Third, the arrangement of the three cases A C D, substantially as shown, to form the light grain discharging receptacle and draught passage, when said cases are used in combination with the fans G, wheel I, and valve K, to operate conjointly, as set forth.

No. 44; 012.—A. Miller, Angola, Ind.—*Sulky.*—August 30, 1864.—This invention relates to an improvement in the application of an elliptic spring to a sulky for the purpose of securing an easy motion. At a point back of the axle each shaft has a pendent rod attached to it, and these rods pass loosely through boxes or guides, having each a rod attached horizontally to the lower parts of their front ends. The lower ends of these rods are connected by braces with the shafts. The boxes or guides and braces serve to protect the spring from the longitudinal pull of the shafts under the draught movement.

Claim.—The elliptic spring E, in combination with the rods F F, adjustable boxes or guides G G, and braces J J, all arranged and applied to a sulky, substantially as herein shown and described.

No. 44,013.—Thomas A. Morris, assignor to himself and F. R. Schettler, Green Bay, Wis.—*Quartz Crusher.*—August 30, 1864; antedated March 6, 1864.—This machine consists of a rotating cylinder, in which are stationary drags, made to operate in connexion with the quartz bed, and provided with stationary scrapers attached to the frame and extending within the cylinders, so as to operate near their inner sides.

Claim.—The employment or use of the scrapers I, when used in connexion with the rotating cylinder E, provided with the quartz bed *g*, and the stationary drags H, all arranged for joint operation, substantially as and for the purpose set forth.

No. 44,014.—Jacob Rand, Roxbury, Mass.—*Mode of Transmitting Motion by Belts.*—August 30, 1864.—This invention consists in suspending one or more belt pulleys between and on the inner surfaces of two rims which project from the side faces of a pair of driving wheels on a single shaft, the motion of the driving wheels being communicated to the pulleys by the friction of said surfaces in contact with the suspended pulleys; also, in providing one or more grooves in each end of the suspended pulleys and corresponding ribs or guides on the inner surfaces of the rims, for the purpose of holding the pulley in its proper position, and of increasing the friction between the rims and pulleys; also, in so arranging the parts that when the work which is being done is increased, the tightness of the belt is also increased by slightly increasing the distance between the belt carrying pulleys.

Claim.—The suspending of one or more pulleys D within the rims of the driving wheels A A, substantially in the manner and for the purposes described.

Also, the V-shaped frictional groove *i* and corresponding projection a', for maintaining the proper endwise adjustment of the pulley D, and at the same time increasing the gripe of the surfaces, substantially in the manner and for the purpose described.

Also, the combination of a movable self-adjusting pulley D with the belt G, rock shaft F, and driving shaft B, substantially as herein shown and described, so that the belt will be automatically loosened or tightened in proportion to the resistance of the rock shaft, all as set forth.

No. 44,015.—Franklin Ransom, Buffalo, N. Y.—*Churn.*—August 30, 1864.—This machine is constructed as follows: Through the centre of the churn barrel extends a perpendicular shaft, carrying at its lower end a propeller wheel. This wheel is surrounded by a movable hollow drum, open at both ends and perforated. Upon the top of this drum rests a perforated disk, equal in diameter to the inside of the churn. Four or more breakers or wings extend upwards and downward from this disk. Another small cylinder, open at both ends and perforated, rests upon the disk, all arranged for making and breaking currents and counter currents.

Claim.—First, the application and use of rotating blades or propeller B of much less diameter than the diameter of the churn tub, in combination with the perforated disk F and hollow cylinder E, (either or both of them,) for the purposes and substantially as herein described.

Second, the perforated cylinder G, in combination with the disk F and propeller B, for the purposes and substantially as herein set forth.

Third, the break wings *f*1 *f*2, placed either upon the upper or lower side of the disk, for the purposes and substantially as set forth.

No. 44,016—Charles H. Reynolds, North Kingston, R. I.—*Bobbin.*—August 30, 1864.—This invention is explained by the claim.

Claim.—First, the use of an elastic packing, made part of the bobbin or spool, or secured thereto so as to bear upon the surface of the spindle and hold the bobbin or spool thereto, substantially as described.

Second, making the packing or friction surface of the bobbins or spools, whereby to hold them to their spindles, of a ring of elastic material secured within the foot of the bobbin or spool, substantially as described.

No. 44,017.—Hugh Sangster, Buffalo, N. Y.—*Lamp.*—August 30, 1864.—This improvement consists in making the lantern rim of one piece of metal, with a projection milled and stamped out, for the cheap and easy means of the removal of the ratchet button.

Claim.—The rim L, with the recess I and the aperture K, when made of one piece or sheet metal, as herein substantially set forth.

No. 44,018.—W. N. Santee, Dixon, Ill.—*Wind Wheel.*—August 30, 1864.—The object of this invention is to allow the wind to press at intervals on a series of vertical shutters, so governing their position with reference to its pressure, irrespective of its direction, that a continuous motion may be kept up or arrested at pleasure. The novelty consists in constructing the sails of the wind wheel of a series of vertical shutters, connected by a rod and provided with governors; in connexion with which, are used springs and a catch or fastening, with one or more loose sail arms, to admit of the wind wheel being suddenly stopped when desired.

Claim.—The shutters F, pivoted vertically in frames E and connected by a rod G, in connexion with two vanes or governors H, all arranged to operate in the manner substantially as and for the purpose set forth.

Also, the loose arm C', one or more, in connexion with a catch or fastening D, substantially as and for the purpose specified.

Also, the eccentric J on the shaft B, in connexion with the U-spring K and rod L, for closing the shutters of the loose arm C' when the latter is detached from the shaft B, as described.

No. 44,019.—James Selby, Peoria, Ill.—*Corn Planter.*—August 30, 1864.—This invention consists in the employment of jointed links which connect the treadles with the seed box, for the purpose of raising the seed drills or tubes from the ground, the valve for discharging the grain being worked by a hand lever. At the rear of the wheels are arranged scrapers attached to sliding adjustable plates.

Claim.—First, the links h' h', jointed at their respective ends to the pivoted frame D E F and treadles H H, and operating in the manner described to facilitate the elevation of said pivoted frame.

Second, the combination of the pivoted frame D E F with the adjustable plates I I, for gauging the depth at which it is desired to have the runners work, substantially as set forth,

Third, the scrapers O O, in combination with the sliding plates O' O', constructed and operating in the manner and for the purpose explained.

No. 44,020.—A. J. Shunk, Shanesville, Ohio.—*Horse Rake.*—August 30, 1864.—This invention consists in the arrangement of a series of levers extending from front to rear of the frame, and connected with the rake head, which is made to turn so that the teeth can be readily raised. The front of the rake frame is made adjustable as to height by means of a series of holes in which may be fitted a pin in the shafts.

Claim.—The arrangement of the levers *d c b* and rocking rake head E, in combination with the adjustable rake frame C, substantially as described.

No. 44,021.—N. Silverthorn, Prescott, Wis.—*Hog Cleaning Machine.*—August 30, 1864.—This invention consists in the employment, in a machine adapted to the purpose, of some elastic material, so arranged as to remove from the skin of the hog, after being scalded, the hair and other substances adhering thereto.

Claim.—The apparatus herein described for removing from scalded hogs the hair, scurf, sline, &c., the same consisting essentially in the employment of substances of the requisite elasticity to yield to the irregularities of the body while adhering thereto with the force necessary to remove the hair and impurities, as set forth.

No. 44,022.—Charles Spofford and William S. Bell, jr., Boston, Mass.—*Paper Shirt Collar.*—August 30, 1864 —This invention consists in stretching that portion of the collar which forms the outer fold, in order to make it fit more neatly, over the under part when folded, and admit of a neck tie being passed between the folded parts.

Claim.—Stretching or elongating that portion *f* of the collar which forms the outer fold, substantially as set forth for the purpose specified.

No. 44,023.—Charles W. Stafford, New York, N. Y.—*Combined Time and Percussion Fuze for Shells.*—August 30, 1864.—The fuze stock is provided with an interior tube, within which a percussion plunger is placed, and so held as to explode the shell on impact; while the annular space between the said inner tube and the fuze case is filled with the time composition. A rotating disk at the front end of the fuze is provided with one or more apertures, and so arranged that it may either permit the said time fuze to be ignited by the windage of the gun, or by a partial rotation, to close such connexion or opening, and prevent the ignition of the time fuze.

Claim.—First, the combination in one fuze of the following elements, to wit: 1st, the annular chamber E, extending from front to rear of the fuze, to contain a time composition; 2d, the apertures c', affording communication between the said chamber and the interior of the shell; and, 3d, the nipple plunger B, surrounded by and adapted to slide within the chamber E, the said parts being arranged to operate as herein specified.

Second, the cap *b*, provided with the apertures b', which operate in connexion with the apertures *a*3, in the manner described, so as to adapt the time fuze E, to be ignited by the windage, or to be closed from communication therewith, as and for the purposes specified.

No. 44,024.—Benjamin Stott, Westerly, R. I.—*Stop Motion.*—August 30, 1864.—This invention consists in causing the belt shipper or guide to be held in position by centrifugal force in such manner that when the said centrifugal force is lessened beyond a certain fixed amount, a weight spring, or other automatic force, is permitted to shift the belt upon the loose pulley, and thus stop the machine.

Claim.—Holding a belt shipper in position by means of centrifugal force so arranged that when the said force is diminished beyond a given amount, a weight or other automatic force shall shift the belt, substantially as and for the purpose herein set forth.

No. 44,025.—A. Taw, Philadelphia, Penn.—*Composition for Treating Leather.*—August 30, 1864.—This investion consists of a composition of tallow, horse fat, neat's-foot oil, fish oil, and beeswax, and the product obtained by the distillation of a mixture of animal fat and the residuum of petroleum or coal tar.

Claim.—A composition made by mixing tallow, horse fat, neat's-foot oil, fish oil, and beeswax, with the product obtained by the distillation of a mixture of animal fat and the residuum of petroleum or coal tar, in the manner and in about the proportion herein specified.

No. 44,026.—George T. Teel, Hoboken, N. J.—*Meat Broiler.*—August 30, 1864.—This invention consists in constructing a meat broiler in two parts, which may be separated from each other, and between which the meat to be broiled is placed.

Claim.—The construction, combination, and arrangement of two separate and movable parts as described and represented.

No. 44,027.—William Toshach, New York, N. Y.—*Railroad Car Spring.*—August 30, 1864.—This invention consists in supporting the load to be carried on the vibrating ends of elastic plates, whose opposite extremities are held fast by some suitable device, the plates being so arranged as to cross each other, and thus bend in opposite directions. This arrangement and combination of the elastic plates constitute the chief novelty of the spring, which from its peculiar construction can be made more cheaply than others possessing the same resilient power.

Claim.—A spring for railroad cars or other vehicles, formed of two or more elastic bars, plates, or series of plates, which are rigidly confined at one end, when the vibrating extremities of any two of the same extend towards and cross each other, furnishing an even bearing for the load, substantially in the manner hereinbefore set forth.

Also, when two or more elastic spring bars, plates, or series of plates, are rigidly confined at one end only, and so arranged as that their vibrating ends shall extend towards and cross each other, substantially as herein described, combining therewith a relieving block or bar *e*, of any suitable material, either elastic or non-elastic, placed centrally between the said elastic spring plates, and so shaped as to gradually ease the same while bending under pressure, all substantially as herein set forth.

No. 44,028.—C. J. Van Oeckelen, New York, N. Y.—*Machine for making Packages of Tobacco, &c.*—August 30, 1864.—The object of this invention is to make packages of tobacco or other articles or substances of a similar nature entirely by machinery, the tobacco or other material to be wrapped up in a package, being measured off and pushed in the paper, which is previously formed into a hollow tube to receive the charge, the whole being so arranged that it can be operated by steam or any other competent power, and that it requires but very little attendance and no hand labor except the measuring off the material and the feeding of the paper to the machine, and a very large quantity of packages can be produced in a short time.

Claim.—First, the employment or use in machines for making packages, of a platform G, composed of a series of folding parts *a b c d e*, with flaps b' c' d' e' b'' c'' d'' e'', substantially as and for the purposes set forth.

Second, the reciprocating rising and falling tube E, with the hopper D, and the plunger H′, constructed and operating in the manner and for the purpose substantially as described.

Third, the lifter K, provided with a hook K′, and operated substantially in the manner described, so that it acts on the folding part *b* and *a* of the platform in successive order.

Fourth, the arm j', applied in connexion with the flap b', substantially as specified, so that said flap will support the end of the wrapper until the charge has been introduced.

No. 44,029.—Elmer Townsend, Boston, Mass.—*Machine for introducing Pegs and Cement into Soles, &c.*—August 30, 1864.—This invention consists in the combination of a pegging machine with an apparatus either for introducing cement into the awl hole for the reception of the pegs, or for applying cement to the pegs preparatory to that being driven.

Claim.—A combination composed of a pegging machine (whether with or without an awl for making holes in an article to be pegged) and a mechanism or apparatus, either for introducing cement into the awl hole or holes for the reception of the peg or pegs, for applying cement to the pegs preparatory to their being driven, or for applying a cement softening liquid to pegs previously covered either in whole or in part with cement, and prior to such pegs being driven, the object or purpose of such combination being as hereinbefore set forth.

No. 44,030.—W. J. Towne, Newton, Mass.—*Ventilating Damper and Register.*—August 30, 1864.—This invention consists in a convex or curved damper, fitted within a corresponding metal case, moving on pivots and operating as a valve for the admission of fresh air into the smoke pipe, while at the same time it closes the pipe in a corresponding degree, and checks the draught of the stove, thus securing the double purpose of a damper and ventilator.

Claim.—The curved and convex damper C, pivoted at or near the centre of a box A, of corresponding contour, operating substantially as described for the purpose specified.

No. 44,031.—Albert Warner, Hoboken, N. J.—*Diaper Pin.*—August 30, 1864.—This invention consists in the employment of a circular spring guard, provided at its end with notched bulbs in connexion with the pin, which is hinged to said spring guard at a point opposite the notched bulbs in such a manner that the point of the pin, after the same has been passed through the diaper, can be readily forced in between the notched bulbs which retain and protect the same, and thereby the pin is prevented from opening spontaneously or from scratching or injuring the body of the infant wearing the diaper.

Claim.—A diaper pin provided with a circular spring-guard B, and notched bulbs ***a a***, in the manner and for the purpose substantially as shown and described.

No. 44,032.—Charles H. Wolcott, Randolph, N. Y.—*Hoe and Seed Planter.*—August 30, 1864.—This invention consists in placing on the upper side of the handle of a hand hoe a seed box, on the underside of which is a tube extending to the lower end of the hoe handle. Inside the box, and over the tube, is placed a plunger, in which there is a cell that becomes filled with seed as the plunger is drawn up. The plunger is pressed down, and the cell, filled with seed, comes to a corresponding opening in the tube, the seed being conducted to the ground and deposited in the desired position.

Claim.—The seed distributing device, composed of the box C, slide E, and tube D, when used in connexion with the plate G, and all combined with a hoe to operate in the manner substantially as and for the purpose herein set forth.

No. 44,033.—John W. Wood, Philadelphia, Penn.—*Car Spring Fastener.*—August 30, 1864.—This invention consists in fastening the spring in position by means of slotted lugs placed within tapering rectangular holes in connexion with wedges that pass through the slotted lugs.

Claim.—The rectangular taper holes B, the slotted lugs D, and the wedges F, when arranged and combined in the manner and for the purpose as above particularly set forth.

No. 44,034.—W. H. Worcester and E. F. Jones, Farmington, N. H.—*Door Spring.*—August 30, 1864.—In this device a tube is inserted in the hinged edge of the door, and secured by screws through flanges on its outer end. A plate, having a concave recess corresponding to and opposite the tube, and similarly secured in the jambs, has one end of a chain attached to it, while the other is fastened to a spiral spring in said tube, the inner end of the spring being secured to the inner end of the tube, so that its tension will cause the tube and concave to close. A pulley in the mouth of the tube prevents the chain which passes over it from bearing against the side of the tube when the door is opened.

Claim.—As a new article of manufacture the door spring herein before described, consisting of the casing B, spring C, chain *e*, and roller *a*, and concave plate D, all constructed and arranged as herein specified, and constituting a complete device adapted for ready application (independently of the hinges) to a door or gate already in use.

No. 44,035.—Aaron B. Adams, Westport, Conn., assignor to himself and William C. Street, Norwalk, Conn.—*Weeding Hoe.*—August 30, 1864.—This invention consists in attaching a hoe blade, by means of a short shank placed at right angles to it, to a wooden handle. The shank is adjustable in the slot in which it is secured by set screws. The end of the handle moves upon a wooden roller a short distance from the blade of the hoe.

Claim.—The adjusting slot *a*, in combination with the pole C, wheel E, and hoe A, all constructed and operating in the manner and for the purpose substantially as herein shown and described.

No. 44,036.—A. J. Ambler, Chicago, Ill., assignor to himself and Gustavus Shepard, New York, N. Y.—*Car Brake.*—August 30, 1864.—The invention relates to an improvement in that class of railroad car brakes in which a tensional chain, or rods and chains, are used for operating or applying power from the locomotive to the brakes of a train of cars, by means of devices designated in the claim.

Claim.—The employment or use, in connexion with a tensional chain F, and a brake chain G, of fixed and sliding sheaves, arranged substantially as herein shown, or in any equivalent way, so that by operating the tensional chain F a movement will be imparted to the brake chain G, to set or apply the brakes, and the slack of the tensional chain be taken up by the falling of the sliding sheaves when the power is taken off from said tensional chain.

Also, limiting or controlling the maximum power of the brakes by limiting the rising and falling movement of the sheaves E E′, by having the axles *b* of said sheaves fitted in slots *a*, in the bars D″ D″, or other fixtures, substantially as set forth.

No. 44,037.—A. R. Arnold, assignor to the Manhattan Fire-arms Company, Newark, N. J.—*Machine for Making Twist Drills.*—August 30, 1864.—In this apparatus the blank, projecting upward from the end of a vertical spindle, passes through a platform upon which are two cutting devices arranged, each in a sliding poppet. The vertical spindle rests upon the point of a screw, which, being constantly turned by means of gearing connecting it with the driving shaft, gradually elevates the spindle, while at the same time a slow rotary motion is imparted to it by other gearing. Two horizontal levers, pivoted to opposite sides of the frame, carry each at its inner end a stud which rests upon a collar on the upper end of the spindle, while to the outer end is attached a vertical rack which gears with a pinion on the screw shaft which carries the poppet.

Claim.—The arrangement of the two rotating cutters, whether for cutting or finishing the two grooves, and acting simultaneously on opposite sides of the blank, substantially as described, in combination with the mandrel for carrying the blank, and having a simultaneous longitudinal and rotary motion substantially as described, whereby I am enabled to cut or finish both grooves at the same time and of the required pitch, without tendency to spring the blank, as set forth.

Also, moving the cutter or cutters gradually from the axis of the blank to make the groove or grooves of gradually less depth by means of the sliding poppet (or poppets) in which the cutter (or cutters) is mounted, the sliding mandrel with a collar, or equivalent thereof, and the mechanism, or the equivalent thereof, by which the rising of the mandrel communicates the required motion to the poppet for cutting the grooves of gradually less depth, as set forth.

Also, the arrangement of gearing for communicating rotary motion from the shaft *k* to the wheel *o*, in which the mandrel *c* slides, and to which it is feathered so as to be turned thereby, in combination with the rotating screw shaft *q*, which receives motion from the mandrel *c*, substantially as and for the purpose specified.

Also, the combination and arrangement of gearing herein described, for transmitting motion from the driving pulleys *n'* to the lever cutters *g*.

No. 44,038.—W. C. Baker, assignor to himself and John J. Smith, New York, N. Y.—*Automatic Air Damper for Hot Water Heating Apparatus.*—August 30, 1864.—This invention consists in the automatic regulation of a damper, or valve, for the admission of cold air into a hot water radiator, by the expansion and combustion of the water in the boiler, acting on a piston or diaphragm.

Claim.—Regulating the supply of cold air to the radiator or heater automatically by the varying temperature of the water employed to heat the radiator, substantially as and for the purpose set forth.

No. 44,039.—Evelyn Beecher, Plymouth, Conn., assignor to Hoadley, Beecher & Co., Waterbury, Conn.—*Basket.*—August 30, 1864.—This invention consists in placing around the top of a common wooden woven basket a solid rim, grooved to admit the upper end of the basket body, for the purpose of preventing the edge of the basket from becoming worn, as is the case where the rim is composed of two hoops.

Claim.—A wood woven basket furnished with a grooved wooden rim, in the manner herein shown and described.

No. 44,040.—D. E. Bryer, assignor to himself and E. Maurer, Logansport, Ind.—*Biscuit Board and Flour Chest.*—August 30, 1864.—This invention consists in attaching a lid or cover to a chest in such a manner that it may be adjusted in an upright position when access to the chest only is required, and in a horizontal position so that the inner side of the lid can be used as a biscuit board, and the chest used as a receptacle for flour, bread, spices, &c.

Claim.—A chest provided with a lid or cover applied to it in the manner substantially as herein shown and described to admit of said lid or cover being adjusted in the several positions specified, to form a new and improved flour chest and biscuit board, as set forth.

No. 44,041.—Reuben R. Finch, Jr., assignor to himself and Uriah Hill, Jr., and Nathan L. Finch, New York, N. Y.—*Cooking Range.*—August 30, 1864.—The special feature of this invention is the arrangement of a perforated fire chamber lining, in conjunction with a corresponding register, so that the direct rays of heat may pass from the fire into the oven for roasting, &c., while the flues are so arranged that the products of combustion nearly surround the oven in their passage over, at the side and back, and under the oven, being regulated by a damper in the form of an arc of a circle, before making their exit through the smoke ipe.

Claim.—First, the arrangement of the flues *t*, *u*, and *v*, damper *r*, and flue *g*, by which the heat is regulated in its action on the oven, or the products of combustion passed directly to the chimney, as set forth.

Second, the construction of the damper *r*, as an arc of the circle moving on the pin 3, and acting between the plates 2 and 5, as set forth.

Third, the perforated brick or soapstone *n'*, with a space between that and the oven plate opening to the ash pit, for the purpose specified.

Fourth, the register plate *d*, in combination with the perforated bricks *n'*, for the purposes and as specified.

Fifth, the slide or secondary door 7, in the oven door, for the purposes and as specified.

No. 44,042.—W. P. Goolman, assignor to Goolman, Morris & Co., Indianapolis, Ind.—*Straw Cutter.*—August 30, 1864.—This invention consists in securing the knife and gauge plate to the feed box and long stud. Between the nuts and the washers at the end of this stud or pivot are placed pieces of rubber packing.

Claim.—The combination of the box N with the stud P and set screws *a a a*, the elastic substance X, the washer T, and nut U, all arranged and operating substantially as and for the purpose shown and described.

No. 44 043.—A. W. Hall, assignor to himself, Samuel Jaudon, and B. H. Belden, New York, N. Y.—*Syphon for Separating Gold from Crushed Quartz.*—August 30, 1864.—This invention consists of a tube the ends of which are curved in opposite directions. Within this tube is placed another similar in form, the upper end of which extends down slightly below the upper end of the first named tube, the opposite end being flush with the same. The inner tube is enlarged, and the tube A has an opening near its end to receive a steam tube or pipe.

Claim.—A syphon provided with a quantity of quicksilver, and arranged substantially as herein shown and described, for drawing off the pulverized quartz, and fine particles of gold held in suspension near the surface of the water in the crushing device, and separating the gold from the foreign substances contained with it in the water, as set forth.

Also, the external steam tube A in combination with the internal tube B, or syphon proper, all arranged substantially as and for the purpose specified.

No. 44,044.—Wm. M. Howland, assignor to himself and John H. Lockey, Leominster, Mass.—*Fruit Paring Machine.*—August 30, 1864.—This invention is explained by the claim.

Claim.—The employment in the same knife stock of a suitable device for giving to it a vibrating or rocking movement in a plane transverse to the plane of revolution of the fruit, in combination with a vibrating or rocking movement in a plane coincident with the plane of revolution of the fruit, substantially as described.

No. 44,045.—William Miller, assignor to himself and John Murphy, Boston, Mass.—*Thimble with Guarded Cutters.*—August 30, 1864.—Near the open end of the thimble a thread cutter is attached, extending toward the opposite end. It is made concave, next to the thimble, and tapers from its point of attachment. The cutting edges are thus protected from injury and from liability to injure by accident, being capable of cutting nothing but thread, tape, &c., placed between the cutter and thimble for the purpose.

Claim.—A thimble having the guard 6 attached or provided, in combination with the cutter or cutting edge *a*, substantially as and for the purpose herein specified.

No. 44,046.—David Rait, assignor to Samuel L. Glassey, New York, N. Y.—*Preparing Metallic Substances for Enamelling, Japanning, and Inlaying.*—August 30, 1864.—The object of this invention is to form the backing or "flushing" of articles of jewelry to be enamelled by means of a galvanic deposition of metal.

Claim.—The process of preparing metallic substances for enamelling, japanning, or inlaying, by depositing metals by the action of a galvanic battery upon the reverse of the pattern to be enamelled, japanned, or inlaid, substantially as above described.

No. 44,047.—Louis C. Rodier, assignor to Samuel Norris, Springfield, Mass.—*Bit Holder for Bit Stock.*—August 30, 1864.—The object of this invention is to furnish a tool which, when attached to a brace, will be capable of operating a bit so as to bore a hole in a place where a complete revolution of the brace cannot be had, and when the brace is swung back does not revolve the bit, or it can be revolved in the opposite direction and turn the bit also in the opposite direction. And it consists in a right and left hand ratchet placed on opposite sides of a disk, with ratchet teeth on either side, so as to take hold of the two separate ratchets in such manner as that, when the brace is rotated one way, the teeth of the ratchet and the disk will gear together and turn the bit, and, if rotated the other way, the teeth will slide over each other until the brace is again worked forward; which again revolves the bit; or, if the brace is pulled in the direction to draw the bit out, the two other sets of ratchets will be in gear, and by reversing the revolution of the brace it will revolve the bit in the opposite direction.

Claim.—First, a bit holder, when constructed and arranged for operation substantially as described.

Second, in combination with a tool socket of otherwise ordinary or suitable construction, the employment of a right and left hand ratchet box, together with a circular double ratchet plate, under the arrangement described, so that the said ratchet plate may be brought into working contact with either the right or left hand ratchet teeth of the box, and thus transmit the vibratory motion of the handle or crank of the holder to the bit, to determine its rotary movement either to the right or the left, as the case may be.

No. 44,048.—Joseph F. Sargent, assignor to Elmer Townsend, Boston, Mass.—*Pegging Machine.*—August 30, 1864.—This invention relates to the details of mechanism pertaining to awl-fed pegging machines, the novelty consisting in the arrangement of the mechanism for actuating the awl and peg driver vertically and laterally; also, in the relative position and co-operation of the awl and the lower end of the bar or carrier from which it extends, in connexion with the construction of the peg tube; also, in the manner of locking or uniting the awl bar or slide and the bar or slide of the peg driver so that they shall work vertically as one bar, and be also capable of lateral separation to variably space the pegs; also, in the manner of varying the throw of the awl and peg driver, and in the manner of hanging the swing plate.

Claim.—The arrangement in a pegging machine of an awl bar and a peg-driver bar, so connected that they operate in vertical directions as one bar, while capable of lateral adjustment with respect to each other to vary the spacing of the pegs.

Also, the arrangement or combination of the cam for producing the lateral movement of the awl (or peg driver) in juxtaposition with the cam which produces the vertical movement of the awl and peg driver, one cam being placed on or confined to the cam wheel, and the other cut therein, and both working in or nearly in the same vertical plane.

Also, the manner of varying the throw of the spring plate, by the use of cams of different sizes, to operate on the friction wheels, substantially as set forth.

Also, hanging or suspending the swing plate on the centre pin *i*, midway between the top and bottom of the plate, so that the lateral movement of the top plate in one direction produces corresponding movement of the awl and peg driver in the opposite direction.

Also, the arrangement to operate together of an awl and awl-bar foot for feeding the work, a peg tube which vibrates laterally above the plane or surface of the shoe, and a rest or foot piece which holds the shoe in place, substantially as described.

No. 44,049.—J. F. SARGENT, assignor to ELMER TOWNSEND, Boston, Mass.—*Pegging Machine.*—August 30, 1864.—This invention relates to the class of pegging machines in which the work is fed by a lateral movement of the awl, and the novelty consists in giving to the peg driver, in combination with a positive upward movement simultaneously with the awl, and with the positive downward movement of the awl, a downward spring movement to drive the peg. The throw of the awl, and the space between it and the peg driver, are adjusted so as to variably space the pegs. Combined with the knife which cuts the pegs from the strips of peg-wood is a pointing knife or instrument operating in the same plane with the cutting-off knife.

Claim.—The arrangement of the awl and peg driver of an awl feed pegging machine, to move upward together by a positive movement, while the peg driver is driven downward by a spring and the awl by a positive movement, substantially as set forth.

Also, imparting the upward movement to the peg-driver bar and awl bar by the eccentric *l*, connecting rod *k*, and lifter *o*, in the manner substantially as described.

Also, the combination of the tripping lifter *o* and spring *s* for actuating the peg-driver bar, substantially as described.

Also, the manner of effecting the change of spacing and throw of the awl by means of the adjusting screw *t*, cam *l*, and rolls *v w*, operating together, substantially as set forth.

Also, the combination of a pointing tool or tools and a cutting-off knife, so arranged as to operate in the same plane, to point the pegs in the strip and sever them therefrom, substantially as above described.

No. 44,050.—JOSEPH THOMAS, assignor to himself and CATHOLINA LAMBERT, New York, N. Y.—*Machine for Making Chenille.*—August 30, 1864.—In this machine fixed wire cones are so arranged, and the silk so wound about them and the inner binding threads, as to form material for two separate strands of chenille when cut by the knife. The knife is secured to the travelling carriage, and cuts the silk or plush at two points. The twisting mandrels have pulleys thereon, around which a tension cord passes on its way through the mandrel, and a weight is appended to the tension cord to give an uniform and yielding tension adapted to the shortening of the material in the act of twisting. Two grooved compressing rollers assist the knife in severing the material at two points, so as to produce the two pieces of chenille at one operation.

Claim.—First, the hollow mandrel G *g*2, and exposed pulley G2, on the outside thereof, in combination with the operative parts of a chenille machine and arranged relatively thereto, substantially in the manner and for the purpose herein set forth.

Second, the tension cord H, and weight I, arranged relatively to the operative parts of a chenille machine, substantially as and for the purpose herein set forth.

Third, in chenille machines the knife P, arranged between two compressing rollers M and N, or their equivalents, and adapted to sever the material at two points in each circuit.

No. 44,051.—RICHARD WOODWARD JOSEPH PRIEST, and OTTO ERNST, assignors to OTTO ERNST, New York, N. Y.—*Steel Shirt Collar.*—August 30, 1864.—The collar is formed of two pieces united at the upper part of the back by a pivot, beneath which pivot a wide button-hole is formed in one of the lapped ends, while the other lapped end has a large notch to fit against and press upon the thread attaching the button. In front there is on one end a hole to receive a hook, wide where the hook is to enter and narrow nearer to the end of the collar, the hook being on the inside of the opposite end, its stem passing through and terminating in a rivet-head to receive and retain a neck-tie.

Claim.—First, uniting two pieces of sheet metal, forming the collar, by a rivet or joint, for the purpose and as specified.

Second, connecting the collar to the button by the notches or openings in the respective parts of the collar that grasp the shank or attachment of the button, as specified.

Third, in combination with a metallic collar, a hook on the inside of the collar at the front to take the button-hole of the shirt collar, as specified.

No. 44,052.—GODFREY ERMEN and ROBERT SMITH, Manchester, England.—*Machine for Spooling Cotton, &c.*—August 30, 1864; patented in England November 25, 1862.—This invention is described as an improvement on Young's English patent of 1848, No. 12,353.—The spindle frame on which are the spools to be wound can be so revolved in its bearings that whilst one row of spools is being filled the filled spools may be doffed and empty spools substituted to be filled in their turn. The length of traverse of the frame carrying the thread guides is varied by means of right and left hand screws cut upon a shaft, to which motion is given by the descent of a weight. When the spools are full the machine is stopped by hand, or automatically by means of a stud on a weighted lever, which, rising, allows the stud to lift a latch and permit a friction brake to come into action.

Claim.—First, the reversible or revolving frame G, set in eccentric bearings and carrying the gearing that drives the spools, as specified, so that one range of spools is in gear while the other is stationary, as and for the purposes set forth.

Second, the sliding frame Q Q2, escapement *b*, pallets *c c′*, and screen *m*, for regulating the extent of travel of the thread guides P, substantially as specified.

Third, the weights R1, and platform *t*, in combination with the thread guide P and weighted lever *e*, for the purpose and substantially as specified.

Fourth, the latch *y* and disk D2 in combination with the lever *s* and adjustable sector *d*3, for stopping the machine, as set forth.

No. 44,053.—ADOLPHE AMEDEI FESQUET, Marseilles, France.—*Method for Purifying Acetic Acid.*—August 30, 1864.—This invention consists in passing the vapor of acetic acid through several vessels containing sulphuric acid, and then through a vessel containing acetate of soda or acetate of lime. Applicable especially in deodorizing wood vinegar.

Claim.—The purification of crude pyroligneous or impure acetic acid by the destructive action of sulphuric acid upon the impurities therein contained, substantially as set forth in the above specification.

No. 44,054.—NATHAN THOMPSON, St. John's Wood, England.—*Apparatus for Stoppering Jars and Bottles.*—August 30, 1864; patented in England March 9, 1864.—This invention consists of a short metal cylinder closed at both ends, and having a flange at its lower end. In the upper end of the cylinder is a hole, under which is attached a screw nut. Around this cylinder is an India-rubber ring, and over the cylinder is placed a short tube having a flange at its upper edge and a recess. It also has another flange projecting inwards, forming a flat surface to press against the rubber ring, and a short guide tube. In the recess is placed a disk having at its centre a screw. The said disk is also stamped with a recess for the handle, which is hinged to it in such a manner that it will drop into the recess and be out of the way when not used.

Claim.—The constructing and forming the first, third, and fourth parts, severally, of the stoppering apparatus, substantially as hereinbefore described.

Also, the combining the several parts of the stoppering apparatus, substantially as described.

No. 44,055.—GEORGE THOMAS, Frankfort-on-the-Main, Germany, assignor to BERNHARD SCHAFFER and CHRISTIAN BÜDENBERG, New York, N. Y.—*Locomotive.*—August 30, 1864.—The object of this invention is to so arrange pipes with valves, and hose attached, and connect them to a locomotive engine that it may be used to extinguish fires or for pumping water for other purposes. The novelty consists in the application of hose pipes with or without an additional air chamber, and with suitable stop valves, in such a manner that, by relieving the driving wheels of the weight which usually rests upon them, the power of the engine may be applied to the raising and forcing water for any desired purpose.

Claim.—The application to a locomotive of hose pipes $d\ e^{*}\ g$, with or without an additional air chamber F, and with suitable stop valves $a\ a^{*}\ g'$, in the manner and for the purpose substantially as herein shown and described.

No. 44,056.—LORENZO RICE, West Winsted, Conn.—*Manufacture of Table Cutlery.*—August 30, 1864.—This invention consists in attaching the bolster to the knife or fork with a pin or spur on one or both half parts of the bolster, so as to hold them firmly together during the process of heating and welding the bolsters to the blade or fork.

Claim.—The mode or method of attaching the bolster to the knife or fork, for the purposes herein set forth, with a pin, nipple, or spur, on one or both half parts of the bolster, and as herein set forth, holding them firmly during the process of heating and welding the bolsters to the blade or fork, as herein set forth, or any other mode substantially the same, or by which the same results can be produced.

No. 44,057.—JOSHUA B. WOOD, Norwich, N. Y.—*Telescopic Sight for Rifles.*—August 30, 1864.—The telescope is provided with vertical and lateral adjustments, and notched openings are made in the tube through which the glasses may be reached to clean them.

Claim.—First, the raise-and-fall, or up-and-down movement, also the lateral, or right-and-left movement, combined together, forming a new arrangement, and operating in harmony with each other, for the purposes set forth.

Second, the slotted notched tube E, for the purposes described.

No. 44.058.—F. G. ABBEY, Sandisfield, Mass.—*Curd Cutter.*—September 6, 1864.—This machine consists of a feed box constructed with a series of thin horizontal parallel blades at one end. An automatic-feeding follower, moved by an elbow lever, forces the curd against these knives, cutting it into thin sheets. Just outside these parallel blades a frame is moved up and down, carrying a straight cutting edge, and several very short knives at right angles to it. The combined knives cut the curd into small cubes at each stroke of the lever.

Claim.—First, the feed box A and automatically-feeding follower C, in combination with the three sets of knives B and D and reciprocating gate E, constructed and operating in the manner and for the purpose substantially as herein shown and described.

Second, the employment or use, for the purpose of cutting cheese curd, of three sets of knives, situated in planes at right angles to each other, and operated substantially in the manner specified, or in any other equivalent manner, to produce a like effect.

No. 44,059.—ALEXANDER ANDERSON, Milwaukie, Wis.—*Apparatus for Washing the Felts of Paper Machines.*—September 6, 1864.—In this apparatus, water under pressure from any convenient source is forced into a tube of an elliptic form, so connected with a receiving and cutting-off chamber as that when placed in the machine a portion of the tube lies both above and below, or on opposite sides of the felt, and completely surrounding it. The sides of the tube which are towards the felt are perforated to allow jets of water to be ejected upon both sides of the felt, provision being made to let on, or stop, or regulate the supply of water at will. Suitable joints admit of taking off or applying the apparatus to the machine with facility.

Claim.—The method of washing felts in the process of manufacturing paper, by projecting jets of water upon both surfaces of the felt while in motion, by means of an apparatus to be constructed and operated substantially as herein described.

No. 44,060.—ELLIS S. ARCHER, New York, N. Y.—*Apparatus for Carburetting Air.*—September 6, 1864.—This invention consists in covering a reel with cloth, or similar textile fabric, and having the reel revolve in the carburetting liquid.

Claim.—A carbonizer, consisting of a hollow drum or chamber, to be partially filled with hydrocarbon liquid, and provided with one or more cylinders or diaphragms of textile fabric, through the texture of which the air or gas to be carbonized is passed, substantially as and for the purposes set forth.

No. 44,061.—CLIFFORD ARICK, St. Clairsville, Ohio.—*Combined Time and Concussion Fuze.*—September 6, 1864.—This invention consists in connecting a circular or Bormann time fuze with a tubular concussion fuze by means of an annular space, or fire chamber, within the circular fuze, and a central tubular pin passing through the concussion fuze stock transmits the flame from the end of the time fuze to the charge within the shell; the said time fuze being ignited at the initial shock of the starting shell by a friction primer communicating with the inner annular fire chamber; the usual cutting or puncturing of the time fuze at its desired length serving also to open communication at the same point with the said fire chamber. If the time fuze should not be punctured, the friction priming burns out through a suitable external vent, and the fuze acts simply as a concussion device on impact.

Claim.—First, constructing a Bormann fuze case with its magazine on its index side, and with an independent concentric fire chamber between its fuze chamber and magazine, substantially as described.

Second, combining with the magazine of a Bormann fuze case, and acting as a bottom to it, a hollow pin, to serve as a means of fastening it in a shell, or as a conductor of its flame through an intervening space or obstacle to the bursting charge thereof, substantially as set forth.

Third, combining with a Bormann fuze case, thus constructed, with or without its independent fire chamber, by means of a central hollow pin, a concussion or percussion fuze, either or both, and whether ignitible by or independent of the windage flame, substantially as described.

Fourth, so combining in a Bormann fuze case a fuze and concentric fire chamber that, when the fuze is cut at the desired point, the partition wall between the two chambers may be conveniently included in the cut, and they be thereby united, substantially as described.

No. 44,062.—EDWARD H. ASHCROFT, Lynn, Mass., and ALBERT BETTELEY, Boston, Mass.—*Apparatus for Preparing Peat Fuel.*—September 6, 1864.—This invention consists of a receiving cylinder, a vertical shaft, and triturating arms. The cylinder is connected with the separator by the feeding tube, which is provided with a feed screw. The separator is provided with two horizontal rotary shafts, each of which has a series of arms. From the separator extends a tube which is provided with a screw for pressing the peat downward into the tube.

Claim.—The arrangement of a triturating, separating, and desiccating mechanism, to operate together, in the manner and for the purpose substantially as set forth.

Also, the employment of the two series of revolving arms *i k*, for separating the fibrous and undecomposed part of the peat from the finer and decomposed parts, substantially as set forth.

Also, the use of a feed screw, in combination with a gate or retarder, by means of which the peat is compressed and fed, substantially as described.

Also, the combination of the coring rod *x* and tube *z*, to operate in the manner set forth.

No. 44,063.—BRYAN ATWATER, Berlin, Conn.—*Sewing Machine.*—September 6, 1864.—This invention relates to an improvement on Ward's patent of January 2, 1855, and is designed the better to secure the opening of the loop of the needle thread by the action of the spring nippers; the prevention of the nipping fork becoming entangled with the needle thread; the movement of the nippers out of the way of the shuttle or other lower thread-carrying device, and the avoidance of the liability of the point of the shuttle to cause the breaking of the needle.

Claim.—First, placing the arms of the forked device M, with its springs *s s'*, or the equivalent thereof, vertically and in relation to the needle and its thread, substantially in the manner and for the purpose described.

Second, placing the springs *s s'* in recesses in the arms of the forked device M, or guiding and controlling their movement by some other equivalent means, so that they will properly co-operate with the needle, substantially as described.

Third, giving to the forked device M a reciprocating movement in a vertical direction, in combination with the movement in a horizontal direction, to enable it to co-operate with the shuttle or other device which carries the binding thread into the loop of the needle thread, substantially as described.

Fourth, the employment of a small bevel upon the point of the shuttle, upon the side thereof next to the needle, in combination with the forked device for opening the loop of the needle thread, substantially as described.

No. 44,064.—GEORGE BAILEY, Wiscotta, Iowa.—*Harvester.*—September 6, 1864; antedated December 11, 1861.—The nature and object of this invention are explained by the claim and engraving.

Claim.—First, the combination of the hinged platform, the pivoted side levers, and vertically adjustable cross-bar, so arranged as to allow the gavel to be raked off under the main frame, substantially as and for the purposes set forth.

Second, in combination with the up-and-down adjustable cross-bar to the sickle frame, a swivelling or pivoted bracket for supporting, in connexion with the cross-bar, the cutter driving gear, and to admit of perfect adjustment of the latter to its driver in effecting the up-and-down adjustment of the sickle frame, substantially as herein specified.

Third, in combination with the cross-bar L and the pinion or bevel wheel M, arranged in relation to each other, to operate substantially as described, the curved guide or guides *b*, for the purposes set forth.

No. 44,065.—SAMUEL W. BAXTER, Dennis, Mass., and J. W. CHAPMAN, Barnstable, Mass.—*Courses or Lower Sails of Square-rigged Vessels.*—September 6, 1864.—The course or lower sail of a square-rigged vessel is divided centrally and vertically. The parts are connected by what is termed technically "fair leaders." There is also provided a certain combination of the "tacks and sheets," or the division of the sail. Appended to these devices is a shackle, formed of two parts, for uniting the lower corners of the divided sail.

Claim.—First, the combination of the tacks and sheets at the division of a sail formed of two parts, as and for the purposes set forth.

Second, uniting the two halves of a sail by means of fair leaders, with a rope rove thereon, or the equivalent thereof, so that the sail can readily be united or disunited, as is required and herein specified.

Third, the shackles, Fig. 4, formed of two parts, for uniting the lower corners of the divided sail, as set forth.

No. 44,066.—THEODORE BERGNER, Philadelphia, Penn.—*Skate Fastening.*—September 6, 1864.—This invention relates to that class of skates which are secured to the feet without the use of straps. It consists in so constructing them as to combine, in one single forging, the runner, stays, and clamps, adding thereto the clamping screws for the purpose of combining the element of an efficient fastening with lightness, strength, and simplicity of arrangement.

Claim.—First, the described elastic stays when forged upon the runner of the skate, or otherwise attached to the same, and when their projections *d d* are actuated by clamping screws or their equivalents, substantially as and for the purpose specified.

Second, the use of a ferrule, or its equivalent, as a guard upon the clamping screws, substantially as set forth.

Third, supporting the rear end of the toe plate upon the front clamping screw, in the manner and for the purpose described.

No. 44,067.—EDGAR B. BEACH, West Meriden, Conn.—*Self-centring Chuck.*—September 6, 1864.—In this invention a screw threaded spindle is inserted into a cylindrical cap, the outer end of which is of a conical form. This cone is provided with three radial slots extending longitudinally its entire length, in which are inserted three jaws, which embrace, by a notch in the inner end of each, a collar surrounding the end of the mandrel. These jaws are shaped externally to correspond to the surface of the cone, as their inner edges do with the axis of the same. Surrounding these is a conical cap. the van of which is screwed on a portion of the cylinder, reduced in diameter, and threaded for that purpose. The jaws, thus confined, when thrust forward by means of the mandrel, converge to a common centre, and clamp whatever article may be inserted between them.

Claim.—The inclined converging guide ways *c*, in combination with the jaws C, head B, and screw spindle A, constructed and operating in the manner and for the purpose substantially as herein shown and described.

No. 44,068.—THEODORE BLODGETT, Belchertown, Mass.—*Dumping Cart.*—September 6, 1864.—This invention consists of a series of devices, designated in the claim, by which the various operations of raising the scoop and discharging the load from a dumping cart can be easily accomplished.

Claim.—The combination and arrangement of the eccentrics F F with the shaft G, the scoop D, its lifting chains E E, and the operative mechanism of such shaft.

Also, the arrangement of the scoop D on the axle of the supporting wheels in combination with the arrangement of the scoop-elevating machinery on the thills, as specified.

Also, the combination of the hinged door *e* and its holding mechanism *f g* with the scoop D, its elevating mechanism, and the wheels and thills, or their equivalents, for connecting one or more draught animals to the cart.

No. 44,069.—CALEB BOND, Richmond, Ind.—*Saw Mill.*—September 6, 1864.—The object of this invention is to adjust the saw in regard to the pitch, and to prevent the trembling of the saw when reciprocating; and it consists in attaching to the upper end of the saw two straps, one on each edge of the saw, and extending upward, between which is a cross-head, and through the straps and against this cross-head is an adjusting screw which gives the saw more or less pitch, as it is turned to the right or left. Extending down from the main block are arms, to the inner sides of which are attached springs that bear against guides on each side of the saw, which prevents the trembling motion.

Claim.—First, the application of the clamp I and set screw *b* in combination with the cross-head G of the saw H, substantially as herein specified, so that by the action of said set screw the pitch of the saw can be adjusted.

Second, the vertically-adjustable spring guides *d* in combination with the arms *e* and saw H, constructed and operating substantially as and for the purpose set forth.

Third, the sliding friction clutch *q*2 *q*2* in combination with the pulley *q*4, cog wheel *p*2, shaft *q*, and hand wheel *q*7, applied substantially as herein specified, so that the carriage can be moved in either direction by hand or by power, as may be desirable.

Fourth, the hand wheel *o*6 on the vertical arbor *o*5 in combination with the belt shipper *o*4, cone pulleys *o*2 *o*3, and belt *o*1, applied substantially as herein set forth, so that the sawyer is enabled, by turning the hand wheel, to regulate the feed.

Fifth, the swinging frame N, roller M, and weight O, in combination with the spring stop *b*, and hand-lever *b*3, constructed and operating substantially as and for the purpose set forth.

No. 44,070.—C. G. A. BRINCKMANN, New York, N. Y.—*Cigar Machine.*—September 6, 1864.—This machine consists of a series of finely serrated rollers made adjustable by means of spiral springs with conical headers, to form the pointed end of the cigar. In the headers are friction rollers for the purpose of making the roll of tobacco turn or roll more easily.

Claim.—First, the forming the core or bunch with a nearly conical head; that is, corresponding to the shape of the finished cigar, except in having its tip cut off, substantially as shown and described, for the purpose set forth.

Second, the employment of a series of yielding rolls adapted to receive and turn the cigar core between them, in the manner substantially as herein before set forth.

Third, the employment of header block J J′ mounted in such manner as to yield to the pressure exerted upon them, in the manner and for the purpose described.

Fourth, so arranging each of the rolls E that it will yield under less pressure near the end intended to be nearest the butt of the cigar, substantially as and for the purposes set forth.

Fifth, the employment of the spring rod *n*5, or its equivalent, as and for the purposes set forth.

Sixth, combining with the header block a socket-inserted rolls, or a continuation of the main rolls, for the purpose of decreasing the friction or dragging tendency on the surface of the cigar head.

Seventh, the employment, in combination with the header blocks, of the stop rod *q*, or its equivalent, arranged to operate as and for the purpose set forth.

Eighth, the employment of an automatic guide, on which the hook of the wrapper may be held, and by which it will be guided, substantially as and for the purpose described.

Ninth, the employment, in combination with the rolls and header blocks for forming and wrapping the cigar, of an adjustable springing stop G, as and for the purpose described.

Tenth, the combination with the rolls E of regulator plates *c c*′, or their equivalents, the whole arranged to operate substantially as and for the purposes described.

No. 44,071.—EDWARD BROWN, Philadelphia, Penn.—*Valve Gear for Steam Engines.*—September 6, 1864.—This invention consists in operating the valve by means of a single eccentric and a cam attached to a movable disk, both of which are placed upon the shaft of the engine. This eccentric and cam are connected by means of a rod to a lever, which is pivoted to the valve rod and vibrates freely thereon. The cam consists of a groove made in the face of an annular plate, which is fastened to the disk upon the shaft in such a manner that its position can at any time be changed for the purpose of determining the point of cut-off of the valve. On the bed of the engine is pivoted a lever, the upper end of which carries a roller that works in the groove in the cam, and communicates its motion to the valve by the rod above described. The eccentric controls the opening movement of the valve and the cam its closing or cut-off movement, and is so arranged as to give an accelerated motion to the closing movement.

Claim.—First, operating the slide valve of a steam engine by means of a single eccentric *e* and a cam or grooved disk A, when the said grooved disk is shaped as described, and the point of cut-off varied by turning the said cam on the shaft, substantially as described.

Second, the combination of the eccentric C, disk A, flange B, roller L, arm *m*, rods Q Q′, and lever R, arranged and operating substantially as described.

No. 44,072.—J. D. BURDICK, Ashway, R. I.—*Blind-slat Fastening.*—September 6, 1864.—In this invention the slats are opened and shut by means of a bell-crank lever attached to the lower bar of the blind and connected to the slat rod by a bent iron wire.

Claim.—The bent lever C fitted within a suitable case or socket B and applied to the blind A, so as to turn or work in a plane parallel therewith, in combination with the rod E, attached to the short arm *h* of the lever C, and to the slat rod *b* and the spring E′, fitted on the rod or axis D of the lever, between said lever and the inner side of the case or socket B, substantially as and for the purpose herein set forth.

No. 44,073.—M. E. CARTER and ELISHA METS, Rochester, N. Y.—*Slide for Extension Tables.*—September 6, 1864.—This invention consists of three slides with a double T or X-shaped connexions of metal running into grooves in the slides for the purpose of extension, and a notch and pin to hold the connexion in place.

Claim.—A slide D, combining the double T and double wedge or dovetailed form, the same consisting of the tongues *a a* and centre *c*, arranged in combination with the groove E and bars A B C, substantially as herein set forth.

In combination with the slide D, arranged as above described, provided with the notch *g*, and with the groove E, and bars A B C, also the pin *h*, arranged and operating substantially as and for the purpose herein set forth.

No. 44,074.—CHARLES H. CHANDLER, Foxcroft, Me.—*Mode of Forming Screws.*—September 6, 1864.—This invention consists in supporting the cap or tube to be cut upon a mandrel of corresponding shape, having that portion which fills the part of the cap to be threaded cut to correspond to the female screw, but as much less in diameter as the thickness of the tube when cut, so that the latter, between the two dies, is partly cut and partly swaged.

Claim.—The combination of the rotary mandrel A, provided with a screw *a a*, as described, with a die plate, said mandrel and die plate being used substantially as described.

No. 44,075.—W. Z. M. CHAPMAN, New York, N. Y.—*Apparatus for Inhaling Gases.*—September 6, 1864.—The invention is adapted to the respiration of gas and vapors, in such manner as to prevent the expiration of the contents of the lungs back into the reservoir, and other facilities of operation. The mouth-piece is double; that is, there is a shield to be enclosed between the lips and the gums or teeth, and one to close upon the mouth outside, so as to guard against relaxation of the lips. The apparatus is provided with valves, by which the inspiration and expiration are perfectly under control, and with a suitable nose cap or cover.

Claim.—The employment of the plate *f* affixed to the tube *e*, placed within the lips, as and for the purposes described.

Also, in combination with the above, the shield *g*, for the purposes herein set forth.

Also, in combination with the breathing tube *e*, the tongue-piece *e*′, substantially as described.

Also, in combination with the breathing apparatus, the nose cover, all as herein specified.

Also, the arrangement and operation of the valves in combination with the breathing tubes, substantially as and for the purposes herein set forth.

Also, the indicator, substantially as and for the purposes described.

Also, the separate pipe for saliva, &c., all as herein specified.

No. 44,076.—G. F. J. COLBURN, Newark, N. J., assignor to THE SCOVILLE MANUFACTURING COMPANY, Waterbury, Conn.—*Stop Hinge.*—September 6, 1864.—In the construc tion of this hinge, one portion left projecting from the edge of one of the leaves, instead of being bent entirely around the pintle, is cut off to such a length that when the two leaves are open to an angle of ninety degrees, its end hugging the pintle, reaches around to about opposite the centre of the pintle, at the back of the knuckle, and then abuts against the edge of the other leaf, a notch being cut out of the latter for that purpose.

Claim.—A hinge having one or more stops formed as described.

No. 44,077.—JAMES CURTIS, Chicago, Ill.—*Steam Plough.*—September 6, 1864.—This invention consists in putting in motion a horizontal cylinder by means of suitable gears. This machine cuts from the bottom; the cutters being upon the cylinder, and of a curved form, the earth is carried over and deposited in an inverted position. To the cutters are cleaners secured in such a manner that as the cutters revolve the cleaners are pressed down and the earth forced out of the cutters.

Claim.—First, a series of cutters fixed on and rotating with a shaft so as to cut the earth from the bottom of the furrow towards the surface, carry the earth taken up at each cut over the cutters and deposit it in a reversed position, or turned over behind the cutters, substantially in the manner described.

Second, the combination of cleaners with the cutters when the cleaners are hinged near the edge of the cutters and forced over their concave surfaces by adjustable guides, substantially as and for the purpose described.

Third, the combination of guides or rollers, adjustable on the supporting arms of the cutter shaft, with the cleaners, with or without cams thereon, to discharge the earth from the cutters at the point desired, substantially in the manner described.

Fourth, the combination of the steering mechanism with the mechanism for elevating or depressing the cutter shaft, so as to steer the carriage without changing the depth of furrow, or to regulate the depth of cutting without or whilst changing the direction of ploughing, substantially in the manner described.

No. 44,078.—THOMAS CURTIS, New Hudson, Mich.—*Car Wheel for Railroads.*—September 6, 1864.—This invention consists in the construction of a car wheel with a double tread, with a central flange, the wheel being furnished with projecting and yielding spurs on its periphery, to assist in overcoming high grades and prevent slipping. In the application of this wheel to use, it is combined with a double rail of the ordinary construction, the flange of the wheel running between the two rails, and the spurs coming in contact with each.

Claim.—The application to the wheels of railroad cars of the movable spurs B B, operating substantially as and for the purposes set forth and described.

Also, in combination with, or for use in connexion with, wheels armed with such movable spurs, the use and application of the additional rail E for such spurs to act against, substantially as and for the purposes set forth.

No. 44,079.—MOSES DAVENPORT, Minerva, Ohio.—*Horse Rake.*—September 6, 1864.—The invention consists in suspending the rake by curved arms, pivoted to the blocks in rear of the rake-head, which is also attached to the blocks, so that the forward part nearly counterbalances the rear part of the rake, and a combination of levers, by means of which the rake is locked in a working position. The rake is tilted and also locked by means of two treadles, connected by a strap passing over a pulley, working in an upright post in front of the driver. The seat is also movable upon two horizontal bars, thereby enabling the weight of the driver to be thrown forward or back of the axle.

Claim.—First, suspending a rake from a carriage by means of curved arms, or their equivalents, in such manner that the forward part of said rake will nearly counterbalance the rear part, in combination with means applied to raise and depress the rake and automatically lock it down in working position, substantially as described.

Second, the application of two treadles to a wheel rake when the rake is suspended by arms in such manner that its forward part will act as a counter-weight to the rear part, substantially as described.

Third, the combination of treadles D D′, strap *a*3, pulley *a*1, and link *b*, with a rake which is suspended by arms *d d*, substantially as and for the purposes set forth.

Fourth, the combination with the driver's seat D3, of the bars *k′ k′*, rod *i*, and notched bars *h h*, constructed substantially as described.

No. 44,080.—CHRISTOPHER DUCKWORTH, Mount Carmel, Conn.—*Stop-motion for Looms.*—September 6, 1864.—When the shuttle thread breaks or becomes exhausted, the sliding hooks *u*, having no thread to catch them, will, when the lay beats up, be left behind, and they will therefore omit to rock shaft I, with which they connect, and which will therefore remain at rest until the loose finger *h*, in its forward movement with the lay, receives in its lower offset the crooked arm *i*, which will cause the shaft I to rock, so as to bring the upper offset of *h* up against the inner end of lever *k*. The continued forward motion of the lay will thus force the outer end of *k* against the stop lever of L and unlock it, and so stop the loom.

Claim.—The combination of the hooks Fig. 3, fork Fig. 4, and levers *a* and *k*, with the rock shafts H and I, when the whole is constructed, arranged, and fitted to produce the desired result, substantially as herein described.

No. 44,081.—R. N. EAGLE, Washington, D. C.—*Lamp.*—September 6, 1864.—This invention consists in arranging within the lamp a fastening for securing one or more feeding wicks in contact with the main wick.

Claim.—A fastening, substantially as herein described, for securing one or more feeding wicks to a lamp.

No. 44,082.—H. G. EASTMAN, Poughkeepsie, N. Y.—*Arrangement of Desks for School-Rooms.*—September 6, 1864.—The invention consists in arranging the desks for commercial colleges according to the subjects, each branch of trade being by itself.

Claim.—The method of constructing and arranging the offices, desks, banks, and lines of telegraphs, &c., as described, in combination with the school or college room, as hereinbefore set forth.

No. 44,083.—CHARLES R. ELLIS, Brooklyn, N. Y.—*Boiler for Hot-water Furnaces.*—September 6, 1864.—This invention consists in a series of cast metal flue boxes arranged over the fire for receiving the heated gases, &c., between which flue boxes the water circulates; an oblong boiler surrounding said flues, which are formed by oblong and closed pendent divisions in the boiler, running lengthwise through it. At the bottom of the boiler is a hollow bridge over the back part of the furnace, through which the water circulates from one side to the other, and opposite to the ends of which are placed inlet pipes, which let the coolest water pass through this cross-flue, forming a bridge to the furnace, over which the heat passes to the escape flue; the exit pipe of the boiler being on the top of the boiler.

Claim.—First, the hollow flue boxes applied above the fire, substantially in the manner and for the purpose specified.

Second, the hollow bridge forming a circulating pipe extending from one side of the box *g* to the other, as specified.

Third, the pipe or pipes *m*, in combination with the cross-flue bridge, for returning the circulation water to the boiler near the said hollow bridge, as specified.

No. 44,084.—DANIEL L. EMERSON, Rockford, Ill.—*Harvester.*—September 6, 1864.—This invention relates to certain details of construction and arrangement of the parts of the machine, the nature of which will be understood by reference to the claim.

Claim.—The combination of a track-clearer with a grass wheel arranged relatively to the track-clearer, substantially as described.

Also, the combination of the divider with an inclined sliding bar, so that the acting front end of the divider can be depressed by moving said bar, substantially as set forth.

Also, the combination of the sickle with a clasp eye, to hold a removable brush, the whole operating substantially as set forth.

Also, the combination of the connecting rod of the sickle with a clasp eye, to hold a removable brush, substantially as set forth.

Also, the combination of the two beams of the frame of a harvester at the opposite sides of the main driving wheel, by means of the driving wheel axle, which is rigidly secured to both, the combination operating substantially as set forth, so that the necessity of a connecting piece in the rear of the driving axle is dispensed with.

Also, a driving wheel axle constructed in one piece with the socket of the standard of the driver's seat, substantially as set forth.

Also, the combination of the back beam (or its equivalent for supporting the rear of the platform of a harvester) with the frame of the machine, by means of radius bars, the whole operating substantially as set forth.

Also, the combination of the main frame draught bar, and compound lever, the whole operating substantially as set forth.

No. 44,085.—HENRY RAKE, Chicago, Ill.—*Car Coupling.*—September 6, 1864.—The object of this invention is to obtain a car coupling by which the danger of coupling by hand will be avoided, and one which will accommodate itself to all variations in the track; that is to say, admit of working both horizontally and vertically under the movement of the cars, as the latter pass over the track or rail.

Claim.—The two bars D D′, provided with hooks *d d* at their outer ends, and fitted within the draw-head A on the pin C, between the projections B B, in combination with the springs G G J J, and the sliding bars E E H H, all arranged substantially as and for the purpose herein set forth.

No. 44,086.—MOSES G. FARMER, Salem, Mass.—*Alloy of Aluminum.*—September 6, 1864.—This invention consists of a mixture in which the copper may vary from 65 to 80 per cent. of the whole, and the light colored metals from 35 to 20 per cent. of the whole, the aluminum being from 3-10 to 3-1000 of the whole quantity of the light colored metals used.

Claim.—The alloy compounded of the metals and in the proportion substantially as specified.

No. 44,087.—Silas L. Gates, Verona, N. Y.—*Horse Hay Fork.*—September 6, 1864.—This invention consists in connecting two pairs of tines by means of a rod and straps. The cross-heads of the fork are connected by chains or links with the hoisting rope, one of said chains being secured to the cross-head by means of a hook and lever, in such a manner that it may be released at the proper moment, and the fork discharge its load.

Claim.—The two pairs of tines B, attached to the bars A, and connected together by the straps or plates *b* and rod *c*, and secured to the hoisting rope E by means of the links D D′, hook *d*, lever *e*, and eye *f*, or their equivalents, substantially as and for the purpose specified.

No. 44,088.—R. S. Hadley, Anamosa, Iowa.—*Water Wheel.*—September 6, 1864.—This invention consists in constructing the buckets of the wheel in such a manner that their faces will have a concave and a plane surface, the former being at the upper and the latter at the lower part of the buckets, and in using in connexion with said buckets a band which encloses them, either wholly or partially. The invention also consists in the employment of chutes, placed in such relation with the buckets of the wheel as to cause the water to act upon the buckets in the most favorable manner to obtain a large percentage of the former.

Claim.—First, the bucket *c*, so formed or shaped as to have an upper semicircular part *d*, and a lower inclined surface *e*, in connexion with a band B encompassing the whole, as set forth.

Second, the combination of the longitudinally-curved and inclined chutes *f*, semicircular upper parts *d*, and inclined plane parts *e*, of the buckets *c*, and enclosing band B, all constructed, arranged, and employed as herein specified.

No. 44,089.—John L. Hanson, Boston, Mass.—*Heating Stove.*—September 6, 1864.—This invention relates to an improvement in parlor stoves, and consists in an arrangement and combination of flues, and air chambers, heat absorbers, and radiators attached to the inside casing or body of the stove, which are said to economize heat and radiate it into a room to great advantage.

Claim.—The combination and arrangement of the smoke spaces or chambers F G about the fire pot, and the ash chamber, with the heating pipes *o o*, and the base flues, arranged around and below such pipes, substantially as specified.

No. 44,090.—Hayward A. Harvey, New York, N. Y.—*Dies for Heading Screw Blanks.*—September 6, 1864.—The die in this instance is made as usual in two parts, but the matrix in which the head of the screw is to be formed lies entirely within one only of these sections. Thus the plate which contains the matrix has a thickness equal to the length of the blank, while the other portion, of less thickness, lies within a rebate formed on the posterior surface of the former, and, in conjunction with it, grasps the shank through its entire length, except a very short section immediately adjoining the head.

Claim.—A die having the countersink or matrix for the head formed in one part only thereof, so as to avoid finning as described, and having also a capacity to clamp the shank, to prevent crippling, by a construction substantially as described, the die as a whole being constructed and capable of operating substantially in the manner hereinbefore set forth.

No. 44,091.—Ebenezer Harrington, Boston, Mass.—*Draught Regulator.*—September 6, 1864.—This invention consists in the combination of an internal reflecting plate and two opposite apertures of triangular form, fitted with connected doors, opening outwardly, provided in the base of a smoke-pipe of a stove or furnace, for the purpose of regulating the admission into the pipe of air from the apartment in which the stove is situated, thereby reducing the draught and ventilating the room.

Claim.—The combination in the base of the smoke-pipe of the inclined deflecting plate F, outlet *a a*, opposite open rings *b b*, and connected outwardly-opening door C, the whole arranged and operating substantially as herein specified.

No. 44,092.—George M. Hay, Johnstown, Penn.—*Adjustable Collar for Stove Pipes.*—September 6, 1864.—This invention relates to a collar for stove pipes, so constructed that by means of a series of segmental plates of different sizes, having on pivots at one end, it may be adapted to stove pipes of different dimensions, and is designed to be located within a chimney or flue, and employed to support or retain the pipe in position.

Claim.—First, a chimney collar in which a series of pointed or sliding semicircular sections *a a*, &c., are employed to adapt the collar for pipes of various dimensions, substantially as herein set forth.

Second, the combination of the plates B B′, intermediate section B2, cylinder A, and slide E, the whole being constructed and arranged to operate in the manner specified.

Third, the slides D D, the folding doors D′ D′, and pieces C C, for adapting the opening in the cylinder A to be closed when the pipe is not in use, substantially as specified.

No. 44,093.—Charles E. Hersey, East Stoughton, Mass.—*Shoemaker's Edge Plane.*—September 6, 1864.—This invention consists of an edge plane, having its knife or cutter as well as its gauge provided with a dovetailed rib, and its stock constructed with corresponding jaws, provided with notches and furnished with a clamping screw.

Claim.—Improved edge plane as explained, that is, as having its knife or cutter, as well as its gauge, provided with a dovetailed rib, and its stock constructed with corresponding jaws made in the manner, and provided with the notches *e e′*, and furnished with a clamping screw as described, the same being as and for the purpose or objects herein before explained.

No. 44,094.—Lewis Heyl, Philadelphia, Penn.—*Portfolio.*—September 6, 1864.—The object of this invention is to provide a portfolio which may be adapted to contain any number of sheets, either many or few; and, in order to render the portfolio capable of confining the various quantities which it is to enclose, a back piece is employed, so that it may be extended or let out, and drawn in or contracted, in such a way as to increase or diminish its width between the two leaves of the portfolio, after which it is adjusted by a spring.

Claim.—First, a portfolio having an extensible back B, arranged in any manner substantially as herein described, and employed to adapt the portfolio to contain any quantity or various quantities of the matter to be enclosed therein, as explained.

Second, in combination with said extensible back B, the adjusting spring C, and notched plates D D, arranged and employed substantially as set forth.

No. 44,095.—William G. Hughes, Merriam, Ind.—*Horse Cage.*—September 6, 1864.—This invention consists of a stout frame, constructed of two upright end pieces, connected at their upper portions by two horizontal parallel bars, which are furnished with a windlass. The windlass carries a rope extending to a frame sliding vertically upon suitable guides in the front posts. This is adjustable to any height by the windlass above. The frame carries a breast-bar to fit closely against the horse, a windlass for drawing in the horse by his halter, and a second one for regulating the tension of ropes running lengthwise over and under the horse, and over pulleys in his rear. A movable stand, with two adjustable uprights for holding the feet in shoeing, is placed in the centre of the frame.

Claim.—The ropes G G, windlass F, adjustable sashes E E′, halter windlass I, and breast bar J, all combined and applied to a framing A, substantially as and for the purpose herein set forth.

Also, the stand M, provided with the adjustable uprights N N′, having foot-sockets P at their upper ends, in combination with the ropes G G, windlass F, sashes E E′, and either with or without the ropes L L, and windlasses K K, substantially as and for the purpose specified.

No. 44,096.—Samuel G. Hurlburt, Cleveland, Ohio.—*Cider Mill.*—September 6, 1864.—This invention relates to the operation of grinding the apples and pressing the cider from the pomace at the same time: and it consists in the grinding rollers, a receiving box below into which the pomace falls, a cylinder in which the cider is expressed, and a follower which is operated by a cam, so that when the follower is moved forward to press the pomace already in the cylinder, and which is held in place by a contractor at the end of the cylinder, the cam still moving the follower forward till it is at its extreme thrust and has done the pressing, when it is disengaged, and a spring returns the follower back past the charger, when a new supply of pomace falls into the cylinder, to be operated upon by the follower; at the same time a door is opened at the extreme end of the contractor and the dry pomace is forced out.

Claim.—First, the arrangement of the cams *h*, slide J, lever I′, in combination with the vibrating arm I and crushing roller *c*, as and for the purposes set forth.

Second, the arrangement of the cam F′, follower H, spring S, screw E, and gear F, in combination with the cylinder L, charger K, and hoop H, when operating conjointly as and for the purposes set forth.

Third, the combined charger K and cylinder L, when arranged in connexion with the grinding or crushing apparatus, in combination with the clutch Fig. 5, hoop M, contractor N, and gate N′, when operating conjointly as and for the purpose described.

Fourth, preparing and conveying the pomace from the crushing rollers into the hoop, then pressing the same and discharging it through the contractor and gate, by one continuous operation, by the joint action of the rollers C C, follower H, cylinder L, hoop M, contractor N, and gate N′, when arranged and combined substantially as specified.

No. 44,097.—R. C. Jackson, Detroit, Mich.—*Vapor and Coal Oil Furnace.* September 6, 1864.—This invention relates to an apparatus for burning petroleum, coal oil, naphtha, &c. as fuel in the consumption of which gas is generated and burned. Along the fire box, underneath the boiler, are arranged V-shaped deflectors and heaters, supported at each end by pieces cut out at the top, a small opening being left at the same between the deflectors. Directly under these openings are pipes or tubes, supported at one end by a curved piece of metal, the other ends entering a pipe at one end of the fire box.

Claim.—The pipes F and G, in combination with the deflectors C, when arranged and operating conjointly in the manner and for the purpose set forth.

No. 44,098.—John F. Keller, Greencastle, Penn.—*Seed Drill.*—September 6, 1864.—The object of this invention is to prevent vulcanized rubber springs (heretofore used in the teeth of seed drills) from wearing laterally, and thereby becoming useless. This is effected by means of caps which confine the rubber springs at both ends, the rod passing through the caps, and thus receiving the lateral pressure.

Claim.—First, the combination of the rubber spring D with the caps E and G, (or their equivalent,) the central rod L, and the shovel or share, substantially in the manner and for the purposes set forth.

Second, the arrangement and combination of the lever C, stirrup H, (provided with cap G,) with the rod L and cap E, substantially in the manner and for the purposes set forth.

No. 44,099.—William R. Landfear, Hartford, Conn.—*Breech-loading Fire-arm.*—September 6, 1864.—This invention consists in the application of a bent lever to an opening in the frame of a breech-loading fire-arm.

Claim.—The lever *o n* applied to the breech, and in combination with the opening *d d* in the frame B, substantially as and for the purposes herein specified.

No. 44,100.—Dennis Lane, Montpelier, Vt.—*Saw Mill.*—September 6, 1864.—This invention is designed as an improvement upon a patent recently granted to the said Lane, and it consists in the use of a segmental frame, to which is attached a pawl and weighted arm, the pawl working in a ratchet wheel, so that by operating a lever the carriage is set forward and held in its position by the action of the pawls in the ratchets.

Claim.—First, the dog N applied to the segment L, and bent or curved, as shown, to operate in connexion with the ratchet M and pin *a* of pawl I, substantially as described.

Second, the latch K applied to the segment L, in connexion with the pin *a* of the pawl I, arranged substantially as shown, to regulate the sweep of lever H.

No. 44,101.—Conrad Liebrich, Philadelphia, Penn.—*Hasp for Trunk Locks.*—September 6, 1864.—The hasp is formed, as usual, of two sections; that section which is to be attached to the lid of the trunk has at its lower end a semi-cylindrical, trough-like cavity extending transversely across its inner surface, causing a corresponding elevation or bead across the outer surface. Each end of this trough is closed by a flange, and has two pins projecting upward from its bottom. The lower section is made at its upper end at such a width as to fit snugly between the two flanges, and also with a transverse trough, the counterpart or bead of which fits into the trough of the upper section, it being pierced with holes to allow the pins to pass up through it; and a washer, formed like a half cylinder and pierced in a similar manner, is fitted within the second trough, and the ends of the pins are then riveted down upon it, by which all parts are connected together.

Claim.—The semi-cylindrical end *a* of the portion A of the hasp, with the rivets *h*, in combination with the semi-cylindrical end *e* of the portion B, and the washer *f*, the two parts of the hasp being constructed and adapted to each other, substantially as set forth.

No. 44,102.—David Lippy and John H. Palm, Mansfield, Ohio.—*Horse Hay Fork.*—September 6, 1864.—This invention consists in constructing the fork with two arms, having tines attached to each, the arms being pivoted to a standard. At the upper end of the shorter arm a lever catch is pivoted to the standard, the catch being held in position over the end of the arm by a curved spring attached to the side of the standard. A bar extends upward by the standard, to which it is pivoted by a short arm, the lower end of which bar is attached to one end of the lever catch, while the upper end is bent inward over the end of the standard, and upon coming in contact with the pulley block overhead is depressed, thereby relieving the tines from the catch and thus discharging the load.

Claim.—The two bars B C provided with tines *b*, and connected by pivots *a* to the standard A, in connexion with the tripping device composed of a lever catch D, spring E, and bar F, or their equivalent, all arranged to operate as and for the purpose specified.

No. 44,103.—Tobias Marcus, Washington, D. C.—*Machine for Planting Potatoes.*—September 6, 1864.—This invention consists in attaching to an ordinary seeder a potato-planting device. Underneath a common square hopper is arranged an inclined tube with a slot in the upper side. An endless chain passing over a toothed cylinder carries round feeders through this tube. These feeders, as they pass out at the bottom of the tube, excavate the earth just in advance of the potatoes, which are covered by a roller placed behind.

Claim.—The arrangement and combination of the seeding and planting devices I J M N P R S and T, as arranged and combined with an adjustable frame C and F, with ploughs and roller attached, as herein described and for the purposes set forth.

No. 44,104.—L. S. Mason, Middlefield Centre, N. Y.—*Hop Frame.*—September 6, 1864.—This invention consists in the employment of training sticks suspended by hooks upon a main horizontal wire and connected at their lower end in pairs by means of short cords or wires to a post driven in the ground. The hooks for fastening the lower ends of the sticks are provided with eyes past the centre of the bight, so that a strain upon the sticks causes them to press the wire more closely. In gathering the hops the poles can be unhooked and lowered.

Claim.—First, the employment or use of training sticks D (in contradistinction to training wires) in combination with stacks C, cords or wires *b*, hooks *c*, and main wire B, constructed and operating in the manner and for the purpose substantially as herein shown and described.

Second, the hook c^* having its eye *e* past the centre of its bight and applied in combination with the training stick D and main wire B, in the manner and for the purpose substantially as set forth.

No. 44,105.—John S. Mitchell, South Boston, Mass.—*Shaft Hanger.*—September 6, 1864.—This invention consists of a bracket constructed so as to carry three wheels or rollers, the two lower ones with their axles on a level with each other, and the third one placed above, with the shaft in adjustable boxes.

Claim.—The improved shaft hanger as composed of the supporting bracket A, the three wheels or rollers C C E, and the adjustable boxes F F, arranged and combined in manner and so as to operate substantially as specified.

No. 44,106.—C. A. Morse, Williamsport, Ohio.—*Medical Compound.*—September 6, 1864.—This invention consists of a mixture of rain water, alcohol, chloride of mercury, sal ammoniac, tartaric acid, oxalic acid, borax, tincture of gum benzoin, extract of roses, extract of lemon, and chloride of lime.

Claim.—The "Caucasian lotion," prepared of the within described ingredients, mixed together in about the proportion and substantially in the manner specified.

No. 44,107.—E. P. Needham, New York, N. Y.—*Pneumatic Ways for Transmission of Parcels, &c.*—This invention consists of a continuous tube between the termini of the ways, in which the air, by means of a pump, is caused to circulate in a complete circuit, and the parcels deposited within the tubes forced to the desired point, delivery gates being placed along the line, which, when closed, can arrest the package, letter, or car.

Claim.—First, the employment as a pneumatic way for the transmission of letters, merchandise, passengers, &c., of a continuous viaduct or system of tubes, in which air separated from and out of the influence of the surrounding atmosphere is caused to circulate by means of an air pump in such a manner as to pass and repass uninterruptedly in a complete circuit, substantially as herein described.

Second, the employment in combination of a pneumatic way of branch viaducts or tubes I I, for the purpose of conducting the current of air around the stations or points where it is desired to stop the carriages, substantially as and for the purpose herein specified.

Third, the employment in combination with a pneumatic way of a system of receiving and delivery gates and stop gates so arranged that the stop gates will shut the receiving and delivery gates out of the circuit of the air in the viaduct or tubes, and allow them to be opened without interrupting the circuit, substantially as herein set forth.

Fourth, providing air chambers *b b* at the stations and termini of the way, substantially as and for the purpose herein specified.

Fifth, furnishing the air chambers *b b* with the nuts *d d*, substantially as and for the purpose herein specified.

No. 44,108.—A. B. Nimbs, Buffalo, N. Y.—*Coal Elevator Bucket.*—September 6, 1864.—This invention consists in protecting and strengthening a sheet metal elevator bucket, of common form. by means of wrought iron bars or ribs, placed vertically upon its outside, equidistant from each other, and welded or otherwise connected to a horizontal bar at the back of the bucket, by which the bucket is connected to the carrying belt or chain. The strengthening bars are prolonged so that they will project upward above the dipping edge of the bucket, and from prongs or fingers, for the purpose of facilitating the filling of the bucket.

Claim.—First, a coal-elevating bucket, having vertical strengthening bars B and a horizontal back bar C, substantially as described.

Second; prolonging the strengthening bars B, so that they will project upward above the main body of the bucket, as shown at *b′*, substantially as set forth.

No. 44,109.—John A. Noble, Florence, Mass.—*Damper for Stove-pipes.*—September 6, 1864.—This invention relates to a damper for a stove-pipe, the special feature of which consists in a belt-shaped base, surmounted by an ordinary flat round damper, hung on a pivot in the usual manner, a short distance above the top of the base, which damper is larger than the diameter of the top of said base, and being set above it leaves a space for the passage of the smoke to maintain combustion without checking the draught entirely; all of which apparatus is fitted within a stove-pipe.

Claim.—The damper C, in combination with a base or plate A, of flaring or other form, so as to have an opening for the damper of smaller diameter than the latter, and the base or plate fitted snugly in the stove-pipe with the damper, a short distance above its orifice or opening, substantially as and for the purpose specified.

No. 44,110.—Andrew Parker, Cleveland, Ohio.—*Feed-roller for Saw and Planing Machines.*—September 6, 1864; antedated September 1, 1864.—The object of this invention is to provide a feed-roller for feeding lumber into a resawing or planing machine that is clastic, and will have sufficient hold upon the lumber to prevent it from slipping; and it consists of making a roller of a series of rubber disks, between which are flat disks of any hard material and less in diameter than the rubber roller, so that only the rubber comes in contact with the lumber, and are secured to the shaft by having a fixed collar at one end of the shaft, of the same diameter as the intervening disks, against which is put a rubber section, then a disk, so alternating the length of the roller, finishing with a disk, against which is screwed a nut, upon a screw thread cut upon the shaft, for the purpose of holding the disks and rubber sections firmly in place.

Claim.—The combination of the sectional rubber rollers F and washers or disks E with the shaft A, when two or more rubber rollers are used, as herein set forth.

No. 44,111.—GEORGE A. PARKER, Lancaster, Penn.—*Sub-aqueous Structure.*—September 6, 1864.—This invention consists in building and setting stone piers for bridges and other structures in or over water by means of suspended sectional iron caissons, which are firmly secured upon platforms, and containing stone of the requisite class of masonry. The caissons are successively sunk in sections, and lowered into the water, thus being built downwards from the surface of the water until the first section reaches the foundation on which it is to rest.

Claim.—The building and setting of stone piers for bridges or other structures by means of a suspended sectional iron caisson, substantially in the manner herein described.

Also, the use of the caisson, which constitutes the coffer dam, for permanently enclosing and strengthening the pier, substantially as described.

Also, in combination with an iron caisson, in which a pier is built and lowered to its foundation, and which caisson forms a permanent iron casing to the pier, a timber platform B united thereto, in the manner substantially and for the purpose described.

No. 44,112.—ANTHONY PIERCE, Jr., New Bedford, Mass.—*Treating Impure Zinc.*—September 6, 1864.—The object of this invention is to recover the zinc which becomes alloyed with iron in the process of making galvanized iron. To separate the zinc the alloy is melted and permitted to cool until the sediment, which contains nearly the whole of the iron, becomes hard. The supernatant liquid is then poured off, and is quite pure zinc.

Claim.—The process, substantially as above described, for treating refuse or impure zinc, with reference to the separation of the zinc from the iron contained in the metal.

No. 44,113.—MARTIN W. POND and HENRY E. MUSSEY, Elyria, Ohio.—*Breast Strap Shield for Harness.*—September 6, 1864.—This invention consists in the employment of a curved metallic shield, having curved metallic horns, in combination with the projections or base of horns forming the clamping seat of the shield.

Claim.—The curved metallic shield, having curved metallic horns, as described, in combination with the projections or base of horns forming the clamping seat *f* of the shield, the whole being constructed in the manner and for the purpose described.

No. 44,114.—JOHN PRENTICE, New York, N. Y.—*Cigar Machine.*—September 6, 1864.—This invention consists in having a group of elastic rollers put in motion by suitable gears, with elbow levers applied to movable boxes in which the roller journals run, for the purpose of introducing and discharging the cigar when made.

Claim.—First, the employment of a group of elastic rollers, made concave longitudinally, for the purpose of giving proper shape to the cigar, and applying the wrapper thereto, substantially as herein described.

Second, in combination with the elastic rollers the elbow levers *m n*, cross-bar *s b*, rods *u a*, and bar *p*, as and for the purposes set forth.

Third, the sliding boxes, when used in combination with the arrangement of levers and rollers, for the purpose of introducing and discharging the cigar from the machine, when made and constructed as herein described.

No. 44,115.—WASHBURN RACE, Lockport, N. Y.—*Skate.*—September 6, 1864.—This invention consists in a dovetailed groove in the bearing, to which the foot piece is secured, and in a notch made in the upper edge of the runner.

Claim.—The dovetailed groove *a* in the bearing C and the notch *c*, in combination with the wedge-sided runner B, screw D or D′, and foot piece A, substantially as and for the purpose herein set forth.

No. 44,116 —JOHN L. RIPLEY, Fremont, Ohio.—*Horse Hay Fork.*—September 6, 1864.—This invention relates to a fork for elevating hay in barns, taking it from the loaded wagon. The fork is constructed with straight tines, in connexion with a bent arm fitted upon a fulcrum belt, and a notched arm, which serves as a fastening or catch, engaging with a notched end of the bent arm, operated by a bar and spring.

Claim.—The fork F, constructed with straight tines *m*, a bent arm *r*, fitted on a fulcrum belt *q*, and a catch or fastening composed of the notched arm *t* and the notched end *s* of the arm *r*, bar *w*, and spring *b′*, all arranged substantially as and for the purpose specified.

No. 44,117.—E. SEELEY, Scranton, Penn.—*Composition for Concrete Pavement.*—September 6, 1864.—This invention consists of a composition made by heating silica to the melting point of sulphur, 230° Fah., and then mixing it with sulphur and gas tar.

Claim.—The within-described composition, mixed together of the ingredients specified, about in the proportion, and substantially in the manner set forth.

Also, heating the silica to 230°, more or less, before mixing it with the other ingredients, substantially as and for the purpose described.

No. 44,118.—GEORGE W. SMITH and CHARLES F. HENIS, Cincinnati, Ohio.—*Magnetic Water Gauge.*—September 6, 1864.—The object of this invention is to produce a magnetic water gauge, for indicating the height of water in steam boilers. Its novelty consists in the use of a vertically moving magnet, in combination with a vertical tube and with a revolving index hand and dial, and with a float, in such a manner that, by the action of the float on the magnet, the position of the water in the boiler is indicated with perfect accuracy.

Claim.—The vertical tube C and magnet D, in combination with the float A and revolving index *c*, constructed and operating as and for the purpose specified.

No. 44,119.—CHARLES W. STAFFORD, New York, N. Y.—*Ordnance.*—September 6. 1864.—Within an enlarged chamber at the rear of the gun a chambered breech piece is secured, leaving an annular space between it and the gun and surrounding the bore or chamber of the gun. Through grooves at the forward end of the tubular breech piece this annular chamber is caused to communicate with the bore in advance of the charge and the projectile, and, being filled with powder, through a suitable screw-plugged exterior opening; the said annular chamber furnishes thereby a supplementary charge, which is not ignited till after the ball has moved past the communicating orifices.

Claim.—The breech piece B, constructed and applied as specified, to form an accelerating chamber around the main base, and grooved or corrugated at its forward end to provide communication between the bore and the surrounding chamber.

No. 44,120.—CHARLES W. STAFFORD, Saybrook, Conn.—*Cast Steel Car Wheel.*—September 6, 1864.—The peculiarity in the construction of this wheel consists of casting the body of it around a hollow metal disk or core filled with sand instead of the usual sand core.

Claim.—First, the employment in the casting of cast steel car wheels, or other cast steel castings, of a shell or core made of metal filled with sand, together with the bolt *d*, or other similar device, in combination with a metallic flask or mould, as and for the purposes described.

Second, as an article of manufacture, a cast steel car wheel, when the same is made as described.

No. 44,121.—MILES O. STANLEY, South Danvers, Mass.—*Metallic Bridle Winker.*—September 6, 1864.—This invention consists in constructing bridle winkers entirely of metal instead of leather, and attaching the same to the head strap by means of rivets instead of sewing, for the purpose of saving labor and expense.

Claim.—First, constructing a bridle winker wholly of metal, substantially as and for the purpose described.

Second, attaching the bridle winker to the head strap by means of rivets, substantially as set forth and for the purpose described.

No. 44,122.—J. W. STANTON, assignor to himself and M. B. DODGE, Black Hawk Point, Colorado. Ter.—*Quartz Crusher.*—September 6, 1864.—This invention relates to that class of machines in which the quartz is broken during its passage between two crushing jaws, one of which is movable. The axis of the movable jaw is made laterally adjustable by means of screws which pass through side frames and bear against one of the filling plates, which latter are placed at the sides of the journal boxes. The axis may be adjusted laterally, so as to increase or diminish the space between the crushing faces of the jaws at will, and thus regulate the crushing action of the jaws.

Claim.—Adjusting the axles of the movable jaw relatively to the stationary jaw by means of plates or blocks placed before or behind the journal box.

No. 44,123.—JOSHUA STEVENS, Chicopee Falls, Mass.—*Breech-loading Fire-arm.*—September 6, 1864.—This invention relates to that class of arms having the barrel pivoted and capable of tilting up at the breech, and the novelty consists in adapting the spring which is employed to throw up the rear end of the barrel on the release of a spring detent, to also eject the cartridge case by being connected with a suitable sliding retractor for that purpose.

Claim.—The arrangement and combination of the breech-elevating spring and the cartridge shell-discharger together, in such manner and with respect to the barrel and stock that while the spring may be performing its function of elevating the barrel at its breech end it shall retract the cartridge shell-discharger, for the purpose as hereinbefore specified.

No. 44,124.—ALONZO L. SWEET, Norwich, Conn.—*Hoisting Apparatus.*—September 6, 1864.—This invention relates to a hoisting device by which heavy and light bodies may be elevated with a speed corresponding to their weight, so that advantage may be taken of a light load and the power extended or applied in rapidly hoisting it, while the speed may be diminished and the power correspondingly increased in hoisting a heavy load, the device at the same time admitting of articles being lowered without running the driving rope, thereby effecting a saving in its wear.

Claim.—The two sliding or shifting pinions I I′, and the loose sunken gears *a a′*, and the pinions D D′, on the shaft B, in combination with the wheels N N′, on the hoisting shaft L, the pinions D D′, and wheels N N′, being of different diameters, and all arranged to operate in the manner substantially as and for the purpose set forth.

Also, the rack *b*, on the slide L, the pinion M, and lever N*, for moving the arm K and pinions I I, substantially as described.

No. 44,125.—J. A. THOMPSON, Auburn, N. Y.—*Cabinet for Exhibiting Photographic Pictures.*—September 6, 1864; antedated September 2, 1864.—This invention consists in constructing a photographic cabinet with an aperture covered by a piece of plain glass through which the pictures can be seen, while they are preserved from the effects of exposure to the air. A series of compartments are used. the backs of which are formed of a strip of sheet brass or other metal, which, in combination with tape or ribbon in the front of the cards, serve to give the requisite elasticity to regulate their movement.

Claim.—First, the construction and arrangement of a photograph cabinet in which photographs and other pictures may be readily exhibited through a plain glass and preserved from chemical and mechanical effects of air, light, dust, and handling.

Second, an improvement in chain of compartments for receiving and carrying the pictures by using for back of the compartments a strip of sheet brass or like metal, in combination with a tape or ribbon in the front of the cards, which gives the requisite elasticity to regulate their movement, the whole being constructed and operated as described.

No. 44,126.—WILLIAM TILESTON, Georgetown, D. C.—*Safety Stop for Revolving Fire-arms.*—September 6, 1864.—A small thumb screw, passing through the frame of the arm beneath the cylinder, is employed to lock the same in position of the chambers out of line with the hammer by being screwed up into notches in the cylinder when it is not desired to use the arm.

Claim.—The screw lock C, the stop screw G, and the countersinks or depressions D D D, constructed and used substantially as and for the purpose set forth.

Also, the arrangement of the abutting piece fitted to slide in a mortise extending through the thickness of the breech piece so that its upper end shall extend to the surface thereof to be visible when the carrier is locked, and with its lower end extending below to depress the lever of the trigger when the carrier is not locked, as described.

Also. the arrangement of the finger lever fitted to and having its fulcrum in a slot in the breech pin carrier, and its rear end resting on the upper end of the abutting piece. as herein described, in combination with the carrier and the abutting piece, so that by a single pull backward the abutting piece shall be depressed and held down and the carrier drawn back, as set forth.

No. 44,127.—FREDERICK TOWNSEND, Albany, N. Y., and NATHAN S. CLEMENT, Worcester, Mass.—*Breech-loading Fire-arm.*—September 6, 1864.—The arm is provided with a breech plug moving backward in a line with the barrel, and limited in its play by a shoulder in the tubular opening through which it slides, the breech plug being locked in its closed position by a transverse key at its rear passing through its mortise in the stock, and being provided with a thumb lever so arranged that by drawing it back the said locking key is first depressed and the breech plug retracted without any change of movement.

Claim.—Making the bore in the breech piece smaller at the rear than along the main part of its length, in combination with making of the breech pin carrier with the front end of larger diameter than along the main portion of its length, substantially as and for the purpose described.

No. 44,128.—G. B. TURNER, Cuyahoga Falls, Ohio.—*Machine for breaking and cleaning Flax.*—September 6, 1864.—This machine, the structure of which will be evident from the claim and engraving, is designed to take the flax in a tangled mass and subject it to the action of revolving beaters at high velocity, screen it, convey it to a second, or a greater number of series of similar beaters and screens, and thus discharge all the available fibre in the form of tow.

Claim.—In combination with the sets, pairs, or series of feeders and beaters, the inclined screen or fingers for raising up the tow or fibre and screening the shives therefrom, and the canopy, to gather, guide, and direct the tow from the first to the second series of feeders and beaters and screeners, substantially as and for the purpose herein described and represented.

No. 44.129.—EDWARD L. WALKER, Benford's Store, Penn.—*Hay Elevator.*—September 6, 1864.—This invention consists of a tubular rod, within which is fitted a sliding rod operated by a lever attached to the upper rod. To the lower end of the tube is attached a pivoted head provided with a slot, in which two circular plates with projecting barbs are fixed loosely on a shaft. These plates are provided with recesses, into which the lower end of the sliding rod is inserted by means of the lever above, thereby forcing the barbs outward and locking them in such position. Upon raising the sliding bar the barbs are depressed by the hay above and the implement disengaged therefrom.

Claim.—The tubular rod A, provided with an internal sliding rod F, in combination with the barbs E E, projecting from circular plates D D, placed loosely on a shaft in the pointed head C, and provided with recesses *c*, all arranged substantially as and for the purpose specified.

No. 44,130.—ZENAS WHEELER, San Francisco, Cal.—*Metallic Concentrator.*—September 6, 1864.—This invention consists of a machine for separating the sulphurets and arsenusets of silver, which have been usually thrown away, from the sand, &c., with which they are mixed. It consists of a pan with a corrugated bottom rising gradually towards the centre, at which point there is an outlet through the journal of the pan. At the edge of the pan bottom are two or more grooves, commencing at certain points and gradually deepening as they approach the outlets D for the discharge of debris. This discharge is regulated by gates which can be adjusted to any required height. There is also a bowl connected with the lowest part of the grooves for collecting any amalgam that may be contained in the material. From the bottom of this bowl is a discharge pipe to allow the surplus mercury to pass off as it accumulates. This discharge pipe inclines downwards from the bowl, and has a branch pipe rising upward to near the level of the top of the bowl, and is always open for the discharge of the mercury when the machine is in operation, the main pipe being closed at the end until the operation is finished, when the remaining part can be drawn off through it.

Claim.—First, the arrangement and combination of the corrugated surface B with the inclined grooves K L K′ L′, or their equivalent, substantially as and for the purposes set forth.

Second, the opening D, adjustable gate E, and the bowl and tube F, or either of them, in combination with a vibratory or oscillating pan or concentrator, substantially as and for the purposes herein specified.

No. 44,131.—CYRUS H. WHITLOCK, Whiting, Vt.—*Tree Protector.*—September 6, 1864.—This invention consists of a long cylindrical box of potters' clay made in two longitudinal sections, and kept in place by a hoop and dowels and pins, and with a flange at its lower edge.

Claim.—The cylindrical form and flange of protector.

No. 44,132.—SAMUEL WHITMAN, Wayland, N. Y.—*Gate.*—September 6, 1864.—This invention consists in making a gate in three sections, two vertical and one horizontal. The first of the vertical moves upon rollers, and registers with the second when only a small opening is required. When a wider opening is required, and one of considerable height, the upper horizontal section folds back upon itself, and all three turn entirely out of the way by a hinge upon the outer edge of the gate post.

Claim.—A road or farm gate composed of three sections united to each other and to the gate posts so as to be opened individually or collectively, in the manner and for the purpose herein described and represented.

No. 44,133.—ABRAHAM WITMER, Henry, Ill.—*Brick Press.*—September 6, 1864.—This invention consists in slotted inclined arms attached to the shaft in a frame provided with rollers placed within a box and hung upon a rod at one end and supported by wedges at the opposite end; also, in bars attached to arms on a shaft provided with a spring for the purpose of forcing the empty moulds underneath the mud mills, and in forcing the filled moulds out from underneath the mud mill.

Claim.—First, the slotted inclined arms C attached to the shaft B, for the purpose of forcing the clay through the grating D, and without drawing the clay around in the mud mill A, substantially as set forth.

Second, the frame F, provided with the rollers G H, placed within the box E, and hung upon a rod I at one end and supported by wedges J J at the opposite end, substantially as and for the purpose specified.

Third, the bars N N attached to arms M M, on a shaft K, provided with a spring L, all arranged and applied, substantially as shown, for the purpose of forcing the empty moulds in proper position underneath the mud mills to receive the clay, and in forcing the filled moulds out from underneath the mud mill, as set forth.

No. 44,134.—JOHN WORSLEY, Providence, R. I.—*Brakeman's Life Preserver for Railroad Cars.*—September 6, 1864.—The object of this invention is to prevent the danger to brakemen of railroad freight cars, and it consists of the combination of a box body of a railroad car, with what is denominated a "brakeman's life protector" upon its roof, which is composed of a traverse rod and its appurtenances, by the assistance of which the brakeman can pass along the roof of the car from end to end without material danger.

Claim.—The combination of the before-described brakeman's life protector with the car body of a railroad car, substantially as set forth.

Also, the end standard constructed with a fork to hold the hand ring of the traversing chain in a position where it may be found with facility, substantially as set forth.

Also, the combination of the brakeman's life protector with intermediate sustaining standards projecting above the roof of the car body between the ends of the rod, substantially as set forth.

No. 44,135.—Levi Wight, Wapello, Ill.—*Sorghum Evaporator.*—September 6, 1864.—This invention consists of a series of juice boxes, arranged in step form, one above the other, so that the overflowing contents of one will pass down in the receptacle next below. Along the front upper edge of each box is placed a skimmer, higher in the centre than at the ends, and having their front edges turned up. Upon the sides of the apparatus and under the ends of the skimmer are placed gutters.

Claim.—A self-skimming evaporator, constructed and operating substantially in the manner herein shown and described.

Also, the combination of a skimmer D, with juice receptacle or compartment F, substantially in the manner herein shown and described.

Also, the inclined arrangement of the skimmers so that their refuse drippings will be conducted away from the evaporator.

Also, the combination of the gutters E, with skimmers D, as and for the purpose herein shown and described.

No. 44,136.—Warren Wright, Springfield, Ohio.—*Hominy Mill.*—September 6, 1864.—This invention relates to provision for the continuous rapid and equal action of the hulling and cracking devices. The machine is constructed with a hollow shaft, having a sectional fan, whose interior communicates with and exhausts the air from the said hollow shaft, in order to insure a continuous flow of corn down the central apertures. The hollow shaft is provided with open rings or wheels, which are connected to the shaft by spokes. The said rings act in conjunction with the beating and sucking devices. The beaters are roughened so as to resemble coarse files, and being secured to the shaft, revolve with it.

Claim.—First, the agitators T *t*, revolving within the apertures *h*, of the floors H, and in the plane of said floors, substantially as herein described.

Second, the combination of the centrally perforated floors H *h*, perforated hollow suction shaft J J′, beaters L, agitators T *t*, fan K, and spout S, all arranged and operating as specified.

No. 44,137.—William Archer, assignor to himself and William P. Downer, New York, N. Y.—*Distilling Hydro-carbon Oil.*—September 6, 1864.—The distillation is effected by passing heated air in super-heated steam, directly into the still. A tube for admitting steam is combined with a tube for admitting oil, which is partially heated before it falls in the bottom of a plate, where it directly meets the steam or air. The joints are moved by means of fusible metal.

Claim.—The manner herein described of continuously and fractionally distilling and separating the various parts of hydro-carbon oils, by the application of super-heated steam or heated air, substantially in the manner described.

Also, the combination of the heating tube *b*, with the deflecting and receiving disks *c* and *e*, with the spiral or straight feeding tube *d*, in the manner and for the purposes as described.

No. 44,138.—C. G. Howard, assignor to himself and E. A. Goodell, Topeka, Kansas.—*Machine for Dressing Flax and Hemp.*—September 6, 1864.—This invention consists in the employment of two fluted breaking rollers, in combination with two rotary dressers, and a rising and falling clamp, between the jaws of which the hemp or flax is held by being operated upon. The clamp is caused to descend by means of movable rack bars, thus presenting the lower ends of the flax to the action of the breakers and dressers. The machine is then driven in the opposite direction by shifting a clutch lever, and the clamp is thus caused to rise, till it reaches and strikes against inclines on dogs, which press it against a bar, and thus it is rolled over or turned upside down, bringing the butts of the flax in such a position as to be in turn presented to the action of the breakers and dressers, thus acting on both ends of the material. The clamp having descended far enough for this purpose is caused to rise a little, when it is thrown out of the machine by the action of the inclines on dogs. It is then refilled with the hemp or flax, and the operation is repeated.

Claim.—The fluted breaking rollers I I′, in combination with the rotating dresser G G′, provided with teeth *c*, and the clamp T, arranged to operate as and for the purpose set forth.

Also, the dogs V V′, and yielding board U, in connexion with the rack bars R R, all arranged to operate with the clamp T, as and for the purpose specified.

No. 44,139.—Jacob Behel and Wheeler Hedges, assignors to said Jacob Behel, Earlville, Ill.—*Binding Attachment to Harvesters.*—September 6, 1864.—This invention does not admit of a brief description other than that given in the claim, which sets forth its nature and object.

Claim.—The combination of the jointed arm with instrumentalities for alternately extending its members in line with each other or thereabouts, (so as to reach the loose grain,) and for drawing them in, to embrace the grain as it is compressed, the whole operating substantially as set forth.

Also, the combination of one member of said jointed arm with an adjustable fulcrum, substantially as set forth.

Also, the combination of the arm for carrying the compressing belt or the binding material, or both of these, with a slotted frame to guide the extremity of the arm while it is moving, substantially as set forth.

Also, the combination of a flexible compressing belt with a slotted frame, so that it is guided while being moved, substantially as set forth.

Also, the compressing belt tension herein described, consisting substantially of two sets of pulleys pressed apart by a spring, or its equivalent, the whole operating substantially as set forth.

Also, the combination of the reel of the binding material and the arm that applies said material to the grain, with an adjustable guide located between the two, and operating substantially as set forth.

Also, the combination of one end of the compressing belt with a movable belt holder, by which that end of the belt is moved out of the track of the grain, the combination operating substantially as herein set forth.

Also, the combination of the holder which holds the end of the binding material, with a movable support by the movement of which the outermost portion of the binding material is moved out of the way of the grain, substantially as set forth.

Also, the combination of the compressing and band-applying and securing devices with the same reciprocating instrument in such manner that all are operated in their proper order by the reciprocation of that one instrument, substantially as herein set forth.

Also, the combination of the reciprocating piston, slide box, detent, and controlling plate, the whole operating substantially as herein set forth.

Also, the combination of the reciprocating piston and slide box, with two detents, and an adjustable controlling plate, the whole operating substantially as set forth.

Also, the combination of the binding mechanism with a reciprocating and turning discharging hand, which withdraws the bound sheaf from the place where it is bound, and is then withdrawn from the sheaf, substantially as set forth.

No. 44,140.—A. W. Hall, assignor to himself, R. K. Belden, and Samuel Jaudon, New York, N. Y.—*Amalgamator.*—September 6, 1864.—This invention consists in the employment of a series of amalgamated plates, placed at proper distances apart, so as to allow the pulp to pass freely between them, and attached either to a crushing wheel or a drag, so that they may be drawn through the pulp, and amalgamate the gold or silver.

Claim.—The employment or use in a gold or silver amalgamating device of a series of amalgamated plates, placed or secured at proper distances apart so as to allow the pulp to pass freely between them, and attached either to a crushing wheel or drag, so that they may, during the amalgamating process, be drawn through the pulp, and catch or arrest and amalgamate the fine particles of gold or silver contained therein, substantially as herein set forth.

No. 44,141.—George A. Keene, assignor to himself and Henry W. Moulton, Newburyport, Mass.—*Removable Runner for Carriage Wheels.*—September 6, 1864.—This invention consists in constructing a removable shoe or sliding runner for carriage wheels, with a concave side, corresponding to the periphery of the wheel to which it is applied, and of such a length that when used as a sleigh it will preserve its horizontal position, and prevent the wheel from turning. An elastic pad is also used in combination with a block placed in between the two spokes of the wheel, together with straps connecting said block with the runner.

Claim.—First, confining the runner B to the wheel by means of the block C, straps *g g*, and bolt *h*, substantially as described.

Second, the employment of the elastic pad or cushion I, in combination with the wheel block and runner, substantially as and for the purpose described.

No. 44,142.—J. M. Leslie, Newburgh, N. Y., assignor to himself and Jesse Oakley, New York, N. Y.—*Apparatus for Crutching Soap.*—September 6, 1864.—This apparatus is composed of a kettle and steam jacket. The kettle receives a rotary motion by means of a toothed rim, which gears into a cog-wheel. The crutches are secured to handles which are suspended from cranks, to which motion is imparted by a lever gear; pivoted to rods are handles which extend to cranks on a shaft, to which motion is imparted from an upright driving shaft by means of a belt.

Claim.—The employment of rising and falling oscillating crutches E, operated by steam or other competent power in the interior of the crutching kettle A, substantially in the manner and for the purpose shown and described.

No. 44,143.—Jean Stephan Lipps, assignor to Richard Reichel, Brooklyn, N. Y.—*Manufacture of Fulminating Powder.*—September 6, 1864; antedated September 2, 1864.—The object of this invention is to collect and condense the vapors given off during the process of making fulminating powder from nitric acid, alcohol, and mercury. A box is filled with straw, brushwood, or other similar material arranged in layers. Its top is perforated and surrounded by a projecting rim, thus forming a tank upon the top of the box, from which water in a shower or spray may be let in upon the straw to absorb and condense the vapors.

Claim.—The employment or use of a box A, or its equivalent, filled with straw or other similar material, and provided with a perforated top B, or its equivalent, in combination with a retort or vessel containing the ingredients necessary to the manufacturing powder, substantially as and for the purpose shown and described.

No. 44,144.—**Josiah Waterman**, New York, N. Y.—*Packing for Hydro-carbon Burner.*—September 6, 1864.—This invention consists in making the packing or filling for converting the hydro-carbons into vapor of coarse emery, or its equivalent refractory material.

Claim.—The combination with the pipes and closed chamber B of a hydro-carbon burner of a packing of coarse emery, or its equivalent, substantially in the manner and for the purpose set forth.

No. 44,145.—**George W. White**, New York, N. Y., assignor to himself and **Austin G. Day**, Seymour, Conn.—*Apparatus for Roasting and Reducing Ores.*—September 6, 1864.—This invention consists in the employment of an inclined rotating cylinder combined with a furnace, which is placed at the end of the cylinder, and at the lower or discharging end of the same is a bonnet for directing the calcined ore into any proper receptacle. The inner surface of the cylinder is grooved longitudinally. At the upper or elevated end of the cylinder, and over the furnace, is hinged a shoe or feeder, to which a vibrating motion is given by means of projections on the periphery at the end of the rotating cylinder coming in contact with the free end of the said feeder.

Claim.—First, the use of an inclined rotating cylinder in combination with a furnace at the receiving end of said cylinder, and a bonnet at the discharging end thereof, to conduct or direct the calcined ore into a trunk or other receptacle.

Second, grooving the inner surface of the cylinder longitudinally, for the purpose and substantially as specified.

Third, the employment, in combination with the furnace and rotary cylinder, of a vibrating shoe or feeder, for the purpose described.

Fourth, operating each feeder by means of the revolving cylinder through the agency of projections thereon, as specified, or any equivalent therefor, substantially as described.

No. 44,146.—**Thomas Grason**, Manchester, Great Britain.—*Boots and Shoes.*—September 6, 1864.—This invention consists in an apparatus whereby an outer sole can be attached to or detached from the inner sole or welt at pleasure, and in the use of dovetailed sliding pieces for soles or heels, for the purpose of rendering them detachable and adjustable.

Claim.—Securing the sole and heel pieces to the soles and upper leather of boots and shoes, and other coverings for the feet, by the use of dovetailed or T-shaped projections and grooves, substantially as and for the purpose specified.

No. 44,147.—**Alfred Francois Mosselman**, Paris, France.—*Manufacture of Manure.*—September 6, 1864.—This invention consists in slacking lime with fresh unfermented urine. and then using the fresh lime to coat fresh night soil, or other mineral matter, so that the lime will keep the animal matter from fermenting until it is deposited in the soil.

Claim.—First, the manufacture of animalized lime or "manure balls" by a process substantially as herein set forth.

Second, the use of urine for the purpose of slacking lime either under pressure or in an ordinary atmosphere, substantially as and for the purpose described.

No. 44,148.—**Andrew J. Adams**, Climax Prairie, Mich.—*Straw Cutter.*—September 13, 1864.—At the end of the feed box are two automatic feed rollers, the shaft of the lower one being stationary, and the upper one attached to the edge of a movable press board. The press board is inclined, having its lower edge just in the rear of the cutting knife. Two curved rods press firmly upon its upper edge, and are connected with springs placed upon the bottom of the feed box. These rods keep up a continued pressure of the upper roller and press board upon the substance to be cut.

Claim.—The pressure plate M arranged with the upper feed roller L and springs O, to operate in the manner as and for the purpose set forth.

No. 44,149.—**Stephen Ashford**, Philadelphia, Penn.—*Improved Moulding Apparatus.*—September 13, 1864.—The main features of this invention consist in the manner of constructing the parting plate, the two halves of which are put together face to face, and the apertures through which the patterns are to pass cut out truly. They are then separated and joined together at their edges, and the patterns secured to the card to correspond to the openings in the plate. The dowels by which the flasks are held together are provided on one side of each section with pins, and on the other side with lugs, so that when the parts are put together face to face the pins of one part may enter the corresponding holes in the lugs of the other.

Claim.—First, constructing the plate E in halves, and then connecting the halves together, as above described, so as to make the holes in one half thereof, which fit on the pedestals *a b*, correspond with the holes in the other half in shape, size, and position.

Second, constructing the relief plate E with dowels in one edge and corresponding holes in the other, which correspond in one respect to the arrangement of the dowels and holes in each half of the flask, substantially as represented, so that the latter are thereby separately connected with the relief plate for the operation of moulding, and conjointly with each to unite the mould by the same means as above described.

No. 44,150.—**John Babillion**, Detroit, Mich.—*Grain Dryer.*—September 13, 1864.—This invention is designed as an improvement on the machine for which a patent was granted to the said Babillion March 3, 1863. Provision is made for heating each successive floor by hot air introduced through passages from a hot-air chamber surrounding a furnace flue; by means of valves in the mouth of said passages the heat can be regulated at will. The two upper floors are composed of sectional trays, each leaf overlapping the other sufficiently to cause the weight of the grain running upon them when the machine is worked to close them automatically, each tray or leaf being suspended on a separate rod on which it vibrates.

Claim.—First, the hot-air chamber surrounding the flue of the furnace, and supplied with side passages S and valve V, in combination with the sectional trays A A, constructed and operating substantially as described.

Second, suspending each leaf of the trays A A upon separate rods *e* on which they vibrate, substantially as described.

No. 44,151.—**Allen S. Ballard** and **Thomas L. Sergent**, Mount Pleasant, Iowa.—*Apparatus for Steaming Grain.*—September 13, 1864.—The object of this invention is to toughen the husk of grain so that it will be more easily separated from the flour of the berry. The invention consists in the combination of certain devices in the apparatus used. A hopper opens by means of a spring valve into an upright cylinder. When the weight of grain overcomes the spring the grain is allowed to fall into the cylinder in a shower. A hopper with perforated sides fills the lower end of the cylinder, and its neck has a spring valve like the one above. A steam pipe opens into the cylinder below the perforated sides of the lower hopper, and the steam passes off through an escape pipe in the top of the cylinder.

Claim.—Steaming grain, for the purposes specified, by means of drum A, hoppers B and D, valves C and E, steam pipe F, and waste pipes G and H, constructed and operating substantially as set forth.

No. 44,152.—**Samuel M. Bartlett**, La Salle, Mich.—*Tile Machine.*—September 13, 1864.—This invention consists in the employment of chains for actuating the plunger; in a cam combined with a cut-off, arranged in relation with the issues, to admit said issues being alternately opened and closed at the proper time, and also to admit of the clay being discharged from the packing boxes directly under the issues, and in attaching the chains or flexible pitmen to the end pieces of the plunger by means of screw rods and nuts, to admit of the ventilation of the packing boxes.

Claim.—First, the employment or use in a machine for making tiles of chains K K, or other equivalent flexible pitmen for actuating the plunger G, substantially as set forth.

Second, the cam L, in combination with the cut-off F, when arranged in relation with the issues *h h*, substantially as shown and described, to admit of said issue being alternately opened and closed at the proper time, and also to admit of the clay being discharged from the packing boxes directly under the issues, and thereby limit or shorten the movement of the plunger G, as set forth.

Third, attaching the chains or flexible pitmen K K to the end pieces *b b* of the plunger by means of the screw rods *e e* and nuts *f f*, to admit of the ventilation of the packing boxes, as specified.

No. 44,153.—**Oliver W. Bagley**, Boston, Mass.—*Steam Generator.*—September 13, 1864.—This invention consists in placing a coil of pipe within the fire box of a steam boiler, and another within the water space above the fire box, and connecting them at two points by means of upright pipes, in such a way that the highest point in the lower coil shall be in communication with the highest point in the upper one. The lower ends of the coil are also connected by an upright pipe outside of the generator, which has an expansion chamber upon its upper end, the object of this arrangement being to provide for the circulation of a column of mercury, which shall absorb heat while it is in the lower portion or coil of the pipe, and, as the circulation takes place, carry it up and impart it to the water which surrounds the upper coil, and thus facilitate the generation of steam.

Claim.—Passing one or more columns of heated mercury through a tube or tubes, suitably arranged to establish the required circulation, and led through the furnace and the water in the boiler, substantially as set forth for the purpose specified.

No. 44,154.—**Charles Bentz**, Mindenville, N. Y.—*Canal-boat Towline Attachment.*—September 13, 1864.—This invention consists in the combination of a swing bar with a tumbler and lever operating together, so as to form a whiffletree hook for towlines. The invention is designed as an improvement upon a patent issued July 2, 1861, to the said Bentz.

Claim.—The construction and combined arrangement of the swing bar, the tumbler, and the lever, for the purpose of forming a whiffletree hook for towlines, or other purposes, the whole operating together in the manner and for the purpose substantially as described.

No. 44,155.—GEORGE W. BLAKE, New York, N. Y.—*Air Valves for Steam Radiators.*—September 13, 1864.—This invention consists in the arrangement of a brass rod in an upper tube; the radiator with a pointed end fitted into a seat of an air valve and the other end secured to the tube, and so constructed that when the steam apparatus is cold the end of the rod fits loosely in its seat and allows space for the egress of air when the heater is started, and when the apparatus becomes heated the expansion of the rod and increased length thereby fills the seat of the air valve and shuts off the steam, thus letting off the air in advance of the steam when started in the heater, and preventing the unpleasant noise usual in such apparatus.

Claim.—The combination of the brass or composition rod to which the valve is attached, or on which it is formed directly, with one of the iron tubes of a tubular radiator, or to any part of the interior of the shell of any other kind of radiator, substantially as and for the purpose herein specified.

No. 44,156.—GEORGE W. BLAKE, New York, N. Y.—*Steam Heating Radiator.*—September 13, 1864.—This invention consists of a radiator composed of a series of steam tubes closed at one end and open at the other, having their open ends connected with one of the chambers of a two-chambered upright steam box, into which the steam from the boiler passes by an inlet pipe below, the steam tubes being placed horizontally with the closed ends supported in an upright post, conformable to the exterior of the upright steam box, and having arranged within them a corresponding series of smaller and longer tubes, which are opened at both ends, and connected at one end with the other chamber of the steam box or collection chamber, into which they open, for the purpose of permitting the escape of air and water of condensation thereto, the water passing off at the bottom through the lowest small tube and back through the lowest steam tube into the inlet pipe, and thence by gravitation to the boiler, and the air escaping through an automatic air valve in the upper part of the collection chamber.

Claim.—First, the combination of the two-chambered box A, the tubes C C closed at one end, open at the other, and the tubes E E′ open at both ends, the whole arranged substantially as herein specified.

Second, the return tube E, forming a communication between the lower part of the collecting chamber *c*, through the lower steam tube C, and the chamber *b* of the two-chambered box A, to permit the return of the water of condensation from the said collecting chamber to the boiler through the steam inlet pipe, substantially as herein described.

No. 44,157.—E. S. BOYNTON, Hartford, Conn.—*Coal and Ash Sifter.*—September 13, 1864.—This invention consists of a hopper case for the sieve, the top of which is made to open and shut, being hung upon its axis eccentrically, so as to vibrate when necessary. Beneath the case is a receptacle for ashes, which can be removed at pleasure. Within the case is the sieve, formed of two cylinder heads, upon which the wire sieve is bent in a spiral form, the edges being secured in a spiral groove in each cylinder head. The sieve is fixed upon a shaft turned by a crank, which imparts a rolling, tumbling motion to the ashes, &c., the finer portions of which fall down into the receptacle. The cinders are removed by simply vibrating the case outside the mouth of the ash receptacle and reversing the motion of the crank, which causes the coarser parts to fall into any vessel placed for their reception.

Claim.—A spirally-formed open wire sieve or cylinder, for sifting coal and other substances, substantially as shown and described.

Also, the spirally-formed open sieve, in combination with a vibrating hopper B and ash box C, substantially as and for the purpose described.

No. 44,158.—JOHN BRIGGS, Roxbury, Mass.—*Regulating Apparatus for Steam Heater.*—September 13, 1864.—This invention relates to a mode of regulating the flow of steam into a steam coil for heating houses; and it consists in an arrangement of air chambers connected with a steam coil by means of a lever, so as to operate on a valve through which the steam passes into the coil, producing by the contraction and expansion of the air chambers, caused by the changes of temperature, in connexion with a counter weight, an automatic action in the valve, which opens and shuts accordingly, and admits more or less steam into the coil.

Claim.—The combination of one or more expansive drums *t m n o* and a steam coil or heater A, by means not only of a leading pipe B furnished with a stop-cock D, but of a wheel E, a chain F, counter weight G, and lever H, the whole being arranged and applied together substantially as hereinbefore specified.

Also, the construction of either of the expansion drums, with tubes running into it, or transversely through it, from one part of its periphery to another or opposite part thereof, and being open, so as to allow air to flow freely through them, as described.

No. 44,159.—FRANCIS A. BROWN, Ithaca, N. Y.—*Link for Steam Engines.*—September 13, 1864.—This invention consists in the arrangement, upon a solid bar link, of a sliding block, composed of plates, one of which covers one entire side of the link, and the other only a portion, leaving a space open for the passage of the pin by which it is elevated, and adjustable lugs which have screw bolts passing through them and through the above mentioned plates, by which means the lugs are adjusted to the link, and any loss of motion occasioned by wear is easily taken up or adjusted.

Claim.—A solid bar link A, provided with a valve rod-block B, composed of plates *c g g*, and adjustable lugs *d d*, connected by screw bolts *e*, all arranged as and for the purpose specified.

No. 44,160.—MELBOURNE C. BURR, New Albany, Ind.—*Scrubber.*—September 13, 1864.—This invention consists of a handle and head, the latter having a longitudinal groove in which is placed a piece of India-rubber, doubled or folded, with the edges projecting outside of the groove; a wooden strip is placed between the folds of the rubber and driven into said groove so as to firmly secure the rubber in place.

Claim.—As an improved article of manufacture, a scrubber, provided with a strip of India-rubber secured to it in the manner substantially as herein set forth.

No. 44,161.—MERRITT BURT, Cleveland, Ohio.—*Improvement in Watches.*—September 13, 1864.—The invention consists in the employment of a loose pinion upon the shaft of the centre-wheel, which pinion gears into the main driving-wheel so as to drive the works by the friction of this pinion. If the watch should be wound up too far this pinion turns upon the shaft and thus prevents the breaking of the spring or the works.

Claim.—The revolving friction pinion D, when constructed, arranged, and operating as and for the purpose herein specified.

No. 44,162.—CHRISTOPHER CORY, Lima, Indiana.—*Furnace for Clarifying Cider, &c.*—September 13, 1864.—This invention consists in forming the upper walls of the furnace, at its contact with the evaporator, of gypsum or other material of inferior heat-conducting qualities.

Claim.—The formation of furnaces for clarifying or condensing the juices of apples and other fruits, and also saccharine fluids, with one or more of the upper strata of their side walls made of gypsum, calcined or otherwise, or of other inferior or non-conducting materials, by which the excess of heat to the sides of the pan, by contact with the walls of said furnace, is prevented, substantially as and for the purposes herein set forth.

No. 44,163.—JOHN COWLES, Rochester, N. Y.—*Fitting Shoe Uppers.*—September 13, 1864.—This invention consists in forming the finished upper of a shoe by stitching or sewing with a sewing machine the vamp and lining to the quarter in one continuous seam of any desired curvature, and in uniting the front parts of the lining to each other by cement.

Claim.—First, the combination of the vamps, quarters, and lining, when sewn and cemented, substantially in the manner and for the purpose set forth.

Second, in combination with vamps and quarters united as described, the joining the fronts of the lining, and causing them to cohere with cement, as and for the purpose set forth.

No. 44,164 —GUSTAVUS CUPPERS, New York, N. Y.—*Stop Cock.*—September 13, 1864.—A conical valve is held over its seat by a screw rod, which elevates and depresses it. The valve, being swivelled, is prevented from rotating by a forked lateral projection, which embraces a fixed vertical pin in the valve chamber. The valve is faced with a compressible material which adapts itself to all the inequalities of the valve seat with exactness.

Claim.—In combination with the revolving valve stem D, the stationary swivel valve *f*, substantially as and for the purpose described.

Also, in combination with the stationary swivel valve *f*, the facing *p*, made of compressible material, constructed and operated substantially in the manner and for the purposes described.

No. 44,165.—JOHN DANNER, Canton, Ohio.—*Tub Washing Machine.*—September 13, 1864.—This invention consists in forming the cover of the tub in three sections, two of which are hinged to each other, and to the third one which is permanent, so that one section may be raised to arrange the clothes in the tub, and the two sections thrown back, so as to carry back with them the rubber, with its shaft and crank, in order that the whole interior of the tub may be cleaned.

Claim.—In combination with a tub washing machine, a cover for supporting, guiding, or admitting the rubbing-board stem or shaft to pass through, said cover being in three sections, two of which shall be hinged and the third rigid, and so that the rubbing board will swing upward and backward with one of said sections, substantially as and for the purpose described.

No. 44,166.—JAMES DAVID, Beech Creek, Penn.—*Portable Drying Stove.*—September 13, 1864.—This invention consists of a stove with an inclined top, in which is an aperture for a drying pan or evaporating pan. The stove is furnished with a basket-shaped grate, an under and over flue space, and suitable dampers to regulate the heat. By means of the inclination in the top of the stove, the evaporating pan can be turned at will to expose any part to the full force of the heat. The invention is designed for drying herbs, &c., and for evaporating purposes.

Claim.—First, the inclined plate B, for the purpose of correspondingly inclining the vessel placed thereon, as and for the purpose described.

Also, in combination with the deep basket-shaped grate or fire box, and the passages over and underneath it, the dampers *b c d*, plate *f*, and opening *e*, for turning the density of the fire toward or from the evaporating or drying vessel, substantially as and for the purpose described.

No. 44,167.—JUSTUS DOERING, Philadelphia, Penn.—*Bedstead Fastening.*—September 13, 1864.—This invention consists in the employment of a plate with a projection, and combined with another plate having a corresponding depression, one plate being attached to the side strip of a bedstead and the other to the post, both formed in such a way that when together there can be no openings in which insects may collect.

Claim.—The plate D, with its projection *d*, and the plate D′, with its depression or recess, when the said projection and recess are formed and adapted to each other, as and for the purpose set forth.

No. 44,168.—U. H. DUPARCK, Albion, Michigan.—*Animal Trap.*—September 13, 1864.—This trap, which is intended chiefly for securing game, belongs to the class of automatic or self-setting traps, and the improvement consists in the special arrangement of a tripping platform within the trap box, whereby, after the animal is enclosed by the falling of the entrance door, its weight, in passing to an inner compartment, raises the outer door, and properly catches it by the bait trigger, and thus sets the trap again.

Claim.—The attachment of the "tipping board" C to the "lever" D, by which the weight of the animal on the "tipping board" C, as he passes into the third compartment, raises the "drop door" A and hooks the pin K on "lever" D, over the "spring trigger" H, attached to "treadle" B, and thus sets the trap.

No. 44,169.—H. C. EDDY, Jersey City, N. J.—*Catch for a Photographic Plate Holder.*—September 13, 1864.—This invention consists in the employment of a double catch, consisting of two spring jaws opening in opposite directions and made to catch over the conical head of a stud, so that when the lids close the two jaws will strike the inclined planes of the same and will be held firmly closed, and not be liable to open by accident.

Claim.—The double catch C, consisting of two spring jaws *b b*, and operating in combination with the conical headed stud *e*, and hinged lid B, in the manner and for the purpose substantially as herein shown and described.

No. 44,170.—ALFRED EDWARDS, Chicago, Ill.—*Radiating Heat Regulator.*—September 13, 1864.—This invention consists in the introduction of a metal plate into the interior of a chamber or drum on a smoke-pipe, fastened on a rod across the middle of the drum, the size of said plate being so proportioned to the drum that the area of space around the plate between it and the drum shall be equal to that of the smoke-pipe, for the purpose of deflecting the heated products of combustion against the inside of the drum without checking the draught, which is regulated by an ordinary damper in the pipe.

Claim.—First, the chamber B, provided with the plate C, when arranged in the pipe A, substantially as and for the purposes set forth.

Second, the combination and arrangement of the chamber B, the plate C, the pipe A, and damper E, constructed and operating substantially as and for the purposes herein described.

No. 44,171.—GEORGE F. EVANS, Norway, Me.—*Clipping the Hair of Horses.*—September 13, 1864.—This invention consists in the employment of a straight knife blade, parallel to and just above an adjustable comb in combination with rotary sheats. The rotary shears are operated by a crank and shaft having a grooved pulley, around which a cord is wound. A spiral spring is also coiled around and fastened to the shaft at one end. By pulling the cord out to its full length the shaft is revolved and the spring wound up, and upon releasing the string the spring uncoils, thus revolving the shaft and winding the string.

Claim.—My improved horse-clipper or shearer, as made with the stationary and rotary shears D E, and with the gears H I and cranked shaft F, arranged so as to operate together, and substantially as specified.

Also, the combination of the same and the wheel L, the line M, the ratchet S, the spring pawl R and the spring O for operating the shaft F, as described.

No. 44,172.—JAMES FERRIS and WILLIAM E. BACON, Litchfield, Ill.—*Device for Shrinking Tire.*—September 13, 1864.—This device is composed of a solid metallic block, of which a portion at one end projects upward, and in a slot cut into its upper end supports, by means of a pin, a biting lever for securing the tire. Another block, having its upper surface somewhat concave, lies upon the horizontal portion of the one just described, one end abutting against the upright portion, while from the other rises two standards or ears between which is fitted another biting lever. Two bell-crank levers are pivoted at their angle, and one upon each side to the upper block, and, at the extremities of the short arms, which hang downward, are attached to the lower block by pins which project from the latter, and each respectively passes through a slotted hole made in the end of each of said short arms. The long arms of the levers extend back horizontally and are connected to the opposite ends of an axle upon which is secured a hand lever and a toothed eccentric, the latter meshing into a vertical rack let into the outer face of the upright portion of the lower block. Thus, by means of the hand lever and its connexions, the upper block is made to slide backward and forward upon the lower one.

Claim.—First, the stationary and sliding bed A C, in combination with the dogs B D and the concave upper surface of the bed C, all constructed and arranged, substantially as and for the purpose specified.

Second, the lever A, provided with the shaft G and eccentric pinion F, in combination with the rack E and the right-angled straps I I, attached to the beds A C, and all arranged, substantially as shown, by operating the bed C.

No. 44,173.—JEREMIAH FINK, Baldwinsville, Ill.—*Whiffletree Hook.*—September 13, 1864.—This invention has for its object constructing the hooks used in whiffletrees in such a manner as to prevent the traces from becoming disconnected by any accidental cause. A link is attached to the end of a hook having an eye in its end, through which passes loosely one end of the link, so that it is free to move by its own gravity; the opposite end falls by its weight and rests on the shank of the hook, the link thus lies in an inclined position, the free end being the lowest, so that the eye of the trace is readily slipped over the point of the hook. The link thus prevents the trace from being detached, for if it is drawn backward it strikes the link on the upper side and by its pressure holds it down more firmly.

Claim.—The link or ring *a*, forming a broad bearing, to prevent the passage of the clevise or trace eye, when inserted in place and jointed to the point *b* of the hook, and resting against the shank, in combination with said hook; the whole arranged and operating substantially as herein specified.

No. 44,174.—D. D. FOLEY, Washington, D. C.—*Street-sweeping and Sprinkling Machines.*—September 13, 1861.—This invention consists in a machine which may be used as a street-sprinkler, and at the same time has an endless belt, in connexion with a revolving broom, by means of which the dirt is swept up and deposited in a suitable receptacle within the machine, to be carried away.

Claim.—The construction of a street-sprinkling and sweeping machine, when combining the frame E, endless belt D, revolving brush C and lever H, with the water tank A and sprinkler B, substantially as described.

No. 44,175.—OBED FOOTE, Indianapolis, Ind.—*Camp Cooking Stove.*—September 13, 1864.—This invention consists of an ordinary square or oblong sheet-iron camp cooking stove, having a sliding door in front and the usual apertures on top for the cooking utensils; to the sides of the stove are attached, by means of hooks, tin reflectors or Dutch ovens, having small glazed windows on top; the bottom of the stove is made to slide out, so that the stove can be set down directly upon the ground and the fire built on it instead of the bottom plate, thereby preserving the bottom plate from the action of the fire.

The stove is so constructed that the reflectors, cooking utensils, stove-pipe and stove-legs, all pack in the body of the stove, conveniently for transportation.

Claim.—The arrangement of the stove with sliding or portable bottom plate, operating in the groove F and sliding front or door, the whole being combined with the reflectors G and H, having the window R and cap Q and the hinged leg or foot K, in the manner and for the purposes set forth.

No. 44,176.—O. C. FORSYTH, Jr., Washington, D. C.—*Skates.*—September 13, 1864.—This invention consists in the combination of an elastic sole with two or more runners, which are free to rotate in the direction of the length of the skate. The skate may be adjusted for different sizes of feet and degrees of rigidity, and the runners are so connected to the body of the skate that each shall be capable of rotating on its separate axis independently of the sole or body. The runners are held in their horizontal position by means of springs interposed between their moving ends and the sole of the skate.

Claim.—First, the combination of an elastic sole with two or more runners, which are free to rotate in the direction of the length of the skate, substantially as described.

Second, adjusting the skate for different sizes of feet and to different degrees of steadiness or rigidity, by means of holes 3 in the sole and sectional runners, substantially as described.

Third, in the construction of skates connecting the runner or runners to the body of the skate, so that each shall be capable of rotating on its separate axis independently of the sole or body, substantially as described.

Fourth, holding the runner or runners of skates, which are made capable of rotating independently of the movement of the body of the skate, in their proper horizontal position by means of springs interposed between their moving ends and the sole of the skate, substantially as described.

No. 44,177.—F. C. FULGHUM, Arba, Ind.—*Cane Juice Evaporator.*—September 13, 1864.—This invention consists of an evaporator formed of thin sheet metal with inclined sides and vertical ends, and an aperture for the discharge of sirup into coolers. Along the entire length of the evaporator extend the bars, one on each side, where the inclined sides join the bottom. The bottom of the evaporator for a portion of its length has an inclination downward from each edge to the centre, extending from the front to near the rear end, which is level or flat. The evaporator is also provided with a lever and a notched bar, by means of which the front end of the evaporator can be elevated or depressed at pleasure.

Claim.—First, the bars or ledges *e* in combination with the inclined sides or shores *b*, when constructed and arranged substantially in the manner herein represented, and for the purpose described.

Second, forming the bottom with a central depression, as represented by shade lines *a''*, extending through a greater portion of the length of the pan, in combination with a flat or level portion *a'*, as herein shown and described.

Third, in combination with pan B and furnace A, the construction and arrangement of lever *f*, fulcrum *q*, pin *k*, and strips *l*, as herein shown and for the purpose described.

No. 44,178.—J. Lewis Geroldsen, Livingston, N. Y.—*Composition for Painting.*—September 13, 1864.—This composition consists of a mixture of hot water, blue vitriol dissolved in hot water, and alum dissolved in hot water, which is allowed to stand twelve hours. Then chloride of lime and aquafortis are added. To every ten gallons of this mixture one gallon of linseed oil is added.

Claim.—The composition of matter, together with the process of compounding or making the same, substantially as set forth in the above specification.

No. 44,179.—Abram J. Gibson, Worcester, Mass.—*Churn.*—September 13, 1864.—This invention consists of a dasher, which is made to fit a straight cylindrical churn barrel, in which numerous holes are bored at opposite angles. The shaft of the dasher is tubular, and furnished with a valve at the top for admitting the air into the body of the churn.

Claim.—A churn dasher which fits accurately inside of a straight cylindrical barrel, the holes B B B B placed at opposite angles, as and for the purpose specified, in combination with tubular rod C and valve D, as set forth.

No. 44,180.—Henry G. Giles, Troy, N. Y.—*Improvement in Outside Flues and Dampers for Heating Stoves.*—September 13, 1864.—This invention consists chiefly in an outward revertible flue, constructed by placing a division plate up and down the middle of the back, oval-shaped pipe, at the top of which is a double-acting damper, which, when turned back, opens a direct upward draught from the fire chamber, but when turned forward turns the draught down the flue to the lower end of said division plate, and thence up on the other side, which leads to the exit pipe. At the lower end of the double flue is a damper, through which air is admitted from near the floor into one side, when desired, up the flue into the smoke-pipe; and also a damper, which opens into the back part of the ash pit, acts as a back draught when the grate is shaken or the ash pit cleaned, to prevent the dust and ashes from escaping into the room.

Claim.—First, in a stove which has both a chamber of combustion and supply the flues J and L, projecting partly or wholly outward from the regular or proper line of the casing of the stove, operating as and for the purposes described.

Second, in the same kind of stove, in combination with said flues J and L, the damper R, or any opening to said flues admitting exterior air to either of them, for the purpose set forth.

Third, in the same kind of stove, in combination with said flues J and L, the damper N, operating as and for the purposes set forth.

Fourth, the double-acting damper W, which at the same time closes off the product of combination from one of said flues and turns the other downward.

Fifth, the suspended flue division, or equivalent, acting as a damper for changing the course of the draught, as described.

No. 44,181.—James Green, Providence, R. I.—*Motive Power.*—September 13, 1864.—This invention consists in a series of radially sliding rolling weights attached to sides of a wheel in combination with stationary cams, in such a manner that by the action of the cams said weights are always held in such position towards the wheel that the weights on one side overbalance those on the other, and consequently a continuous rotary motion of the wheel will be effected. A double set of adjustable cams in combination with the sliding weights and revolving wheel, in such a manner that by moving the outer cams on a carriage in a radial and the inner cams in suitable guides in a circular direction, the motion of the wheel can be readily reversed whenever it may be desired.

Claim.—First, the radially sliding rolling weight D attached to the sides of the wheel A, and operating in combination with the cams E F F', substantially in the manner and for the purpose herein specified.

Second, the combination of the cams F F', carriages G G', cam E, and circular shoes *p*, constructed and operating substantially as and for the purpose set forth.

No. 44,182.—William Griffiths, Philadelphia, Penn.—*Fastening for Chimney Cap Plates.*—This invention consists in applying to the under side of a chimney-cap plate, designed for the attachment of ventilators, a set of cast iron legs or binders, which are fastened

thereto by means of screwbolts and nuts, and when in place on the chimney, fit snugly into the four corners of the flue and bear up against the sides so as to secure the fastening of the plate firmly and permanently.

Claim.—Securing the cap-plate of a chimney, by means of adjustable legs or binders *b*, constructed and applied so as to operate substantially in the mode described, for the purposes specified.

No. 44,183.—H. F. T. Hale, Milwaukie, Wis.—*Reservoir Stoves.*—September 13, 1864.—This invention consists in the arrangement of a heating stove fed by a reservoir or magazine for coal in the middle, which is immediately surrounded by a cold air annular chamber supplied from the bottom of the stove up through hollow vertical grate bars, which annular open chamber is again surrounded by an annular flue chamber, through which the products of combustion pass to the smoke-pipe leading therefrom. The combustion chamber is also surrounded about half-way up from the base of the stove by another annular cold air chamber, supplied with air from the base and terminating in a series of pipes which open out at the top of the stove, the whole being enclosed in a sheet iron casing in the ordinary manner. At the back is an independent flue from the base of the stove to the smoke-pipe, which takes the products of combustion when required from descending flues leading from the combustion chamber.

Claim.—First, the combination of the open chamber O', surrounding the fuel reservoir, with the hollow vertical grate bars of the fire-pot, substantially as shown.

Second, the combination of the hollow vertical grate bars, the annular chamber O', and the air chamber C', with its range of small pipes *c*, substantially as shown.

Third, the combination of the hollow vertical grate bars, with the flues Q D D and E, substantially as shown.

Fourth, the flat air chambers *x* for supplying the front vertical grate bars of the fire-pot, substantially in the manner and for the purpose herein shown and described.

No. 44,184.—William Henry Hall, New York, N. Y.—*Bottle Stopper.*—September 13, 1864.—This invention consists in the use of a flanged discharge tube, which is secured in an ordinary stopple by screwing or in any other suitable manner, and is provided with a screw cap in such a manner that by removing the screw cap the contents of the bottle or vial can be poured out in small or large quantities without removing the stopple, and the liquid is prevented from adhering to the upper edge of the discharge tube and running over the sides of the bottle or vial, and, by replacing the cap, the bottle or vial is hermetically closed.

Claim.—The use of the flanged discharge tube C with screwed cap D, in combination with an ordinary stopple B, applied and operating substantially as and for the purpose set forth.

No. 44,185.—Emory E. Hardy, New York, N. Y.—*Cart Harness.*—September 13, 1864.—This invention consists in a light cast iron shell, of a form to adapt it to the animal's back, having a central channel across its upper surface for the back chain or strap, which channel is covered by a metal bridge piece, to which the check hook and turrets are secured, the recesses in the back of the shell being filled with wood or other light material so as to give it a finished appearance.

Claim.—First, the shell A of such form as to adapt it to the animal's back, and provided with the flanges or ribs *h h* forming the recesses *a a*, and the central channel, as shown, and having its under surface smooth and free from projections.

Second, providing the central channel with the screw sockets *e*, by casting the same therein, as shown.

Third, filling the channel or recesses *a* by blocks of wood or other suitable material, to form a smooth surface or top, substantially as shown.

Fourth, the bridge piece B, when made substantially as shown, and used in combination with shell A.

Fifth, attaching the bridge piece B to A, by means of the pins *d* or by the flanges *c*, as shown.

Sixth, the turrets *o o*, and check and check hook *p*, in combination with bridge piece B, as shown and described.

No. 44,186.—George W. Harris, Lowell, Mass., and William R. Harris, Manchester, England.—*Improvement in Machine for Weaving Loom Harness.*—September 13, 1864; patented in England, December 24, 1858.—This machine is designed for making an entire harness, and embraces means for supporting the back bands at any desired distance apart, for any desired depth of heald, and for moving them in the order necessary for the operation of the shuttles; means for knitting fastening twines and the shuttle twined to the back bands, and means for forming the light and hard sides of the harness. As auxiliary to these, means are provided for interweaving with the light half of the harness, a bear string or tokening thread. It is automatically stopped when any one of the shuttle twines break, or becomes slack, or needs replenishing, and has means for preserving the leash of the harness and maintaining the twines duly separated for the reception of the harness shafts, and is caused to stop when an entire harness is made, in order that the back bands may be drawn through the machine the necessary distance for the commencement of another harness, the shuttles being then again thrown into action.

Claim.—First, machinery for supporting the back bands and moving them in the order required for the operation of the shuttles.

Second, mechanism for operating the two twines for forming the "light" and "hard" halves of the harness, and either with or without the eyes, substantially as herein before specified.

Third, mechanism, or means of encircling the back bands with fastening twines, and knitting or securing to the said back bands the said fastening twines and certain other twines, carried and operated by shuttles or their mechanical equivalents.

Fourth, the combination of the said automatic machine and machines, for interweaving with the light half of the harness a bear string or tokening thread, the whole being substantially as described.

Fifth, the combination of the said automatic machine and a mechanism for arresting its motions, whenever any one of the twines of the shuttle-spools may break or a shuttle-pool may have its entire twine run from it and require to be replenished with more.

Sixth, the combination of the said automatic machine and mechanism by which the machine will not only be caused to continue its operation until an entire harness may have been made by it, but will have its shuttles stopped in their action so as to enable the back bands to be drawn through the machine the necessary distance for the commencement of another harness, the shuttles being next thrown into operation for the production of this last-mentioned harness.

Seventh, the combination of the same and a mechanism for drawing the back bands through the machine the necessary distance for the commencement of another harness.

Eighth, the combination of the said automatic machine and a mechanism by which its entire operation may be arrested on the completion of a harness.

Ninth, the improved machine, as not only provided with a shuttle-frame *g*, movable substantially as described, and carrying the shuttles and moving them in directions longitudinally of the machine and with respect to the back bands, in the manner as explained, but as having its back bands supported and operated substantially as specified.

Tenth, the combination of the twines Y'' Y'' or their mechanical equivalents with harness-making mechanism, substantially as described.

Eleventh, the combination of the stationary centre-piece k' with one or more shuttles, to be operated substantially as described, the purpose of the said fixed centre-piece being herein before specified.

Twelfth, the combination of the vibrating fingers h' h'', with the stationary centre-piece k' and one or more shuttles, operated or to operate substantially as described.

Thirteenth, the combination of the vibrating guide needle or finger *f*, with the vibrating fingers h' h'', the stationary centre point *k*, and one or more shuttles, operated or to operate substantially as specified.

Fourteenth, the construction of the machine, substantially as described, to form the leash of the harness, it being accomplished by giving to the cam shafts H and H' but half a revolution during the formation of each successive needle, in manner and by means as specified.

No. 44,187.—Hosea B. Harvey, Northbridge, Mass.—*Machine for Cutting Lacings.*—September 13, 1864.—This invention consists of a case in which is placed a roll of leather to be compressed. One end of said case being open, and provided with a follower, having a feed screw at the other end to force the leather out at the open end as far as required for the end of a single strip or lacing, the open end of the case being made square, to serve as a guide against which to cast off the lacing.

Claim.—The within-described machine for cutting strips, constructed and arranged substantially as specified.

No. 44,188.—David Hathaway, Troy, N. Y.—*Improvement in Stove Grates.*—September 13, 1864.—This invention consists in constructing a stove grate of an oblong stationary frame, within which is suspended a double grate, formed of two sets of double paralleled flat grate bars, set upon an oscillating or dumping frame, which rests upon the stationary frame, and is turned upon its journals by a key at one end, which performs the double office of turning the grate and sliding the two separate grate bars, thus raking or shaking the ashes out and dumping the cinders.

Claim.—The combination of the revolving, oscillating key F with the tilting frame N, as held in connexion by the loop *p*, constructed and arranged as described and represented, for the purpose set forth.

No. 44,189.—William H. Hayes, Rock Island, Ill.—*Improved Composition for Dressing Millstones.*—September 13, 1864.—This invention consists of a composition of muriatic acid, carbonate of ammonia, alum, saltpetre, common salt, vinegar, and high wine.

Claim.—The use, for dressing millstones, of a composition made of the ingredients above specified, and mixed together in about the proportion and in substantially the manner set forth.

No. 44,190.—Albert H. Hook, New York, N. Y.—*Implement for Perforating and Severing Paper.*—September 13, 1864.—This device consists of a circular cutter, which may have a smooth or notched edge, and is pivoted at its centre to a handle by which it is operated. Affixed to the handle is a shield, consisting of a stationary plate, for the purpose of protecting the edge of the cutter.

Claim.—The circular cutter implement, composed of a cutter or operator *a* and handle *b*, and for the purpose set forth.

Also, in combination therewith, the shield *c*, as herein specified.

No. 44,191.—Charles E. Howard, West Bridgewater, Mass.—*Adjustable Gang Punch.*—This invention consists of a series of solid punches, with the dies to match, connected and operating together so as to punch a series of holes in curves, or other forms, and at various distances.

Claim.—A series of solid punches, with their dies to match, when connected and operating together, so as to punch a series of holes in curves or straight lines, at various distances; the whole constructed and arranged in the manner specified and in combination as herein described.

No. 44,192.—Moses G. Hubbard, Syracuse, N. Y.—*Improvement in Harvesters*—September 13, 1864.—This invention relates to the means for connecting the "floating" cutter bar to the main frame, and to the arrangement of devices for raising and lowering the cutters: consisting of a curved bar, acting as a cam, and attached to the side of the frame, which bar, in connexion with the handle, serves to raise the cutters.

Claim.—The combination of the bar F and the sliding joint K, at its rear end, with the rod R and the rod G, substantially as and for the purposes set forth.

Also, the combination of the raising handle E with the cam I, or its equivalent, when constructed and arranged substantially as specified.

Also, the extension of the coupling rod G, constructed and attached substantially as and for the purposes described.

No. 44,193.—Moses G. Hubbard, Syracuse, N. Y.—*Improvement in the Cutting Apparatus of Mowing Machines.*—September 13, 1864.—This invention relates to an improvement in mowing machines for which a patent has been granted to the said Hubbard, it being designed for adaptation to different varieties of grasses of the different sections of the country, and to add to the safety and convenience of the pitman connexions. The claim explains the features of novelty.

Claim.—First, constructing the head by which the pitman is connected with the cutter bar by two ears, which form the hinge, one of which ears is located upon the dumb cutter or projection in front, the shank being tapering, so as to be attached to the cutter bar, all formed and arranged as herein specified.

Second, the vertical projection I, in combination with the pin L, for the purposes set forth

Third, forming the divider, Fig. 3, substantially as described, consisting of an outline of hexagonal form, gradually tapering to a point, on a line with the cutter, and having a shoulder and shank, by which I form a divider of simple construction, as and for the purposes set forth.

Fourth, introducing a cushion between the vibrating steel parts of the cutting bar and pitman of a harvester, specifically as and for the purpose described.

No. 44,194.—William Wheeler Hubbell, Philadelphia, Penn.—*Improvement in the Construction of Ordnance.*—September 13, 1864.—The nature and object of this invention is set forth in the claim.

Claim.—First, casting the bronze, with solid breech and barrel, in a solid body around the solid breech, of wrought iron or steel, and the barrel united in one piece, in the form and proportions set forth, to combine the extreme strength and other advantage of both these metals, as described.

Second, shrinking or securing the one wrought iron or steel band upon the bronze breech surrounding the solid wrought iron or steel breech and barrel, so as to clasp the bronze between the wrought iron or steel of the band and the wrought iron or steel of the breech, and more solidly, in combination from the breech to the trunnions, substantially in the manner and for the purpose described.

No. 44,195.—J. E. Houston, Hillsdale, Mich.—*Improvement in Water Wheel Scrolls.*—September 13, 1864.—The object of this invention is to cause a solid column of water to act on a central discharge wheel, irrespective of the quantity used, so that the force exerted by the wheel shall bear a just relation to the water used, from the maximum to the minimum quantity, and the amount admitted being gauged with facility and accuracy, to suit the economical use of water and the power required. The novelty consists in the combination of an adjustable scroll with a shell, provided with a lip; also in the use of guides, in combination with the chute and scroll, top and bottom plates, and slots.

Claim.—First, the combination of the adjustable scroll *b* with the stationary shell *a*, substantially in the manner and for the purpose herein set forth.

Second, the movable slide c', in combination with the adjustable scroll *b* and lip a^* of the shell *a*, applied and operating in the manner and for the purpose substantially as herein shown and described.

Third, the guides $c3\ d\ d'$ and corresponding slots $c4\ d^*\ d^*$, in combination with the chute and scroll *b* and with the top and bottom shell of the stationary shell *a*, constructed and operating substantially as and for the purpose herein set forth.

No. 44,196.—John Hyslop, New York, N. Y.—*Improved Ventilator.*—September 13, 1864.—This invention consists of a ventilator divided by a diaphragm, extending vertically through the centre, with louvers on two opposite sides. The louvers are of double-inclined form, the upper end of the inner part slightly overlapping the upper end of the lower part. The ventilator may be divided into two or more compartments. Its action can be controlled by dampers or deflectors.

Claim.—First, a ventilator, divided by a partition or diaphragm, in combination with side louvers of any desired form, and with or without the bottom louvers, substantially as described.

Second, a ventilator divided into two or more compartments, in combination with the side louvers C, constructed as described, and either with or without the bottom louvers D, as set forth.

No. 44,197.—Jacob B. Hyzer, Janesville, Wis.—*Improvement in Heat-radiator Attachment.*—September 13, 1864.—This invention consists in a cylindrical plate, enclosing a smaller and shorter cylinder, which is closed or covered at both ends, and between which and the outer casing are a series of sheet iron divisions, radiating from the centre, forming flues, and terminating flush with the ends of the internal cylinder; over these flues, at both ends, are placed dampers, so arranged that the draught or current of heat passing through the flues may be regulated by directing it so that it will ascend and descend said flues, or go directly forward into the exit pipes to which it is designed to attach the radiator.

Claim.—First, the combination of an outside radiating case within an inside radiating cylinder, with stationary radial and radiating plates, arranged as described, and combined with the dampers to secure an upward, direct, full, or reduced draught, when used substantially in the manner herein set forth and described.

Second, the application and combination of ascending and descending hot air flues, regulated by dampers, as described, to form a heat radiator, for the purpose of radiating heat generated from any source, and introduced into the radiator in any manner and for the purposes set forth and described.

No. 44,198.—Alfred F. Jones, Lexington, Ky.—*Improvement in Vacuum Apparatus for Treating Disease.*—September 13, 1864.—This invention consists of a box to contain the human body, allowing the head to project above the box. The box being made air-tight, air is pumped from the box, a suitable atmospheric gauge indicating the degrees of exhaustion. The difference of density in the air of the lungs and that on the surface within the box produces, as alleged, a determination of blood to the surface, tending to break up congestion.

Claim.—An apparatus for the treatment of disease, consisting of a receptacle A, which is capable of being made air-tight, an air pump B, and a registering apparatus or gauge, for determining the pressure of air upon the person partially enclosed within said receptacle, substantially as described.

No. 44,199.—Joseph E. Kendall, Plymouth, Ind.—*Sorghum Evaporator.*—September 13, 1864.—This invention consists of a wooden frame, supporting the various parts of the machine, and a fire-box, over which is placed an air chamber. There is also another air chamber, provided with a spiral flue, and connected with the fire-box or flue. The heated air can be made to pass through these air chambers to the chimney, or directly to the chimney through the flue, by means of suitable dampers. Over these air chambers are placed the boilers, which can be rotated by means of a crank, and are provided with a wire brush, which prevents the formation of a crust on the bottom of the boiler.

Claim.—First, the rotating boiler or pan, constructed in the manner described, which rotates entirely around from right to left, or left to right, at the will of the operator, while the whole fire surface is continually exposed to the heat if desired.

Second, the arrangement of the flues and valves, and the formation of the circular and spiral flues in the air chambers, as in the drawings shown.

Third, the manner of constructing the wire brush and the particular application of the same, for preventing the formation of crust on the bottom and sides of the boiler, as shown in the drawings.

Fourth, the manner of holding up, supporting, and connecting the fire-box, air chambers, and boilers, by the wood and iron frame work and flues, as described and shown in the specifications and drawings.

Fifth, the particular arrangement and combination of the fire-box, air chambers, boilers, flues, valves, and gearings, or their equivalents, and the manner of constructing the same, in the manner and for the purpose set forth in the drawings and in the above specifications, so as to make one complete machine.

No. 44,200.—A. K. Kent, Owatonno, Minn.—*Washing Machine.*—September 13, 1864.—This invention consists of a concave rubber with projections covered with zinc, also a convex rubber with projections covered with zinc. The projections in the concave are placed alternately between wooden slats.

Claim.—The concave C, composed of a series of alternate bars *d* and slats *e*, the former being covered with zinc *f*, and the bars and slats fitted at their ends in semi-circular grooves *c*, made in the inner surfaces of the sides *b b* of the suds box, in combination with a rubber D, provided with slats *k*, with or without a zinc covering *l*, substantially as and for the purpose set forth.

No. 44,201.—John J. Kimball, Naperville, Ill.—*Water Wheel.*—September 13, 1864; antedated April 15, 1864.—This invention relates to an improvement in that class of water wheels which are placed on vertical shafts and are commonly termed horizontal water wheels. The invention consists in providing the wheel with two sets of buckets, one set being straight and having a radial position in the wheel, and the other set being curved, and using in connexion with the wheel thus constructed, a scroll, peculiarly arranged, and a gate.

Claim.—First, the wheel B, provided with two sets of buckets *a b*, the former *a* being straight and at the lower part of the wheel and having a radial position, and the buckets *b* being curved and directly over the buckets *a*, in connexion with the scroll A, extending upward so as to enclose the lower buckets *a* of the wheel, substantially as and for the purpose set forth.

Second, operating the cylindrical gate F, through the medium of the rods *d*, plates G H, pulleys $f\ f'$, cords or chains *e*, plate I, rods *g*, collar or oil cup J, and the rod K, and nut *m*, or their equivalents, all arranged as set forth.

No. 44,202.—Samuel Lagowitz, Newark, N. J.—*Carpet Bag.*—September 13, 1864.—This invention consists in the use of iron or metal corners, in combination with ends and a centre piece made of wood or other suitable material, in the manufacture of carpet bags, &c., in such a manner that the difficult and tiresome operation of bending the wood or iron can be dispensed with, and the corners can be easily and cheaply made by casting them, or by stamping or cutting out of sheet metal.

Claim.—The metal corners A, in combination with the centre piece C and ends B, applied in the manufacture of frames for carpet bags, &c., substantially in the manner and for the purpose herein shown and described.

No. 44,203.—William R. Landfear, Hartford, Conn.—*Machine for Pegging Boots and Shoes.*—September 13, 1864.—This invention consists in the employment of a feed roll or sleeve with a bolt or stud passing through the same roll and into the frame in connexion with a peg driver and awl.

Claim.—The employment of the feed roll or sleeve E, with the bolt or stud F, in connexion with the peg driver and awl, substantially as and for the purpose described.

No. 44,204.—George W. Linn, Lee Centre, Ill.—*Washing Machine.*—September 13, 1864.—This invention consists in the combination of horizontal arms, with a vertical shaft, provided with holes for adjusting said arms to adapt them to the winding of the clothes around them for washing in a suitable tub.

Claim.—The combination and arrangement of the adjustable and changeable arms H with the holes *a a* of the shaft C, and used in connexion with the tub A, substantially in the manner and for the purpose herein set forth.

No. 44,205.—David Lippy, Mansfield, Ohio.—*Sheep Rack.*—September 13, 1864.—This invention consists of a stationary rack, combined with a movable rack, adjustable sidewise so as to allow smaller or larger openings. The bottom of the feed box is composed of two pieces that may be elevated and supported mutually by upper edges in a V-shape, or be lowered upon a horizontal beam beneath, reversing the former shape and forming a trough, like a receptacle for fine hay.

Claim.—The stationary racks D D, provided with the adjustable or sliding racks G G, in combination with the troughs C C, and the central compartment provided with the adjustable bottom boards *d d*, all arranged substantially as shown to form a new and improved sheep rack, as set forth.

No. 44,206.—Thomas R. Markillie, Winchester, Ill.—*Gang Plough.*—September 13, 1864.—The principal object of this invention is to afford the driver, while sitting on the machine, greater facilities in managing his ploughs, and in raising them entirely from the ground, when it is desired to turn the machine at corners of the field, in ploughing to avoid stumps and other obstructions in the way of the ploughs, or to transport the machine from one place to another. The invention also provides for sub-soiling in conjunction with gang ploughs, and for adjusting the draught pole and the front end of the plough frame.

Claim.—First hinging or pivoting the plough beams E E' to the frame beams B B, on both sides of the axle A, by means of arms $g\ g'$, and arranging the plough beams so that they will extend out on each side of the axle-tree to receive the forward and rear ploughs, substantially as described.

Second, the lever G, and arm *h*, and pin *f*, in combination with the hinged beams E E′, constructed and operating substantially as and for the purposes described.

Third, the adjustable brackets *t t*, arranged on the frame beam B, in combination with the hinged beams E E′, substantially as and for the purposes described.

Fourth, the adjustable vertical guide plate *b*, on the axle-tree A, adapted to receive a slot in the rear end of the pivoted draught pole C′, substantially as and for the purposes described.

Fifth, the combination of bent lever D, perforated check plate D′, and guide plate *b*, with the pivoted draught pole C′, and frame beams B B, arranged and operating substantially as and for the purposes described.

No. 44,207.—Walter K. Marvin, New York, N. Y.—*Lock.*—September 13, 1864.—In this lock there are three circular tumblers, each composed of an inner disk and an outer ring, which are retained in the same plane by flanges on the rim, which overlap the edge of the disk, either the flange or the disk being susceptible of independent rotation, except when the two are clutched together by a stop pin which is attached to the rim, and which may be projected from it into any one of a series of holes formed in the edge of the disk. To change the stop from one hole to another, in order thereby to change the combination, the tumblers are brought to a certain position in which a hole through the rim of each tumbler will coincide with a similar hole through the back plate of the lock case, and a pointed wire is passed through until it is tapered and forces the stop from its connexion with the inner disk, when the relative position of the two may be changed by turning the disk round and projecting the pin into some other hole. In these particulars the lock bears a similarity to that which was patented to George Rosner, September 18, 1860.

Claim.—First, the method of adjusting the central disk-revolving tumblers of permutation locks, in relation to the outer wheel or surrounding flange thereof, by means of a stop actuated by a spring lever, or otherwise, on the flange part, in combination with a series of holes on the periphery of the central disk, arranged for operation as described, so as to allow of the adjustment being effected by a locking device acting from without on the circumference towards the centre of the wheel, substantially as herein set forth.

Second, in combination with a central disk a double-flanged rim to securely and permanently hold and confine the edge of the disk, substantially as set forth.

Third, in combination with a central disk, double-flanged rim, and locking pin, under the arrangement described, orifices through the flanges of the tumblers, so that by the insertion of a wedge pin through said orifices the locking pin will be raised out of the hole in the central disk, thus disengaging the disk from its flanged outer wheel and allowing it to freely revolve within it, substantially as herein set forth.

Fourth, providing the dial of permutation locks with adjustable indicators sensitive to the touch, so that the letters or numbers of the key being marked on the dial the lock may be opened without seeing it, substantially as set forth.

Fifth, in combination with a revolving tumbler, fast on the spindle and provided with false notches, as described, a dog, enlarged at the part corresponding to the said tumbler, so that the dial shall be locked as soon as the bolt is attempted to be withdrawn.

No. 44,208.—John L. Wilson, Chicago, Ill.—*Heating Stove.*—September 13, 1864.—This invention consists in a sheet iron stove, designed for burning wood, in which the fire door is on one end or side, having at the back an independent flue from the base upward, into which is an opening from the upper part of the fire chamber, having a damper connected with it, through which, when the damper is closed, the products of combustion pass and go downward into a flue or chamber underneath the fire-place, thence passing up two columns at the front of the stove and into a flue or chamber above the fire chamber; but when the damper is open the draught will be direct and the products of combustion will pass at once into the chimney or smoke-pipe. Underneath the lower chamber is a cold air chamber which takes the air from near the floor through holes below and delivers it, heated somewhat, through apertures in the front part of the stove.

Claim.—First, the arrangement of the fire-box A, pipe B, branches *g* and *h*, valve *n*, heat chambers C and E, columns D, cold air chambers X, with the openings 3 and *f*, the whole being constructed, arranged, and operating substantially as herein described and for the purpose set forth.

Second, placing under the fire box of stoves a heat chamber surrounded by a cold air chamber, said heat chamber being connected with a flue or flues and the fire box of the stove, as herein described and for the purpose set forth.

No. 44,209.—Harrison B. Meech, Fort Edward, N. Y.—*Mode of Treating Vegetable Substance for the Manufacture of Paper Pulp, &c.*—September 13, 1864.—This invention consists in using a stationary boiler with high temperature, such as sixty pounds to the amount and upwards, with a soapy and alkaline liquor. The advantage over the same treatment in the rotary boiler being that the fibres are thoroughly disintegrated without being ground and wasted in fine powder by the operation of boiling.

Claim.—The use of a stationary boiler, constructed substantially as above described, in combination with a boiling liquor including grease. oil, or soap, constituted substantially as above described, and a high temperature ranging from that indicated by an internal pressure in the boiler of sixty pounds to the square inch to that indicated by the like pressure of one hundred and fifty pounds to the square inch, in the manner substantially and for the purpose above described

Also, broadly the combination of a stationary boiler with the use of the above-described boiling liquor, and the use of any and all temperatures ranging from that indicated by an internal pressure in the boiler of sixty pounds to the square inch and upwards, for the purposes above described, of reducing straw and other vegetable fibrous substances to a pulpy condition.

No. 44,210.—George P. Mitchell, Philadelphia, Penn.—*Carpet-beater and Cleaner.*—September 13, 1864.—This invention consists of a series of devices named in the claim for beating and thoroughly cleaning carpets.

Claim.—First, the rock shafts S S with their whips *h* in combination with the endless ropes *e*, the whole being arranged and operating substantially as set forth.

Second, the combination of the endless ropes *e* with the rock shafts V and their whips.

Third, the cylindrical brushes P P′ in combination with the endless ropes *e*.

Fourth, the combination, substantially as described, of the driving shaft K, any convenient number of countershafts with their crank or crank wheels, and the upper and lower rock shafts S and V with their whips *h*.

No. 44,211.—William Mitchell, New York, N. Y.—*Sugar Mould Carriage.*—September 13, 1864.—This invention consists first in making the top plate of sugar mould carriages removable, so that plates having holes of different sizes to suit the several kinds of moulds in use may be put upon the carriage as occasion requires. Two caster wheels are placed at the front of the carriage.

Claim.—A sugar mould carriage provided with a series of removable top plates having recesses and openings, either or both for the purpose of varying the capacity of the carriage to carry a greater or less number of moulds, according to their size, as set forth.

Also, the employment or use of two caster wheels C C at the front of the carriage, in connexion with the bottom A, corner pieces G, and cross-pieces *b b*, all arranged as shown to form a new and improved device, for the purpose specified.

No. 44,212.—Bernard Morahan, Brooklyn, N. Y.—*Boot and Shoe Nails.*—September 13, 1864.—This invention consists of a nail with a triangular or sharp-edged head, and provided with one or more spurs or points in such a manner that in driving the cams into the sole or heel of a boot or shoe the head of the nail presses in flush with the leather, and protects the same from wear, while at the same time the nail is prevented from being knocked out by coming in contact with a stone or sharp corner, and the accumulation of dirt under its head is avoided.

Claim.—A nail A for boots and shoes with one or more spurs *a*, and with a sharp edged head *b*, as specified.

Also, a nail provided with two or more spurs, and having its head extended beyond one or both spurs, as shown in Fig. 10.

No. 44,213.—John E. Neill, Brooklyn, N. Y.—*Apparatus for Superheating Steam.*—September 13, 1864.—This invention consists in applying to the tube or flue space of a steam boiler a superheating device, composed of small tubes arranged in two compartments, and in such manner that the steam enters one of these compartments, and circulates around and among the tubes, when it passes to the other compartments, then out and on to the engine. At the end of the passage leading to the tubes a damper or dampers are provided for controlling the heat that has been allowed to pass among the tubes, any surplus that there may be being passed off through a passage provided for that purpose to the up-tube.

Claim.—Placing the superheating apparatus, substantially such as herein described, within the tube box or flue space of a steam boiler, substantially in the manner herein described and for the purpose specified.

Also, dividing the superheating apparatus into two compartments, each consisting of a steam chamber and a series of circulating tubes, and the two connected by a steam chamber or passage, substantially as and for the purpose specified.

Also, the manner of forming the steam chambers and the nozzles connecting them with the pipes for supplying the saturated and conducting off the superheated steam, substantially as described and for the purpose specified.

Also, controlling the action of the heat on the superheating surfaces by means of a damper or dampers, substantially as described, in combination with a flue space or spaces through which the products of combustion may escape, thereby affording the means of controlling the heat to be applied to the superheating surfaces without the necessity of damping the fire in the furnace.

No. 44,214.—William H. Nichols and Horatio H. Abbe, Chatham, Conn.—*Mould for Casting Ornamental Heads to Screws.*—September 13, 1864.—This flask is formed of three parts, the two lower ones fitted in a wide ring or cylinder, the bottom plate carrying a series of sockets for receiving the shanks of the screws upon which heads are to be cast, which sockets or hollow tubes pass upwards through the next plate which forms the bottom of the moulds. The thin plate forms the cope or top of the flask, and the moulds or gates leading to them are recessed in its under surface, and in the top of each mould is a movable slot core for forming the slot in the screw-head. By throwing back the cape which is hinged to the flask, and depressing, by means of a lever, the lower plate, which is mounted upon an upright sliding shaft supported by a spring, the sockets are withdrawn from around the screws, and then, on releasing the hold upon the lever, the spring throws the lower plate with its series of sockets upward, and in its ascent the sockets are supposed to catch against the points of the screws and lift them out of the mould.

Claim.—First, the socket B and plates E C D in combination with the spring standard A, for the purposes herein specified.

Second, movable slot core pins or slot cores F D *d d*, in combination for forming screw slots, operating substantially as herein specified.

Third, the hinged upper plate G in combination with the movable slot cores F D, arranged and operating as described.

No. 44,215.—S. J. Olmsted, Binghamton, N. Y.—*Plough.*—September 13, 1864.—The object of this invention is to provide for treating a wider or narrower furrow by adjusting the mould-board. This is accomplished by pivoting the mould-board to the share in such a manner that it may be elevated or depressed obliquely, and thus accomplish the desired object.

Claim.—Constructing ploughs with movable or adjustable mould-board moving up and down, substantially as herein set forth.

No. 44,216.—Jacob T. Palmer, Greencastle, Ind.—*Churn.*—September 13, 1864.—This invention consists of the use of a large dasher nearly filling the body of a rectangular churn, and oscillating upon pivots near the centre arm over a perforated partition extending the entire length of the churn box. The dasher is moved by a straight rod passing up through a long slot in the cover.

Claim.—The perforated oscillating dasher C, operated by the lever E, in combination with the perforated abutment D, arranged within the cream box A, substantially as and for the purpose herein set forth.

No. 44,217.—Charles Parham, Philadelphia, Penn.—*Sewing Machine.*—September 13, 1864.—This invention is designed as an improvement on Parham's patent of April 26, 1864. The claim and drawings convey an intelligible idea of the several improvements.

Claim.—In combination with the shuttle carrier a needle guard, for forcing the needle back into its recess, should it from any cause be forced out therefrom, substantially as described and for the purpose set forth.

Also, the movable needle-throat bridge for covering the space between the feed wheel and stationary needle throat piece, to prevent the cloth from getting jammed in said space, and to facilitate the moving and guiding of the cloth, substantially as described.

Also, in combination with a laterally reciprocating feed wheel, the laterally reciprocating plate on which the material rests, so that the cloth may be more readily moved and guided, substantially as described.

Also, in combination with the laterally reciprocating bridge piece and resting plate, the reciprocating gauges for defining the distance of the sewing from the edge of the cloth in making the whip or button-hole stitch, substantially as described.

Also, the auxiliary alternating needle thread take-up, which is used when the machine is converted from an ordinary stitch to a button-hole machine, for the purpose of taking up the additional thread drawn off from the spool by the operation of the looper, substantially as described.

Also, the combination of the cam, stud, arm, and rock shaft, for operating the auxiliary take-up and timing it so as to conform to the motions of the needle, shuttle, and looper, substantially as represented.

Also, in combination with the auxiliary alternating take-up, the spring check or clamp for checking the draw-off from the spool at every alternate stitch, substantially as and for the purpose described.

No. 44,218.—Charles L. Pierce, Buffalo, N. Y.—*Whip Holder.*—September 13, 1864.—This invention consists of a whip holder having clasping jaws, combined with springs placed between the jaws and the back piece.

Claim.—A whip holder having spring iaws C, for the purpose and substantially as described.

No. 44,219.—H. Rice, Youngstown, Ohio.—*Churn.*—September 13, 1864.—This improvement consists of two reciprocating dashers, the shafts of which are hollow and move one within the other, both being operated by a double crank connected with gearing. The inner shaft is furnished with a valve at its upper end or conveying fresh air into the body of the churn.

Claim.—The special arrangement of the reciprocating hollow shafts G and E, dashers G′ F′, valve *h*, and air passage *g*, in combination with the body A and connecting rods *b b* and I, as and for the purpose set forth.

No. 44,220.—Alfred Robinson, New York, N. Y.—*Roofing Fabric.*—September 13, 1864.—This fabric is made by joining together several layers of strong paper by means of thin asphaltic or bituminous cement.

Claim.—A roofing fabric made substantially as and for the purpose specified.

No. 44,221.—Wm. H. Robinson and Jacob Behel, Earlville, Ill.—*Device for Stretching the Wires of Fences.*—September 13, 1864.—This device consists of a rectangular frame, with a shaft crossing it transversely near its middle portion and extending outside sufficiently far to receive a ratchet wheel, and with a squared section for receiving a winch. When in use the frame is supported by and may be slidden upon the wire, the latter having been previously passed through holes formed through each end of the box as well as through the shaft. By turning the shaft the slack is wound upon it, and is held in that position by the ratchet and pawl until it has been secured in the neighboring post.

Claim.—The frame *a*, spool *b*, ratchet wheel *d*, and apertures *g* and *f*, the whole constructed and arranged substantially in the manner and for the purpose specified.

No. 44,222—James and Amos W. Sangster, assignors to Thomas J. Coury, Buffalo, N. Y.—*Parlor Stove.*—September 13, 1864.—This invention consists in providing an upright cylinder stove with a tube passing up from the bottom to the top through the centre of the grate, which oscillates for shaking out the ashes by means of a rod attached to one side. In the upper part of the slide is a movable oven, which sets over the mouth of the central tube aforesaid; it is covered by a lid and ornamental top piece. Below the grate is a sieve or ash shifter, which surrounds the central tube, and is worked by a rod in the same way as the grate, and drops the ashes into the ash pan beneath. There is also a side flue, which takes cold air in at the bottom of the stove and terminates in the central tube, into which the air is carried at a point above the fire pot in the combustion chamber, regulated by a damper.

Claim.—First, the central tube F passing through the stove, with a flange at its bottom, as shown in Fig. 5; also the tube J, which forms the centre of the sieve and continues the tube F down through the bottom of the stove by connecting with it at the bottom, as shown in Fig 5, by means of the flange S; also, the funnel shape of the upper part of the tube F, as shown at Z; also, the tube W W′, as shown and described.

Second, the cover A standing upon legs, as described, and with the reflecting surface P; also, the cover B combined with the platform D and the tube F.

Third, the grate with the tube F passing through it, and the sieve I, with the damper X in the centre, and the tube J, for the purposes set forth; also, the damper Y, at the bottom of the tube W.

Fourth, the oven C in combination with the tube F, when constructed and operated as herein substantially set forth and described.

No. 44,223.—George Schott, New York, N. Y.—*Feathers for Beds.*—September 13, 1864.—This invention consists in cutting turkey and chicken feathers when wet, drying them, and making them into beds that are formed in small cells or divisions, thus forming a good and cheap bed of the feathers that are usually thrown away, as a substitute for the costly geese feathers.

Claim.—As a new article of manufacture for beds, mattresses, &c., feathers prepared in the manner set forth.

No. 44,224.—Gilbert L. Sheldon, New Marlboro', Mass.—*Threshing Machine.*—September 13, 1864.—In the use of threshing machines it often happens that when wet or damp straw is introduced into the machine the wet straw gets wound upon the cylinder. This invention consists in the introduction of a series of stationary knives at or near the last section of the concave, and placed in such position that the wet straw is cut from the cylinder.

Claim.—First, the introduction and use of the knives *r r r r*, when constructed in the manner as and for the purposes described.

Second, the combination in threshing machines of the dust box and flaps C C, pipe D, and knives *r r r r r*, substantially in the manner and for the purposes described.

No. 44,225.—H. S. Shepardson, Shelburne Falls, Mass.—*Spirit Level.*—September 13, 1864.—In this invention the body of the stock of the level is made of metal, and a thin siding of wood is added to complete the stock.

Claim.—Constructing the frame of the instrument of metal, with a thin siding of wood to protect the interior arrangement from dust and injury.

No. 44,226.—Benjamin Sherwood, New York, N. Y.—*Truss.*—September 13, 1864.—This invention consists in forming a teat or projection on the front plate of the truss, acting as a fulcrum, and used in connexion with the band that passes around the body.

Claim.—First, the projecting fulcrum or teat T, in combination with the plate A, substantially in the manner and for the purposes described.

Second, the combination of the plate A, having the projecting fulcrum as described, with the belt B, or its equivalent, substantially as and for the purposes set forth.

No. 44,227.—J. C. Simonds and Freeman Godfrey, Grand Rapids, Mich.—*Water Wheel.*—September 13, 1864.—This invention consists in forming a circular recess in the bottom of the hub of the wheel, which forms a flange which fits and works in the rebate in the block upon which the wheel rests, thus preventing any leakage of water from the inside of the spiral water recess, on its passage to the wheel.

Claim.—The circular recess *e*, in the bottom of the hub *a*, of the wheel forming the flange *f*, to fit and work in the recess or rebate *g*, in the block *h*, in its arrangement with the scroll or spiral water passage C, substantially as and for the purpose specified.

No. 44,228.—Hamilton E. Smith, Cincinnati, Ohio.—*Fireplace.*—September 13, 1864.—This invention consists in the employment of a flexible or slatted screen or blower, in the front of the fireplace, which screen may be raised and lowered by being wound upon a drum or shaft by means of a pinion worm, gear and crank.

Claim.—The combination of the flexible screen or blower A *a*, drum B, pinion F, worm G and crank H, all arranged to operate as shown and described.

No. 44,229.—Daniel E. Somes, Washington, D. C.—*Means of securing a Uniform Temperature in Packing and Preserving Houses, Hospitals and other Buildings.*—September 13, 1864.—This invention consists in making the walls and roof of several folds, with spaces for non-conducting materials, so as to keep the air at the temperature at which it enters. To cool the air it is carried in tubes deep into the earth, where the pipes are immersed in water. To obtain pure air it is made to pass through a vessel containing charcoal.

Claim.—First, the slide K, constructed and used in the manner and for the purpose set forth.

Second, The air-pipes I I, extending into wells, trenches or any body or stream of water, with or without artificial refrigeration, substantially as described, for the purpose of cooling any building or room.

Third, the air-pipes containing charcoal, for the purpose set forth.

Fourth, the air duct and air-pipes, when used in combination.

Fifth, a floor with openings, substantially as described and for the purpose specified.

Sixth, a floor with openings, in combination with the air-pipes or air duct, or both.

Seventh, the use of water substantially as described, for the purpose of lowering the temperature of any building or room by means of evaporation.

Eighth, constructing buildings for the purpose herein set forth, with walls, floors and roof, so arranged as to maintain nearly a uniform temperature, in combination with the processes and apparatus for cooling, substantially as set forth.

No. 44,230.—John Spaulding, Mount Holly, Vt.—*Water Wheel.*—September 13, 1864.—This invention consists in the employment of a twisted plate, similar in form to the auger, but irregular. so that the channels shall diminish at and a certain distance from its lower end.

Claim.—The improved twisted plate auger motor or water wheel, as made in manner and with diminishing channels, and to operate substantially as described.

No. 44,231.—George Stevens, assignor to E. G. Weed, East Hardwick, Vt.—*Machine for dressing Staves.*—September 13, 1864.—The object of this invention is to dress the sides of staves, so that they will have the proper circular form and of equal thickness; and it consists in having two segmental or circular heads, between which the staves are placed and firmly held, and so as to pass, as the heads rotate, between two reciprocating planes which finish the dressing to the proper curve and thickness.

Claim.—The reciprocating frame E, provided with cutters F F, in connexion with the segmental or circular stave-holding heads H H, placed on a suitable shaft G, and in such relation with the cutter bars *a a*, of the frame E, to operate in the manner substantially as and for the purpose set forth.

No. 44,232.—William J. Stevens, New York, N. Y.—*Pumping Engine.*—September 13, 1864.—The object of this invention is the improvement in that class of steam engines used to drive pumps for forcing and raising water. Its novelty consists in the regulating, while in motion, the lead and motion of the main steam valve to the speed of the steam piston, and affording a quick and certain return motion of the latter by means of the revolving valve N, the lever W, the screw Z, pin Y and valve rod U, in combination with the small single-acting cylinders F F, the cranks $h'' \, h'''$, the pinion h' and the main valve *d*.

Claim.—The employment and arrangement of the secondary or assistant valve N, the lever W, the screw Z, pin Y and valve rod U, in combination with the small single-acting cylinders *f f*, the cranks $h'' \, h''$, the pinion *h* and the main valve *d*, for the purpose herein described.

No. 44,233.—John S. Thompson, Glen's Falls, N. Y.—*Stave-jointing Machine.*—September 13, 1864.—The object of this invention is to joint the edges of staves, to the desired bevel and circle ready for setting up; and it consists in a reciprocating frame or carriage in which the stave is clamped, all made to oscillate and travel upon ways that have the right curve to form the stave, under which is a revolving wheel with planing knives, so that as the carriage conveys the stave over the horizontal planer the stave will be perfectly jointed, and to the right shape.

Claim.—First, the reversible frame D, placed within the carriage C, in connexion with the platform or frame P and cutter head or disk N, when constructed and operating substantially as and for the purpose specified.

Second, the concave ways or guides B B, in connexion with the cutter head or disk N, carriage C, with reversible frame D, and the platform or frame P, all arranged to operate substantially as and for the purpose set forth.

No. 44,234.—J. W. Taylor, North Collins, N. Y.—*Tanning Compound.*—September 13, 1864.—This invention consists of a composition of terra japonica, sumach and alum. The alum is dissolved in hot water, and the terra japonica and sumach mixed separately with hot water, and then added to it.

Claim.—A tanning compound composed of the three ingredients prepared and mixed together in about the proportions herein specified.

No. 44,235.—John S. Tilton, Philadelphia, Penn.—*Stove.*—September 13, 1864.—This invention consists in fitting to the inside of any upright base burning heating stove a pipe or flue, extending from near the fire pot close to the top of the stove, being connected with the stove-pipe by an arm or branch, which fits into said stove-pipe; the lower end of the pipe or flue can be closed or opened by means of a damper, making the draught direct or indirect at will. The design of this invention is to throw the heat up into the top of the stove, instead of permitting it to escape by a direct draught up the stove-pipe, whereby much valuable heat is wasted.

Claim.—The pipe E, with the damper *d*, or its equivalent within the casing B of a stove, communicating with the opening *c*, substantially in the manner and for the purpose herein set forth.

No. 44,236.—G. A. Titus, Mantonville, Minn.—*Seeding Machine.*—September 13, 1864.—This invention consists in the combination of a triangular hopper with adjustable feed rollers, and in a tube of novel construction, for conveying the grain from the hopper to the ground; also, in combination with said tube, of a pivoted furrow opener, operated by a spring, and a concave scattering board.

Claim.—First, the feed rollers B, in combination with the triangular hopper A and openings *c*, when constructed and operating as described.

Second, the tubes E, when constructed and operating as described.

Third, in combination with the tubes E, the pivoted furrow openers *h* and spring *i*.

Fourth, in combination with the tubes E, the adjustable covers *f*, substantially as shown.

Fifth, the concave scattering board H, when constructed and operating as shown and described.

No. 44,237.—Joseph Todd and Isaac N. Todd, Madison, Wis.—*Lady's Fan.*—September 13, 1864.—This invention consists in forming in each blade or leaf of the fan a recess, into and from which the photograph or other object may be slid and removed at pleasure, an opening of the desired form being left on the front of the fan for the exhibition of the picture.

Claim.—First, constructing the leaves or blades of fans in the manner substantially as described, so as to receive photographic and other pictures.

Second, the combination of a photographic album with a fan, substantially as above described.

No. 44,238.—William J. Towne, Newton, Mass.—*Tree Protector.*—September 13, 1864.—This invention consists of a metallic trough made in two sections, fitted tightly around the tree with packing. A metallic cover deflected downwards fits, with flanges upon its under side, upon projections in the upper edge of the trough. The cover can at any time be slipped upward upon the tree, enabling the trough to be easily cleaned.

Claim.—The trough B, in combination with the cover D, attached to the rim of the inner edge of the trough, substantially in the manner and for the purpose set forth.

No. 44,239.—James Seth Tripp, Danby, N. Y.—*Apple-corer and Quarterer.*—September 13, 1864.—This invention consists of a tube and flanges in the usual form for coring and quartering the fruit, secured to a frame or table, one side of which is inclined so that the quartered fruit will fall away from the tube. There is a presser, operated by the hand, to force the fruit on the tube and flanges, and a spring to throw the presser up.

Claim.—The combination of the inclined table A, the cap F, the pitman C, and its spring, the horizontal handle and fruit presser D, and pin E, made and operating as described.

No. 44,240.—JOHN TYLER, West Lebanon, N. H.—*Water Wheel.*—September 13, 1864.—The novelty consists in having the lower rim of the wheel provided with depressions at the discharge sides of the buckets for the purpose of admitting of the lateral or tangential discharge of the water from the wheel; they being so arranged that no portion of the buckets extend below said rim.

Claim.—Having the lower rim *e* of the wheel provided with depressions *f* at the discharge sides of the buckets *a*, for the purpose of admitting of the lateral or tangential discharge of the water from the wheel, so arranged that no portion of the buckets extend below said rim, substantially as described.

No. 44,241.—C. G. VANSTRUM and P. G. LINDBERG, Red Wing, Minn.—*Seeding Machine.*—September 13, 1864.—In this machine the bottom of the seed box is perforated with a series of holes that may be varied in size or closed altogether, at pleasure, by a slide mortised in the box. This device is operated by a hand lever extending to the driver's seat. The seed, after leaving the box, drops upon a scattering board hinged to the lower front edge of the hopper by two hooks, projecting from the edge of the board and catching in the lower ends of pendent levers that are pivoted to the front of the hopper. One lever extends upward beyond its pivot or fulcrum, and connects with a flange secured to the inner side of the traction wheel. By means of this cam wheel a reciprocating motion is given to the seed board and also to a stirrer in the hopper.

Claim.—The adjustable hinged scattering board E, in combination with the pendent levers *k*, tappet *l*, scalloped flange *n*, stirrer *p*, and adjustable seed slide *b*, all constructed and operating in the manner and for the purpose herein shown and described.

No. 44,242.—CYRUS WAKEFIELD, South Reading, Mass.—*Utilization of Ratan Waste.*—September 13, 1864.—The internal core left after splitting off the outer part of the ratan, with its silicious covering, is applied to the making of baskets, whilst the shavings made from the trimmings of the ragged edges of the split strands are assorted, spun, doubled, or twisted, and converted into rope and woven into matting or baling cloth. Or the strands may be braided by machinery and formed into mats, &c.

Claim.—As a new manufacture, ropes, matting, baling cloth, and baskets, made in the manner substantially as described, from the waste products of the manufacture of chair seating from ratan.

No. 44,243.—CHAUNCEY WALTON, Washington, D. C.—*Ruling Machine.*—September 13, 1864.—The nature and object of this invention will be understood from the claim and engraving.

Claim.—First, the combination of two or more cloth cylinders with two or more sets of shifting adjustable beams and the main frame, to give the paper a longer or shorter traverse in the same frame and deliver it dry to the drop box, substantially in the manner described.

Second, the combination of the heated roller frame with the main frame and the endless cloth, substantially in the manner described, for the purpose of using cloths of varying lengths in the same machine, under a uniform tension, and keeping the cloth dry under all hygrometric conditions of the atmosphere of the ruling room.

Third, the combination of fine wire, whether non-corrosive or otherwise, with the apron and with fine grooved rollers, substantially in the manner described, to secure a nearly uniform tension under all changes of moisture and temperature in the atmosphere of the ruling room.

Fourth, in so combining the carrying roller H with the carrying roller J and the carrying wires that the same wires may be used to give a greater or less traverse of the paper through the machine, when arranged and operating substantially in the manner described.

Fifth, the combination of the drop box, its hinged supports, and the sliding standards, for the purpose of changing its position in the frame to any length of traverse of the paper, and to receive the same at any angle of delivery desired, when arranged substantially as described.

Sixth, the combination of the longitudinally movable disks with the screw roller and carrying roller J, substantially in the manner described, to press the paper into the box without blotting and while the ruled lines are yet moist.

Seventh, the combination of one or more auxiliary extension pen clamps with the pen beam, substantially in the manner described, for the purpose of automatically ruling lines of varying lengths at the same time and upon the same sheet or sheets of paper.

Eighth, the combination of a pen carrying a spring at each end with pens of different lengths, or with pens placed at different angles to the paper, substantially in the manner described and for the purpose set forth.

Ninth, the combination of a pen beam with a fountain and with the mechanism for balancing the beam, when arranged and operating substantially as and for the purpose described.

Tenth, the combination of the front carrying cloth roller with the roller B and with the cloth, when so arranged and operating that the cloth and roller B shall each contribute to drive the front roller and render its tension uniform at whatever position it may be in its bearings.

Eleventh, the combination of the curved slotted bearings O with the pen beam, substantially in the manner described, so that the position of the beam shall be adaptable to any length of traverse through the machine, and at the same time permit in all positions a longitudinal vibration of the beam at the will of the operator.

Twelfth, the combination of the driving gear, the box for the same, and a self-acting pawl, arranged and operating substantially in the manner and for the purpose described.

No. 44,244.—CHARLES WARREN, Milford, Mass.—*Inhaling Apparatus.*—September 13, 1864.—This invention consists in the combination of two nostril pipes with a common inhaling bottle, instead of the single pipe as heretofore used.

Claim.—The combination and arrangement of the two nostril pipes C D with the vessel A, its cap B, and an air induction pipe E, the same being substantially as described.

Also, the combination and arrangement of the air-tight flexible valve F with the two nostril pipes C D and the vessel A, provided with a cap B, or its equivalent, and an air induction pipe E, the whole being substantially as explained.

No. 44,245.—HENRY WILKINSON, Newburg, N. Y.—*Door and Window Fastener.*—September 13, 1864.—The main feature of this invention consists in so constructing the device, that by turning the knob two bolts are shot in opposite directions, one up, the other down, from the ends of the door into their respective sockets.

Claim.—The combination of the two double-headed armed lever bits *d d′*, the revolving barrel *c*, and the sliding plates *e e′*, with the bolts *g g′* and the latch D, whereby a door can be secured at top and bottom, and the bolts be withdrawn by a single turn of the knob either right or left, substantially in the manner described and represented.

No. 44,246.—GEORGE W. WILSON, Chelsea, Mass.—*Furnace Heater.*—September 13, 1864.—This invention consists in a combination of hot and cold air flues and air chambers so related to each other that the heat from the fire-pot placed in the middle of the upright heater in the ordinary manner is absorbed by a current of fresh air constantly passing into the cold air chambers, by which means the heat is nearly exhausted before the products of combustion finally escape into a chimney flue. For the particular arrangement of the parts of this heater reference is made to the description in the specification.

Claim.—The combination of the flue chamber H (having flues *i k l*, as described) and the three pipes I K L (connected and provided with a damper as explained) with the fire chamber A.

Also, the combination and arrangement of the flue chamber H and the pipes I K L, the air duct F, the base chamber D, the air chamber C, and the fireplace or chamber A, the whole being constructed and applied and so as to operate together, substantially as specified.

Also, the combination and arrangement of the fireplace A, the air chamber C, the vessel M, and the distributing drum O.

Also, the combination and arrangement of the fireplace A, the vessel M, the drum O, the air chamber C, the base chamber D, the air duct F, the smoke chamber H, and the smoke pipes I K L, the whole being applied and connected together, substantially as described.

Also, in combination with the air duct F of the air-heating furnace, the vibrating valve G, flanges *d e* and openings *c f*, the whole being to operate in manner and for the purpose substantially as specified.

No. 44,247.—SYLVESTER A. WOOD and AUGUST T. DUMKE, Manitowoc, Wis.—*Rotary Engine.*—September 13, 1864.—This invention consists in the combination and arrangement of a revolving cylinder made fast to the main shaft, and having four sliding pistons, which are moved outward and inward by pins placed in their edges, and which work in cam grooves in a plate provided for that purpose. The chamber formed between the ending and the outer stationary cylinders is divided into three crescent-shaped compartments by abutments, which touch the revolving cylinder, and form a steam-tight joint therewith, by means of spring packing placed therein. All the moving parts are provided with spring packing. A series of revolving valves are used for the induction and eduction of the steam from the different compartments to the revolving cylinder, and from thence to the atmosphere. These valves are driven by a series of cog wheels, the principal one of which is fast to the main shaft; and it consists of an annular ring, placed within the outer case of the engine, by which its motion may be reversed.

Claim.—First, the use of the sliding piston in the revolving cylinder B, in combination with the steam chambers in the stationary cylinder C, and the ports for the introduction of steam at the different points, communicating with all the steam chambers, by the arrangement and combination of which the full surfaces of two pistons are constantly exposed to the pressure of the active steam, thereby securing (at a given pressure of steam) a uniform power and velocity to the revolving cylinder throughout its entire revolution, substantially as herein represented and described.

Second, the self-expanding lap jointed metallic rings 8 8 8 8, in combination with the rabbets and grooves in the revolving cylinders and the rabbets in the stationary cylinders, for packing the joints between the revolving and stationary cylinders, substantially in the manner and for the purpose herein shown and set forth.

Third, the sliding plates 4 4 4, in combination with the springs 5 5 5, attached in the cam groove plates, substantially as and for the purpose herein shown and described.

Fourth, the whole arrangement for reversing the engine by combination of the circular rim K, the valves *c c c*, the lever L, and the steam pipes *e e e*, substantially in the manner and for the purpose herein represented and described.

Fifth, the revolving cut-off valves *m*, with the set screws 3, at the ends of the valve shafts *d d d*, substantially in the manner and for the purpose herein shown and described.

No. 44,248.—**S. F. Woodworth**, Iowa Falls, Iowa.—*Evaporator for Saccharine Juices.*—September 13, 1864.—This invention consists of twin pans permanently attached to each other and revolving on a pivot. One of these pans is therefore always directly over the fire grate, while the other is over a portion of the return flue. A thin pan for first heating the juice is placed over the portion of the return flue, between the chimney and portion *d* of said flue. By means of a damper the products of combustion may be cut off from the return flue, and a stream of cold air admitted to cool the pan which may be at the time on that side.

Claim.—First, the application of revolving pans F G to the return flue B. in combination with the damper E. constructed and operating in the manner and for the purpose substantially as herein shown and described.

Second, the combination of the secondary flue C, and pan I, with the return flue B, and revolving pans F F, substantially as and for the purpose set forth.

No. 44,249.—**J. B. Wortendyke**, Goodwinsville, N. J.—*Machine for Cutting Paper for Paper Twine, &c.*—September 13, 1864.—The paper in a broad sheet passes from a delivering to a grooved roller, in the grooves of which act the revolving cutters of an upper roller; the paper is snugly held down to the grooved roller by smaller felt covered rollers, placed on opposite sides thereof, and under both of which the paper passes; from the rear one of these the cut strips pass each to a separate roller, so arranged on its shaft as that it revolves by frictional contact therewith, and may, under a strain, freely play thereon, so as not to risk the rending asunder of the strips.

Claim.—First, the two rollers C C, in combination with the cylinders B D, arranged relatively with each other to operate in the manner substantially as and for the purpose herein set forth.

Second, the employment or use of two or more shafts F F, to receive the blocks G, on which the cut paper strips are wound, substantially as and for the purpose specified.

Third, in combination with the cutting devices as stated, the securing of the blocks G on the shafts F, by means of a friction device, for the purpose of allowing each block to have a separate or independent movement, substantially as set forth.

No. 44,250.—**Alexander Robertson Arrott**, Saint Helen's, England, assignor to **John B. Meldrum**, New York, N. Y.—*Process of Bleaching.*—September 13, 1864.—This invention consists in using an alkaline bleaching chloride of soda or potash, with excess of caustic alkali, without the ordinary boiling and scouring.

Claim.—The employment or use, for the purpose of bleaching vegetable fibres used for textile fabrics or other purposes, of a solution containing a bleaching chloride and an alkali mixed together, substantially as herein described, whereby the bleaching process is completed, and boiling and scouring may be dispensed with.

No. 44,251.—**John Batchelder**, Canaan, N. H., assignor to **Abraham Batchelder**, Lowell, Mass.—*Machine for Making Bungs.*—September 13, 1864.—This invention is designed for cutting bungs and taps by a machine having a feed box, into which the prepared blocks are fed, and where they are centred by being held between arbors, and by a cam movement are presented to a toothed revolving cutter which trims them to the desired shape as they revolve between the centring arbors.

Claim.—First, the spindle L, in combination with the hollow pulley shaft *c*, spring *d*, arm *a*, sliding shaft *b*, and cam D, or their equivalents, substantially as described and for the purposes set forth.

Second, the inclined plane or groove *u*, in combination with the cam H, the cutter *s*, cutter shaft *s'*, and the devices for operating the same, or their equivalents, substantially as described for the purposes set forth.

Third, the feed box S, in combination with the spring *p*, lever *o*, and cam G, or their equivalents, for centring the blocks automatically, substantially as described for the purposes set forth.

No. 44,252.—**Chas. S. Bourne**, assignor to himself and **Wm. E. Udell**, Springfield, Mass.—*Lamp Heating and Shaving Apparatus.*—September 13, 1864.—This invention consists in an improved apparatus for heating with a spirit lamp, for shaving, &c., the lamp being placed in a receptacle on the side of a central division, and the shaving mug in a corresponding receptacle on the other side, and over the lamp is suspended a little boiler set in a ring on a swinging arm secured to the central part, which allows the boiler to be moved aside from the flame of the lamp.

Claim.—A shaving and heating apparatus, made substantially as herein shown and described.

No. 44,253.—**Wm. T. Class**, Cumminsville, Ohio, assignor to **E. Rubenow** and **Charles Joseph**, Cincinnati, Ohio.—*Filter.*—September 13, 1864.—This invention consists of a single case, having an inlet and an exit pipe and manhole. The interior of the case is divided into two compartments by means of a diaphragm, in one of which compartments is the paper pulp acting as a filtering medium.

Claim.—The single case A, with an inlet and exit pipe and manhole, and a perforated diaphragm dividing the interior of the case into two apartments, one of which shall contain paper pulp or macerated paper as a filtering medium, all as herein described and represented.

No. 44,254.—**James Bennett Forsyth**, assignor to himself and **Charles McBurney**, Roxbury, Mass.—*Machine for Making India-rubber Hose, Belting, &c.*—September 13, 1864.—This machine is constructed of a bed and two standards. The lower rolls have permanent bearings in the standards and carry a series of pulleys at their extremities. The journals of the upper roller have their bearings in movable boxes. Pressure is applied to the boxes by means of a spring and thumb-screw. A spindle connected to the boxes by chains has its bearing in the upper part of the journal, and is provided with a collar, notches, and a pawl. The upper pulleys are put in motion by a crank.

Claim.—A machine for making hose, round packing, cord, wringer rolls, tubing, and similar articles of rubber and cloth, consisting essentially of the parallel rolls D E and M, operating substantially as described.

No. 44,255.—**Horace J. Frizelle**, Syracuse, N. Y.—*Cooking Stove.*—September 13, 1864.—This invention consists in the arrangement of air passages for supplying the fire-box with air from the front or back part of the stove, and the construction of a grate sustained on wheels, together with a combined gridiron and ash-pan, to economize the heat below the grate.

Claim.—First, the arrangement of the air passages in their relation to the fire-box and the other parts of the stove, by which the air for combustion may be taken from the front or back part of the stove, or from both ends of the stove, as described.

Second, the ash-pan and gridiron or boiler as combined, and as arranged to be used either in or out of the ash-pit, as herein recited.

Third, suspending or sustaining the grate on wheels, substantially as set forth.

No. 44,256.—**Joseph Goodman**, Blackfriar's Road, England, assignor to **Charles P. Button**, New York, N. Y.—*Velocipedes.*—September 13, 1864.—This invention consists in connecting treadles and hand levers to the cranked axle to which the main wheels of the carriage are fixed, in such a manner that the velocipede can be propelled either by hand or by the feet; also, in arranging handles to the hand levers, one or both of which connect through chains with the fore carriage in which the guide wheel is fitted, and turn it in any direction required for guiding the carriage.

Claim.—The combination of the steering devices consisting of handle D, operating through cords E E, with the tiller *b*, which by rotation of the arbor *c* turns the arms *d*, and causes the guide wheel to swerve to the right or left as may be desired by the motion of the axle in the slotted bearings of the fore carriage, the whole of the devices mentioned being combined in the manner and used for the purpose described.

No. 44,257.—**A. W. Hall**, assignor to himself, **Samuel Jaudon**, and **R. H. Belden**, New York, N. Y.—*Quartz Crusher.*—September 13, 1864.—The object of this invention is to obtain the necessary pressure for the crushing wheels, without depending upon the gravity of the latter. The invention has further for its object the graduating of the pressure of a scraper, whereby the quartz may always be kept under the crushers, or within the path of their movement.

Claim.—First, the wheels F F, in combination with the crushers E E, one or more, placed on the radius arms D D, the pressure frame G, and the annular trough B, substantially as and for the purpose set forth.

Second, the screw rods J, nuts K, and cams *e*, all arranged with the frame C, for applying the pressure to the crushers E, substantially as set forth.

Third, the peculiar construction of the scraper O, with its adjustable spring, staff, or handle, made of a bow shape, pivoted to a stud on the main rotating shaft, and provided with a screw P, for the purpose of graduating the pressure of the scraper, substantially as and for the purpose described.

No. 44,258.—**Sylvester Lewis**, Rochester, N. Y., assignor to **Union Oil Company**.—*Process for Deodorizing Petroleum, Naphtha, &c.*—September 13, 1864.—This is a modification of the invention patented to the same inventor May 10, 1864; the improvement consisting in pointing out more fully the proportions of coal, charcoal, and ashes to be used under different circumstances.

Claim.—The deodorizing of petroleum and kerosene oils, naphtha, benzole, and benzine, by the use of ashes and charcoal, substantially as set forth.

No. 44,259.—D. B. LUCKEY, Bloomingburgh, N. Y., assignor to himself and S. S. BOARDMAN, Rochester, N. Y.—*Harvester.*—September 13, 1864.—This invention relates to that class of machines in which the cutter bar is connected to the frame by a joint, to admit of its rising and falling freely, to conform to the inequalities of the surface over which it may pass, and also to admit of its being turned up out of the way when the machine is drawn from place to place. The invention consists in an arrangement of devices designated in the claim for effecting the object required.

Claim.—First, the rod H, attached at its front end to the rear of the shoe I, by a joint f, and connected at its back end by a universal joint e to a shaft G, fitted loosely in a tube or bearing d, at the lower end of a pendant F, at the rear of the frame A, substantially as and for the purpose set forth.

Second, the connecting of the shoe I to the frame, by means of two or more rods K K′, one or more of which is allowed a vertical play at its outer end, by having its pin j' fitted in an oblong slot k' in the pendant in which it is secured, to admit of the rising and falling of the front part of the cutter and shoe bar, as herein described.

Third, the connecting of the pin or pins j, which are allowed the rising or falling movement to the frame A, by means of a rod or rods L, to prevent friction which would otherwise attend the working of the pin or pins j in their slots.

No. 44,260.—J. A. MILLER, New York, N. Y., assignor to CHARLES ALDEN, Newburgh, N. Y.—*Fruit and Vegetable Desiccating Apparatus.*—September 13, 1864.—This invention consists of a horizontal air-flue, communicating by a series of vertical tubes with the interior of a tower containing perforated aprons and shelves, inclined in opposite directions towards each other, in combination with a furnace, the heat from which strikes the bottom plate of the horizontal air-flue, and passing over the same, and through and between the vertical tubes, ascends into the tower, drying the vegetables, &c., as they move downwards over the aprons and shelves. The aprons are endless bands turning on rollers. An oscillatory motion is communicated to the shelves by means of a cog wheel with pins. By zig-zag flues, in combination with adjustable shutters, the heat can be thrown directly on the lowest shelf, or carried up to the lower apron. The invention is designed to be used for drying and desiccating vegetables, fruit, &c.

Claim.—First, the horizontal air-flue E, vertical pipes c', and furnace D, in combination with the tower A, containing a series of movable aprons or shelves, the whole being constructed and operating in the manner and for the purpose substantially as herein specified.

Second, the adjustable shelves G, and zig-zag tubes H, arranged in combination with the hot-air furnace D, shelves C, and aprons B, substantially as and for the purpose herein shown and described.

No. 44,261.—RICHARD RYNE, assignor to WM. S. HICKS, New York, N. Y.—*Pen and Pencil Holder.*—September 13, 1864.—This invention consists in the addition of an extended handle, made of light material, attached to the pen-holder in a peculiar manner, so as to adapt it to desk or table use.

Claim.—The combination of the hollow handle a, constructed as described, with the sliding pen and screw pencil, when the parts are united by means of the short tube h, or its equivalent, substantially as herein set forth.

No. 44,262.—ELI THAYER, Worcester, Mass., assignor to NATHANIEL T. SPEAR, New York, N. Y., and S. P. POND, Brooklyn, N. Y.—*Means for Utilizing Fine Fuel.*—September 13, 1864.—This invention consists in mixing up coal-slack, dust, &c., with milk of lime, and passing the pasty mass into a stove which contains a central tube. Fire is kindled in the central tube and dries the inside of the mass of fuel. The tube is then removed and the combustion continues.

Claim.—The within described method of utilization of fine fuel, the same consisting in introducing it in a plastic condition into the stove and providing a hole or passage E, extending from the top to the bottom thereof, for the purpose of kindling and of draught, substantially as set forth.

No. 44,263.—ELI THAYER, Worcester, Mass., assignor to NATHANIEL T. SPEAR, New York, N. Y., and S. P. POND, Brooklyn, N. Y.—*Apparatus for Burning Fine Coal.*—September 13, 1864.—This invention consists of a metal cylinder placed in the centre of the stove, and which is filled with kindling. After the fire has become sufficiently kindled in the cylinder, the latter is withdrawn.

Claim.—As a new article of manufacture, the hollow former E, provided with means for readily withdrawing it, and adapted to be used in the interior of a mass of plastic fuel G, substantially in the manner and for the purpose herein set forth.

No. 44,264.—JOSHUA THOMAS, Jr., assignor to himself and B. BARKER, Cleveland, Ohio.—*Oil-Well Pumps.*—September 13, 1864.—The pump cylinder consists of a series of sections jointed together. At the bottom of each section a valve rests upon a fixed seat. Within each section the piston rod carries a plunger, through which the water flows in the descent of said plunger. Outside of this cylinder a supplemental pipe descends as far down the well as may be requisite for the discharging of waters flowing in above the source of the supply, seed bags or equivalent device being applied to prevent the descent of such waters to the oil.

Claim.—First, the valve plungers R S T, valves L M N, and sectional jointed pump rod B, when arranged so as to operate in combination with two or more coupled chambers G H I, conjointly, as and for the purpose described.

Second, in combination therewith the auxiliary side pipe D, substantially as and for the purpose set forth.

No. 44,265.—BENJ. G. WATSON and A. W. THURBER, assignors to BENJ. G. WATSON and IRA G. BRIGGS, Jewett City, Conn.—*Steps for the Spindles of Spinning Frames.*—September 13, 1864.—The object of this invention is not only to protect the lower end of the spindle from dust and waste fibre, but also to more effectually prevent the oil being thrown off from the step by the rapid revolution of the spindle.

Claim.—The combination with the step A, and spindle B, of the cup C, fitting at top the main position b of the spindle, the concave shoulder c, small cylindrical journal a, and chamber g, when all the said parts are constructed, arranged, and employed in the manner and for the purpose herein specified.

No. 44,266.—HENRY M. WHITMARSH, assignor to himself and MERRITT NASH, Abington, Mass.—*Last.*—September 13, 1864.—This invention consists in forming the lasts, with a toe piece made separate from the body of the last, so that it may be removed, and another of a different form substituted.

Claim.—A toe piece made separate from the body of the last, so that it may be removed, and another of different form substituted, substantially as prescribed for the purpose set forth.

No. 44,267.—FERDINAND ZÜNKELER, assignor to himself and FREDERICK SCHULTZE, Cincinnati, Ohio.—*Machine for Cutting Bungs.*—September 13, 1864.—The object of this invention is to produce a smooth-cut wood bung, and it consists in a revolving cone shaped saw, slit on opposite sides, the edges of which are sharp, so that as the saw cuts the bung, the cutting edges slick or smooth off the bung to the taper shape conforming to the cutting edges.

Claim.—First, the arrangement of guide channel B, intermittent feed rollers C C′, rotating and sliding cutter H, and intermittent clamps J J′, with their described or equivalent accessories; the whole being combined and operating substantially as set forth.

Second, the construction of the conical cutter I I′, with one or more slits or cutting edges by which it is adapted to shave or slick the periphery of the bung in the act of cutting.

No. 44,268.—EDWARD G. AMENT, Oswego, Ill.—*Portable Capstan.*—September 13, 18 4.—The nature of this invention is explained by the claim and engraving.

Claim.—First, attaching the body of the capstan to the axle-tree in the manner, and adapting it to move in a vertical plane, radically to the longitudinal centre of the rear axle, substantially as and for the purpose herein set forth.

Second, the combination of the guide and pulley k k with the tongue K and chain O, or its equivalent, and the top tongue M, substantially as and for the purpose herein set forth.

Third, the combination of the swivel-bearing S e with the posts P P, employed substantially as and for the purpose herein set forth.

Fourth, the employment of the second tongue L, an otherwise rigid bearer, in combination with the forward part of the frame A, substantially as and for the purpose herein set forth.

Fifth, the combination of the tongue K, chain O, or its equivalent and guide and pulley k k', with the swivel-bearing S l and posts P P, and with the second tongue L, substantially as and for the purpose herein set forth.

Sixth, pivoting the adjustable anchors H H, and stirrups h, to the sills of the frame A, in connexion with the slot J, or its equivalent, substantially as and for the purpose set forth.

Seventh, the lever standard F, in combination with the lever E, catches d d', pin and gudgeon connexion e, and spool spire B‴, as and for the purpose herein set forth.

Eighth, in combination with the operative parts of a portable capstan, the rope turner T, formed substantially as described, and adapted to receive and carry outward the rope, and to lay it over upon the next preceding layer of coils, substantially in the manner and for the purpose herein set forth.

Ninth, a self-operating mechanism composed of a rope turner T, and catch T′, adapted to move longitudinally upon the spool B′, and to be automatically put in operation at the proper time, substantially as and for the purpose herein set forth.

No. 44,269.—HENRY EDWIN DRAYSON, Edgeworth Lodge, Eng.—*Manufacture of Gunpowder.*—September 13. 1864.—Saltpetre is dissolved by passing into it a jet of steam, and when dissolved the proper amount of sulphur and charcoal is added, the mass being stirred constantly. The materials thus mixed are worked in the incorporating mill in the ordinary way. The cake thus prepared is then passed through sieves to granulate it, instead of being poured into a hard cake as usual, and the drying and glazing conducted in the usual manner.

Claim.—First, the process of making gunpowder so far as the same is developed in the first degree thereof, substantially as herein described.

Second, the process of making gunpowder so far as the same is developed in the second degree thereof, substantially as herein set forth.

No. 44,270.—Francis Durand, Paris, France.—*Mode of Moulding and Finishing Pottery Wares.*—September 13, 1864; patented in France April 15, 1863.—This invention consists in making use of thin sheets of India-rubber or other elastic material, fixed on the mould or lower die and on the upper die, with an intermediate tissue, for the purpose of allowing the free escape of the air contained between the upper and lower dies. Further, in an improvement in the potter's lathe, in which an elastic pouch serves for steadying the article to be finished by the effect of a partial vacuum or suction underneath the same, in the said pouch.

Claim.—First, by making use of thin sheets of India-rubber or other suitable elastic material, fixed or not on the mould or lower die, or on the upper or counter die or stamping-tool, in the manner as above described, with an intermediate tissue interposed or not as required, for the purpose of allowing the free escape of the air contained between the upper and lower dies, so as to allow an automatical moulding and unmoulding of any article of ceramic or other suitable plastic material.

Second, the improvement in the potter's lathe, represented in Fig. 4, in which lathe an India-rubber or other suitable impermeable elastic pouch or inverted bell-shaped bag serves for steadying or fixing in position the article to be finished by the effect of a partial vacuum or suction underneath the same in the said pouch.

No. 44,271.—Frederick Möritz Wolf, assignor to F. E. Obermuller, Glanchan, Saxony.—*Loom.*—September 13, 1864.—The object of this invention is to obviate the difficulties attending treadle machines or draw looms, with a large number of treadle shafts, and to supersede the jacquard machine; and the new attachment is so arranged that for the production of a certain pattern, no cards, or only a very limited number thereof, are required; and at the same time it admits of an innumerable variety of changes in the pattern. In addition to the usual pattern cylinder and means for turning it, a small cylinder similarly turned is used, and which has also a rising and falling motion. This cylinder is provided on its four sides with laterally movable blocks of varying heights, arranged according to the pattern to be produced, and which govern the position of the perpendicular wires, and through them that of the needles and skewers. These blocks each raise one or more wires, and thus two or four needles, while at the same time each needle is operated upon, independently of the others, by the action of the cards on the large cylinder.

Claim.—The movable blocks c^*, applied in combination with the large cylinder O, substantially in the manner and for the purpose herein shown and described.

Second, the arrangement of the lever E, working beam J, hinged harness board H, elbow levers M, and arms *u*, in combination with each other and with the cylinders O *b*, and griff frame F, substantially as herein specified, so that simultaneously with the rising of the griff frame and depressing of the harness board the cylinders O and *b* are moved and turned.

Third, the slotted needle plate d^*, and palisades *c*, in combination with the needles *f* and skewers G, arranged and operating in the manner and for the purpose substantially as herein set forth.

Fourth, the endless chain c', composed of a series of plates, each capable of receiving and holding a quantity of adjustable blocks c^*, constructed and operating substantially as herein specified, so that by a simple change in the blocks, the pattern or design can be changed at pleasure.

No. 44,272.—William S. Kelly, Schenectady, N. Y.—*Pump.*—September 13, 1864.—This pump is provided with a hollow piston rod, which ascends through a receiving vessel and an annular packing inserted in suitable groove, intervening between the two chambers, said packing being inserted in its groove through lateral openings having exterior shields. The receiving vessel is united to the pump cylinder in the manner of an air chamber, but has a discharge spout or service pipe at or near the top. The hollow piston rod delivers the water into the receiving vessel, and is closed at any desired point above such openings, and continues through a stuffing-box in the top of the receiving vessel, to be connected with the operating parts of the apparatus.

Claim.—First, casting or otherwise applying a receiving vessel G directly to the body of the pump in such manner that the water shall be forced through the piston rod into this vessel before entering the discharge pipe, substantially as described.

Second, passing the piston rod up through the receiving vessel G, when the latter is secured to the body of the pump, substantially as described.

Third, in a pump having a receiving vessel G, applied directly to it, connecting the pump rod to the hollow piston rod at a point directly above said vessel, substantially as described.

Fourth, conducting the water from a receiving vessel G, having a piston rod passing through it, and otherwise operating substantially as described.

Fifth, introducing a water-tight packing for the piston rod, between the chamber of vessels G and the pump cylinder *i i*, substantially as described.

Sixth, constructing the receiving vessel G, and the cylinder of the pump, with an annular recess within the neck of the former, adapted for receiving any suitable material for packing the piston rod, substantially as described.

Seventh, providing for renewing the packing to the annular recess *h*, when the vessel G and pump cylinder are cast in one piece by means of openings *i i*, substantially as described.

Eighth, closing the piston C', above the openings *g g*, substantially as and for the purposes described.

Ninth, applying the receiving vessel G, either by casting or otherwise, directly to the body of a pump having a hollow piston rod, substantially as described.

No. 44,273.—J. Armstrong, Jr., Elmira, Ill.—*Corn Planter.*—September 20, 1864.—This invention consists in the employment of rollers placed within loops, in combination with a treadle frame and stirrers hung so as to be operated by a slide. In lifting the seeding teeth from the ground it often happens that the friction interferes with the free movement of the parts. To obviate this the two rollers are introduced, which facilitates the movement. The stirrers attached to the seeding boxes and slide are opened thereby.

Claim.—First, the friction rollers *d d*, placed in the loops E, in combination with the treadle frame E, as and for the purpose specified.

Second, the stirrers P, when arranged or hung so as to be operated from the slide K, substantially as herein set forth.

No. 44,274.—John B. Atwater, Chicago, Ill.—*Cattle Pump.*—September 20, 1864.—A cylinder under water is connected with one near the surface immediately above by a pipe. A piston moving in the upper cylinder, by forcing air down the intermediate pipe, forces the water therefrom through a pipe, which delivers it into a trough over the reservoir. The piston rod is pivoted to the platform through which it passes, and catches by an adjustable spring-catch upon a horizontal bar, which guides it above. The top of the piston rod is adapted for the reception of weights, the quantity of which is determinable by the weight of the animal to be watered, whether neat cattle, horses, or sheep. The platform upon which the cattle walk is jointed at the near side of the reservoir, being fulcrumed a little in the rear of the joint upon a bearing, and descends with the weight of the animal as the latter approaches the trough by which the piston is depressed.

Claim.—First, the apparatus consisting of the cylinders A and B, connected by a pipe C, and provided with the discharge pipe H, operating in combination with the piston D, provided with stem *a* and box *b*, or its equivalent.

Second, in combination with the foregoing, regulating and adapting the apparatus to be operated by animals of various weights, by means of weights applied to the box *b*, substantially as specified.

Third, securing and holding the piston D and tilting platform in position by means of the spring-catch *e*, or its equivalent.

No. 44,275.—Lyman R. Blake, Quincy, Mass.—*Stitch for Soles and Vamps.*—September 20, 1864.—This invention consists in a loop made in the upper portion of the stitch, so that the thread being pressed or hammered down into the channel formed for its reception, the loops have a head which increase their holding force.

Claim.—The employment of the new stitch for uniting soles and vamps of boots and shoes, and for a similar use in other manufactures, in the manner substantially as described.

No. 44,276.—Marcus Bockman, Brooklyn, N. Y.—*Windlass.*—September 20, 1864.—The windlass is worked by cranked and locked winches, which are placed on a platform above the windlass. The winches are supported in an angular frame, and have means of adjustment.

Claim.—The shafts C D E, cog-wheels F F H, levers K, and spools Y, in their specified combination on the bench B, constructed and arranged substantially as specified.

No. 44,277.—Jeremy Bradley, Cedar Falls, Iowa.—*Harvesting Machine.*—September 20, 1864.—This invention relates to the arrangement of means for operating the rake in that class of machines in which the rake is operated from beneath the platform by endless belts, the rake-teeth projecting through slots in the platform.

Claim.—First, the combination of an endless chain-raking apparatus, having horizontal driving shafts, with the jointed shafting *d m*, sliding pinion *k*, side gear J, and lever L, arranged and operating substantially as described.

Second, the toothed segments applied to guide H, in combination with rakes which are pivoted to and operated by endless chains, and otherwise constructed and adapted for being brought into raking position by said segments, substantially as described.

Third, the combination of open slatted platform *e*, endless chain of rakes, and toothed segments for turning the rakes at the commencement of the raking stroke.

Fourth, the combination of the two levers L L′, pinions K K′, inclined shafts *m m* , driving wheel B, cutting apparatus, and endless chain of rakes, all arranged and operating substantially as described.

No. 44,278.—Alfred Bridges, Newton, Mass.—*Mode of connecting Cars to Trucks.*—September 20, 1864.—This invention is designed as an improvement on the patent issued to the present inventor, June 2, 1863. In both the car body is suspended from the truck by a spring or yielding connexion. The present invention consists in the arrangements of the principal springs and provides for reducing their abrasion, so as to allow them to operate in the manner required, without impairing their durability.

Claim.—First, in railroad cars the spring H on the truck frame, so combined and arranged with the suspension rod G, or its equivalent, that it controls both vertical and side motions, substantially as herein set forth.

Second, the combination of the two springs H and N with the truck frame D *d*, substantially in the manner and for the purposes herein specified.

Third, the thimble *h*, when used with the spring H, truck frame D *d*, suspension rod G, and pedestal F, substantially in the manner and for the purposes herein specified.

No. 44,279.—James Bromiley, Pawtucket, R. I.—*Bed Bottom.*—September 20, 1864.—This invention consists in the manner of attaching elastic straps to the slats, and in attaching the slats by hooks to the head and foot rails of the bedstead, whereby all nails, screws, and bolts are avoided.

Claim.—A bed bottom composed of slats B, connected at their ends to elastic straps C by means of clamps F, constructed and applied as shown, and the straps C secured to the head and foot rails of the bedstead by means of the hooks D fitted in the straps, substantially as described.

No. 44,280.—Henry Carpenter, New York, N. Y.—*Fruit Basket.*—September 20, 1864.—This invention consists in constructing a wooden basket with a vertical central partition, and with a cover for each part. The partition arm-covers can be removed and the baskets packed away in a small space.

Claim.—A peach or fruit basket, provided with a vertical central partition and lids or covers, substantially as herein shown and described.

No. 44,281.—Edwin M. Chaffee, Providence, R. I.—*Apparatus for Coating and Flocking Cloth.*—September 20, 1864.—This invention consists of a frame which supports the various parts of the machine. Around a roller the cloth to be coated is wound, from which roller the cloth passes down under a roller C, which is provided with a friction pulley and strap outside the frame. The cloth then passes on to a bar, then under a knife, in front of which the water-proof composition is placed. Behind this knife is a supporting roller, over which the cloth passes. From this roller the cloth passes under the flock-sifting box, over the first carrying roller. Above this roller is a pressure roller, between both of which the cloth and flock pass. The cloth then passes downwards under a roller I, from which it passes to roller J, then upwards to roller K, then to the delivery roller L, over which it passes and drops between the slats of the frame M, which is moved by an intermittent motion into the drying room.

Claim.—First, the rollers A C F G I J K L and doctor E, or their equivalents, arranged in relation to each other and to the cloth, substantially in the manner herein described, so that long pieces of cloth can be coated and conveyed to the drying room without bringing the face or varnished side of the cloth in contact with the rollers or anything else except the edge of the doctor.

Second, the employment or use of two toothed wheels *j*, arranged substantially as herein specified, to check the fall of the cloth at the desired intervals.

Third, the jointed arms *k l*, in combination with the toothed wheels *j*, to act substantially as and for the purpose set forth.

Fourth, the combination of the rock-shaft *m*, adjustable arms *k l*, and wheels *j*, substantially as herein specified, to insure the simultaneous catching of both edges of the cloth.

Fifth, the employment of the lattice frames M, substantially in the manner set forth for the purpose of supporting the cloth while in the drying room.

No. 44,282.—John K. Cohick and Jacob Fesher, Mountville, Penn.—*Pump.*—September 20, 1864.—An examination of the drawings and specification is essential to an understanding of their apparatus.

Claim.—The action of the pump P, by means of the oscillating beam *c* and jointed connecting rods and piston *f d*, in connexion with the crank X1 and triple gearing, when operated by a weight and pulley, in combination with a fly-wheel X and lever arm L, click *n*, and ratchet *m*, and side support *t*, all constructed and operating substantially in the manner and for the purpose specified.

No. 44,283.—E. C. Cleveland, Worcester, Mass.—*Spinning Machine.*—September 20, 1864.—This invention relates to the devices whereby the clock and its operative mechanism

for indicating the amount of work done on a jack are placed within the frame of the jack, to the mechanism for operating the clock, to the mode of actuating said mechanism, and to the constructing and adjusting of the bearings of the shaft which drives the shaft of the tin cylinders, whereby its positions may be adapted to the changes of position of cylinders incident to the expansion or contraction of the flexible bands, or their removal to introduce new ones.

Claim.—First, enclosing the lifter C and the clock and their appurtenances within the arch and one of the posts of the frame, substantially as described.

Second, the locking slide *e*, constructed and operated substantially as shown, for locking the lifter C.

Third, the lifter C for operating the clock, constructed and operated substantially as shown.

Fourth, adjusting the relative positions of the hand wheel shaft and the tin cylinder shaft, in the manner substantially as described.

Fifth, the combination of the bearing of the hand wheel shaft with the means employed for adjusting the inner end of the shaft, substantially as described.

No. 44,284.—Luman W. Cook, Dowagiac, Mich.—*Washing Machine.*—September 20, 1864.—This invention consists in the employment of vibrating jointed arms having rubbers secured to them in conjunction with vertical and inclined stationary slats, between which said arms work.

Claim.—First, the arrangement and combination of vibrating arms B, longitudinal arms C, raised boards *g*, and levers E, substantially as described.

Second, the application of the beaters D to longitudinal swinging arms C, in combination with the divisions *a a g g* and vibrating levers E, substantially as described.

Third, the arrangement of the vibrating arms B, longitudinal arms C, and vibrating levers E, within a wash box, constructed substantially as described, in such manner as to admit of the ready removal and replacing of said parts, as herein described.

No. 44,285.—George A. Cowles, Jesse P. Chase, and Victor Vierow, New York, N. Y.—*Composition for Preserving and Water-proofing Vegetable Fibres.*—September 20, 1864.—This composition consists of alum dissolved in water, to which is added blue vitriol dissolved in water, gelatine, or glue dissolved in water, and Castile soap. Instead of soap oil may be used. This composition may be further improved by adding acetate of lead and gum arabic.

Claim.—First, the use of a composition of alum and blue vitriol mixed together, substantially in the manner and about in the proportion above set forth.

Second, the use of a composition of alum and vitriol mixed with gelatine, or with soap, or with a mixture of gelatine and soap or oil, substantially in the manner and about in the proportion specified.

Third, the employment of acetate of lead, with or without gum arabic, in combination with the ingredients hereinbefore named and mixed together, substantially in the manner and about in the proportion set forth.

No. 44,286.—William E. Darrah, Middletown, N. Y.—*Clasp for Shoe Lacings.*—September 20, 1864.—This invention consists in a clasp for shoe lacings being produced by folding over a piece of sheet metal in such a manner that the two plates or jaws are formed with suitable openings to let the strings of a shoe or lacing pass freely, and to retain the ends of said strings when the same are drawn sideways between the plates or jaws.

Claim.—As an improved article of manufacture, a clasp for lacings made in one piece, but with double string plates *a b*, disconnected at the outer corners and central channel *c*, all as herein shown and described.

No. 44,287.—Theodore D. Day, Brooklyn, N. Y.—*Skeleton Skirt.*—September 20, 1864.—The continuity of the hoops is interrupted centrally in the rear by a yielding joint, and this joint is made by attaching the severed ends of the hoops to a vertical tape, leaving a portion of the tape free between these ends.

Claim.—First, forming the hoops of the skirt with joints at the back, so that the springs or hoops will fall more easily when the person is seated, as set forth.

Second, uniting the ends of the springs or hoops of a skeleton skirt by means of the tapes or strips receiving the said ends, in the manner specified.

No. 44,288.—Daniel N. Denman, Millburn, N. J.—*Potato Digger.*—September 20, 1864; antedated September 5, 1864.—This invention consists in the employment of an inclined curved screen provided with a share and land side, and having a toothed shaft placed underneath the back and curved part of the screen, the teeth of the shaft working through the screen, and the shaft being rotated by a traction wheel placed behind one or each side of the land sides.

Claim.—In a potato digger of the construction specified arranging the two driving wheels F F directly behind the land sides C C, as herein described and for the purposes specified.

No. 44,289.—JOSEPH A. DICKSON, Sandwich, Ill.—*Cattle Pump.*—September 20, 1864.—Around the pump, at a suitable distance therefrom, a circular, narrow platform is supported on posts. A frame is adjusted at one end to this pump, its other end moving upon the circular platform upon a roller, which roller carries a crank within the circle. This crank operates a walking beam, the opposite pitman operating the pump, the uprights, in which the walking beam has its bearing, ascending from the moving frame. From a central receptacle around the pump, and through to a trough revolving with the frame outside the platform, a tube conveys the water. This outer trough is accessible to the cattle at one end, and when the water is low in it their efforts to reach the deeper end cause them to urge the trough before them, with the movable frame, and thus to cause a flow of water.

Claim.—The radius frame D provided with the trough J, and connected with a pump, or any suitable water elevator, in such a manner that the animal, in its effort to drink, will rotate the frame, and thereby actuate the pump and supply the trough with water, substantially as set forth.

Also, the way B in connexion with the frame D, provided with the water receptacle I and trough J, or its equivalent, communicating with each other by a trough or tube L, all arranged to operate substantially as and for the purpose specified.

No. 43,290.—WILLIAM C. DODGE, Washington, D. C.—*Breech-loading Fire-arm.*—September 20, 1864.—This invention consists in the peculiar construction of the lever guard and retractor, and in so combining and arranging the same with the stock and barrels as that a single movement of the lever guard shall both elevate the rear end of the barrels and remove the cartridge cases.

Claim.—First, so constructing and combining the stock, guard, barrel and retractor of a breech-loading gun as that a single movement of the guard shall both elevate the barrel and operate the retractor without the aid or use of any other parts than those herein mentioned.

Second, the lever guard C constructed and operating in the manner and for the purpose substantially as above set forth.

Third, the combination of the lever guard C and the cartridge retractor of a breech-loading gun, when constructed and operating substantially as shown and described.

No. 44,291,—R. N. EAGLE, Washington, D. C.—*Riding Stirrup.*—September 20, 1864.—This invention consists in a stirrup frame of wood with arms separate at their upper ends, to be connected by means of a ferrule or loops, or by a suspension strap; in suspending a stirrup by means of a strap passing between the ends of the arms; in the use of an inner tread projecting forward, to constitute the lower part of the hood; and a stirrup frame, provided with slots for the reception of the suspension straps.

Claim.—First, a stirrup or stirrup frame of wood with arms separate at their upper ends, to be indirectly connected by means of a ferrule or loop, or by the suspension strap in any manner, substantially as described.

Second, suspending a stirrup by means of a strap passing between the ends of the arms and secured without the aid of any block employed to connect the said arms.

Third, the inner or upper tread J, projecting forward to constitute the lower part of the hood or toe cap or rearward, to afford an additional foot-rest at back.

Fourth, a stirrup or stirrup frame of wood or other material, provided with slots at any desired points intermediate between the tread and shoulder or upper part of the arms for the reception of the suspension strap, substantially as described.

No. 44,292.—ROBERT N. EAGLE, Washington, D. C.—*Riding Stirrup.*—September 20, 1864.—This invention consists in a stirrup frame of bent wood with arms and treads of equal thickness; in slips applied between the upper ends of the arms; in a stirrup frame with apertures or excavations; in shaping the stirrup by means of concavities or convexities; finally, in a stirrup hood formed on dies, in combination with an opaque material to produce the required surface.

Claim.—First, a stirrup or stirrup frame of bent wood with arms and tread of equal thickness.

Second, one or more slips or blocks K and K′ of metal, or other suitable material, applied to or between the upper ends of the arms to strengthen the same and prevent spliting, substantially as described.

Third, a stirrup or stirrup frame of wood with one or more apertures or cavities M and N, or partial excavations in lieu thereof, substantially as and for the purposes set forth.

Fourth, the shaping or profiling of a stirrup or stirrup frame of wood by means of concavities or convexities in the rear and front outlines of the tread or arms thereof, in any manner, substantially as and for the purposes set forth.

Fifth, a stirrup hood or toe cap formed on or in suitable blocks or dies, in combination with an opaque material to produce the required service, and for other purposes, substantially as described.

No. 44,293.—WILLIAM E. DOUBLEDAY, Brooklyn, N. Y.—*Apparatus for Pressing Hats and Bonnets.*—September 20, 1864.—The material of which the hat is to be formed is secured upon the periphery of the female die by pins or clamps, and the pressure is made by the male die within the hat, that its external surface may be preserved from the glaze or burnishing to which it is exposed in the reversed mode of operation in common practice.

Claim.—Confining the edges of the material around the edges of the concave die in the formation of hats and bonnets, for the purposes and substantially as specified.

No. 44,294.—JOSEPH EDGECOMBE, Worcester, Mass.—*Glue and Water Heater.*—September 20, 1864.—This invention consists of a common kerosene oil lamp, having attached to it by means of pins and sockets a conical upright tin reflector enclosing the lamp chimney. On top of this reflector is placed the vessel for boiling water, &c., so placed that the rays of heat from the lamp shall radiate directly from the inner sides of the reflector to the bottom of the water receptacle. This reflector is provided with windows glazed with mica, or one side of the reflector can be made wholly of mica, thus admitting the light into the apartment in which it is placed, or the reflector can be removed at pleasure, and the lamp used in the ordinary manner.

Claim.—The combination of the conical reflector F with the lamp and water receptacle, substantially in the manner and for the purposes herein described.

Also, attaching the reflector F to the lamp in such a manner that it can readily be removed therefrom, and that when removed the lamp may be used as an ordinary lamp, substantially in the manner herein described.

Also, the combination with the lamp of the detachable reflector F and the water receptacle I, when the several parts are secured to each other, and when constructed and arranged as herein shown and described.

No. 44,295.—ADAM ERNST, Milwaukie, Wis.—*Heating Stove or Furnace.*—September 20, 1864.—This invention consists in the construction of a stove, the fire pot or chamber of which is surrounded with hollow flues for the passage of cold air from an air chamber in the base of the stove. Enclosed in the ordinary casing in the middle, over the combustion chamber, is suspended a pipe open at the bottom, which passes into the smoke pipe. This pipe is surrounded by a drum open at the top, and around the drum, between it and the outside casing, is a spiral or vertical flue, which also terminates in the smoke pipe, and into which cold air is conveyed by a side pipe, with the central pipe aforesaid; a very complicated arrangement, besides which there are no distinguishing features.

Claim.—In combination with the pipes *a*, which constitute the fire pot of the furnace, the cold air chambers D E and F, whether said pipes are set close together or with spaces *m* between them, substantially in the manner and for the purposes described.

Also, in combination with the pipes *a* constituting the fire pot of the furnace the double-radiating drum I K, when constructed with an inner flue *k*, substantially as and for the purpose described.

Also, the combination of the pipes *a*, cold air chambers D E F, and double-radiating drums K I, when constructed and arranged as and for the purpose herein described.

No. 44,296.—L. B. FLANDERS, Philadelphia, Pa.—*Apparatus for Boring Cylinders.*—September 20, 1864.—This invention relates to an apparatus for boring cylinders, so constructed and arranged as to be readily adapted to the boring out of horizontal, vertical, or inclined cylinders without removing the same from their foundations or framework. The apparatus is also designed for boring out larger objects, such as the hubs of fly-wheels, or the bearings of heavy shafts. The invention does not admit of a brief description.

Claim.—First, the combination of the boring bar B, its sleeves or bearings E and E′, and the cross-plates D and D′, with their set screws *c*, the whole being constructed and arranged for application to, and for the adjustment of, the boring bar central with a cylinder, substantially as set forth.

Second, the combination of the boring bar B, the casing H, and the train of wheels I J and K, or their equivalents, the whole being arranged and operating substantially as described.

Third, the collar *e′* attached to the boring bar and confined within the sleeve or bearing E′, substantially as described.

Fourth, The block K adapted to the cutting head G, to the boring bar B, and screw C, substantially as described, so as to serve as a nut for the screw and as a key for preventing the cutting head from turning on the bar.

Fifth, the combination of the boring bar B, its screw C, and casing M, or its equivalent, central shaft *p*, and the train of wheels herein described, or the equivalent to the same, for the purpose specified.

Sixth, the detachable bracket U and its spindle carrying the bevel wheel *t*, in combination with the casing H, its shaft L, and the bevel wheel *t*.

Seventh, the tapering block P, its inclined keys 2, screw *u*, and nut *u′*, the whole being constructed for central attachment to the head of a steam cylinder, and for forming a bearing for one end of the boring bar, substantially as set forth.

Eighth, The plate Q, its central pin *x*, radial sliding bars R, and the block T with its cam-like projections *y*, the whole being arranged and operating substantially as and for the purpose specified.

No. 44,297.—JACOB FOYLE, Putnam, Ohio.—*Oil Cup.*—September 20, 1864.—The object of this invention is an improvement in oil cups used for lubricating steam engine cylinders

Its novelty consists in combining with the hollow tube which forms the body of the cup a vertical and longitudinally sliding cup, so arranged that when it is necessary to lubricate the cylinder the cup and globe are raised upon the stem, and the lubricating material contained in the cup flows through the apertures in the stem and down into the globe, when, by lowering the same, the communication with the cup at the top is closed and that with the cylinder opened, and the oil flows down and lubricates the parts. To prevent the leakage of steam around the stem stuffing boxes are provided at the top and bottom of the globe.

Claim.—The longitudinally sliding globe B and receiving cup C, in combination with the tube A, holes *j k l*, and vent pipe *m*, constructed and operating in the manner and for the purpose substantially as set forth.

Also, the stuffing boxes *b c* above and below the oil cup B, in combination with the pipe A, constructed and operating in the manner and for the purpose substantially as herein specified.

No. 44,298.—William M. Force, Newark, N. J.—*Chasing Mill.*—September 20, 1864; antedated June 6, 1864.—This invention consists in making a heating bed outside of and around the grinding bed of a chasing mill to receive and heat the materials ground, and prepare them for the next operation; also, in a cover for the heating bed to retain the heat and moisten the materials heated.

Claim.—Arranging a heating bed outside of and around the grinding bed of a chasing mill, to receive and heat the materials ground and prepare them for pressing or the next operation. And in combination with the heating bed arranged around the grinding bed of a chasing mill, the cover K of the heating bed, for the purpose set forth substantially as described.

No. 44,299.—Thomas J. Glines, Hebron, N. Y.—*Medicine for the cure of Diphtheria, etc.*—September 20, 1864; antedated September 10, 1864.—This invention consists in preparing a medicine of snake root, chlorate of potash, and muriatic acid.

Claim.—The combination of the medicinal powers of serpentaria in the treatment of disease, in the manner herein described, with muriatic acid and chlorate of potash.

No. 44,300.—Louis Goddu, Braintree, Mass.—*Feather Edging Machine.*—September 20, 1864.—This invention relates to chamfering machines, and consists chiefly in the employment of a pointed rod which keeps the edge of the sole up to the guiding surface, and in the use of dinking points upon a feed-wheel, for the purpose of spacing peg holes in the bottom of a sole; further, in so arranging the knife and other parts that the rod and an upper roll will yield to the inequalities of thickness of the sole.

Claim.—In connexion with feeding and cutting mechanism and a guiding surface, the employment of a directing rod or point to keep the stock against the grinding surface.

Also, the construction of the lower feed-roll, with dinking points so arranged as to puncture and space the holes for the peg points, substantially as described.

Also, the arrangement of the mechanism by which, while the knife is operating, has a fixed relation to the surface of the lower feed-roll, the directing rod and upper feed-roll yield to the inequalities of the stock.

Also, the construction by which the knife and upper feed-roll are raised, lowered, and fixed in position together, substantially as set forth.

Also, combining a horizontal skiving knife with inclined surface feed rolls, in the manner and for the purpose substantially as set forth.

No. 44,301.—M. C. Gritzner, Washington, D. C.—*Sewing Machine.*—September 20, 1864.—This invention consists in the combination of two threads with one needle of a sewing machine, when the tension and friction apparatus for each one of the two threads is so arranged as to act independently of the other, while requiring only one adjustment to regulate the tension and friction of each independently of the other; the said combination of parts being applicable to single thread sewing machines, without depriving them of their qualities of single thread machines when employed as such.

Claim.—The transformation of single thread sewing machines into complete double thread sewing machines, by means of a combination of two threads with one needle of a sewing machine, when the tension and friction apparatus for each one of the two threads is so arranged as to act independently of the other while requiring only one adjustment to regulate the tension and friction of each, said combination of parts being applicable to single thread sewing machines, as at present constructed, or to single thread sewing machines of new construction, without depriving them of their qualities as single thread machines.

No. 44,302.—George Gross, Buffalo, N. Y.—*Water Wheel.*—September 20, 1864.—The object of this invention is to provide for placing the stones for grinding immediately above and upon the shaft of the water wheel, and also to provide a wheel adapted to such use, in combination with the connexions necessary to revolve the stone. Its novelty consists in combining and arranging the wheel and its shaft with another shaft or spindle, to which the upper or revolving stone is attached, in such a manner that the weight of the stone and spindle shall not rest upon the step which supports the wheel and its shaft. To accomplish this the wheel is placed in the usual position, and a framework is made to rise from the roll of the wheel. To this framework a cross-tree is placed to which the top of the water wheel shaft is secured and in which it revolves. The upper end of this shaft is made hollow and receives the square end of the spindle or continuation of the shaft which is made, by a suitable bearing placed upon the cross-tree, to rest thereon, and thus the motion of the wheel is conveyed to the grinding stone without its weight or that of the spindle resting upon the lower steps.

Claim.—First, the arrangement and combination of the hollow perforated and vertical shaft, with its collar P, and its cavity at the lower end filled with babbitt or other metal, its adjustable socket K, oil tube and sleeves X, and millstones at top of shaft, when arranged and combined as herein described and for the purposes set forth.

Second, the construction and combination of the adjustable socket K, with its box H, as described and for the purposes set forth.

Third, the incline projection *f* on the inside of the scroll, for the purpose specified.

Fourth, the angular construction of the bucket *b* of the wheel, as herein described.

No. 44,303.—Sive Guilbert, New York, N. Y.—*Combined Sword-handle and Revolving Fire-arm.*—September 20, 1864.—The revolving cylinder is at the rear of the sabre-handle, hrough which handle the barrel of the fire-arm passes. The improvement consists in the peculiar arrangement of the handle-guard as the main spring of the hammer, within which the trigger rod is also placed, and also in the peculiar arrangement of the trigger rod and dog for revolving the cylinder.

Claim.—First, using the guard G of the sabre for the spring which acts on the hammer E, as specified.

Second, the trigger H, guard G, and hammer E, arranged in combination with each other, and with the perforated hilt A, and revolving cylinder D, in the manner and for the purpose substantially as described.

Third, the hook *l*, which catches in the chambers of the cylinder and acts in combination with the trigger H, substantially in the manner and for the purpose herein set forth.

No. 44,304.—Andrew Hanauer, Covington, Ky.—*Scroll Sawing Machines.*—September 20, 1864.—This invention consists in the use of oscillating levers, to which are attached the rods that, in connexion with the pitman, operate the saws. And it further consists in the use of a tubular pitman filled with some fibrous absorbant material, which keeps the journals always lubricated.

Claim.—First, the two levers C I, in combination with the two saws P P, and connecting rods M S, and slides N Q, arranged to operate in the manner substantially as and for the purpose herein set forth.

Second, the adjusting of the upper lever I, through the medium of the cams J J, for the purpose of straining the saws, as herein specified.

Third, the tubular pitman V, provided with fibrous or absorbent filling *b*, for the purpose herein set forth.

No. 44,305.—William Harden, Chariton, Iowa.—*Bee Hives.*—September 20, 1864.—This invention relates to a new and improved bee house or bee palace, and is designed to prevent the swarming of bees and also to protect them from the moth, as well as to afford facilities for feeding the bees and removing the spare honey from the house or palace.

Claim.—A bee house or bee palace provided with a series of compartments in front, having slides *g*, in which openings *h* are made, covered with wire cloth; in connexion with a series of hives A, placed together or fitted within the house or palace, provided with spare honey boxes C, the front ends of which are above the board or cover *e* of the compartments, and are fully exposed for their ready removal from, and insertion within, the house or palace, substantially as herein set forth.

No. 44,306.—W. D. Harrah, Davenport, Iowa.—*Farm Gate.*—September 20, 1864.—This invention consists in a fixed pivot connexion for the upper rail and a stiding pivot connexion for the lower rail, and when the gate is thrown up in a vertical position the loaded end of the upper rail assists in sustaining the weight of the gate.

Claim.—First, the slot *b*, located as described, for the purpose set forth.

Second, the extension *c*3, aiding to sustain the weight of the gate and relieve the pin *f*, as set forth.

Third, the bevels $a' a'$, on the parts *a a* of the post, for the purpose described.

No. 44,307.—John R. Hawkins, Syracuse, N. Y.—*Stoves.*—September 20, 1864.—This invention consists in an upright elliptical sheet-iron stove, having a supply chamber for fuel, with an opening on top the stove, and also a fire-pot, the bottom and smaller part of which is round, and the top part oval in shape, provided with a grate which is pyramidal in form, the outer edge being composed of teeth, corresponding to teeth on the edge of the opening in the bed plate, in which the grate is fixed, so as to grind up the "clinkers," slate, &c., which usually accumulate in grates. Above and to the right of the combustion chamber is a chamber in which a kettle or other vessel can be placed for the purpose of boiling water or other culinary uses; this chamber is itself enclosed in another chamber, provided with a damper in order to regulate the draught, &c. Between the ash-pit and the bottom of the stove is a chamber into which, when the damper is closed, the products of combustion flow down on the right side of the stove, and out of which they ascend on the left side into a chamber communicating with the stove-pipe.

Claim.—First, the division of the space within the outer shell of the stove into the different compartments, by the partitions Z Z′ Z″ and P P′, as above described, in combination with the fire-pot grate, coal reservoir, and outer shell, as above described.

Second, the fire-pot made circular at the bottom and elliptical at the top, in combination with the grate and coal reservoir, as above described.

Third, the combination of a grate, made in the form of a pyramid, with bars and a toothed edge, and a bed-plate, having the edge of the opening in which the grate is placed, also toothed as above described, in connexion with the fire-pot and coal receivers, as above described.

No. 44,308.—G. H. Hazelton, Philadelphia, Penn.—*Manufacture of Stamped Ware.*—September 20, 1864.—This invention consists in coating ware made of tinned iron or tin plate after it has been stamped or pressed in dies, with an alloy of lead, tin, and antimony, or of lead and tin, for the purpose of adding to the strength and durability of such articles, and also to remedy the injury caused in the process of stamping the same.

Claim.—Coating stamped ware made of tinned iron, substantially as and for the purpose herein set forth and described.

No. 44,309.—G. H. Hazelton, Philadelphia, Penn.—*Manufacture of Wash Boilers and other Vessels.*—September 20, 1864.—This invention consists in forming the bottom of wash boilers and other vessels of stamped or pressed tin ware, and coating the same with an alloy of lead, tin, and antimony, or of lead and tin.

Claim.—The manufacture and use of bottoms for wash boilers and other similar vessels, made of the material, and substantially as herein set forth and described.

No. 44,310.—William Hazen, Milwaukie, Wis.—*Process for Tempering Steel.*—September 20, 1864.—This invention consists of a composition of aqua ammonia, sulphate of iron, and sal ammoniac dissolved in water.

Claim.—The process as above described.

No 44,311.—J. Q. Hill, Worcester, Mass.—*Adjustable Percolator.*—September 20, 1864.—This invention consists of a metal plate B, pierced with holes, and having flexible flanges *b b*, projecting downwards. The flanges are separated by the opening *c*, and are designated to support the percolator in the funnel.

Claim.—First, the combination of a supporting rim or part B, with adjustable or flexible flanges *b* and a perforated diaphragm, substantially as and for the purposes set forth.

Second, the combination of the supporting part B, with a series of flanged supports, for the purposes set forth.

No. 44,312.—W. D. Hillis, Joliet, Ill.—*Breech-loading Fire-arms.*—September 20, 1864; antedated September 16, 1864.—The arm shown is a many barrelled one, the compound barrel swinging or tilting up at the breech, on a horizontal pivot or hinge under the barrel, and the improvement consists in the particular method of raising and lowering the tilting barrel, by a lever beneath the stock attached to the barrel by a sliding joint or hinge, and secured in position by a spring stop and a slotted projection at the rear of the barrel.

Claim.—In combination with the lever F F2 *f′*, sliding leg G, ways *g*, and spring F′, the projection H, provided with the niche *h*, when arranged in the manner and for the purpose described.

No. 44,313.—R. B. Hugunin, Cleveland, Ohio.—*Clothes-wringing Machine.*—September 20, 1864.—This apparatus consists of two cylindrical shafts, connected by an elastic sheet. The sheet is wound upon the shaft; the sheet enveloping or enclosing the clothes to be operated upon.

Claim.—The sectional shafts A A, substantially as and for the purposes specified.

Also, the sheets B B, adjusted substantially as and for the purposes specified.

No. 44,314.—Duane Hull, Newburgh, N. Y.—*Extracting Rosin and other Substances from Pine Wood.*—September 20, 1864.—This invention consists in distilling fat pine wood, at a low temperature, by means of hot air or superheated steam, so as to extract without destruction—distilling the turpentine, rosin, and similar substances continually, as natural products in the wood.

Claim.—The art of producing rosin direct from pine wood by the application of heated air or superheated steam, as above described, and the improved mode of producing spirits of turpentine by means of hot air or superheated steam, as above described.

No. 44,315.—George Illias, Dallastown, Penn.—*Water Elevators.*—September 20, 1864.—Under the crank shaft, which bears a grooved wheel that carries the chain, and in line with it a trough extends to the perpendicular opposite the crank, from a point about two-thirds the distance therefrom to the crank side. This trough is suspended at the end over the well by rods descending from the top cross-beam. At each side it is cut out to receive the convexity of the bucket, a book inclining over the cut out part to catch the bucket in its ascent, and cause it to tilt; when the bottom of the bucket rises a little higher than the opposite end, it comes in contact with the forked end of a rod descending on each side from the cross-beam above. On the floor over the well a platform rises a few inches, having holes of suitable size to permit the passage of the buckets through them. These holes are covered when the elevator is not in operation by a sliding cover, moving on rollers, and guided by projections below, which pass through slots in the platform.

Claim.—First, the movable platform B, constructed substantially as shown, in combination with the flooring of the main platform B, substantially as described.

Second, the combination of the double buckets, the chain and sprockett wheel, the forked rod *b*, the trough C, ratchet with double detents, and the driving shaft, substantially as described.

Third, the combination of the movable platform with the devices in the claim next preceding, substantially as described.

No. 44,316.—William Johnson, Allegheny, Penn.—*Paint Oil.*—September 20, 1864.—This invention consists of flaxseed oil, gum shellac, gum turpentine, rosin, sugar of lead, red lead litharge, white lead, and petroleum or coal oil.

Claim.—As a new article of manufacture, a paint oil, composed of the ingredients and mixed in the proportions herein specified.

No. 44,317.—Jacob Karr, Washington, D. C.—*Escapements for Chronometers.*—September 20, 1864; antedated September 1, 1864.—The advantages claimed for this invention are, less power required to obtain the necessary motion to lock and unlock the escapement wheel, less friction than usual, greater compactness and durability, and little liability to get out of order. The invention does not admit of a brief description.

Claim.—The construction of an escapement lever, as is shown in Figures 1 2 3 4 and 5, in its combination, as designated by the letters A B C D E F G H L M and S, for the uses and purposes herein described.

No. 44,318.—Aberdeen Keith, North Bridgewater, Mass.—*Machine for Cutting Leather into Counters.*—September 20, 1864.—This invention consists in the combination of tapering feed rollers with the cutting knife; said tapering rollers causing the knife to cut in a curved path, and in a movable standard, a weighted lever and knife-supporting bracket, the whole being connected with the feed-roller shaft.

Claim.—For splitting leather into counters or like articles, the combination of the tapering feed rollers with the cutting knife, arranged with them as specified, the said tapering rollers causing the knife to cut in a curved path.

Also, in combination with the feed rollers and the knife, a mechanism for adjusting, in manner substantially as and for the purpose described, the declination of the knife in accordance with the variation of the distance between the feed rollers, such mechanism, as explained, being the movable standard, its weighted lever and knife-supporting bracket, the whole being connected with the lower feed-roller shaft, as set forth.

No. 44,319.—A. E. Kline, Goodville, Penn.—*Converting Rotary into Reciprocating Motion.*—September 20, 1864.—This invention relates to a device for converting rotary into reciprocating motion, and *vice versa*, which is composed of a rotating disk or plate, containing two straight slots crossing its centre at right angles to each other, and a reciprocating rod or pitman, furnished with two pins, working in said slots. The novelty consists in certain means whereby the necessity for sliding boxes in the slots to form bearings for the pins is obviated, and the movement of the pins is rendered easier.

Claim.—The guard *e′ e2* applied to the pins *d′ d2* and operating in combination with the arms *a′ a2* of the yoke attached to the disk or plate A, substantially as and for the purpose herein set forth.

No. 44,320.—Matthew Laflin, Chicago, Ill.—*Mode of Separating Gold and Silver from Ores.*—September 20, 1864.—This invention consists in forcing the pulverized ore through a bath of melted lead, or its equivalent. A convenient apparatus for accomplishing this is described as the invention of H. H. Scoville and R. W. Gates, for which a patent is issued bearing even date with this.

Claim.—Separating gold or silver from quartz or other substances, by means of molten lead, or its equivalent, under a mode of operation substantially as above set forth.

No. 44,321.—Thomas Laly, Philadelphia, Penn.—*Linchpins.*—September 20, 1864.—This invention consists of a linchpin, near the lower end of which is a recess, and in this recess a dog is hung to a pin which passes through the linchpin and the said dog, at the point below the centre of the latter; when the linchpin is applied to the axle the dog is turned back within the recess, so that it may pass through the opening in the axle, and when in position the upper end of the dog is forced out, and thereby preventing the dislodgment of the pin.

Claim.—The combination of the linchpin, its recess or opening X, and loose dog *b*, the whole being arranged and operating as and for the purpose set forth.

No. 44,322.—Jas. F. Lawton, Venedy, Ill.—*Steaming Grain in Process of Grinding.*—September 20, 1864.—This invention consists in treating the grain with free steam, while it is being delivered to the hopper of the mill, thereby making its coat tough, so that it will peel off under the pressure of the stones. The steam is admitted into a spout at any convenient distance above the hopper, the grain also passes through the same spout, and is acted upon by the steam as it flows into the hopper.

Claim.—Treating grain preparatory to grinding, by subjecting it to an immersion in an atmosphere of free steam, substantially as shown.

No. 44,323.—Jacob Leich, Brooklyn, N. Y.—*Medical Compound.*—September 20, 1864.—This invention consists of a mixture composed of tree lungwort, the lung of a fox, root of elecampane, ginger, fennel seed, anise seed, and white sugar.

Claim.—The use of a compound made of the ingredients above specified, mixed together in about the proportion and substantially in the manner set forth.

No. 44,324.—David Lippy and Samuel Linn, Mansfield, Ohio.—*Fruit Drying Oven.*—September 20, 1864.—This invention consists of an oven with a series of flues and registers, arranged with a fire-box and an air chamber, and combined in such a manner that fruit placed in the oven, or drawers, or perforated shelves, will be dried.

Claim.—The oven C, provided with the flues G and shelves or drawers K, when used in connexion with the chamber B, fire-box A, pipe F, and drum D, arranged substantially as and for the purpose herein set forth.

Also, the registers *a b* H and I, when applied respectively to the chamber B, flues G, and oven C, substantially as and for the purpose set forth.

No. 44,325.—Peter Louis, New York, N. Y.—*Governors.*—September 20, 1864.—This invention consists in combining the rod which opens and closes the governor on the tube, or which bears a similar relation to the source of power, and to transmit said power to the working machines, with a spring, and with a fly wheel, to which an intermittent rotary motion is imparted in such a manner that when the intervals characterizing the intermittent motion are long, and consequently the motion of the fly wheel slow, the spring has power enough to overcome the momentum of the fly wheel and to carry the valve rod back to its original position after each stroke or motion of the fly wheel; but if the intervals characterizing the intermittent motion of the fly wheel shorten, and in consequence thereof the circumferential velocity of the fly wheel increases, the momentum of the fly wheel overcomes the power of the spring, and the valve rod moves back so as to close the valve and regulate the speed of the engine or other machinery.

Claim.—First, the rod A and spring C, or their equivalents, in combination with the fly wheel D, constructed and operating substantially as and for the purpose herein shown and described.

Second, the bell crank k', slotted and curved as described, in combination with the dog, or its equivalent, and arranged so as to give a forward motion to the dog at each stroke, in or out of the piston.

No. 44,326.—Joseph L. Lowry, Pittsburg, Penn.—*Manufacture of Stop Cocks.*—September 20, 1864.—This invention consists in first casting the brass rings, which are intended for facings to the valves or valve seat, with a continuous dovetailed flange projecting outward from one of its broad surfaces. The ring thus formed is then placed in a mould, and melted iron cast upon the flanged surface, when the melted iron partially fuses the surface of the brass, and the two metals become thereby welded together. The flange is essential, for, owing to the unequal contraction of the two metals, it rarely happens that a continuous, perfectly welded joint is obtained without it. In making the screw, a rod of iron, of proper diameter, is first screw-threaded, then heated, placed in a mould, and melted brass poured upon it.

Claim.—Constructing the valve, valve seat, and lifting screws of stop cocks, in the manner and by processes and means substantially as described.

No. 44,327.—Joseph L. Lowry, Pittsburg, Penn.—*Steam Engines.*—September 20, 1864.—The object of this invention is an improvement in that class of engines known as pumping engines. Its novelty consists in the combination of the double piston valve, the single puppet valve, the cylinder, and reservoir, in such a way that the steam, after having raised the piston with its attached weight to the top of the cylinder, is allowed to pass into the reservoir, and from thence into the cylinder above the piston and assist in forcing the piston and weight down, by which the water in the pump cylinder is forced to any desired point. It further consists in the combination of the two double piston tubes, by which the motion of the piston is automatically reversed at the proper intervals. It further consists in the construction and arrangement of the condenser, in connexion with the main pipe, in such a manner that all the water operated upon by the pump shall either be drawn or forced through or around it for the purpose of condensing the steam.

Claim.—First, the combination herein described for utilizing or reworking the steam or vapor of a pumping engine, after having been used for lifting the piston with its weight to the top of the cylinder or the full length of the upward stroke, by passing it into the other end of the cylinder so as to act on the opposite side of the piston and assist by the force o expansion to drive, in connexion with the weight, the water through the main pipe to its place of destination.

Also, the combination of the valves marked O and T and *d* and *c*, for the purpose herein set forth and described.

Also, so constructing the condenser of a pumping engine, in connexion with the main pipe, as that all the water operated on by the pump shall either be forced around or drawn through it for the purpose of condensing the steam rapidly, however great the quantity.

No. 44,328.—Joseph Lyle, Clarksville, Iowa.—*Seeding Machine.*—September 20, 1864.—This invention consists in a special arrangement of parts, and comprises an inclined bottom board with devices for stirring the grain, which is done by curved fingers that extend from the outside of the seed box, through the openings by which the seed is discharged.

Claim.—The combination of the inclined floor *a*, apertures *d d*, gate P, and agitating device J K L M N O, having curved teeth projecting from the outside into the hopper, horizontally through the apertures *d d*, and all constructed, arranged, and operating in the manner and for the purposes herein specified.

No. 44,329.—Peter Martin, Cincinnati, Ohio.—*House Warming Furnace.*—September 20, 1864.—This invention consists of an outside casing of corrugated metal which encloses two other casings which form chambers in the interior of the furnace; in the inner chamber is placed the fire-pot and the other hot air tubes which extend from the cold air chamber beneath the furnace up through the furnace to the air above; the fire-pot is made in sections which may be removed and replaced when burnt out; the fire-pot is so contrived as to be easily changed from a coal to a wood-burning furnace. The cold air chamber underneath the furnace is supplied by a tube fitted with a revolving sieve and an apparatus for throwing a jet of water upon the air as it enters the tube. On the top of the furnace is hot water tank, leading into the hot air tubes, for moistening the air. The stove-pipe runs immediately from the fire chamber to the chimney.

Claim.—First, the provision in an air warming furnace of an exterior shell formed of corrugated metallic plates A, in the described combination with the crown and bed plates B and C, as described.

Second, the arrangement of warm air chamber D, enclosing the furnace proper, and provided with tubes G, interior tubes G', in the manner and for the object described.

Third, the sectional fire pot O *o*, formed and arranged in the manner and for the object stated.

Fourth, the arrangement of provisions O *o* P *p* p' Z for converting a coal into a wood burning furnace, and *vice versa*.

Fifth, the provision K L L M N for purifying the entering air, as set forth.

Sixth, the arrangement of tank N, water supply and discharge pipes Y Y', vapor pipes *v*, and warm air tubes W, as described.

Seventh, in this connexion the provision of the direct exit pipe G'', for the object stated.

No. 44,330.—T. G. Massie, Port Henry, N. Y.—*Rotary Steam Engines.*—September 20, 1864.—This invention consists in the application of cams to the inner heads of the cylinder, one of which is directly opposite to the other, for the purpose of moving a transversely sliding piston which is fitted to the piston wheel in such a way that it performs its rotary motion with this wheel, but during that motion moves transversely through it and receives the pressure of the steam on each side thereof alternately. This piston is provided with cavities upon each of its sides for the passage of the steam from one side to the other as it is moved by the cams. Roller frames are provided within the piston for the purpose of relieving the friction of its movement. Packing with springs in its rear is provided for the purpose of keeping the piston in steam-tight contact with the cylinder on all its sides.

Claim.—First, the cams $c\ c'$, on the inside surfaces of the cylinder heads, arranged in combination with the transversely sliding piston E and piston wheel D, constructed and operating in the manner and for the purpose substantially as shown and described.

Second, making the sides of the piston concave, substantially as herein specified, to allow the steam to pass through the piston wheel and act on both sides of the piston.

Third, the roller frames F, applied in combination with the piston E, piston wheel D, and cams $c\ c'$, substantially as and for the purpose herein shown and described.

Fourth, the doors f'', in the sides of the cylinder, arranged in the manner and for the purpose set forth.

Fifth, the spring abutments or packing pieces *h h* applied to the apexes of the cams $c\ c'$, in the manner and for the purpose substantially as herein specified.

Sixth, the movable slats *e*, applied in the sides of the piston, in combination with wedges *f* and spring *g*, or their equivalents, constructed and operating substantially as and for the purpose set forth.

No. 44,331.—A. S. McClure, New Buffalo, Pa.—*Device for Cutting Glass.*—September 20, 1864.—This invention consists in a steel glass cutter with four edges or square points inserted in a handle, and in one-edged cutter with recesses to give a good hold for the finger, and provided with a jaw at the other end for the purpose of breaking off any portions of the glass as cut.

Claim.—A steel glass cutter as an article of manufacture, as herein constructed and described and for the purpose set forth.

No. 44,332.—T. L. Melone, Granville, Ohio.—*Sewing Machine.*—September 20, 1864.—The nature of this invention is mainly explained by the claim; the object being to simplify and reduce the cost of the shuttle sewing machine and allow of its being driven with less power. The shuttle race and feed bar are made of one piece.

Claim.—First, the main driving shaft B, arranged vertically below the shuttle driver and near the raceway, and in relation to the needle arm and shuttle driver, substantially as herein specified, the same containing thereon, and the whole cast in one piece, the band wheel, needle-operating cam, fly-wheel, and feed cam, substantially as herein specified.

Second, the employment, for feeding the material to be sewed, of a feeding dog attached to and receiving its forward and back movements from a reciprocating shuttle race, substantially as and for the purpose herein specified.

No. 44,333.—Rufus N. Meriam, Worcester, Mass.—*Cutter Arms for Planing Machines.*—September 20, 1864.—The object of this invention is to secure the cutters into the arms, and it consists in an upright mortise through the arm near the end, into which the cutter is fitted, and another mortise horizontally through the arm and partially against the upright mortise, into which is fitted a screw bolt with a notch cut into one side, in which the shank of the cutter is passed, so that as the screw is turned up the bolt clamps the shank of the cutter in the upright mortise and holds it fast.

Claim.—The described method of fastening the cutters, substantially as and for the purpose herein specified.

No. 44,334.—Jacob Negly, Fairview, Ill.—*Water Elevators.*—September 20, 1864.—This invention consists, in the combination with a clock movement, of an endless chain of buckets descending into a well or reservoir containing water, and passing down in close proximity to a suitable reservoir in such a manner that by the action of the said clock movement motion is imparted to the endless chain of buckets, causing the empty buckets to descend into the water, and when full to ascend and discharge their contents in the receiving vessel, and that by these means a continuous raising of water from the well or reservoir is effected without requiring any labor or attention except the occasional winding up of the clock.

Claim.—The combination of an endless chain of buckets with a clock movement and with a receiver *l*, constructed and operating in the manner and for the purpose substantially as herein shown and described.

No. 44,335.—George Nimmo, Jersey City, N. J.—*Moulds for Casting Steel Tires.*—September 20, 1864.—This improvement consists in making the wall of the chill for the periphery of the tire, as usual, of cast iron, while the inner wall is of a refractory substance, supported by and held to a ring of wrought iron by dovetailed studs projecting from the latter; also in attaching to the chill a cast iron gate lined with any suitable refractory substance.

Claim.—First, the piece B, with knobs J, to hold the heat-resisting substance, operated in the manner and for the purpose specified.

Second, the gate G, attached to A, in the manner and for the purpose specified.

No. 44,336.—Thomas Parker, Philadelphia, Penn.—*Combined Coal Scuttle and Ash Sifter.*—September 20, 1864.—This invention consists in the adaption of a coal scuttle and ash sifter, so that they can be used separately or in combination as an ash sifter, for the purpose of preventing the dust from flying about when used.

Claim.—The portion A, with its sieve D and drawer E, in combination with the portion B, the whole being constructed and arranged substantially as and for the purpose herein set forth.

No. 44,337.—Eli Perry, Baldwinsville, N. Y.—*Pumps.*—September 20, 1864.—The object of this invention is so to arrange the wings of the piston that the space between that and the butment will allow of the escape of foreign substances otherwise destructive of the working parts. The novelty consists in the combination of the wings E, with sharp edges *l l*, the flanges *k k*, and with the floor of the case A.

Claim.—The combination of the wings E, and arms E′, and the flanges *k k*, arranged substantially as herein specified.

Also, forming the under side of the wings with sharp edges *l l*, the same being used in combination with the floor of the case A, substantially as described.

No. 44,338.—Clark Polley, Scott, Ohio.—*Axle Lubricators for Carriages.*—September 20, 1864.—This invention consists in the employment or use of a cylinder inserted into the hub of a wheel and provided with a piston, which is attached to a screw spindle, screwing into a cap that closes the outer end of the cylinder in such a manner that, by the action of the piston, lubricating material placed in the cylinder can gradually be forced down upon the axle, and, by the cap, the escape of any part of the lubricating material (as the wheel turns) is prevented. To prevent the cylinder from turning within the cylinder it is provided with a groove that works into a feather on the inside of the cylinder.

Claim.—The combination with the hub A of the cylinder *b*, cap *c*, screw spindle *e*, piston *f*, and feather *h*, operating substantially as and for the purposes described.

No. 44,339.—John Ramsey, Pittsburg, Pa.—*Braiding Guide for Sewing Machines.*—September 20, 1864.—This invention consists in constructing the presser of a sewing machine so that it not only answers the purpose of holding the cloth to the tablet in ordinary sewing, but may be used as a guide for putting on braid of different widths in such a manner as that the braid, if required to be sewed on both edges, can be taken out of the guide and reversed or turned end for end, to suit the position of the needle operating thereon.

Claim.—Forming a braiding guide for a sewing machine by constructing the presser A, with two or more slots, transverse to the line of feed, and with the guiding shoes, one of which is adjustable by means of the pinch screw S, so that it can be arranged to suit braids of different widths or used for ordinary sewing without further change or alteration, substantially in the manner as hereinbefore specified.

No. 44,340.—Joseph F. Reeves, jr., Baltimore, Md.—*Apparatus for Steaming Oysters and Preserving Fruit.*—September 20, 1864.—This invention consists of a close railroad car with tight fitting lids in the top. A concave framework rests on supports, a little removed from the bottom of the car; perforated steam pipes run around to the top and bottom of the car, which can be connected with the steam boiler when the apparatus is in operation.

Claim.—In combination with a water-tight car, fitted for steaming oysters and processing or preserving fruit and vegetables, the rail track on which it runs to and from the boiler which supplies the steam to heat it.

No. 44,341.—Peter Reynard and Victor Varin, New York city, N. Y.—*Device for Destroying Insects and Vermin.*—September 20, 1864.—This device is for the purpose of blowing powder among insects to destroy them, the special object being to make an instrument which may be brought to act in places of difficult access. The powder is placed in the vessel *a* at the upper end of the tube *c*, while the blowing device is at the other end; the tube *c*, formed of two or more pieces, sliding the one within the other, so as to increase or diminish its length.

Claim.—The blowing apparatus, near the hand of the operator, with the vessel containing the powder, by means of a tube or air conductor, as and for the purposes specified.

No. 44,342.—N. C. Sawyer, Boston, Mass.—*Preparing Peat for Fuel.*—September 20, 1864.—This invention consists in preparing blocks of cleaned and compressed peat, the blocks having the corners cut off so as to form flues or openings when several blocks are placed together; or the blocks may have grooves formed in them.

Claim.—Cornering or grooving blocks or bricks of peat, substantially as and for the purpose described.

No. 44,343.—H. H. Scoville and P. W. Gates, Chicago, Ill.—*Apparatus for Amalgamating Gold and Silver.*—September 20, 1864.—This invention is designed to force pulverized ore through mercury or other liquid metal so as to amalgamate and separate the precious metals. A spiral scroll *c*, between heads F, with a hollow bearing *a a*. There are also additional short scrolls *d d*. By revolving the drum with the scrolls in a bottle of metal, the ore fed into the hopper A is drawn and forced through the metal and out through the hollow shaft *a* into the apartment D, when it rises to the surface and the earthy matter and sand is raked off by the screw wheel.

Claim.—First, the employment of a scroll, or its equivalent, in the process of separating metals from their mineral matrix, substantially as described.

Second, a scroll, having one or more mouths, arranged within a cylinder, in combination with a reservoir for receiving the substances discharged from said scroll, substantially as described.

Third, the employment of a separator E E′, or its equivalent, in combination with a scroll, substantially as described.

No. 44,344.—Frederick Seidle, Mechanicsville, Va.—*Horse Rake.*—September 20, 1864.—In this rake the head is placed above and in front of the axle. The teeth pass over a bar directly over the axle, to which it is connected by means of hinges. The teeth are held in position upon this bar by means of looped springs.

Claim.—The arrangement of bar F, connected to the axle A by joints or hinges, as shown, in combination with the teeth E fitted on the shaft D, and connected to the bar F by springs *b* and the lever G, all arranged to operate substantially as and for the purpose specified.

No. 44,345.—S. B. Sexton, Baltimore, Md.—*Base Burning Stove.*—September 20, 1864.—This invention consists in the construction of a supply magazine, with a fire brick lining, to protect it from the intense heat, and also in an arrangement of flues and chambers for effectually radiating heat in the base of the stove without the aid of a downward draught or having flues outside of the fire-box.

Claim.—First, the combination of a suspended or coal supply magazine, a combustion chamber, a base burning surface, and a hot air chamber around the ash pit, substantially as and for the purpose set forth.

Second, the chamber *f f* and a space or spaces at the margin of the base burning surface, substantially in the manner and for the purpose described.

Third, the damper *j*, in combination with the chamber *f f* and space at the margin of the grate, substantially as and for the purpose set forth.

Fourth, the door *l*, in combination with the chamber *f f* and extended base burning surface with a space around its margin, substantially in the manner and for the purpose described.

Fifth, in a stove where the coal is burned and allowed to flow freely out to the wall of the combustion chamber on a shallow base burning surface, providing for the heating of the lower part of the stove, applying a counter draught and preventing the flying of the ashes into the room, all substantially in the manner and for the purpose described.

Sixth, the construction of the coal supply magazine in two parts, so that the fire-brick or other material shall be confined within and between said parts, substantially in the manner and for the purpose described.

No. 44,346.—S. B. Sexton, Baltimore, Md.—*Frying Pan.*—September 20, 1864.—This invention consists of an ordinary frying pan with a cover, having fitted through its bottom a tube forming a communication between the interior of the fire chamber of a stove when the pan is placed in a hole in a stove; the tube is for the purpose of carrying off the fumes of articles cooking in it. The top of the pan must be perforated, to admit of a draught.

Claim.—First, so constructing a vessel of the character herein described that, when in use, a current or currents of external air will be conducted through it by the natural draught of the stove in such manner as to carry off the fumes arising in said vessel, substantially as described.

Second, providing a culinary vessel with a flue or flues B through its bottom, and also with a perforated cover C, or the eqivalent thereof, substantially as described.

Third, a frying pan constructed with a flue B through its bottom, substantially as described and shown.

No. 44,347.—Samuel Shepherd, Nashna, N. H.—*Gauge Cock.*—September 20, 1864.—This invention consists in combining within the socket of an ordinary gauge cock a vertical valve. upon the top of which the steam presses and prevents any leakage. Through the socket or body of the cock, directly underneath the valve, an aperture is made, in which the socket slides. This socket has a flange on its outer circumference, which supports a ring of rubber entering a recess formed in the body of the cock, and which serves as a spring to return the handle of the cock to its normal condition after it has been opened. The handle of the cock is attached to the lower part of the body of the cock by fulcrum pins. The long arm standing in nearly a vertical position, and the short arm occupying nearly a horizontal position, with its end encircling the socket, so that when the long arm of the lever is drawn forward the short arm is raised, and with it the socket and valve, and the water or steam passes down through the aperture in the socket, and thus informs the attendant of the condition or level of the water in the boiler.

Claim.—First, the valve C, movable nozzle or teat E, and spring *d*, in combination with each other, and with the shell A B and lever G, substantially as herein specified.

Second, the India-rubber or other soft packing, applied in combination with the movable nozzle or teat E, chamber B, and valve seat *c*, substantially as and for the purpose herein described.

No. 44,348.—Joseph Simpson, Newark, Ohio.—*Parlor Cooking Stove.*—September 20, 1864.—This invention consists in a cast-iron stove having a chamber for cooking purposes entirely surrounded by a flue for the circulation of the products of combustion, which takes place when a damper at the top is closed: but when it is open there is a direct draught to the exit pipe. At the lower part of this circulating flue, below the grate, is another damper for the purpose of admitting cold air to the flue also. Instead of having the loops to the door hinges made in the ordinary manner, (*i. e.* cast on the stove entire,) they are inserted in lips cast for that purpose on the stove, so that when a hinge breaks a new one is easily substituted by inserting a new loop in the lips in place of the broken one.

Claim.—Having the hinge loops made movable, in the manner and for the purpose substantially as herein shown and described.

Also, the combination of the dampers I J with the flues G G′ G″, oven F, and fire chamber D, in the manner and for the purpose herein shown and described.

No. 44,349.—Charles Sinclair, New York, N. Y.—*Ventilator for Ships.*—September 20, 1864.—The invention consists of a metallic scoop or concave surface which has keys provided for its attachment to the ports, &c., of ships.

Claim.—The ventilator C provided with rigid lugs *a d* and adjustable lugs *b b*, and operating in combination with the porthole B of a vessel, in the manner and for the purpose substantially as herein shown and described.

No. 44,350.—Walter F. Smith, Greenpoint, N. Y.—*Sad-iron Heater.*—September 20, 1864.—This invention consists of a furnace made in the form of a sad-iron, and provided with an angular grate, and with a top which is perforated with two holes, one to expose the sole of the sad-iron, and the other for the escape of the smoke, &c.; the object of an angular grate being to equally diffuse the heat over the entire sole of the sad-iron, at a saving of fuel and as a convenient means of heating a sad-iron without stove or furnace.

Claim.—A sad-iron heater, constructed as herein described, as a new article of manufacture.

Also, the angular fire grate C in combination with the draught hole D and top plate E, with holes *c d*, constructed and operating in the manner and for the purpose substantially as shown and described.

No. 44,351.—John Stone, Plattsburg, Mo.—*Gang Plough.*—September 20, 1864.—This invention relates to a gang plough adapted to be moved from place to place on wheels, and in which are employed one, two, or more ploughs, the positions of which are controlled by a corresponding number of levers, which are operated by the feet of the driver, and these levers, when depressed so as to elevate the ploughs out of contact with the ground, are retained by spring catches, which are pressed by the feet of the driver when it is desired to release the ploughs and permit them to assume their working position.

Claim.—First, in combination with the levers E and ploughs I, the catches F, constructed, arranged, and operating substantially as and for the purposes herein set forth.

Second, the standard D′, which supports the seat, in combination with the levers E and catches F, the same being arranged substantially as and for the purposes set forth.

No. 44,352.—A. J. Tewksbury, Haverhill, Mass.—*Last Block Fastening.*—September 20, 1864.—This invention consists of a piece of metal fastened to the block by means of a screw, which acts as a hinge, and a corresponding piece of metal fastened to the last, these two pieces being dovetailed. Upon pressing on the top of the former piece, underneath of which a spring is placed, the bottom part is thrown out.

Claim.—The dovetail joints A and C in combination with the screw *f*, which acts as a hinge, substantially as set forth and for the purpose specified.

No. 44,353.—B. H. Tripp, Culpeper, Va.—*Explosive Shell.*—September 20, 1864.—This invention relates to a projectile of elongated form, and provided with a central longitudinal tube passing through it, and an external removable tubular shell, leaving an annular space or chamber between the two. A suitable packed sabot is closely fitted to both, so as to secure them in their relative position, and form the bottom of both chambers. The central or interior chamber is loaded with powder and balls to be projected forward by the action of a time fuze during the action of the projectile. A fuze connects the inner chamber with the surrounding or annular chamber, which contains the explosive charge designed to burst the shell. A percussion-plunger is also arranged in connexion with the annular chamber to insure its explosion on impact should the other fuze fail.

Claim.—First, the central barrel B, breech plug D, and time fuze *b*, in combination with an explosive projectile constructed substantially as described.

Second, the combination of percussion exploder *g*, time fuze *b*, and communication *e*, with a central discharge projectile, which is constructed with a central barrel B, chamber C, casing A, and breech plug D, substantially as described.

No. 44,354.—Thomas Seaville Truss, London, England.—*Mode of Carrying Knapsacks.*—September 20, 1864.—This invention relates to a mode of carrying knapsacks, and consists in the construction of levers, having forked branches so formed as to pass over and rest upon the shoulders, and also in the employment of a lever for the purpose of regulating the length thereof, and in combination of said lever, shoulder plates, knapsack, and waist belt.

Claim.—First, the construction of levers, forked, branched, or otherwise so formed as to pass over and rest upon the shoulders, and lying as close to the body as convenient, for the purpose of carrying knapsacks or other articles, substantially as described.

Second, the making of the lever A B C in two or more parts, for the purpose of regulating the length thereof, substantially as described.

Third, the combination of the lever A B C, shoulder plates *b*, knapsack *d*, and waist belt E, arranged and operating substantially as described.

No. 44,355.—Henry Upjohn, Richland, Mich.—*Corn Planter.*—September 20, 1864.—This invention consists in a jointed seed bar, planting four rows at a time with as many seed boxes, having slide valves operated by a cam on the traction wheel. and levers connecting the cam and slide valves.

Claim.—The combination of the cam *j*, the bar *g*, the lever *k*, the slides *f f f f*, and the jointed beam *a*, the whole constructed and arranged substantially as herein set forth.

No. 44,356.—**William Wallace**, Ansonia, Conn.—*Breech-loading Ordnance.*—September 20, 1864; antedated June 3, 1862.—This invention consists in the employment, in combination with a barrel bored through, and having a breech strap bored through, of a sliding and removable breech piece having a series of chambers and a passage through the same, and retained in position by the pressure of a spring, so as to admit of the breech piece being readily removed when necessary, and at the same time allowing it to expand and contract without affecting the working of the gun.

Claim.—The employment of a removable sliding breech A A with a series of chambers E E and centre bore S, and the spring compensation as described, in combination with the breech strap with its hole *u* and the barrel N, the whole constructed and operating as described, for the purposes set forth.

No. 44,357.—**Henry W. Wansbrough** and **Henry M. Diggins**, Cincinnati, Ohio.—*Corn Planter.*—September 20, 1864.—This machine consists in a triangular frame with a gauge wheel in front made adjustable on a rod, and two wheels in the rear, having a hopper connected with the hollow drill teeth, with the valve in the bottom worked by a spring.

Claim.—First, the combination of the hollow drill tooth E, guard F, hopper N, and slide G, operating substantially as herein set forth.

Second, the provision of the yielding cut-off H, applied and operating as set forth.

Third, the arrangement of ground wheel I, rod K, lever L, spring M, and cut-off H, in the described combination with the grain slide G, near the bottom of a hollow drill tooth, substantially as set forth.

No. 44,358.—**Thomas H. Watson**, New York, N. Y.—*Hydraulic Jack.*—September 20, 1864.—The object of this invention is to improve the hydraulic jack. Its novelty consists in placing on one side of the head of the jack a reservoir for holding fluids sufficient, when forced into the cylinder of the jack, to push the ram its entire length when it is in a horizontal position.

Claim.—The fluid reservoir on the upper or front side of the head when in a horizontal position, as described, and for the purposes set forth.

No. 44,359.—**W. J. Wells**, Delaware, Ohio.—*Sawing Machines.*—September 20, 1864.—This invention consists in attaching to a sawing machine a device consisting of a screw and swinging nut operated by gearing, which is thrown into and out of gear by a sliding clutch joint, so as to raise and lower the saw whilst making the cut, and it further consists in an arrangement of wheels and pulleys that operate the saw and swinging frame.

Claim.—First, the combination of the screw I and swinging nut H with the saw frame C, for feeding or retracting the saw, as described.

Second, in combination with the aforesaid screw I, swinging nut H, and saw frame C, the shaft L, wheels K S, pulleys M O, and belts P N, all arranged and operating as and for the purposes specified.

No. 44,360.—**Jeremiah B. Williams**, Madison, Wis.—*Snow Ploughs.*—September 20, 1864.—This invention consists of a snow plough in the form of a metallic scoop secured to the front of the car by a suitable hinge joint projecting forward, the front end resting upon or just above the rails of the track, the rear portion being curved upward and outward in the form of a double mould-board plough. In connexion with the above are two scoop wheels, which are mounted upon shafts, so as to occupy a position above and in front of the said plough, from which they throw off the snow to each side of the track, motion being imparted to them from the wheels of the car.

Claim.—First, the digging or excavating wheel O, having its wings attached in line with its axis, and having the outer edges of said wings formed scoop-shaped or curved as shown.

Second, the wheel C, in combination with the plough B, constructed and operating substantially as set forth.

Third, pivoting the plough B in such a way that it can be raised or lowered by means of the lever *h* and rod I, substantially as shown.

No. 44,361.—**Frederick Wolf**, Philadelphia, Penn.—*Safety Brakes for Railroad Cars.*—September 20, 1864.—This invention consists in providing for a city passenger railway car a safety brake, operated solely by an object or obstruction upon the track in front of the car wheels, rendering it impossible to drag the car over such obstruction.

Claim.—First, a self-acting shoe, hung upon a stud or roller, working in a grooved or slotted plate, as shown and described for the purpose set forth.

Second, supporting the frame B (to which are attached the ground or slotted guide plates D) by the axles of the car wheels, as and for the purpose specified.

No. 44,362.—**Barnabas Wood**, Albany, N. Y.—*Fusible Metal for Filling Teeth.*—September 20, 1864; antedated September 4, 1864.—This invention is designed as an improvement upon the invention patented to the said Wood March 20, 1860. The object of this improvement is to produce an alloy which will not pass too suddenly from the solid to the liquid form, but which will be more or less plastic between certain degrees of temperature, so that it can be fashioned in any desired form. Ingredients and proportions recommended are: Cadmium, from one to two parts; bismuth, three to four parts; tin, two to three parts; lead, one to two parts.

Claim.—The herein described metallic composition for filling or repairing teeth, consisting of the ingredients specified in the proportion thereof substantially as set forth, or proportions equivalent thereto, as indicated, so as to produce a metal as described for said purpose.

No. 44,363.—**S. W. Wood**, Cornwall, N. Y.—*Revolving Fire-arm.*—September 20, 1864.—This invention consists in loading the cylinder chamber at the front end, the rear end of the chamber being permanently closed except small nicks or apertures to give access to the face of the hammer and in retaining the cartridges in the chambers by a cup plate, or its equivalent, applied at the front end of the cylinder, or toward or at the rear thereof, so as to hook around or bear against some flange or projection of the cartridge case.

Claim.—Loading the cartridges into the chambers of the cylinder and expelling the empty cartridge cases therefrom when the said chambers are in line with the hammer, or in the same position as when the discharge takes place.

Also, expelling the empty cartridge cases by the blows of the hammer, substantially as herein specified.

Also, turning the barrel aside from its discharge position, in combination with a front loading cylinder, for the purpose of enabling the cartridges to be inserted into, and the empty cartridge cases to be expelled from, the chambers when in line with the hammer, substantially as herein set forth.

No. 44,364.—**Charles C. Ashley**, assignor to **James L. Harlem**, Brooklyn, N. Y.—*Clasp for Tobacco Boxes, &c.*—September 20, 1864.—This invention consists of a clasp formed by a projection from the flange of the lid, passing down over the rim, and bent inward, in the shape of a short hook, to spring into a hole or rim in the top of the box.

Claim.—A clasp for tobacco boxes, spectacle cases, &c., formed in the manner described and shown.

No. 44,365.—**Charles W. Blakeslee**, Northfield, Conn., assignor to **Nathaniel Wheeler**, Bridgeport, Conn.—*Knitting Machine.*—September 20, 1864.—The nature of this invention will be understood from the claim.

Claim.—First, the employment in a circular knitting machine of separately moving sinkers, so applied in combination with the adjustable needles as to provide for their being brought severally nearer to or further from the centre of the machine, substantially as herein specified, for the purpose of widening or narrowing, as set forth.

Second, fitting the needles into grooves in the shanks of the sinkers, substantially as and for the purpose herein specified.

Third, the grooved sinker adjuster C, applied to operate substantially as and for the purpose herein described, in combination with projections *g* on the sinkers.

Fourth, so combining the needle operating cam, the sinker adjuster, the yarn conductor, the rotary burr, that all are adjustable toward or from the centre of the machine, substantially as herein set forth.

No. 44,366.—**Thomas B. Davis**, assignor to **Stephen G. Taylor**, Boston, Mass.—*Boiler Furnaces.*—September 20, 1864.—The object of this invention is an improvement in boiler furnaces, by which steam is inducted into the furnace, and mingled with the air therein, for supporting the combustion of the fuel. Its novelty consists in the combination of the devices of which it is composed, which consists of passages or chambers in the side of the arch, in which a coiled steam pipe is located; this pipe is perforated with small holes in such a way as to direct the inflowing current of air directly below the grates on which the fuel rests, where it is mingled with the steam before passing up through the fuel. The amount of steam admitted is regulated by a cock or valve in the pipe leading to the coal, and the ash pit is closed by suitable doors to prevent the escape of the steam to that point.

Claim.—In combination with an ash pit of a steam boiler furnace constructed with doors to open in the usual manner, the passage *f*, and steam coil *g*, operating together in the manner and for the purpose substantially as set forth.

No. 44,367.—**Erastus S. French**, assignor to himself and **Luke Sawyer**, Hubbardstown, Mass.—*Machine for Scraping Chairs and other articles.*—September 20, 1864.—This invention has for its object the scraping of chair backs, and other stuff, previous to finishing; and it consists in a reciprocating carriage, upon which is placed a framing containing a pressure roller and an oscillating pressure beam bearing upon rubber springs over the journals of the roller; and directly under the pressure roller in the carriage is the scraper, and towards the moving power is a rest made fast to the ways, so that as the stuff placed upon the carriage rests against the cross rest over the carriage, and the carriage is made to reciprocate, the stuff will pass between the pressure roller and the scraper, thus smoothing the surface ready for finishing.

Claim.—The machine, as consisting of the movable carriage, its scraper and pressure roller, and the fixed or stationary rest, as arranged and applied together, and to the frame A, substantially as described, and having mechanism for imparting to the carriage reciprocating motions in manner as specified.

Also, the combination of the rocker bar O with the pressure roller, its springs, boxes, and carrying frame, when combined with the movable carriage or platform, its scraper, and the stationary rest, substantially in manner and so as to operate as explained.

No. 44,368.—NATHAN A. GARDINER, Jr., Willett, N. Y., assignor to himself and JOSEPH BRIGGS, New York, N. Y.—*Fish Hooks.*—September 20, 1864.—This invention consists of a pair of fish hooks so connected to a spring, or forming a spring joint, that they will naturally stand apart; and arranged by means of a projecting eye on each; to be held together by a pin passing down through each eye, to which pin the fishing line is attached. On any contact of, or tension upon the hook or hooks, it is pulled a limited distance, releasing the eyes from the detaining pin, and cause the hooks to spring apart.

Claim.—The combination of a pair of bearded hooks, attached to or forming part of a coil wire spring *c*, and provided with eyes *e* and *f*, and a rod *b*, (having a line eye *d*,) for setting and releasing the hooks, whereby I am enabled to make a cheap, simple, and effectual spring hook, the whole constructed and operating substantially as described and set forth.

No. 44,369.—HUMPHREY HOLDEN, assignor to himself and WILLIAM GOODWIN, New Haven, Conn.—*Machine for Making Cement Pipe.*—September 20, 1864.—This invention consists in constructing and arranging one or more pressure rollers to revolve and press upon the composition between the case and core of the flask, gradually rising as the flask fills.

Claim.—The combination of one or more rollers with a case and core, when constructed and arranged to operate substantially as herein set forth.

No. 44,370.—JOSEPH HUBER, assignor to HUBER, HEPPE & Co., New York, N. Y.—*Process for Preparing Chrome Vermillion.*—September 20, 1864; antedated September 16, 1864.—This invention consists in a paint composed of a certain quantity of dry white lead, which is first boiled, when is added a quantity of bi-chromate of potash. The mixture is then left to cool and the coloring matter is precipitated. The liquid is then drawn off and the coloring matter well washed.

Claim.—A paint produced by mixing white lead and bi-chromate of potash together, about in the proportion herein set forth, and treating it substantially in the manner specified.

No. 44,371.—SAMUEL F. JONES, St. Paul, Minn., assignor to ERASTUS L. FLOYD.—*Water Elevator.*—September 20, 1864.—The well bucket is suspended by an ordinary windlass, by a rope guided through a hole in a fixed crossbar, beneath the wheel, and fastened to the centre of the pail. In the bottom of the bucket a flap or valve opens within when the bucket descends into the water. When the bucket rises, so that it comes in contact with the crossbar above, the operator presses outwardly a lever, the lower end of which thrusts in beneath the bucket or trough to convey the water through the curb to the front thereof, and when the bucket descends a short distance a perpendicular pin in the trough causes the valve to open and the water to flow through said trough.

Claim.—First, the sliding spout B, pin *m*, and bucket D, arranged substantially as described.

Second, in combination therewith the lever E, substantially as described.

Third, operating a discharge valve in a well bucket by thrusting a trough laterally beneath the said bucket to elevate the said valve, substantially as shown and described.

No. 44,372.—EDWIN A. LELAND, assignor to HENRY PERRIE, New York, N. Y.—*Gas Stove.*—September 20, 1864.—This invention consists of a tin or sheet-iron stove divided into two compartments, the smaller one being the combustion chamber, and having its bottom and front perforated to obtain an admixture of atmospheric air during the process of combustion. In the upper one are two plates, with holes for the cooking utensils, which will be exposed directly to the flame, the two plates forming a flue which conveys the flame around the cooking chamber, which is intended for baking, &c., and it is entirely surrounded by a flue, through which the products of combustion are compelled to circulate before reaching the exit pipe on top of the stove.

Claim.—First, the construction of that part of the stove over the gas burners of two plates *c d*, with a space *b* between them, the upper plate *c* having holes provided in it for the boilers or other utensils, and the lower one having corresponding or opposite holes for the concentration of the products of combustion under and around the bottoms of the said utensils, and the space *b* between them serving to temporarily confine the products of combustion under the cooking utensils, and convey them to the flue provided for the purpose, substantially as herein described.

Second, the descending flue D in combination with the said plates *c d*, the space *b*, the box B, containing the gas burners, and the oven C, substantially as and for the purpose herein described.

No. 44,373.—JOSEPH W. NORCROSS, Boston, Mass., assignor to W. W. WILCOX and JOSEPH HALL, Jr., Middletown, Conn.—*Row or Scull Lock.*—September 20, 1864.—This invention consists of a ball and socket joint, which confines the oar, and in combination with a side spring, which presses the row-lock against the ball.

Claim.—The movable or yielding jaw *b*, with the retaining spring C, applied in combination with the universal joint and with the oar, in the manner and for the purpose substantially as herein shown and described.

No. 44,374.—SAMUEL PELTON, Trenton, N. J., assignor to FELL, PELTON, & BREARLEY.—*Thresher and Separator.*—September 20, 1864.—This invention relates to the separation of the grain from the hulls, which is passed with the straw upon perforated shakers, through which the grain falls upon inclined tables, and is then conducted to a riddle and subjected to the action of a fan blast, by which means all the impurities are separated from the grain.

Claim.—First, the combination of two straw shakers E E′, suspended by hangers *a*1 *a*2, and moved simultaneously in opposite directions by a double crank shaft and pitman rods, substantially as and for the purpose set forth.

Second, the combination of the shaker E′ and grain board G′, having a combined vertical and longitudinal motion, so as to toss the straw one way and the grain the other, substantially as explained.

Third, the automatic blast regulator, consisting of valves K2 *k*6 *k*6, pivoted rod *k*2, and weights *k*3 *k*4, the whole being arranged to operate substantially as and for the purpose explained.

No. 44,375.—R. STILLWELL, assignor to himself and ALEXANDER D. FARRELL, New York, N. Y.—*Spring Mattress.*—September 20, 1864.—This invention consists in the employment of spiral springs and stuffing in the usual manner, that can be conveniently folded for packing, and the joints in the frame are so formed that the centre of the bed retains its full strength, and the stuffing at the points of folding is not affected thereby.

Claim.—Constructing the mattress frame in five sections, of which, when folded, the central one forms the lower section, the adjacent sections *d* and *f* the sides, and the end sections *c* and *g* the top, so as to allow the ends to be hooked together and the mattress to assume a rectangular shape for convenience in packing away or for transportation.

Also, the combination of the breaks *c d e f g*, with the lips *i* of the hinges *h*, constructed and operating in the manner and for the purpose substantially as set forth.

No. 44,376.—ALEXANDER ALLISON and JAMES HALLIWELL, London, Great Britain.—*Atmospheric Railway.*—September 20, 1864.—This invention consists in the construction and arrangement of the line valve, and mode of operating the same; also, in the peculiar construction of the piston heads and the device for operating the valves in the piston head, and in the means adopted for thrusting the train across from one track to another.

Claim.—First, the valve *a*, whether employed for railway or other purposes, and when used in combination with the chamber *w*, or without said chamber, constructed substantially as described.

Second, the curved bar *e*, for removing the valve *a* from the aperture *d*, and returning the same after the passage of the piston rod *f*, substantially as described.

Third, the elastic packing bands *j* when used on a piston head, for the purpose and substantially in the manner specified.

Fourth, the cone valve H, whether used in a solid piston head or in combination with the elastic band *j*, constructed and arranged for the purpose and substantially in the manner specified.

Fifth, the device for operating the cone valve H, constructed and arranged substantially in the manner specified.

Sixth, the frame *f*, with guide rollers *s*, so arranged with reference to the bottom of the carriage P as to allow the piston D to follow the dip of the tube at the crossings, and to prevent any vertical motion of the carriage affecting the said piston.

Seventh, the frame I, with guide rollers *r*, so arranged with reference to the frame *f* as to prevent the oscillation of the carriage P being communicated to the piston D.

Eighth, the branching of the tube A at N, Fig. 5, and the branching of the aperture *d* at *y*, in connexion with the dip of said tube, for the purpose of conveniently shunting the train or passing from one line of rails to another.

No. 44,377.—JOHN S. ADAMS, Taunton, Mass.—*Breech-loading Fire-arm.*—September 27, 1864.—The breech piece which contains the metallic cartridge case rotates vertically on trunnions or pivots. The trigger guard lever is attached to it by a dovetail connexion, and has a sliding movement backward by pulling the guard backward while a spiral spring at the front retracts it to its normal position. This retraction ejects the empty cartridge case when the front of the breech is turned up. A piece is hinged to the top rear end of the rotary breech, which forms a solid abutment when the arm is to be fired. The arm is capable of being used with the common ammunition.

Claim.—First, the mode of attaching the trigger guard to the movable chamber by means of tongues and grooves, or their equivalent, thereby securing strength to open and close the chamber, at the same time allowing the guard tc slide to open the breech and eject the empty cartridge case, in the manner specified.

Second, operating the device for withdrawing or ejecting the metallic cartridge case from breech-loading fire-arms by a sliding longitudinal movement of the trigger guard.

Third, the movable cartridge chamber B, the hinged breech block C, the sliding trigger guard E, the spiral spring *k*, and the ejecting device I, all in combination and operating in the manner herein described for the purposes set forth.

No. 44,378.—**James E. Atwood**, Trenton, N. J., and **Cassius P. Stimets**, New York, N. Y.—*Automatic Dancer.*—September 27, 1864.—Automatic dancers, recently patented, have been operated by suspending the jointed figure on springs and operating them with a finger. This one has a key behind a post where the operating finger can be applied while out of sight, being concealed by the post.

Claim.—First, the arrangement and combination of the movable coiled spring E with the base C and spring board D.

Second, the finger piece F attached to or formed on the rear end of the spring board, and extending through or beyond the back of the pillar B, substantially as and for the purpose herein set forth.

No. 44,379.—**A. S. Babbit**, Keeseville, N. Y.—*Railroad Car Seat.*—September 27, 1864.—The object of this invention is to support, by springs, car seats or other fixed articles of furniture to be used in a movable conveyance, such as berths in vessels, said springs being connected to the legs of the seat, or to the frame of the fixed article of furniture, so that they will stretch when the seat is occupied, and that the stems or cores around which the springs are wound form guides for the legs or frame, and prevent the frame from changing its place.

Claim.—The application to car seats or other fixed articles of furniture to be used in a movable conveyance, of flanged blocks *c*, provided with shanks *b*, that pass up through plates *a*, which are suspended from springs secured to the top ends of the shanks *b*, and made to support the car seat, or other article, substantially as described, so that said blocks can be readily secured to some fixed portion of the movable conveyance, and their shanks, with the springs, will form yielding guides to keep the seat or other article in place and render it comfortable for the person using the same.

No. 44,380.—**John Bachman**, Hoboken, N. J.—*Submarine Vessel and Life-boat.*—September 27, 1864.—This invention relates to the propelling apparatus, and to devices for actuating the propellers when the vessel is submerged. The propellers are in the form of wings, which act by their being opened and closed. The shaft of the propellers rests in a block and is turned by a handle. Besides there is inserted a hinge or valve, of one piece, for the more effectual exclusion of the water.

Claim.—First, the wings B B2 and plates B′, constructed, arranged, and operating in the manner described and employed in connexion with the vessel A A′, as and for the purposes set forth.

Second, the combination of the block E4, shaft E3 and handle E6, constructed and arranged as described and employed for operating the propellers E, in the manner set forth.

Third, the hinges B4 *e*, formed in one piece and adapted to prevent the entrance of water, substantially as herein described.

No. 44,381.—**Frederick Bailey**, New York, N. Y.—*Inkstand, Pen-cleaner, &c.*—September 27, 1864.—This invention consists in an arrangement of the penholder on top of the inkstand in such a position that the pen handle upright is in the moist sponge or shot, in the upper cup, handy to take hold of and in convenient proximity to the ink.

Claim.—The combination of the inkstand A with the cup C, which serves both as a receptacle for the cleansing substance and as a pen rack, substantially as set forth.

No. 44,382.—**Stephen W. Baldwin**, Baldwinsville, N. Y.—*Nails for Leather Work.*—September 27, 1864.—This invention consists in the employment of a nail cut out from a plate in a long and somewhat triangular form; the top of the nail having a width very much greater than its thickness, and a twist being given on to the length of the nail, so as to give to the latter a strong holding power.

Claim.—A nail having the form of construction adapting it for use, substantially as described.

No. 44,383.—**John Bamber**, Rochester, N. Y.—*Dining-room Stove.*—September 27, 1864; antedated September 19, 1864.—This invention consists in passing a shaft through the ash-pit and suspending upon it a series of metal leaves, which, when the shaft is turned, will pass up between the grate bars and sift out the ashes. The shaft is far enough below the grate to escape injury from the fire, and it is also movable endwise, so as to cause the leaves to separate the ashes and cinders in the ash-pit. The grate is made of hollow bars, made tapering in their width, and the whole grate is so constructed as to slide in and out of its place, to dump its contents. The stove has an elevated oven with flues about its bottom, top and three of its sides.

Claim.—First, the combination and arrangement of the flues *b* and *d*, and the plates *f* and *g*, of the elevated oven, when they conduct the heat from the under side around four other sides thereof, as and for the purposes set forth.

Second, the construction of the sliding grate G with tapering hollow bars, as shown and for the purpose set forth.

Third, the rotary raker suspended below and clear of the grate bars when constructed so as to have an endwise motion as well as around its axis, substantially as shown.

No. 44,384.—**William Barnard**, Deerfield, Mass.—*Carpet Fastening.*—September 19, 1864; antedated September 16, 1864.—This invention consists in the combination of a carpet hook with a ring through which passes a rod that is secured to the floor by a hook which is screwed into the floor.

Claim.—A carpet fastening composed of the rings C, rods D, and hooks E, all arranged and applied substantially in the manner as and for the purpose herein set forth.

No. 44,385.—**Job R. Barry**, Philadelphia, Penn.—*Bilge Water Gauge.*—September 27, 1864.—This invention consists of a syphon to be placed conveniently for inspection and communicating by suitable pipes with an open chamber, immersed in the bilge water in the hold of a vessel, so that the rising and falling of said water will be constantly gauged by the corresponding rise and fall of mercury or other liquid in the syphon.

Claim.—The syphon bilge-water gauge E F, constructed and operating substantially as herein described.

No. 44,386.—**Ezra P. Barton**, Windsor, N. Y.—*Water Elevator.*—September 27, 1864.—This invention relates to the application of the crank to the shaft. A cylindrical box is loosely set on the prolongation of the shaft, a hub on said box fitting closely to the bearing of the shaft. The end of the shaft within the box carries a disk, and inside of this disk a smaller ratchet wheel. The crank is let into a slot in the periphery of the box, and pivoted inside in such a manner that one foot or extension of the crank acts upon the periphery of the disk, and the other acts alternately upon the inside ratchet wheel as a pawl. Upon the periphery of the inside end of the cylindrical box a ratchet is formed, to control which a pawl is pivoted to the frame which sustains the bearings of the shaft. Thus, when this external pawl has arrested this loose box the downward pressure of the crank brings its brake upon the periphery of the disk within the box; but reversing the pressure of the crank brings its pawl in contact with the inner ratchet wheel, and arrests the rotation of the shaft, upon which the rope is coiled.

Claim.—The combination of the loose box D, its ratchet wheel C, the disk and ratchet wheel on the shaft A, with the crank arm or lever E, attached to the box D, and armed with a brake and a pawl at its short end, substantially as described.

No. 44,387.—**Charles Beach**, Penn Yan, N. Y.—*Machine for Cleaning Flax.*—September 27, 1864.—The claim and engraving indicates the structure of the machine, which is designed to pick and clean small fibres, and especially the short pieces of flax after they have passed under powerful rollers agreeably to the process described in the inventor's patent of September 23, 1862.

The flax is introduced at the top, fed downwards, thoroughly picked, and at the moment of passing each rib falls back into the depressions G, where it collects in a mass and rolls over and over until acted on by the next rib, thus constantly presenting a new portion to be acted upon, the dust and sheaves being drawn through the perforated partitions, and carried down and out by the exhaust.

Claim.—Forming the hollow case or bed with toothed ribs D, having intermediate spaces *g*, the same being used in combination with the toothed drum C, substantially in the manner and for the purpose herein set forth.

Also, in combination with the ribs D and drum C, arranged as above described, the dust passages E, bounded on the inside by the perforated partitions *d*, arranged and operating substantially as and for the purpose herein specified.

Also, the combined arrangement of the ribs D, passages E, drum C, fan chamber G, and fans H, as herein described.

No. 14,388.—**Lyman R. Blake**, Quincy, Mass.—*Boot and Shoe.*—September 27, 1864.—This invention consists in a boot or shoe having the outer sole and vamp united by stitches passing directly through them from the outside to the inner of the article, in which the inner sole is made so much narrower and shorter that the stitches which are employed to unite the vamp and outer sole shall not pass into the inner sole.

Claim.—As a new article of manufacture a boot or shoe having a construction substantially as described.

No. 44,389.—S. E. Blake, Worcester, Mass.—*Twine Cutter.*—September 27, 1864.—A plate two or three inches long is made convex above, and sufficiently concave beneath to permit the insertion of a spring blade, the cutting part of which passes upward through a slot, near the opposite end of the plate. The plate being attached to the table or counter, by a screw through each end, the twine to be cut may be drawn under the cutting edge of the knife, the spring serving to keep the knife to its duty.

Claim.—The combination of the knife or cutter B and spring C, when arranged and applied to the plate or socket A, as shown, to form a new and improved twine cutter, as set forth.

No. 44,390.—Caleb Bates, Kingston, Mass.—*Carriage for Raising and Transporting Ordnance.*—September 27, 1864.—This invention consists in so constructing a carriage as to have a clear space between the axles of its two rear wheels, and also to support each of the said wheels within and by two strong trusses or frames, which are combined with an axle-bearer and a trussed frame for sustaining the operative machinery for raising a gun. Furthermore, the two barrels of the windlass have their vertical grooves so connected by one being run into the other, that the chain may coil from the larger to and upon the smaller, in order that the said chain, in depending from opposite sides of the smaller barrel, and while holding a gun raised so as to be transported by the carriage, shall operate to prevent the windlass from revolving. The king bolt of the front axle is not only supported by the front or axle beam of the carriage, but by a furcrated brace, extending backwards from it to the side truss frames of the carriage.

Claim.—The combination and arrangement of the four truss frames A B C D, the frame L, and the axle bar or beam E, together and with the windlass and its operative mechanism, substantially as hereinbefore described.

Also, the arrangement of the furcated brace S, with the truss frames A B C D, the axle beam or bar E, and the king bolt G.

I do not claim the combination of two windlass barrels and one chain having its end attached to the two barrels respectively, but what I do claim is my improvement hereon, the same consisting in connecting the helical grooves of the two barrels by running one into the other, by means of a grooved frustum arranged between and combined with the two grooved barrels and so that the chain may coil from the larger to and upon the smaller of the two barrels, in manner and for the purpose or so as to operate as specified.

Also, my improved arrangement of the detaching springs with respect to the pawls and brake head.

No. 44,391.—Jesse Booker, Dayton, Ohio.—*Step Ladder.*—September 27, 1864.—This invention consists in making the outer sides of the stiles and the under side of the steps with grooves, in which battens are placed, to give strength to the ladder.

Claim.—As a new article of manufacture, the arrangement of stiles A A′, cleats B B′, battens D, and pins E, as described and represented.

No. 44,392.—Blank.

No. 44,393.—Clarissa Britain, St. Joseph, Mich.—*Lamp-burner.*—September 27, 1864.—This invention consists in the elongated galley of the burner, in combination with the elongated neck of the chimney, and the air valve below, and also in resting the chimney out of contact with the burner, upon projections.

Claim.—First, the elongated galley or socket *i*, in combination with the elongated neck *i′*, of the glass chimney and the air valve E, or its equivalent, substantially as and for the purpose described.

Second, supporting the cone H, out of contact with the body of the burner A, upon projections *g*, in the manner and for the purpose described.

No. 44,394.—Andrew Buchanan, New York, N. Y.—*Slide Valve.*—September 27, 1864.—This invention consists in placing a slide within the steam chest and over the valve. Two straps are then passed over this slide, and attached to valves by means of screws. Between the top of the valve and the bottom of these straps a sufficient space is left for the insertion of a gib. This gib and strap is provided with a set screw, by which the relation of the face of the valve and its seat is regulated; the most of the pressure being sustained by the slide, only so much being allowed to come upon the valve as is necessary to make the contact between the valve and its seat sufficient to insure a steam-tight joint. To provide for raising the valve from its seat, when relieved of its pressure, the gib is made slightly rounded or arched, lengthwise, so that the spring of it will be sufficient for this purpose.

Claim.—First, the employment for relieving the face and seat of the slide valve of friction of one or more gibs E, and slides D, applied and operating substantially as herein specified.

Second, the lubrication of such gibs and slides by means of a passage *c*, and slot *e*, in the slide communicating with a grease cup G, outside of the valve chest, substantially as and for the purpose herein set forth.

Third, making the face or faces of the gib or gibs of rounded or arched form longitudinally, substantially as and for the purpose herein set forth.

No. 44,395.—E. H. Camp, Jackson, Mich.—*Shear and Stake Holder.*—September 27, 1864.—This device consists of a clamp, the upper jaw of which is secured to the lower at one end by a hinge, and at the other by a bolt, having on its upper end a thumb-screw, for the purpose of operating it. The lower jaw has a concave recess, in which rests a globe or ball in which the sockets are formed radially. The upper jaw of the clamp is in the form of a flat ring, through the chamfered apertures of which the ball projects sufficiently to admit the necessary adjustment of the said ball, to suit-tools inserted therein.

Claim.—The employment of a ball shank-holder, operating in the manner and for the purpose herein shown and described.

Also, the combination of the ball shank-holder with the plates A C, substantially in the manner herein shown and described.

No. 44,396.—Robert Chauncey, Syracuse, N. Y.—*Rocking Chair.*—September 27, 1864.—This invention consists of an arm hinged to the arm of a rocking chair; under the first named arm is a small wheel or roller, secured in a standard which is attached to a platform, on which are tracks, and the rockers of the chair are grooved to play on said tracks. By pressing on the hinged arms the chair is caused to rock.

Claim.—The flexible arm D, applied to a rocking chair, and in combination with the wheel E, arranged as above described, capable of giving motion to the chair by pressure upon the flexible arm.

No. 44,397.—Newton Chapin, Chicago, Ill.—*Clamp for Bridges.*—September 27, 1861; antedated June 28, 1864.—This invention consists in casting the clamp hollow, and with partitions between its walls to brace it and make it strong, thereby producing a light and at the same time a strong casting.

Claim.—The combination of the hollow clamp heads B B, provided with the partitions E E, and block F, with the adjustable rod connecting the same, arranged and operating substantially as and for the purposes set forth.

No. 44,398.—Newton Chapin, Chicago, Ill.—*Keys or Packing Blocks for Bridges.*—September 27, 1864.—This invention consists in making an iron key, to be used in the construction of bridges, in the form of a rectangular block, and in casting the same hollow, and provided with one or more partitions, arranged in such a manner, in respect to the direction of the strain, that the said hollow block has all the strength necessary for the accomplishment of the purpose for which such blocks are used, and at the same time is much lighter and cheaper than the solid block key heretofore used.

Claim.—Constructing an iron key for bridges in the form of a hollow shell, and providing the same with one or more partitions *b b*, substantially as and for the purposes described.

No. 44,399.—John D. Cochran, Milford, N. H.—*Hospital Bedstead.*—September 27, 1864.—The head and front board of the bedstead are hinged so as to be elevated or lowered at pleasure, and this is effected by windlasses, cords, and pulleys, arranged under the bedstead frame.

Claim.—In combination with the stationary side rails B, the hinged rails G, levers H, inclined ways I, ropes K, and shaft L, substantially in the manner and for the purposes described.

Also, the combination of the levers O, ropes N, shaft P, and pitman Q, with the hinged parts D and C, substantially in the manner and for the purposes described.

No. 44,400.—Charles Crozat Converse, Dubuque, Iowa.—*Fruit Basket.*—September 27, 1864.—This invention consists in constructing the basket of two sheets of thin wood, one of which forms the upright walls, and the other the bottom. The piece forming the sides is lightly cut or checked so as to readily bend into the desired form, either square, hexagonal, or other polygon. The faces are perforated at proper intervals to admit the angles or corners of the bottom to protrude through; the bottom having the same number of angles as the sides, which being bent around the bottom is secured by a short lap, and nailed, or otherwise fastened.

Claim.—First, the box constructed substantially as above described, by supporting its bottom upon its own sides, as above set forth.

Second, the method thus described of securing the bottom of the box in its proper place by inserting the angular corners of the same, or the spurs formed on the edge of a round or otherwise shaped bottom, into slats or perforations made in the sides of the box to receive them, the upper portion of the said slats or perforations at the same time securing the additional purpose of ventilation, and any other device substantially the same, and producing analogous results.

No. 44,401.—James S. Corbin, New Richmond, Ohio.—*Sugar Evaporator.*—September 27, 1864.—The fire-box is made separate from the pan, and so hung in the fire-arch that it may be easily removed. The horizontal damper is suspended by the bracket, and is operated by levers.

Claim.—The combination of the fire-box furnace and damper, as described.

Also, a horizontal damper operated by a lever attached to an upright, substantially as and for the purpose herein set forth.

No. 44,402.—Daniel M. Cummings and Allen Hays, Enfield, N. H.—*Machine for Drying Flannels and Other Cloths.*—September 27, 1864.—The object of this invention is to dry the cloth by means of a powerful draught of cold air. The cloth passes outside of a series of rollers arranged in a circle, within which is concentrically placed a shaft, carrying at each end screw fan blades which draw air inwardly, and also a fan with horizontal blades extending between these screw fans, and which serve to agitate and expel centrifugally the air so drawn in at the ends. By means of slides, the breadth of space for the expulsion of the air is adjustable to conform to the width of the cloth; this adjustment being made by turning a crank which actuates a ring and pinions, and thus turns all the screws simultaneously to move the slide. The peculiarity in the structure of the journal boxes admits of their ready adjustment, and of their being taken out and removed at pleasure.

Claim.—First, the combination of a series of parallel stretching rollers *a a a a* with one or more central fans, in a cloth-drying machine, when said rollers are arranged and combined substantially in the manner and for the purpose herein represented and described.

Second, the use of annular slides *y y*, or their equivalents, when interposed between and combined with one or more revolving fans, and a series of stretching rollers *a a a a*, in a cloth-drying machine, to control the current of air from such fans, substantially in the manner and for the purpose herein set forth.

Third, the combination of a toothed ring *p*, or its equivalent, with the pinions O O, and set screws S S, to secure the simultaneous movement of the set screws, substantially in the manner and for the purpose herein set forth.

Fourth, the combination in a machine for drying cloth of a bisected journal box *c c′*, with either journal of a revolving shaft E, when said journal box is supported and adjusted and its two sections are held together and confined by means of cavities in the heads of opposite set screws, embracing and confining the ends of pivots or lugs, so formed upon the bisected journal box as that each pivot shall be divided by the partition of said box, substantially in the manner and for the purpose herein set forth.

No. 44,403.—Joseph Dalton, Brooklyn, N. Y.—*Circular Knitting Machine.*—September 27, 1864.—This invention is designed as an improvement on the inventor's patent, May 7, 1861, and is intended to dispense with the stationary bed, the hub of the cylinder, and the nut to hold it in place; also, by the adjustability of the collar to provide a compensation for the wear in the working surfaces of the cylinder or table, and by the adjustability of the needle plates, to insure their bearing uniformly on the inner edge of the revolving table, notwithstanding any wear on the bearing surfaces.

Claim.—First, casting the needle cylinder of a knitting machine solid with the bed or stand.

Second, running the revolving table D between the flange of the cylinder B and the needle plates F, substantially as and for the purpose specified.

Third, the adjustable sectional collar E, applied in combination with the revolving table D and cylinder E, in the manner and for the purpose substantially as herein shown and described.

Fourth, making the needle plates vertically adjustable, for the purpose set forth.

No. 44,404.—Joshua N. Davis, Martinsville, Ohio.—*Implement for Dividing Clods in the Field.*—September 27, 1864.—The frame of this implement is triangular, like the common drag, and is armed with cimeter-shaped teeth. Towards the rear end is a cylinder hung in boxes, so that it can rotate; this cylinder is also armed with cimeter-shaped teeth, and slowly rotates as the implement is drawn over the ground. Behind the cylinder is a bar, also armed with one row of cimeter-shaped teeth. The bar is hung in journal boxes, and can be rotated so as to cause the teeth to strike more or less deeply into the soil, and is held in any desired position by a pawl and ratchet.

Claim.—The arrangement of frame A, adjustable vibrating frame head Ç, and rotary head G, the whole being armed with the cimeter-formed knives B, arranged and operating as set forth.

No. 44,405.—Bernard Descamp, Buffalo, N. Y.—*Manufacture of Starch.*—September 27, 1864.—The grain, such as maize, without being ground, is placed in a close tank and treated with steam at low temperature, so as to bring the mass to about 200° Fahrenheit. The treatment lasts about twenty-four hours. The grain is then found to be softened, and is ground and worked in the usual way.

Claim.—The above described process of separating starch from cereal and other materials, by subjecting the same to the action of steam in closed vessels, substantially as set forth.

No. 44,406.—Samuel D. Deyo, Strawberry, Iowa.—*Seeding Machine.*—September 27, 1864.—This invention relates to the combination and arrangement of devices by which the seed is regularly deposited in hills or drills, by means of motion communicated to the feeding wheels from the traction wheels of the machine.

Claim.—The fitting of the journals of the shaft H of the seed distributing wheels I I, in slides G, placed in the outer sides of the seed boxes, in combination with the wheels J, on the inner sides of the traction wheels B B, and the screws *e*, in the bottoms *a*, of the nipper parts *d*, of the seed boxes, all arranged substantially as and for the purpose herein set forth.

No. 44,407.—E. S. Dickinson and Wm. D. Nelson, New York, N. Y.—*Journal Boxes.*—September 27, 1864; antedated September 18, 1864.—This invention consists in constructing the axle box in two parts, connected by bolts that pass through ears, on the outside of the box; in a packing around the axle to prevent the escape of oil from the box, and in a lubricating valve that permits the oil to pass from the chamber to the axles when the cars are in motion.

Claim.—First, the employment or use in a journal box for car axles of an oil chamber, provided with a valve I, so constructed and arranged that said valve will, under the motion of the car, oscillate or roll so as to intermittingly open and close the oil passage, and gradually supply the journal with oil and keep it in a properly lubricated state.

Second, The combination of the two parts A B, projecting ears or flanges *a f*, screws C′, and shoulders *c* and *e*, when the said parts are constructed and arranged as herein described and operated in the manner and for the purposes specified.

Third, the packing plate C, fitted in the rear of the journal box and provided with the collar or bushing D, substantially as and for the purpose herein set forth.

No. 44,408.—Perry Dickson, Erie, Penn.—*Cider Mill.*—September 27, 1864.—This invention consists in constructing the grinding cylinder of sheet metal, perforated in such a manner as to form teeth and openings for the cut particles of apples to pass within the cylinder, and thereby admit of the cylinder being kept clean. A scraper is attached to the framing, and projects within the cylinder. The scraper is of spiral form, and is designed for discharging the ground apples from the interior of the cylinder.

Claim.—The combination of the cylinder having teeth made by punching holes from the inside, in combination with the spiral or oblique scraper for removing the pomace that passes through the perforations, substantially as described and represented.

No. 44,409.—John J. Doyle, Brooklyn, N. Y.—*Pulley Block.*—September 27, 1864.—The object of this invention is to obviate or remove a large portion of the friction attending the use of pulley blocks as at present constructed, and at the same time to reduce the dimensions of such a block of any given power very materially, while the smallest sheave of the same will allow the rope to bend or conform to it perfectly, without liability of rupturing its outer fibres.

Claim.—The employment or use in a pulley block of one or more eccentric sheaves, in connexion with the ordinary concentric sheaves one or more, arranged to operate in the manner substantially as and for the purpose herein set forth.

No. 44,410.—James J. Edwards, Columbus, Wis.—*Churn.*—September 27, 1864.—This invention consists of a conical tub of wood with an inside lining of zinc, leaving a space between the outside and zinc lining for warm or cold water for tempering the cream. The gear frame is attached to the churn by being placed in a collar upon the side and fastened by means of a key, which will allow the gearing and dasher to be easily removed, for the purpose of washing the churn. The dasher consists of an upright shaft, with the lower end resting in a socket and a bevel cog-wheel near the top, where it is attached to a frame. Upon this shaft are arms, to which square blades or floats with corners sunk into the arms are attached. Upon the outside of the churn are attached two levers, forming valves or stopcocks, one leading to the water chamber, the other to the inner part of the churn, and opening inwardly, the tub resting on three legs of sufficient height to admit a pail or pan under the bottom.

Claim.—In combination with the perpendicular parallel dasher blades the levers E E, stopcock K, and tube I′, when constructed in the manner as and for the purpose herein described.

No. 44,411.—A. R. Fenner, Cold Brook, N. Y.—*Saw-set.*—September 27, 1864.—In this device the shank of the upper jaw passes through a slot in the lower one, which also forms one handle of the device. The lower end of the shank of the upper jaw is hinged to a slot in a cam, formed on the upper side of the lower handle, which has a forward projecting lip, in the end of which is a thumb-screw, for regulating the amount of set. By this arrangement the thinner teeth of the saw allows the jaws to acquire, in the act of closing, a greater angle with the regulating screw, so as to give the thinner teeth a greater set than the thicker ones.

Claim.—The eccentric *g*, arranged in combination with the jaws C D, handle A B, and regulating screw *b*, substantially in the manner and for the purpose shown and described.

No. 44,412.—Frank Ficht, Isle Royal Mine, Mich.—*Dumping Apparatus.*—September 27, 1864.—This invention pertains to that class of devices employed for elevating ores, minerals, earthy matter, and other substances from mines, wells, excavations, and subterranean places of all kinds.

Claim.—The combination of the recesses *b b* with the rails A A A2, or their equivalents, substantially as herein shown and described.

Also, the employment of the wheels G, in combination with the above-named parts, substantially as herein shown and described.

Also, the employment of the skip or car B, in combination with the above-named parts, substantially as herein shown and described.

No. 44,413.—Matthew Fletcher, Louisville, Ky.—*Hay Presses.*—September 27, 1864.—The claim and engraving illustrate clearly the nature and object of this invention.

Claim.—The combination of a toggle press with a revolving table, sustaining a series of packing boxes, arranged and operating substantially in the manner and for the purpose set forth.

No. 44,414.—Edward S. Franks, Boston, Mass.—*Pipes, or Smoking Apparatus.*—September 27, 1864.—This invention relates to an arrangement of a metallic pipe bowl, set in a circular frame or ring, so as to slide up and down. A metal tube forming a part of this frame extends up through the middle of the pipe bowl, which also slides upon it, this tube also extending down into a receptacle for water, to the top of which it is fastened; it is open at both ends, and near the upper end are side orifices, through which the smoke is drawn, whence it passes down the tube into and through the water, which may be perfumed, and thence up into the eduction tube to the mouth of the smoker. The main feature of novelty in the arrangement is the adjustment of the bowl with reference to the central tube, so that the smoke can pass readily into it as the tobacco is burned away, and the ashes kept from falling into the water receptacle.

Claim.—A pipe having its stem and bowl arranged and applied in manner and so as to be adjustable relatively to one another, as specified.

Also, the combination of the adjustable bowl and stationary stem, or the equivalent thereof, with the vessel B and its mouth-pipe, arranged substantially and so as to operate as specified.

No. 44,415.—Jim B. Fuller and James P. Upham, Claremont, N. H.—*Mode of separating Fibres of Hemp, Flax, &c.*—September 27, 1864.—This invention consists in first softening the gummy matters which unite the fibres, and then subjecting them to the action of a picker while still moist.

Claim.—Effecting the separation of the fibres of hemp, flax, and other similar substances, by subjecting them, while in a wet or moist condition, to the picking or beating action of an ordinary cotton picker, lapper, or willow, or ordinary shoddy picker, or any machine or machines of similar nature, substantially as and for the purpose specified.

No. 44,416.—P. W. Gengembre, Boston, Mass.—*Bodkins for passing enlarged Shanks of Buttons through Cloth.*—September 27, 1864.—This instrument is applicable to buttons having lateral projections on their shanks, to pass through the cloth, and consists of a pointed bodkin with a tubular butt, the tubular portion being divided longitudinally, and each section having an eye, near centrally its larger end, to receive the lateral projections of the shank, and being capable of springing sufficiently to receive and release such shank at will.

Claim.—The implement or piercers made with the springs or clasps *h h* and eye or eyes *f*, or the equivalent thereof, the same being substantially as and for the purpose specified.

No. 44,417.—Benona S. Gleason, Kalamazoo, Mich.—*Forming and Double-seaming Stove Boilers.*—September 27, 1864.—This invention consists of a frame composed of three parts, and is of an oblong shape, the end sections being semicircular, one of which is hinged to the middle section, while the other, by means of flanges passing between projections on the said middle section, is allowed to be thrust from or retracted towards the latter, by turning a screw which connects the two together, the frame by this means being made to fit tightly the interior of the boiler to be operated on.

Claim.—Hinging a semicircular section *a* to the sides of the central section *b*, in combination with the screw *e*, and movable section *c*, and key *f*, as and for the purposes set forth.

No. 44,418.—Levi Goodrich, San José, Cal.—*Building Brick Walls for Houses.*—September 27, 1864.—This invention consists of a method of constructing hollow brick walls, braced with lattice work of wood or iron, in such a manner that said walls shall be more cheaply constructed, of greater strength, and productive of more comfort, when used in dwelling-houses, than ordinary walls.

Claim.—The employment or use of hollow brick walls of angular, diagonal, lattice or herring-bone bridging; or, in other words, bracing or tying with wood, iron, stone, or other material laid in the mortar-joints while the walls are in course of erection, substantially as and for the purpose herein set forth.

Also, the internal brick piers or buttresses *e*, when used in connexion with hollow walls and ties or braces, substantially as and for the purpose specified.

No. 44,419.—John Goss, Lewiston, Me.—*Parlor Cooking Stove.*—September 27, 1864.—This invention consists of an arrangement of flues and dampers in an upright square or oblong stove, designed both as a heating and cooking stove having an oven underneath the ash-pan, around which are ascending and descending flues, and in the upper part of which latter is a damper to produce direct or indirect draught. In the top of the oven is a slide opening for allowing the ashes to fall through into a pan set in the oven while the door is closed, to prevent dust from flying into the room.

Claim.—The arrangement of the fireplace ash chamber, oven, and flues, as described, in combination with the passage L and its closing valve or gate M, applied directly to the bottom of the ash chamber and top of the oven, substantially as and for the objects or purposes as hereinbefore specified.

No. 44,420.—Israel Hayes, Farmington, N. H.—*Shoe Shave.*—September 27, 1864.—The object of this invention is to obtain a shoe shave, operating as well on the heels of boots and shoes as on the edges of the sole. It consists in a curved knife connected with an adjustable guard plate, serving as a guide. The under surface of the knife is rounded near the plate, so as to admit of the knife being turned to conform to the edge of the sole all around and in the shank or hollow of the same, and also in the three curves of the stock.

Claim.—The knife B, fitted to the part *b* of the stock, as shown, and connected with an adjustable guard plate C, all arranged and applied substantially as and for the purpose herein set forth.

Also, the rounding of the under surface of the knife B and the plate *d*, substantially as and for the purpose set forth.

Also, constructing the stock A of three parts, *a b f*, curved substantially in the manner as and for the purpose specified.

No. 44,421.—Isaac H. Hobbs, Philadelphia, Pa.—*Apparatus for Separating and Collecting Gas from Petroleum.*—September 27, 1864.—This apparatus consists of an exhaust or vacuum vessel, a pipe leading to the oil in the well, a lift and force pump, and a vessel provided with a pipe to carry off the gas, and a pipe to carry off the oil.

Claim.—The employment of a lift and force pump C, between the exhaust or vacuum vessel A and the receiver B, the whole being constructed, arranged, and combined to operate together in the manner described, for the purposes specified.

No. 44,422.—H. L. Hopkins, San Francisco, Cal.—*Amalgamator.*—September 27, 1864.—This invention consists of a cylindrical case, having its interior provided with dies between narrow spaces, and within the case is placed a rotary oblique muller provided with shoes. The muller is formed of an ellipse placed obliquely on the shaft, with its periphery composed of a portion of a cylinder, which is concentric with the shaft.

Claim.—The muller B, formed of an oblique section of a cylinder, or, in other words, formed of an ellipse placed obliquely on a shaft C, with its periphery composed of a portion of a cylinder, which is concentric with said shaft C, in combination with the cylindrical case A, all arranged substantially as and for the purpose set forth.

Further, the plate or dies *b*, with the spaces *c* between them, in the cylindrical case A, and shoes *d*, on the muller B, when said parts are applied to or used in combination with the case and muller, for the purpose specified.

No. 44,423.—Lorenzo Horn, Wolfsboro', N. H.—*Screw for Music Stools.*—September 27, 1864.—This invention consists in constructing a screw with the lower portion without the thread cut upon it, so that the screw and seat will revolve and not run entirely out of the screw-nut and fall upon the floor.

Claim.—Retaining the seat of a music stool in its proper place after the screw has been run up out of the thread in the nut, substantially in the manner and for the purpose herein described and set forth.

No. 44,424.—Wm. Hosmer, Auburn, N. Y.—*Cook Stove.*—September 27, 1864.—This invention consists of a common cook stove or range, having over the fire chamber two plates, which slide over one another, to one of which is fastened a pendent plate, which reaches down to the bottom of the fire chamber; the dimensions of the fire chamber may be altered by these means. There is a flue on the top of the stove, extending the whole width of it, and provided with a series of transverse dampers, which close it entirely when they are raised, except a small space at one end of the dampers, the openings being alternately at opposite sides of the flue.

Claim.—First, the plates C C′, fitted within the fire chamber, and arranged substantially as shown, for the purpose specified.

Second, the employment or use of a series of dampers D, placed within the flue B, and arranged substantially as and for the purpose set forth.

Third, the combination of the dampers D in the flue B with the plates C C′ in the fire chamber, as and for the purpose specified.

No. 44,425.—David R. Hoxsie and Thomas L. Reed, Providence, R. I.—*Flexible Tube or Hose.*—September 27, 1864.—This invention consists of a spiral wire tube covered with braided cotton and varnished over which is drawn animal intestines, prepared by treatment with a solution composed of alum, salt and water. To render the covering more perfect, the intestines may be treated with a composition of Peruvian bark, oak bark, wormwood, gentian root, tobacco, and water.

Claim.—The use of animal intestines as an impervious covering for tubing or hose, as described.

No. 44,426.—Charles H. Hudson, Roxbury, Mass.—*Defensive Armor.*—September 27, 1864; patented in England May 27, 1862.—In this armor water is introduced betwen plates which are held apart and divided by angle iron.

Claim.—First, the method herein described of re-enforcing or backing heavy metallic ships' armor at pleasure, by introducing water into chambers between the outward armor-plating and the inner wall of the hull, to prepare the vessel for action, and discharging the water from said chambers when the vessel is not to be exposed to danger from projectiles, substantially as and for the purposes herein described.

Second, the aforesaid method of re-enforcing or backing heavy metallic armor, when applied to forts and batteries, substantially as and for the purposes herein described.

No. 44,427.—George Hughes, Bloomington, Ill—*Fumigator for Smoking Bees.*—September 27, 1864.—This invention consists of a fumigator to be held in the mouth of the person handling bees. The mouth-piece is to be made of some non-conducting material; a portion is made to detach from the body so as to put in the combustible material.

Claim.—First, the fumigator A, provided with the perforated plate *a*, constructed and operating substantially as shown.

Second, the cap B, provided with the perforated mouth-piece C, substantially as and for the purpose set forth.

Third, the wooden mouth-piece C of a fumigator, having the orifice *b* constructed in the form shown and described, for the purpose set forth.

No. 44,428.—H. C. Hunt, Amboy, Ill.—*Weather Strips for Doors.*—September 27, 1864.—This invention consists in attaching a plate by means of joints to the lower part of a door, and having a spring applied to the door behind the plate, all so arranged that when the door is closed the plate will be in a vertical position in front of the door sill and effectually prevent wind or rain from passing underneath it, while, as the door is opened, the plate will be raised by the action of the spring, so as to be above the sill, and not come in contact with it.

Claim.—The plate *c'*, when used in connexion with the packing *g*, for the purpose specified.

No. 44,429.—W. W. Huse, Brooklyn, N. Y.—*Cutting and Pressing Tobacco.*—September 27, 1864.—The object of this invention is so to construct a machine that it can be used for pressing the tobacco and then for cutting it, as it is necessary that it should be pressed into a compact state before it is cut. It has been the practice heretofore to use two independent machines, one to press and the other to cut, but with this machine, by simply changing the position of some of the parts, both operations can be effectually performed with one machine.

Claim.—Mounting the nut of the feeding and pressing screw in a bale, which can be changed from a vertical to a horizontal position, substantially as described, in combination with the cutters and with the frame, so constructed as by the change of position of the bale which carries the nut of the screw, and moving the bed of the cutting trough, as set forth, the said machine can be used for pressing or cutting tobacco, as set forth.

No. 44,430.—Sumner Hyde, Williamsburg, Mass.—*Parlor Stove.*—September 27, 1864.—This invention relates to an upright cylindrical stove for burning fine fuel, such as shavings, sawdust, fine coal, or coal-dust, and consists in the employment of an inner and outer case, between which there are vertical partitions, dividing the space between them into several compartments, the larger of which have no communication with the outer air, but serve merely to radiate the heat to the outside casing; but to the smaller compartment air is admitted through apertures in the bottom of the space between the partitions. In connexion with the above is a register grate, composed of two flat plates having slots cut in them, which plates are so arranged as to serve not only to regulate the draught, but also as a raking device for receiving the ashes, &c., from the grate, the lower plate being movable from the outside.

Claim.—First, the inner cylinder C, composed of a series of vertical sections *a*, provided with radial plates *c* at their outer sides to form partitions and divide the space between the two cases into compartments *d e*, which communicate with the interior of the stove by perforations *f f'*, the compartments *e* communicating with the ash-pit D, and all arranged substantially as and for the purpose specified.

Second, the register at the bottom of the stove composed of the two plates E F, provided with perforations substantially as described, when used in combination with the two cases B C, with the vertical partition plate *c* between them, substantially as and for the purpose set forth.

No. 44,431.—William Jones and Abraham Miller, Hagerstown, Md.—*Hulling Clover and other Seeds.*—September 27, 1864; antedated September 21, 1864.—This invention consists in the arrangement of a series of rake heads or bars, with teeth projecting on both sides, hung upon or operated by cranks or crank shafts, and thus having both a longitudinal and vertical motion like that of a horizontal connecting rod uniting two cranks. Combined with the above is an arrangement of rakes with other devices for the purpose of stemming and separating clover seed at the same time it is hulled, threshed and cleaned.

Claim.—First, the series of rakes D, bars E, provided with teeth *e* projecting above and below, in combination with the crank shafts F and notched bars D, substantially in the manner and for the purposes set forth.

Second, the above-described separator in combination with the thresher, huller, and cleaner, substantially as specified.

No. 44,432.—Henry J. King, Worcester, Mass.—*Water Metres.*—September 27, 1864.—In this apparatus a shaft passes through a tube centred at each end upon a pivot and having its bearing upon arms proceeding from the inner periphery of the tube or pipe, has for a determined distance from its delivery end a spiral or screw flange. Near the other end is an endless screw which engages with and revolves a worm wheel in a suitable chamber, by which a worm wheel or index is made to register the quantity of water passing through the pipe, which quantity is determined by the ascertained quantity conveyed by each revolution of the shaft.

Claim.—The shaft B, provided with the screw flanges C, in combination with the endless screws E, worm wheel F, and indicating mechanism, substantially as and for the purposes described.

Also, the arrangement of the shaft B with the pipe A, having its inlet and outlet passages, as set forth, in combination with the chamber G of the main gear wheel F, substantially in the manner and for the purpose described.

No. 44,433.—Elijah Knapp, Jamestown, N. Y.—*Corn Sheller and Separator.*—September 27, 1864.—This invention consists of a cylinder provided with teeth set spirally in a box or case, with suitable weights placed over the cylinder for the purpose of keeping the ears of corn in contact with the cylinder. The cobs are passed out at the end of the cylinder. The shelled corn falls upon a screen and is subjected to a fan blast which separates the chaff from the corn.

Claim.—The weights D, in combination with the threshing cylinder B, to operate substantially as and for the purpose herein set forth.

Also, the fan blower G, in combination with the spout E, shelling cylinder B, and weights D, all arranged substantially as and for the purpose specified.

No. 44,434.—R. J. La Mothe, New York, N. Y.—*Car Axles.*—September 27, 1864.—The object of this invention is to obtain much greater strength and to remove liability of fracture, without any increase in the weight of the shaft or axle. The invention consists in a series of tubes, shrunk one over the other, so as to form a car axle or shaft that will not easily break or bend, and is much stronger than the solid axle, is not any heavier, and under most circumstances can be made considerably lighter than the ordinary axles.

Claim.—A series of tubes introduced within or over each other, to form an axle or shaft, substantially as specified.

Also, a separate sleeve *l*, shrunk upon the axle, and forming a journal that can be removed when worn out, as specified.

No. 44,435.—George R. H. Leffler, Baltimore, Md.—*Distilling Turpentine from Wood.*—September 27, 1864.—Pine or other wood is first thoroughly saturated with water or steam. After boiling or steaming, the wood is placed in a retort and distiller so as to drive off the turpentine.

Claim.—Distilling turpentine directly from wood saturated or thoroughly moistened with steam or water, substantially as set forth.

No. 44,436.—Joseph Loewenherz, Hoboken, N. J.—*Salve for the Eyes.*—September 27, 1864.—This invention consists of a composition of goose fat, cinnabar, red oxide of mercury, flowers of zinc, white mercury, and opium.

Claim.—A salve for the eyes, composed of the within-described ingredients mixed together, substantially in the manner and about in the proportion as set forth.

No. 44,437.—John Maxwell, Amsterdam, N. Y.—*Means of Oiling Knitting Machine Burrs.*—September 27, 1864.—The claim and engraving fully represent the invention. The oil chamber is placed in the stationary spindle or axis, instead of in the burr itself, as usual.

Claim.—First, the application of a movable cover *g* to a knitting burr, having a tubular oil-supplying axis, about which the burr revolves, substantially as described.

Second, the combination of a cap *g*, tube *c*, and tubular spindle or axis B, with a knitting burr, substantially as described.

Third, the combination of shoulder *a* and tubular axis B with a knitting burr having a cap applied to it for closing said axis, substantially as described.

No. 44,438.—Thos. H. McBride and David Baldwin, East Birmingham, Penn.—*Camera Stand.*—September 27, 1864.—This invention consists in the addition of a lever to elevate or depress the front or rear end of the table, at the option of the operator.

Claim.—The use of the two independent supporting levers *g* and *f*, in combination with the adjusting platform *b*, the whole being arranged substantially as described, for the purpose set forth.

No. 44,439.—John McClelland, Washington, D. C.—*Fire Plugs.*—September 27, 1864.—The object of this invention is to secure the nozzles from injury when not in use, to use one or more nozzles, as circumstances may demand, and to enable them to discharge from the distributing chamber such foreign substances therein accumulated as could not pass through the nozzles. The novelty consists in the employment of an enclosing casing; the providing each discharging aperture with an independent check-valve; the movable face plate of one side of the distributing chamber; the curved ways or guides provided with flanges; the check-valve with grooves formed in their upper edges, and the handles combined with the valve crank, and the sides of the distributing chamber.

Claim.—First, the combination and arrangement of the enclosing casing with the sides and top of a hydrant, whereby the nozzle or nozzles of the hydrant shall be covered and protected when the hydrant is not in use, substantially in the manner herein set forth.

Second, providing each discharging aperture of a fire-plug with an independent check-valve, substantially in the manner and for the purpose herein set forth.

Third, the face-plate D, forming one side of the distributing chamber S, arranged and combined with the said distributing chamber, substantially in the manner and for the purpose herein set forth.

Fourth, the combination of the curved ways or guides O O with the edges of the check-valves L L, when the said ways or guides O O are provided with flanges, which are received in grooves formed in the upper edges of the valves L, substantially in the manner and for the purpose herein set forth.

Fifth, the arrangement and combination of the handles P, with the valve cranks N, and the sides of the distributing chamber S, of my improved hydrant, substantially in the manner and for the purpose herein set forth.

No. 44,440.—George Rodney Moore, Lyons, Iowa.—*Stove-Pipe Connexion.*—September 27, 1864.—This invention consists in the connexion for a stove-pipe, which by reversing the parts makes an elbow or a straight pipe, as desired. The part of the cast pipe attached to the stove is made square, and the end is cut off at an angle of 45°, the under being the longer side. The detached part or section of pipe is made square at the end, and cut in the same manner to correspond and fit over the square pipe on the stove. The other end is made round if desired, to fit into an ordinary stove-pipe. In the square part on the stove is a bolt fastened firmly at an angle of 45°, across the middle of the pipe in an opposite direction to the diagonal side, and when the detached part is connected, the bolt runs through it and holds it by a nut to its place, either in a horizontal or vertical position.

Claim.—The reversible connexion of B and C with A, substantially in the manner and for the purposes herein set forth.

No. 44,441.—George Neilson, Boston, Mass.—*Kerosene Burners.*—September 27, 1864.—This improvement consists in extending the conical deflector from the top of the wick tube down to the base of the shell, and attaching it thereto.

Claim.—Extending the conical deflector J from the top of the wick tube down to the base of the shell, and attaching it thereto, substantially as and for the purpose described.

No. 44,442.—David Nelson, Port Washington, Ohio.—*Plough.*—September 27, 1864.—This invention consists in forming a socket in the front end of the share, and securing therein a steel point by means of a pin or key, so that it can be readily removed for sharpening.

Claim.—A ploughshare cast with a socket, for the purpose of receiving and securing a steel point, in the manner and for the purpose herein set forth.

No. 44,443.—William T. Nicholson, Providence, R. I.—*File for Dressing Metal.*—September 27, 1864.—This invention consists in so cutting the file that the ranges of teeth are separated by bands or spaces, which vary from each other in width in a fixed and regular ratio of increase from point to heel.

Claim.—A file whose ranges of teeth are separated by bands, which vary from each other in width by a fixed and regular ratio of increase or decrease, as herein set forth and described.

No. 44,444.—O. E. Noble, Penn Yan. N. Y.—*Machine for Pulverizing and Levigating Substances.*—September 27, 1864; antedated September 16, 1864.—This machine is intended for reducing to impalpable powder small quantities of substances, such as medicines, mineral specimens, &c. A small steel mortar, to be perfectly closed by joining the two halves as shown, has inside a pestle or core. The material to be pulverized is placed in the mortar with the pestle, and the whole placed in and fastened to the receptacle or frame. This

frame is then very rapidly vibrated by the machinery. The pestle is thereby made to move rapidly in the mortar, and thus pulverize and attennuate whatever is therein contained.

Claim.—First, the wheels B and C, and slotted rod D, when arranged as specified and used for the purpose set forth.

Second, the receptacle E, mortar H, pestle I, cylinder K. and concave M, when made as specified, and used for the purpose set forth.

No. 44,445.—Joseph W. Norcross, Boston, Mass.—*Attachment of Sails.*—September 27, 1864.—This invention consists of a metallic groove on the mast or boom, &c. This groove takes in slides; the usual mast hoops being dispensed with, the groove and slide forming the attachment of the sail.

Claim.—First, the ground ribs B B′, applied to the mast, and also to the boom and gaff, if desired, and arranged to receive the bearings C C′ D, in the manner and for the purpose substantially as described.

Second, the caps *c*, applied to the small carriages D, substantially in the manner and for the purpose specified.

No. 44,446.—Joseph W. Norcross, Boston, Mass.—*Rowlock.*—September 27, 1864.—The rowlock is inserted in an iron bracket, the flange of which confines it fore and aft, leaving it with a lateral movement. There extends from the rowlock an arm or rod, connected by a cord to a spring in a cavity below the gunwale, which spring restrains the lateral movement, so that the rowlock cannot turn in a line across the keel of the boat. The rowlock can be inserted into a bracket, which bracket extends the range of the pressure therein of the working of the oar.

Claim.—First, the application of the segmental flange C and grooved bracket D, in combination with a rowlock B of any desirable construction, substantially as and for the purpose set forth.

Second, the spring *c*, applied in combination with the rowlock B, in the manner and for the purpose substantially as shown and described.

No. 44,447.—J. D. O'Donnell, Washington, D. C.—*Retort Stands.*—September 27, 1864; antedated September 16, 1864.—This invention consists in making the rings of laboratory retort stands as shown in the engraving, so that the different sized rings may be moved up or down without removing the intermediate rings from the upright support.

Claim.—Making the rings and sliding clamps separate, the rings having ends of shanks bent to form hook, the slides C having the extra orifice G, which, with set crew F, form a clamp, combining thus with orifice H a slide of old style, as connected with ring of old stand and a clamp; the first moving up and down the rod B. and securing by set screw E the slides C at any point, the latter admitting the hook on end of shank I to ring D, and forming by means of set screw F the ring and slide combined, gaining all the advantage before claimed and operating as before described.

No. 44,448.—L. H. Olmsted, Newark, N. J.—*Friction Clutch.*—September 27, 1864.—This invention consists in constructing a pulley with two flanges, one within the other, placed at a sufficient distance apart to admit a friction block, to which is fastened a stud, the axis of which passes through an arm fastened to the shaft. At the outer end of the stud is fastened a lever, operated by a wedge passing through said arm near the shaft. A set screw is placed in the arm so as to bear against the wedge, and arranged so that it may be turned up as the wedge wears away by use. By pushing the wedge through a hole in the arm the lever is forced out and the friction block made to bear against both flanges at once, whereby sufficient friction is caused to connect the pulley with the shaft. When the wedge is withdrawn a spring which is connected with the lever throws it back, thereby relieving the friction block from the flanges, and consequently allowing the pulley to turn upon the shaft.

Claim.—First, the combination of the pulley A and friction block D of a friction clutch, for the purpose set forth.

Second, the combination of the friction block D, lever F, and wedge E of a friction clutch, for the purpose set forth.

44,449.—P. P. Parkhurst, Milford, Mass.—*Heating Stoves.*—September 27, 1864.—This invention consists of a series of vertical tubes, which form a communication between the fire chamber and a drum or hot-air chamber, placed some distance above the fire chamber. Also of a tube or pipe, which extends vertically upwards from the centre of the hot-air chamber, and which is provided with two dampers to regulate the draft. Also of two tubes, which extend upward from opposite sides of the fire chamber, communicating with the vertical tube which extends up from the centre of the drum or hot-air chamber between the two dampers.

Claim.—The series of tubes D communicating with the fire chamber A and drum or hot-air chamber E, in connexion with the pipes H H F and dampers G G′, all arranged substantially as herein set forth.

No. 44,450.—A. F. W. Partz, Wurtsborough, N. Y.—*Ore Crushers.*—September 27, 1864.—The object of this invention is to crush ores by the combination of a grinding and crushing motion; and it consists in attaching to the driving shaft of the machine an eccentric, which operates a movable crushing jaw, so that it has a horizontal as well as a vertical movement, whilst the crushing jaw is held by a support on the back side, so that it is always at the same distance from the adjustable block, thus crushing the ore to the desired fineness between the crushing jaw and the adjustable block.

Claim.—Giving to the movable block E a combined crushing and grinding motion, by means of the eccentric shaft C upon which it is suspended, and the rear rocking support F, substantially as described.

Also, the horizontally-adjustable block H, in combination with the movable block E, when supported by the rocking rear support F, substantially as described.

No. 44,451.—JOSEPH S. PENDER, New York, N. Y.—*Mariner's Compass.*—September 27 1864; antedated September 19, 1864.—This invention consists in surrounding the needle with a globe of iron, for the purpose of intercepting magnetic influence from masses of iron on board ship. The globe has an opening at the top sufficiently large to display the compass card and allow the operation of the earth's magnetism upon the needle.

Claim.—Suspending the needle in the manner described within a spherically formed case of iron hung as set forth, said case having an opening at top sufficiently large to display the compass card and to permit the earth's action upon the needle, all as set forth.

No. 44,452.—WORDEN P. PENN, Belleville, Ill.—*Harvester.*—September 27, 1864.—This invention relates to the particular arrangement, in connexion with the adjustable triangular frame of a one-wheel machine, of certain specified devices, for throwing the cutters in and out of action.

Claim.—First, the combination of lever E, frame A, clutch $b\ c$, and laterally sliding wheel D, with the wheels $g\ g2$ and h, arranged and operating substantially as described, or their equivalents.

Second, in a single-wheel adjustable frame machine, the use of adjustable lever E, with the clutch wheels C D, and means applied to said lever for establishing it in the desired position.

No. 44,453.—W. H. PITKIN, Providence, R. I.—*Mode of Breasting Heels.*—September 27, 1864.—This invention consists in a vertically sliding gate, provided with a knife and guard, and in a longitudinally sliding adjustable jack, in combination with the vertically sliding reciprocating knife.

Claim.—First, the vertically sliding gate D, with knife E, and guard F, constructed and operating in the manner and for the purpose substantially as herein shown and described.

Second, the longitudinally sliding adjustable jack G, in combination with the vertically sliding reciprocating knife E, constructed and operating substantially as and for the purpose set forth.

No. 44,454.—ABSALOM PURSEL, New Village, N. J.—*Brake for Horse-power.*—September 27, 1864.—The object of this invention is to connect the brake lever with the horse, in such a manner that when the main shaft of the power is suddenly relieved from all opposing strain, as soon as the horse falls back, the brake is applied. In ordinary horse-powers of that class, in which the horse or driving animal walks on an endless slotted apron, constant attention is required to prevent the horse from being injured, if by some cause the main driving pulley supporting the endless apron is suddenly relieved of all resistance by the breakage of a belt or other accident. In that case the horse is thrown back violently, and liable to be injured, unless, by the application of a brake, the motion of the main driving pulley and of the endless apron is checked.

Claim.—So combining the brake lever H, and the cord I, connected at the breeching, that when the horse falls back the brake is applied, and when the horse goes ahead the brake is taken off.

No. 44,455.—AMOS RANK, Salem, Ohio.—*Railroad Chair.*—September 27, 1864.—The object of this invention is to so construct a two-part railroad chair, having cheeks for supporting the rail head on each side, that the base of one part of this chair shall interlock and break joint with the base of the opposite part thereof, thus affording a firm and substantial base support for the rail at the joint. Another object of this invention is to construct a two-part double-cheek rail chair, which, when secured down in place at the joints of the rails, shall support the same at the base, at the web or neck, and also at the lips of the rail head, said supports being so formed or applied that they shall all break joints with the rail joint.

Claim.—First, a two part railroad rail chair, which is constructed with double supporting cheeks $d\ d$, interlocking base portions $g\ g'\ g'$, and a laterally holding bolt b, passing through the neck of the rail, substantially as described.

Second, the combination of the tongues $g\ g'\ g'$, cheeks $d\ d$, flat bolt b and key pin h, with the slotted end rails A A, substantially as described.

No 44,456.—W. A. REASON, Chicago, Ill —*Composition for Forming Blackboards, Slates &c.*—September 27, 1864.—This invention consists of a composition of gum shellaç and

osin dissolved in a hot solution of sal soda in water, to which alcohol is added, and the whole allowed to cool. To this is added a mixture of pumice stone, rotten stone, charcoal, and lampblack, the whole being thoroughly ground and incorporated together.

Claim.—First, the employment of a combination of light and heavy grits in the manufacture of liquid slate, substantially as and for the purposes specified.

Second, the combination of gum shellac, rosin, alcohol, and alkali, with the grits and lampblack, as and for the purposes specified and described.

No. 44,457.—LAWRENCE REID, New York, N. Y., and JOHN ROGERS, Brooklyn, N. Y.—*Soap.*—September 27, 1864.—This invention consists in combining glue and caustic soda with common soap.

Claim.—The incorporating of gelatine or glue, as made previous to drying, in a fresh state, or a solution from the dry articles in sufficient quantity, as from five to fifteen per cent. of glue, and a proportion of caustic soda ley from three to nine per cent. of the specific gravity of 25 Baumé's hydrometer, the whole forming a uniform mass possessing the treble attraction of gelatine caustic soda and ordinary soap for dirt, and thus increasing quantity and improving quality, all done in the manner set forth in this specification.

No. 44,458.—LUTHER RUNDELL, Pike, N. Y.—*Machine for Breaking and Dressing Flax.*—September 27, 1864.—Each revolving beater has a portion of its edge thinned, to act as a dresser, two similar spring beds to support the material, extending both under the thick and thin edges; but each bed is separate from the other, and separately adjustable; the operator, by gradually working the material along from left to right, submits it first to the beating and next to the dressing operation.

Claim.—The wings D D of the wheel, provided with the thick edges b and the thin edges b', in combination with the breaking and dressing beds 1 2, made elastic and adjustable by the springs E, substantially as and for the purpose herein set forth.

No. 44,459.—GEORGE B. SARGENT, Boston, Mass.—*Embossing and Seal Press.*—September 27, 1864.—This invention consists in making the bed of a seal or embossing press of such form that an envelope can be inserted, so as to receive the impress from the die, on one thickness of the paper, without defacing the other parts.

Claim.—So constructing and arranging the platen that it may be readily inserted in an envelope, substantially as and for the purpose described.

No. 44,460.—JOSEPH SAXTON, Washington, D. C.—*Hydrometers.*—September 27, 1864.—The claim fully defines the nature of the invention.

Claim.—The hydrometer, composed of a floating bulb and an attached chain of graduated links to determine and indicate the specific gravities of liquids, or the percentage of alcohol they may contain, substantially in the manner set forth.

No. 44,461.—ANTON SCHWITTER, New York, N. Y.—*Rose Engine for Ornamenting Glass, &c.*—September 27, 1864.—The alleged improvement in this over ordinary rose engines, for ornamenting the surfaces of metallic ware, is the addition of rotary cutters, adapted to the cutting of glass.

Claim.—First, the use of a rotating tool in combination with an ordinary rose engine, arranged and operating substantially as and for the purpose set forth.

Second, the adjustable head d and swivel head g, in combination with the extension spindle I, carrying the tool H, all constructed and operating substantially as and for the purpose described.

Third, the slotted plate J, carrying the bearing for the tool spindle I, and arranged in combination with the slotted table A, in the manner and for the purpose substantially as set forth.

Fourth, the swinging shaft K, arranged in combination with the adjustable tool spindle I, in the manner and for the purpose substantially as herein set forth.

No. 44,462.—JASPER SCOVIL, Hamburg, N. Y.—*Seed Sower.*—September 27, 1864.—This invention consists in working the valves for discharging the seed, by means of worm screws and wheels, with the ploughs set in a triangular frame, and adjusted vertically by means of a lever secured in suitable catches.

Claim.—First, the perpendicular rotating fingers O, in combination with the worm shaft M and worm wheels N, deflecting boards P and Q, when constructed and operating in the manner and for the purposes described.

Second, the arrangement and combination of the spreading boards P and Q, with the seed box of a seeding machine, so as to catch the seed as it drops out of the seed box and spread it for sowing broadcast, substantially as and for the purposes set forth.

Third, the removable planting box S, having tubes s, and double and reverse acting slides T and T', so constructed and arranged that it may be attached to the frame of the seeding machine, so that the machine may be used for planting in hills, substantially as set forth.

Fourth, making the pendent plough-frame C hinged or jointed in the middle for the purposes set forth, when used in a seeding machine constructed in the manner described.

No. 44,463.—Abram H. Seaman, Coxsackie, N. Y.—*Water Elevator.*—September 27, 1864.—In this apparatus the bucket is pendent from a cord; the ends of the cord are secured to the crank shaft and held to the opposite sides thereof. A hook, attached to the bucket at the rear thereof and below the centre, has a downward direction, and the bucket being elevated, and then permitted to descend a little way, this hook catches upon a rod extending in the direction of the crank shaft or cylinder, and the bucket continues to tilt forward over the trough, the bottom pressing against another rod below and in the rear of the first, until emptied by attaining a horizontal position, when it falls from the rod, and descends into the well.

Claim.—The hook G, attached to the bucket D, in connexion with the rods H H′ in the box or curb A, and the shaft or windlass B, all arranged to operate in the manner substantially as and for the purpose herein set forth.

No. 44,464.—N. Mendal Shafer, New York, N. Y.—*Street Pavement.*—September 27, 1864.—This invention consists in the employment, for paving streets, &c., of diamond-shaped skeleton blocks, cast or otherwise manufactured, with steady pins or lugs on one side, and corresponding holes in the other side, and with semi-bottom flanges projecting over the edge on two sides of each block in such a manner that, in placing the blocks together, the steady pins of one catch into the holes of the adjoining one, while at the same time the projecting part of the bottom flange of each block catches under and supports that part of the adjoining block which is not supported by its own bottom flange. By these means a solid and durable pavement is produced. The blocks are strengthened by a longitudinal central partition which is nearly twice as thick as the side of the blocks, so that when the blocks are in position all the surfaces exposed to wear are as nearly as possible equalized, and an uneven wear is prevented. The sides and central position of each block are provided with depressions and impressions, so made that horses can obtain a foothold and be prevented from slipping, and said parts being the weakest in the block will wear away somewhat in advance of the other, heavier parts, and the block will thus preserve the requisite roughness until it is completely worn out.

Claim.—First, the use, for paving streets, &c., of diamond-shaped blocks A, provided with steady pins *b*, holes *c*, and semi-bottom flanges B, in the manner and for the purpose substantially as herein described.

Second, the combined depressions and impressions *d e* in the sides and partitions of the blocks, to prevent the surfaces of the same from wearing smooth, as described.

No. 44,465.—Albert M. Smith, Brooklyn, N. Y.—*Mechanism for Starting Sewing Machines.*—September 27, 1864.—The nature of this improvement will be understood from the claim, in connexion with the engraving.

Claim.—First, so constructing and attaching to the shaft on which the balance or other wheels are placed for operating the machine a movable arm, in which a bail is fitted loosely in a conical recess, being kept by its own gravity in contact with the rim of the wheel, so that by moving the arm forward it becomes wedged between them sufficiently to move the wheel with it, and start the machine in the right direction, substantially as described, or in any manner equivalent thereto.

Second, in connexion with the above, the arrangement for moving and operating the arm from the top of the table.

Third, the latch or thumb-piece whereby the ball is raised and held from its contact with the rim of the wheel, so that it can be moved back when desired.

No. 44,466.—H. D. Snow, Rochester, N. Y.—*Steam Engine Governor.*—September 27, 1864.—The object of this invention is to provide a governor for steam engines, in which the pressure of the steam in the boiler is used to counterbalance the centrifugal action of the revolving balls. Its novelty consists in the use of steam instead of the various forms of metallic springs usually employed for that purpose. The object is effected in the following manner: the shaft, which is in a horizontal position, is placed in a suitable frame, and through the centre of this shaft is a slot, through which passes the arm, to each end of which a ball is fastened. To one end of the arm is a link which is pivoted at its opposite end to a sliding shaft, made to work inside of the shaft to which the ball is attached, a head connecting it with the throttle valve of the engine. Inside of this head, and attached to the frame of the governor, is a cylinder, the piston head for which is firmly secured to the sliding shaft, which passes entirely through the cylinder, and is kept tight by means of a stuffing-box on its inner end. The steam is admitted between the piston and the end of the cylinder which has the stuffing box, and acts in direct opposition to the centrifugal force of the balls, thus opening or closing the throttle valve, as occasion may require, for controlling the speed of the engine.

Claim.—The employment of steam pressure in marine governors, as a means for counterbalancing the centrifugal force of the revolving balls.

No. 44,467.—Amos Stocker, Watertown, N. Y.—*Ventilating Boots and Shoes.*—September 27, 1864.—This invention consists in providing a boot or shoe with a bellows, operated upon by the foot, for the purpose of changing the air through the inside: and in an air tube, passing through the inner sole, with air holes at the toe.

Claim.—First, a boot or shoe, in combination with a bellows acted upon by the foot, for the purpose of changing or causing fresh air to pass through the inside of a boot or shoe, as set forth.

Second, the air tube passing through the insole, with the air holes at the toe, as described.

No. 44,468.—Wm. H. Stevens, Danbury, Conn.—*Apparatus for Stretching Hat Bodies.*—September 27, 1864.—The stretcher consists of a form, made in two sections; the external part of such form being notched or grooved obliquely upward and inward, to retain a hold on the flexible material. Each section is controlled in its movements by an arm of bent wire attached to the outside of its base, and ascending and inclining to the centre above, where both arms move upon a single horizontal pivot; a tongue at the base of each section, moving in a slot in said frame; beneath this, a treadle, placed transversely to the movement of the stretcher, has a cord attached to each side of its free end, the said cord passing over a pulley outside the range of the stretcher, and thence to the stretcher, to which it is attached. The treadle is operated by a crank shaft moving upon an axis, in or over the treadle, at a suitable point, its upper end moving upon and revolving with a pin upon the side of a pulley above it: thus the sections of the stretcher may be drawn apart and closed by a reciprocating movement, of any speed desired.

Claim.—Operating the blocks or stretchers C C through the medium of the straps or cords D D, arranged with the pulleys E E, and used in combination with the lever F, pitman G, and crank pulley H, or their equivalents. for the purpose specified.

No 44,469.—T. A. Summers, Rochester, N. Y.—*Clothes Dryer.*—September 27, 1864; antedated September 16, 1864.—This invention consists in placing one or more sockets upon a vertical axis, and inserting within the sockets suitable bars for holding the clothes; the bars can be detached by simply raising the outer end.

Claim.—The arrangement of the pivoted receiving socket D, constructed as and for the purposes specified, with the bar B, axial bolt or rod E, and the bucket A.

No. 44,470.—Eugene B. Turner, Attica, Ohio.—*Horse Hay Fork.*—September 27, 1864.—This invention relates to the construction of and means of operating the fork. The two middle tines of the fork pass through the head, and are bent to form a loop behind, by means of which the fork is attached to the handle, so as to swing. The handle is slotted at its upper end, and in the slot a pin moves up and down freely, to which a rope is attached, the ends of which are fastened to the head of the fork. A long bar is attached to the upper end of the handle, having a notch near its upper end which holds the pin in place in the slot when the fork is in working position, but when raised allows the pin to drop, and thus frees the fork and its load.

Claim.—First, the use of a pivoted lever *d*, having a shoulder formed on it at *f*, in combination with the fork handle B, constructed with a sliding pin *g*, and a hinged fork, substantially as described.

Second, connecting the fork to its handle B by means of a loop *a*2, hook *k*, and notches formed in the handle, substantially as described.

Third, the combination of the slotted handle B, pivoted latch lever *d*, slide *g*, connexions *h h* and *k*, and the hinged fork, substantially as described.

No. 44,471.—David W. Thompson, Somerset, Penn.—*Mill-stone Dress.*—September 27, 1864.—This invention consists in a mode of ventilating mill-stones by surrounding the eyes of the runner and bed stones with an annular grooved space, cut at a centre distance from the axis, in the face of the stones.

Claim.—First, cutting in mill-stones for grinding annular grooves, whether in the runner, in the bed stone, or in both, substantially as and for the purposes described.

Second, the combination of the annular groove with the leading furrows of any dress, when the one intersects the other, substantially as and for the purpose set forth.

No. 44,472.—John Thompson and John Ramsey, Aledo, Ill.—*Corn Planter.*—September 27, 1864.—This invention relates to the dropping mechanism of the machine, which is so arranged that the rows are formed both ways by means of a rope or cord run across the field, with knots at each hill, and is wound up on a pulley on the machine.

Claim.—The employment or use of a wire or cord O, provided with knots at a suitable distance apart and applied to the machine, substantially as shown, in connexion with anchors S, all arranged substantially as and for the purpose set forth.

No. 44,473.—John N. Tilsworth, Aurora, Ill.—*Sad-iron Heater.*—September 27, 1864.—The design of this invention is to furnish for common domestic use a portable heater for sad-irons, which may be conveniently placed on the flat top of a stove or range, to receive the heat directly therefrom, being so constructed and arranged that the lids which cover one iron may be lifted, without disturbing the lids of other irons, and that each lid may be raised by the point of the iron, when it is introduced into the heater.

Claim.—As a new article of manufacture, a sad-iron heater composed of the casing A, and hinged covers *c c* D *d*, &c., with the outer edge of each cover projecting sufficiently beyond the case A, to allow it to be raised by the point of the iron, substantially in the manner herein set forth.

No. 44,474.—HENRY UNDERWOOD, Tolland, Conn.—*Button for Doors.*—September 27, 1864.—This device consists of a circular plate divided into two unequal parts, the larger one to be attached to the face of the door, and the smaller one to the casing or jamb; the straight edge of the one joining upon the face of the other. A short bar or button pivoted at one end near the lower edge of the larger plate rises upward, and crosses the joint thus formed at an angle of 45°, and rests against a stub on the smaller plate. The end of this button is so bevelled that, as the door is being closed, the smaller plate coming in contact with it, it will be forced back out of the way until it shall have been passed, when the button will of its own gravity fall back to its former position, and the door thus be fastened.

Claim.—A button B, attached at one end to a plate *a*, by a pivot *b*, and in an inclined position, and provided with a bevelled edge *e* at its outer end, in connexion with stops or projections *d d'*, on the plates *a* and *a'*, all arranged to operate substantially in the manner as and for the purpose herein set forth.

No. 44,475.—HENRY UNDERWOOD, Tolland, Conn.—*Lock.*—September 27, 1864.—In this lock the bolt is operated by a key through the instrumentality of an eccentrically shaped and partially rotating disk, a pin on the face of the bolt projecting outward and into an eccentric groove in said disk. There is also a sliding tumbler, by which the disk is locked and prevented from turning, except by means of the proper key.

Claim.—The cam C, provided with the eccentric slot *c*, and otherwise constructed as described, in connexion with the pin *d*, on the bolt B, all arranged to operate substantially as and for the purpose set forth.

Also, in combination with the cam C, the tumbler D, one or more provided with the stud *e*, and the ward *h*, and the notched slot *f*, in the cam to receive the stud, all arranged substantially as and for the purpose specified.

No. 44,476.—H. UNDERWOOD, Tolland, Conn.—*Door Latch.*—September 27, 1864.—In this latch there is a double-elbowed knob spindle, in two sections, the cylindrical end of one entering the tubular end of the other. An arm or lever projecting from the former passes outward through a broad slot cut in the tube of the latter, and enters a notch formed in the end of the latch bolt. By this arrangement the weight of the knobs resting upon the cranked spindle serves to keep the latch bolt projected outward, but on being slightly raised, will retract it in the usual manner.

Claim.—The crank-shaped knob arbor C, provided with the plate *e*, in combination with the slide bolt A, arranged substantially as and for the purpose herein set forth.

Also, constructing the knob arbor C, of two parts *c c'*, one part, *c*, being of cylindrical form at its inner end *d*, and having the plate *e* projecting from it, and the other part, *c'*, having a tube *g* at its inner end provided with a slot *h*, to receive the inner end *d* and plate *e* of the part C, all arranged to operate substantially as and for the purpose set forth.

No. 44,477.—WILLIAM VAN ANDEN, Poughkeepsie, N. Y.—*Mowing Machine.*—September 27, 1864.—A short inclined journal, supported at its rear end by the inner end of the driving wheel axle and at its forward end by a hanger attached to the front inner corner of the main frame, affords a bearing for the inner shoe which is cast in one piece, with a sleeve embracing said short journal, and turning freely thereon; this sleeve is furnished with a cam or spur, acted upon by a horizontally vibrating cam lever, which is in turn operated by an upright lever within convenient reach of the driver, and is for the purpose of raising the outer end of the cutting apparatus; the inner end of said cutting apparatus is raised at the same operation by means of a pin in the upright lever passing up an inclined plane formed on the sole or tongue.

Claim.—First, the short inclined journal E, united at its upper end directly to the axie B, and affixed at its lower end by a hanger G, to the frame A, in the manner and for the purpose described.

Second, the arrangement of the stationary axle B, short inclined journal E, and vibrating cutter-bar frame or shoe F, constructed and operating in the manner and for the purpose described.

Third, the combination of the link N, lever cam I J, and cam H, with the vibrating cutter-bar frame or shoe F, substantially in the manner and for the purpose described.

Fourth, the combination of the lever L, link N, lever cam I J, cam H, vibrating cutter-bar frame or shoe F, and journal E, substantially in the manner and for the purpose described.

Fifth, the arrangement of the cam H, and the horizontally swinging cam lever I J, with the vibrating frame or shoe F, and the journal E, substantially in the manner and for the purpose described.

Sixth, the combination of the inclined plane P, when attached to the pole of a mowing machine, with the hand lever L, and vibrating lever J, for the twofold purpose of lifting the front of the mower frame, and at the same time tipping the outer end of the cutter bar, as hereinbefore set forth.

No. 44,478.—ALBERT L. WEBB, East Troy, Wis.—*Sheep Rack.*—September 27, 1864.—This improvement relates to a peculiar construction of the rack, which affords the sheep as well as the feed a secure shelter from the elements, and having beneath and in front of the rack a trough extending the whole length, and open at the ends, and into which a scraper is fitted, by means of which the waste or refuse food is readily removed. The roof for the sheep is let down after the sheep have fed sufficiently, thus enclosing the remaining feed.

Claim.—The cross legs A A, feed racks E E, guard D, roofs R and X, trough T, and scraper Y, the several being constructed, arranged, and operated substantially as and for the purpose specified.

No. 44,479.—SETH WHEELER and EDGAR JEROME, Albany, N. Y.—*Horse Power.*—September 27, 1864.—This invention consists in constructing a horse-power with a movable panel or door inserted in one or both sides of the same, between the framing and rear end of the machine. Each movable panel is kept in its place by two cast-iron plates, provided with hooked projections on each lower end, to receive a bolt secured to the upright frame for the purpose of securing the same. The upper part of each plate is provided with a slot to receive a button which slides into the same, and keeps the panel in proper position. To remove it, it is only necessary to slide back the button and push the door in from the outside. The links and tread rails can then be raised up with great facility, the broken ones removed, and new ones replaced in less time than it would take to move the framing or take out and replace the guard rails

Claim.—Constructing horse-powers with one or more movable panels or doors, substantially as described and for the purpose specified.

No. 44,480.—GEORGE L. WITSIL, Philadelphia, Penn.—*Churn.*—September 27, 1864.—The construction of the churn is as follows: In an upright standard a lever is moved in a slot, one end of the lever is forked to carry journals to hold the upper end of the dasher shaft. This shaft is furnished with a spiral thread or wire, which in passing through a notch in the cover of the churn gives the dasher a rotary, together with a vertical motion. The blades of the dasher are perpendicular and at right angles with each other.

Claim.—The upright or standard B, the slotted lever C, its vibrating collar or sleeve H, in combination with the rod F, its spiral projection *e* and plunger G, the whole being constructed and arranged for joint action, as and for the purpose herein set forth.

No. 44,481.—WILLIAM ARCHER, assignor to himself and WILLIAM P. DOWNER, New York, N. Y.—*Refining Hydro-carbon Oils.*—September 27, 1864.—The object of this invention is to bring the oils in direct contact with the acid. A stratum of sulphuric or other heavy acid or liquor is placed in the bottom of a tank and the oil fed through a pipe which is armed at its lower end with a spreader, so that the oil is projected in a thin sheet upon the surface of the acid.

Claim.—The arrangement of machinery by which a thin sheet or film of hydro-carbon oil is, by centrifugal action, continuously made to flow over and to become thoroughly permeated and cleansed by a volume of sulphuric acid or other purifying element, in manner as described.

No. 44,482.—ELIZUR E. CLARK, assignor to FRANKLIN N. CLARK, New Haven, Conn.—*Umbrella.*—September 27, 1864.—A skirt or curtain is attached to an ordinary umbrella a little way within the drip, and descends nearly to the ground. It may be opened out all the way or part of the way down at one point, which should be kept in front, and an open port or lookout is provided at the upper part of this opening.

Claim.—The combination of a skirt with an umbrella, in the manner and for the purpose substantially as described.

No. 44,483.—JULIA A. W. FITZ, administratrix of the estate of HENRY FITZ, deceased, New York, N Y.—*Achromatic Lenses.*—September 27, 1864; antedated September 20, 1864.—This invention consists in making the corrections for achromatic and spherical aberations, by employing lenses with the outer surfaces so curved and combined as to admit of plain surfaces in the place of what are technically termed "the interior connecting curves," and by making the interior surface plain. The plain surfaces of fint and crown glass are cemented together, and a combination of two sets with different curves, with an adjustable diaphragm, placed at a suitable position between them, and arranged with their convex surfaces outward so as to obtan a wide angle of aperture, and to dispel a defect known to photographers as the "ghost."

Claim.—The method of correcting spherical and achromatic aberations and curvatures of field in cameras for taking photographic views, and for the various optical instruments, substantially as specified.

No. 44,484.—WILLIAM H. FORKER, Meadville, Penn., assignor by mesne assignments to HENRY BALDWIN, jr., Philadelphia, Penn.—*Car Coupling.*—September 27, 1864; antedated September 18, 1864.—This invention consists of a drop-pin, connected by a joint to an arm pivoted at the upper part of the draw-head, and having a spring bearing against the under side of its back part.

Claim.—The combination of the arm C and spring D, hinged drop-pin D', and projection *e*, constructed and arranged as described, and operating in connexion with the draw-head A, and link or shackle B, in the manner and for the purposes specified.

No. 44,485.—G. C. Overhiser, assignor to himself and George W. Gregory, Binghamton, N. Y.—*Oil Can.*—September 27, 1864.—The nature of this improvement consists mainly in adding a sliding collar to the end of the oil can spout, with a small hole discharging into a smaller spout, which hole registers at will with another small hole in the main spout, the sliding collar being actuated by a rod and spiral spring, a lever and connexions so as to be under the control of the operator.

Claim.—First, the sliding collar, as described, with or without the spout, in combination with the tube of the can.

Second, the rod D, acted upon by a spring, in combination with the sliding collar, for the purpose herein described.

Third, the combination of the lever, the wire, with the washer and the spring for cleansing the vent.

Fourth, the lever C, and loop *b*, in combination with the rod D, and sliding collar, for controlling the discharge of the oil, as described.

Fifth, the sliding collar and spout in combination with the rod D, spring E, lever C, and can, as and for the purpose described.

No. 44,486.—George T. Savary, Reading, Mass., assignor to Benjamin B. Savary, Boston, Mass.—*Fly Trap.*—September 27, 1864.—A long trough provided with elastic rollers at the ends, on top, and suspended by a pivoted bracket or handle, is designed to be swept over a ceiling where flies have settled, the elastic rollers keeping the trough at a short distance from the ceiling, while at the rearward side of the trough a projecting strip of cloth or leather wipes over the ceiling and brushes the flies into any destructive liquid contained in the trough.

Claim.—First, the trough A, provided with brush C, and trundles D, substantially as and for the purpose described.

Second, dividing the trough A into separate compartments by means of the perforated partitions *b*, substantially as and for the purpose described.

No. 44,487.—Peter Schemmals, assignor to Uriah P. Harris, Chicago, Ill.—*Hose Connexion*,—September 27, 1864.—This invention consists in clamping the hose on the thimble or barrel of the coupling over which it extends, by surrounding that part of the hose with another conical ring cut longitudinally in two or more sections, each hinged, at the inner or thick end. to the main part of the coupling. The outer surface of the sectional ring is screw threaded, and over it plays a corresponding female screw or nut, which clamps the whole upon the inner thimble or barrel of the coupling.

Claim.—First, the band E, made in two or more sections provided with a screw thread on its outer surface and hinged, substantially as specified.

Second, the combination of the sectional conical band E, and the funnel-shaped barrel B, the two forming a clamp.

Third, the bands B and E, in combination with the hose C and the inner band or projection D, all being constructed and operating substantially as set forth and specified.

No. 44,488.—Samuel W. Soule and C. Latham Sholes, assignors to said C. L. Sholes, Milwaukee, Wis.—*Paging Machine.*—September 27, 1864; antedated March 27, 1864.—This invention is a peculiar arrangement of lettering or number wheels, by which the numbers are made to register consecutively in the operation of the machine.

Claim.—First, the introduction of the figures 00, 02, 04, 06, 08, 01. 03, 05, 07, 09, in the columns *d d*, as represented for the purpose of forming a new combination, as set forth.

Second, the combination of the long and short columns of figures with the spools *e e* and ratchet wheel *c*, for operating the belt, as set forth.

No. 44,489.—James M. Thompson and George P. French, Stoneham, Mass., and Seth D. Tripp, Lynn, Mass., assignors to said Seth D. Tripp.—*Machine for Polishing the Heels of Boots.*—September 27, 1864.—This invention consists in heating the polishing wheel of heel-polishing machines by friction, and in a guard plate in combination with the polishing wheel.

Claim.—First, heating the polishing wheel of heel-polishing machines by friction, substantially as described.

Second, the independent guard plate F, in combination with the polishing wheel B, substantially as described.

No. 44,490.—Charles H. Wilcox, assignor to James Wilcox, New York, N. Y.—*Sewing Machine.*—September 27, 1864.—The claim defines the character of the invention.

Claim.—First, the method herein described of preventing in sewing machines of otherwise ordinary construction and operation the loop of the needle thread from being twisted out of the path of the looper by combining with its reciprocating needle and revolving looper a needle race, constructed and arranged substantially as described, so as to operate in the manner herein before set forth.

Second, the combination with an insulated cloth plate section containing a needle hole of the needle race under an arrangement to operate in conjunction with the needle and looper, substantially in the manner and for the purposes set forth.

No. 44,491.—Charles H. Wilcox, assignor to James Wilcox, New York, N. Y.—*Sewing Machine.*—September 27, 1864.—The object of this invention is to avoid those liabilities of defective feed, due to having a part of the presser-foot cover portions of the cloth plate through which no feeding device projects; seams and other irregular thicknesses of material requiring in such cases assistance from the hand to be properly fed.

Claim.—In sewing machines having a feed known as the four motion feed, the making of the hole through which the needle works in a separate piece of metal secured to the cloth plate, the feed surface operating on all four sides of such needle hole, as hereinbefore described.

No. 44,492.—Mary G. Williams and John Owen, administrators of E. D. Williams, deceased, New York, N. Y.—*Bullet for Fire-arms.*—September 27, 1864.—The bullet, which is of an elongated form, is provided with a cavity from the rear, and with interior grooves or lines of fracture, to enable it to separate into several fragments on leaving the gun. A tapering plug with flattened head and an expanding washer being driven into the bullet by the force of the discharge insures the disruption of the bullet.

Claim.—First, the combination, substantially as herein described, of the body A of the bullet having a central cavity and system of grooves, substantially as herein specified, and a central taper pin B, to operate substantially as herein set forth.

Second, the central taper pin B, having its head constructed with a system of grooves, substantially as herein specified.

Third, the combination of the hollow and grooved body A, the grooved headed flanged or ribbed taper pin B, and the disk C, having a central opening larger than the neck or shank of the pin, to operate substantially as herein specified.

No. 44,493.—Charles E. Jacot, assignor to Saltzman Jacot & Co., Chaux du Fond, Switzerland.—*Winding and Setting Watches.*—September 27, 1864.—This invention consists in winding the watch by means of a stem, which serves as the handle of the watch, and also setting the hands by the same stem. A vibrating arm, carrying gears on each end, is so moved as to bring these gears at will into connexion with either the winding or setting mechanism.

Claim.—The mitre gears *h* and *r* and shank *t*, applied as specified, in combination with the wheels *l* and *n* acting upon the wheel *e*, to wind the spring as set forth.

Also, in combination with the foregoing, the swinging plate *k* and gear *m* to operate on the hands when desired, as set forth.

No. 44,494.—John, James, and William Thornton, and said William Thornton, executor of Albert Thornton, deceased, Nottingham, England, assignors to Martin Landenberger, Philadelphia, Penn.—*Knitting Machine.*—September 27, 1864; patented in England August 8, 1863.—The machine is preferably made circular, the sets of looping hooks revolving either about a vertical or horizontal axis, and are placed in two parallel planes very close to each other, the hooks of each set facing those of the other. Each hook is of a triangular shape, its point sharp, and then widening until it joins its stem, and slides in and out separately.

Claim.—The arranging apparatus for producing looped fabrics as above described—that is to say, with two sets of hook or looping instruments facing each other, and combined with other parts as above described, so that in working the courses the fabric already made is transferred continually to and fro from one set of hooks to the other, the hooks or instruments, which for the time are clear of the fabric, being also passed through the loops in the corresponding hooks or instruments of the other set, and in re turning drawing back loops of thread through them, the course being completed by the hooks having the old loops throwing them off.

No. 44,495.—John Morgan, North Dublin, Ireland.—*Preserving Human Bodies, &c.*—September 27, 1864.—This invention consists in first thoroughly removing the blood from the veins and arteries by driving a current of liquid through the circulating channels, and then saturating the tissues by forcing the preservative fluid into them.

Claim.—First, the embalming or preserving of human bodies, and the preserving, pickling, curing, medicating, and flavoring of animal bodies generally, by forcing or injecting preservative or antiseptic fluids through the natural channels of the circulation of the blood, as herein before described, clearing the blood out of the capillaries and small vessels, and causing preservative fluids by the process abov ementioned to saturate the tissues of the body by fibration and otherwise.

Second, the application and use of the hereinbefore mentioned peculiar preservative fluids, in the manner and for the purposes specified.

No. 44,496.—Thomas B. De Forrest, Birmingham, Conn.—*Machine for Making Folded Tags.*—September 27, 1864.—The object of this invention is to produce automatically tags or labels. The machine is made to fold the material punch holes, and insert eyelets ready for use.

Claim.—First, an arranged and automatic machine for making folded tags, in which the material from which the tag is to be cut, folded and punched, is supplied by an intermittent feed to a suitable table or sustaining surface, where it has performed upon it all the operations requisite to produce a folded tag.

Second, in combination with a mechanism for folding over the end of the strip of material, a mechanism for feeding the material to the proper position to be folded.

Third, a folding mechanism in combination with an eye-forming or punching mechanism.

Fourth, the employment, in combination with a folding mechanism, of a cutting-off knife, or its equivalent.

Fifth, the combination of a folding mechanism, a feeding mechanism, and a cutting-off device.

Sixth, the combination of an eyeleting mechanism with a folding mechanism.

Seventh, the combination of a folding mechanism, an eye-punching mechanism, and an eyeleting mechanism.

No. 44,497.—JAMES ALBEE, Boston, Mass.—*Furnace.*—October 4, 1864.—This invention consists of a fire-pot fluted inside and provided with draught tubes cast in one piece, with cold air recesses on the side, separated from immediate contact with the coals by iron partitions perforated at the top, together with an internal radiator, open at the top, having four connecting cold air ducts also cast in one piece. The smoke is carried around the radiator, down through the draught tubes to the chamber, around the ash-pit, and thence to the discharge flue.

Claim.—First, the arrangement of the fire-pot A, the draught tubes C C, and the cold air recesses B B, in the peculiar manner described, so as to admit of the whole being cast in one piece.

Second, the peculiar form and arrangement of the internal radiator E F, the four air ducts P P P P, and the discharge orifice F, substantially and for the purpose as herein set forth and described.

No. 44,498.—JOHN J. ALISES, New York, N. Y.—*Bridges.*—October 4, 1864.—This invention relates to a portable bridge designed to be of cheap and simple construction, and to be erected or set up in swamps and marshes, so as to facilitate the passage of an army and its baggage, and permit the planting of batteries in places which have generally been considered inaccessible.

Claim.—The arrangement of the trestles A A, sills C, or check blocks C′, the transverse connecting and supporting bar B, and the longitudinal sleepers D, the whole being adapted for joint use, substantially in the manner and for the purpose set forth.

No. 44,499.—D. HENRY B. ALLEN, Chelsea, Vt.—*Limb Supporter.*—October 4, 1864.—This invention consists in encasing a fractured leg by means of a rod jointed at the knee, the case for the lower limb being firmly connected with the foot, and that for the upper limb being supported against the buttock by a suitable cushion upon an adjustable metallic rod.

Claim.—First, the supporter, composed of a jointed supporting rod A A′, a foot piece *e*, two clasps B B, and a pad piece C, the whole combined substantially as and for the purpose herein specified.

Second, combining the pad piece C with the upper part A of the supporting bar by means of sockets *j j*, a screw *j*, and a nut *k*, substantially as and for the purpose herein specified.

Third, the front brace D, combined with the upper part A′ of the supporting bar, and with the pad piece C, substantially as and for the purpose herein specified.

No. 44,500.—WILLIAM ALLEN, Worcester, Mass.—*Harvesting Machine.*—October 4, 1864.—This invention relates to a means for throwing the cutters into and out of action; and it consists in combining the shipping handle, which is secured to the shaft, to oblique slots properly arranged for the purpose.

Claim.—The combination of the oblique slots with the shipping handle, secured to the shaft, as described, as and for the purpose set forth.

No. 44,501.—JOHN B. ATWATER, Chicago, Ill.—*Railroad Pump.*—October 4, 1864.—The object of this invention is to afford a ready means of supplying, at railroad stations, the locomotive tender with water from a reservoir lower than the level of the "tender." The novelty consists in the employment of two cylinders and a weight attached to the upper end of a stem in combination with a piston and a body or supply of air between the piston and the water to be elevated.

Claim.—First, the cylinders A and B connected with the pipe C, in combination with the piston D and box E, or its equivalent, when constructed and operating substantially as and for the purpose set forth.

Second, in combination with the foregoing, the application of a weight attached to the upper end of the stem *a* of the piston D, substantially as and for the purpose herein set forth.

Third, in combination with a piston, weighted as above described, the application of a body of air between the piston and the water to be elevated, substantially in the manner herein described.

No. 44,502.—C. A. BALDWIN and C. ABRON, Independence, Iowa.—*Seeding Machine.*—October 4, 1864.—This invention consists in pivoting the discharge spouts at their front ends to the bottom of the hopper so as to vibrate them readily and secure an even broadcast distribution of the grain on the ground. Extending from one end of the hopper to the other, and resting on proper supports, is a triangular bar placed over the agitator so as to relieve the latter from the weight of the grain. The cultivators are hinged, near their front ends, to a bar or rod which hangs in stirrups from the under side of the axle, and are raised and lowered by a bar and hand lever properly arranged.

Claim.—First, the manner of constructing, attaching, and operating the discharge spouts C, when constructed and operated as described.

Second, the bar G and its supports H, when constructed and placed as and for the purpose described.

Third, the manner of constructing and attaching the cultivators D, and the mode of raising and lowering them by means of E and F, as described, in combination with said machine.

Fourth, the combination and arrangement of the said seeding machine, in all its several parts, when constructed and arranged and operating in the manner and for the purposes set forth.

No. 44,503.—JONATHAN BALL, New York, N. Y.—*Turning Lathes.*—October 4, 1864.—This invention consists in constructing a lathe for turning ovals so that there shall be two heads forming live centres, which can be adjusted to any degree of oval shape by means of a movable collar upon which works a face plate, carrying the centre and a flange slide and strap, so that by moving the collar the centre is readily adjusted.

Claim.—First, the arrangement of two heads, forming two "live centres," for cutting ovals, as herein described.

Second, the arrangement of the devices of the head, viz., the face plate Q, with its slide R, flanges S, and straps U, in combination with the adjustable collars L, as herein described and for the purposes set forth.

No. 44,504.—N. G. BARNUM, Malaga, N. J.—*Machine for Filing Saws.*—October 4, 1864.—In this device, the carriage bearing the file frame can be rotated at any angle required around circular ways formed by a flange projecting upward from a divided disk, which forms the clamp for and rests upon the edge of the saw, and constitutes the frame of the machine. From each end of the carriage rises a standard or guide, through which passes the main bar of the file frame, and to which the file is attached, while a parallel bar, forming the upper part of the frame, is adjusted at the proper angle to suit the teeth to be filed by passing through a guide which slides in a circular slot in a segment or arch crossing from one side of the carriage to the other.

Claim.—In combination with the bed pieces A A a divided disk, arranged to traverse on the saw, and constructed as described.

Also, the vibrating or revolving carriage C turning on the flanges D D and carrying the adjustable file carriage.

Also, in combination with the divided disk or bed pieces A A, the adjustable clamping piece I, arranged substantially as described.

Also, in combination with the divided disk, the traversing clamping piece I, operated by a lever and spring J, substantially as described.

Also, in combination with the divided disk, the lever M, hook N, and spring Q, for raising the apparatus and file from the saw when it is moved from one notch to another on the saw.

Also, in combination with the divided disk and vibrating frame, the stop pins E E which limit the vibration of the frame.

Also, the guide pieces R R on the vibrating frame and the transverse rod S, in combination with the clamping arms T T which hold the file, substantially as described.

No. 44,505.—WILLIAM BEATON, Grinnell, Iowa.—*Churn.*—October 4, 1864.—This invention consists in operating a common churn of a rectangular shape, having horizontal paddles or beaters, by means of one or more springs and clock work, with an escapement for the purpose of regulating the movement.

Claim.—The employment of an adjustable regulating rod and weight in combination with the verge L, as and for the purpose herein shown and described.

Also, the arrangement of one or more springs C C, shaft B, wheel D, with attached spring ratchet E F, shaft I, escapement wheel J, verge L, and wheel K, with the churn B, end dasher O, in the manner and for the purpose herein shown and described.

No. 44,506.—GEORGE BIRKBICK, jr., New York, N. Y.—*Gun Carriage.*—October 4, 1864.—This invention relates to a device designed to be applied to the Ericsson gun carriage, and it consists of a bracket applied to the rear end of the carriage so as to form an elevated bearing for the tail screw, and at the same time serve to strengthen the rear end of the carriage by transferring a part of the force on the tail screw to the side frames of the carriage.

Claim.—As an improvement on the Ericsson gun carriage, the application of a bracket E to the rear end of the carriage, so made and applied as to form an elevated bearing for the tail screw, and at the same time strengthen the rear end of the carriage by transferring a part of the force on the tail screw to the side frames of the carriage.

No. 44,507.—E. F. **Bishop**, Burton, Ohio, *Straw Cutter.*—October 4, 1864.—This invention consists of a gate or sash in connexion with a cutter, which is put in motion by means of suitable gearing by hand or other power. It is also provided with yielding feed rollers and a weight so attached that it will rise when too much straw is introduced.

Claim.—The connecting rod I, arm J, lever K, gate G, in combination with the rollers P P′, ratchet wheels *m′ n′*, pawls *m n*, arm L′, lever L″, weighted lever R, and rods *d d*, when arranged and operating conjointly as and for the purposes set forth.

No. 44,508.—E. S. **Blake**, Pittsburg, Penn.—*Lamp Chimney.*—October 4, 1864.—This invention consists in the employment of an inside curb or clamp for lamp chimneys, composed of plates of glass held by metallic bases and tops.

Claim.—A lamp chimney having an inside curb constructed or supported, substantially in the manner and for the purpose set forth.

No. 44,509.—E. B. **Brooks**, Michigan City, Ind.—*Water Wheel.*—October 4, 1864.—This invention relates to a means of obtaining water power by a combination of devices so arranged as to admit of being regulated to suit the duty required to be performed. Its novelty consists in the combination of a dome, an annular plate, with gates and plates. Bolts are also employed as pintles to the hinges of the gates. The buckets have a gradual enlargement and concave inclined bottoms.

Claim.—First, the dome E in combination with the wheel A, horizontal annular plate D, gates F, and plates I, all arranged substantially as herein set forth.

Second, the connecting of the dome E to the annular plate D by means of the bolts *g*, arranged as shown, so as to serve as pintles for the hinges of the gate F, as described.

Third, the gradually enlarged buckets *d*, from their inner to their outer ends, with concave inclined bottoms E, in combination with the chutes, composed of the gates F. and plates I, and dome E, substantially as and for the purpose specified.

No. 44,510.—**John Broughton**, New York, N. Y.—*Flexible Lined Faucets.*—October 4, 1864.—This invention consists in cutting cork or other elastic material of the requisite proportions, and forcing the same into a tin mould, in which it is dried. It is then pressed down into the body of the faucet, which is usually of a tapering form, in such a manner as to embrace between its two edges, as an abutment, a ridge formed in casting within the shell. When the plug is inserted, a flange at its upper end holds the lining down, while a screw in the lower end of the plug holds a washer against the lower edge of the lining in like manner.

Claim.—First, the method, substantially as described, of preparing and moulding cork lining for faucets, in the form of a frustrum of a cone or other shape, so that they may be inserted and fitted in the interior of the faucet.

Second, the arrangement of the abutment *d* with the open joint of a flexible lining, substantially as described.

Third, the combination of the projection *d* with the body of the faucet and the flexible lining, substantially as described.

Fourth, the combination of the flexible lining secured in the faucet, substantially as described, with the plug B, or its equivalent.

No. 44,511.—C. B. **Brown** and E. **Andrews**, Placerville, Cal.—*Coach Lamps.*—October 4, 1864.—This invention consists in a flaring case with a concave back to receive a correspondingly shaped mirror or reflector having side box windows, forming in combination a coach lamp.

Claim.—A coach lamp having its case A of conical or flaming form, with a concave back *a* to receive a concave silvered glass or mirror reflector C, and provided with box-like projections D at its sides for glasses *b*, to serve as lights, combined substantially as herein set forth.

No. 44,512.—**Jonathan S. Buell** and **Samuel A. W. Marsh**, Buffalo, N. Y.—*Grain Dryer.*—October 4, 1864.—This apparatus consists of one or two chambers formed by perforated metal plates fastened to pairs of rafters inclined in the same direction, but at different angles. Where only one chamber is used the rafters are supported by a wall; but where there are two chambers these incline towards each other, being self-supporting at the upper end. Within the chamber, and placed at equal distances from each other, are shafts provided with a series of teeth, which, in revolving, agitate the grain in its downward flow. The grain passes from the upper chamber through the several chambers below, and its downward flow is distributed by the agitators, so that it will all be exposed to the heated air, which is forced into the chambers by means of a fan. Dampers are properly arranged to control and regulate the heat.

Claim.—First, the combination with the air chamber K of one or more inclined grain-drying or cooling chambers T, having perforated or open sides D and E, both of which are inclined in the same direction from a perpendicular line, substantially as and for the purpose set forth.

Second, the combination with each other, with the receiving chest F, and with the air chamber K, of two or more grain-drying or cooling chambers T, having perforated or open sides, substantially as and for the purpose set forth.

Third, constructing the grain-drying or cooling chambers T with perforated or open plates D and E, or their equivalent, both inclined in the same direction, but at unequal angles from a perpendicular line, in such manner as to give an inclined space or chamber of gradually diminishing thickness from the top to the bottom, between the said plates D and E.

Fourth, the combination and arrangement of the agitators I with the perforated plates D and E and the grain chamber F, substantially as and for the purpose set forth.

Fifth, the combination and arrangement of the shafts N and gates or valves O with the grain chamber T, the discharging spouts B, and the conveyor C, substantially as and for the purpose set forth.

Sixth, the combination and arrangement of the dampers L with the perforated plates, substantially as and for the purpose set forth.

No. 44,513.—W. W. **Burson**, Rockford, Ill.—*Grain Binder.*—October 4, 1864.—This invention consists of a series of devices, the general nature of which will be understood from the claim, but do not admit of a brief description.

Claim.—First, hinging fork *b* to shaft K in such manner that the fork and shaft shall be on opposite sides of the twine, in position of rest, whereby a loop is formed in the twine by their rotation, as described.

Second, the arrangement of the fork *b* and groove 3, constructed substantially as described and for the purpose set forth.

Third, the combination of the rib 4 with groove 3 and fork *b*, acting substantially as described.

Fourth, the combination of depresser *i* with fork *b*, as set forth.

Fifth, the combination of hook *c*, groove 5, and shaft K, operating substantially as described.

Sixth, the combination of lever *d* with a tying device, operating substantially as described and for the purpose set forth.

Seventh, the construction and operation of the cutters *l* and *m*, substantially as described.

Eighth, a tying device, constructed and operating substantially as described, whereby the sheaf position of the twine is cut from the spool position before the knot is tied, and whereby the knot is tied without straining upon the sheaf position during the tying process, for the purpose set forth.

Ninth, the combination of ratchet spool pulley C′, ratchet rod F, and spool spring *s*, substantially as described.

Tenth, the combination of the jointed handle D D′ and vibrating lever A, arranged to lock the said lever when it is fully down, substantially as set forth.

No. 44,514.—**John V. B. Carter** and **Charles F. Orcutt**, Albany, N. Y.—*Vessel for Refrigerating Liquids.*—October 4, 1864.—This invention consists of a vessel containing ice and a liquid receptacle. The ice is introduced in an opening in the top of the first-named vessel, which is closed by a cover. The liquid to be cooled enters the second receptacle through a pipe, under which is placed a shelf to prevent the liquid which enters the said receptacle from pouring directly into the liquid already in it and stirring up the sediment. The cool liquid is drawn off through pipes from the top of the vessel. An aperture allows the gas above the liquid to escape as the liquid is drawn off.

Claim.—First, a refrigerator which is provided with an internal ice chamber B′, an external liquid chamber or chambers A′, and inlet and discharge pipes *b b′*, arranged substantially as described.

Second, the arrangement of a pipe *c′* within the chamber A′, provided with openings near the bottom and a gas vent near the top, substantially as described.

Third, the combination of the inlet pipe *b* with the internal pipe *c* and external discharge pipe *b′*, substantially as described.

Fourth, the bracket or shelf *g* arranged in liquid chamber A′ beneath the inlet pipe *b*, substantially as described.

Fifth, the conical recessed projections formed on the outer surface of the wall A′ in combination with the flanged tubes or coupling pipes, substantially as described.

Sixth, the combination of the internal ice chamber B′ with a series of liquid chambers arranged around it, each liquid chamber being provided with an inlet pipe and an outlet pipe, substantially in the manner described.

No. 41,415.—**Orlando L. Castle**, Upper Alton, Ill.—*Metallic Broom Head.*—October 4, 1864.—This invention consists of a metallic case divided in two parts, which are hinged together at the top. Within the case are teeth and two longitudinal bars, which serve to press and hold the broom corn, the whole being held together by a key passed between the bars.

Claim.—First, the use of a bivalvular, hinged, metallic sheath for containing the straw, arranged and operating substantially as set forth.

Second, the combination of the cross bars C C with the sheath A A, and the key K applied, arranged and operating substantially as described and for the purpose set forth.

No. 44,516.—JAMES N. CHERRY, Zanesville, Ohio.—*Machine for Cutting Sheet Metal.*—October 4, 1864.—This invention consists of a pair of jaws extending midway across a platform to which they are attached. On ways across each end of said platform, and mounted upon rollers, is a carriage, the flat upper surface of which is on a level with the point of contact of the circular cutters, which are mounted in vertical longitudinal slots in said jaws, the lower cutter passing through a transverse slot in said carriage, extending from side to side. Along the front edge of the carriage is a sliding gauge, by which the size of the work is regulated. A bar projecting longitudinally midway of the left end of the carriage, and moving therewith, bears upon it another transverse bar, which slides thereon to and from the carriage, and on a level with it, forms a support for one end of the sheet to be cut, the other end being on the carriage, and held in place by a clamp operated by a lever.

Claim.—The cast-iron bars I I, provided with the rotary shears J J′, in combination with the carriage D, placed on ways or guides on the frames A C, and provided with the gauge E and clamp F, all arranged to operate substantially as and for the purpose set forth.

Also, the bar G attached to the carriage D and provided with the arm H, substantially as and for the purpose specified.

No. 44,517.—JOHN CHILCOTT, Brooklyn, N. Y.—*Composition for Coating Steam Pipes, Boilers, &c.*—October 4, 1864; antedated September 19, 1864.—This invention consists of a composition designed as a non-conductor of heat, the ingredients of which are silica, gypsum, and coal-tar pitch, with or without hair.

Claim.—The non-conducting composition composed of silica, gypsum, and coal-tar pitch, with or without hair, substantially as herein described.

No. 44,518.—DAVID DICK, Meadville, Penn.—*Rock and Ore Crusher.*—October 4, 1864.—The object of this invention is to crush rock or ores by means of a reciprocating motion by both the crushing jaws, and it consists in providing strong posts, through which pass rods, upon which the crushing jaws work, which are inclined or placed further apart at the top than at the bottom. Between the jaws and the posts are placed sectors far enough apart to receive eccentric rollers in their smallest diameters, when one of the sectors is raised and the other lowered, and the pivot ends of one resting against the jaw and of the other against the fixed post. Attached to the rollers are levers, so arranged that by vibrating the same the eccentrics are caused to travel upon the faces of the sectors, bringing their larger diameter between them without friction, thus producing a reciprocating motion upon both the crushing jaws towards each other at the same time.

Claim.—First, the employment in an ore and stone-crushing machine of two rectilineally reciprocating crushers, vibrating between adjustable side plates, substantially in the manner and for the purpose set forth.

Second, the combination of two sectionally reciprocating crushers, with cone-shaped sectors and a double eccentric roller, arranged and operating substantially in the manner and for the purpose set forth

No. 44,519.—WILLIAM P. DOWNER, New York, N. Y.—*Refining Petroleum and other Oils.*—October 4, 1864.—This invention consists in placing the petroleum in a revolving cylinder with the chemicals. On the inside of the cylinder or vessel are vanes or webs, which carry up and agitate the oil and chemicals so as to thoroughly mix them.

Claim.—First, the use of a rotary, hermetically closed vessel for mixing pretroleum and other oils with acids.

Second, the use of vanes so placed inside of said vessel, in manner as shown, that by their rotation they first elevate the heavier liquid from the bottom to the top of the lighter liquid, and then, when empty, by continuing their rotation, carry with them below the surface of such liquids a body of air, which, by escaping, maintains the desired agitation.

No. 44,520.—JOHN ELSBERG, New York, N. Y.—*Process for Solidifying Peat.*—October 4, 1864.—This invention consists in first treating the peat in a beater or pulping engine whilst heated by steam, such as is used for preparing paper stock, then draining and afterwards pressing it in a hydraulic or other powerful press.

Claim.—The process of solidifying peat by the operations of heating, grinding and pressure, substantially as described.

No. 44,521.—A. H. EMERY, New York, N. Y.—*Casting Cannon.*—October 4, 1864; antedated September 24, 1864.—This invention consists, first, in casting the cannon with the breech uppermost, and continuing the casting from that part where the gun, when finished, has the greatest diameter, with a constantly increasing diameter, to a height several inches above the point required for the finished gun; second, in applying a tensile strain to the hollow core bar which extends entirely through the casting; and third, in the manner of supplying water to the bore of the cannon in order to reduce the temperature of the casting.

Claim.—First, casting cannon with the breech uppermost, as and for the purpose described, and with the hollow core bar or mandrel passing through and projecting beyond both ends of the casting.

Second, in the casting of cannon, applying to the hollow cone bar a tensile strain, substantially in the manner and for the purpose described.

Third, the use of the water pipe L, substantially as and for the purpose set forth.

No. 44,522.—WM. H. FORKER, Meadville, Penn.—*Screwing Shoes to Horses' Hoofs.*—October 4, 1864.—This invention consists in securing to the upper surface of an ordinary horseshoe a thin plate of the same shape, but with a flange projecting from its outer edge upwards, at an angle corresponding with the angle of that part of the hoof to be enclosed therein. This plate, with its flange, is divided at the toe, and, being pivoted by a screw passing vertically through it and the shoe at each heel, and dovetailed stubs projecting from the shoe fitting in corresponding slots in the inner edge, about midway of each part and at the toe, is capable of being opened to receive the hoof or foot, and then closed and secured thereto by means of screws passing through portions of the flange at the toe, which are bent outward for that purpose.

Claim.—The two jaws B B provided with flanges C C and secured to the upper surface of the horseshoe and connected together, substantially as shown and described, for the purpose of securing the shoe to the foot or hoof, as set forth.

No. 44,523.—AARON FULLER, Amsterdam, N. Y., and WILLIAM H. HOWE, Port Jackson, N. Y.—*Churn Power.*—October 4, 1864.—The novelty of this invention consists in the arrangement of the several devices designated in the claim and represented in the engraving for the purpose of operating the churn dasher.

Claim.—In combination with the frame H braces *a a′*, cog-wheels E F, fly-wheel D, pitman C, working lever B, and sash A, the posts E I, inclined inwards from one side of the frame, and affording a bearing for the working lever B in the centre of the said lever and over the centre of the machine, when all the parts are arranged in the manner and for the purposes herein specified.

No. 44,524.—M. A. FURBUSH, Philadelphia, Penn.—*Drying Cylinder for Drying Paper, Warp, Threads, &c.*—October 4, 1864.—The object of this invention is to dispense with stuffing boxes and avoid the detriment to the material being dried incident to the leakage of the boxes. The claim sets forth the nature of the invention.

Claim.—A drying cylinder, consisting of an exterior cylindrical casing, caused to revolve around (but not in contact with) and to derive its heat from an inner cylindrical casing, to which steam is admitted, all substantially as and for the purpose herein set forth.

No. 44,525.—PERRY G. GARDINER, New York, N. Y.—*Amalgamater for Gold and Silver.*—October 4, 1864.—This invention consists in subjecting the finely pulverized dust of ores, in connexion with mercury, to a powerful agitation and centrifugal action, by placing them in a partially revolving, covered, dish-shaped vessel, which, by its rotation, agitates and mingles the particles of dust and mercury together, so that the gold in the dust and mercury form amalgam, at the same time, by its peculiar form of rim or cover, preventing the amalgam and the mercury and the gold, separately, from being thrown out by the vessel, while all the lighter parts of earthy matters and metals not amalgamated are thrown by centrifugal force out over the rim of the rotating vessel and pass off, a stream of water being made constantly to pour into the vessel, together with the dust, during the operation.

Claim.—First, the peculiar shape and construction of the rim or cover of the vessel D, in combination with the basin or body of said vessel, whereby, in connexion with the mercury and water, as described, the gold or other precious metal becomes amalgamated and falls to the bottom of the basin, while the other parts pass over the sides, the basin being arranged and operated in the manner and for the purposes described.

Second, the combining and arranging the exterior circular trough or vessel F with the interior vessel D and its arrangements, in the manner and for the purposes described.

Third, the combining and arranging pipe H with the central conical portion of the vessel D, whereby the dust and water entering the vessel D are distributed equally over all parts, as described.

Fourth, the form and arrangement of the scraper or rake 5 within the vessel D, operating in the manner and for the purpose described.

No. 44,526.—PERRY G. GARDINER, New York, N. Y.—*Machine for Washing Mineral and other Substances.*—October 4, 1864.—This invention consists of an inclined bed, upon which are placed two cylinders. These cylinders are cast with flanges, by which they are secured to the bed frame with bolts. The cylinders are also provided with openings, one of which is designed for admitting water, and in the uppermost cylinder is connected with a pipe and funnel. In the upper part of the cylinders are also two other openings, one of which is directly upon the top, and is provided with a stopper. The other opening is connected with a pipe which rises above the first cylinder and, descending, enters the lower part of the next cylinder. The cylinders are so arranged that the centre of each cylinder will be on a level with the lowest part of the periphery of the cylinder next above it. Within each cylinder are four arms, at right angles with each other, and attached to a shaft, which is driven by a belt connected with drums. The said arms are made open, and are provided with wire cloth.

Claim.—The washing and separating the metallic parts of the pulverized dust of ores from each other and from the earthy matters by passing the dust through a series of two or more cylinders arranged upon descending levels connected by pipes, in connexion with a stream of water passing through the whole series from a head or funnel above the level of the highest cylinder, the action of the water and the washing and separating being accelerated and assisted by the revolving arms within the cylinders, substantially as described, thereby separating the metallic parts of the dust in the cylinders, successively from cylinder to cylinder, beginning with the highest, according to the specific gravity of the metal, the heaviest being first separated and deposited, and so on through the series.

No. 44,527.—C. L. Gilpatric, Lewiston, Me.—*Meat Cutter.*—October 4, 1864.—This invention consists in the combination of a tub, which is rotated by means of cog gearing in connexion with a shaft, which is moved by a pawl and ratchet attached to a lever, which also imparts motion to the knife that cuts the meat in the tub, the position of the meat being constantly changed by the rotation of the tub.

Claim.—The tub F, the knife H, the cog wheel *g*, the bevel wheel *n*, pawl *m*, and ratchet wheel K, the whole arranged, constructed, and operated substantially as herein described.

No. 44,528.—Emerson Goddard, New York, N. Y.—*Glue.*—October 4, 1864.—This invention consists in subjecting the coarse stock of which the glue is made, by means of proper machinery, to a process of disintergrational fine cutting akin to rasping, which shall make the particles thereof thin, scale-like, curling, and thorougly fractured, so as to form a loose incompact mass readily permeable to and insolvent hot water, as a substitute for all kinds of liquid and dry glues for general use.

Claim.—The instantaneous glue, herein described, as a new article of manufacture.

No. 44,529.—Valentine H. Hallock, Milton, N. Y.—*Cutting Ice for Storage*—October 4, 1864.—This invention consists in the employment of circular saws mounted within a frame and operated by means of traction wheels, a guide being attached to the frame so as to cut the ice in parallel lines.

Claim.—A machine for cutting ice for ice-houses, composed of circular saws, one or more, connected with or fitted on a mounted frame, and operated from the traction wheels thereof, through the medium of suitable gearing, substantially as herein set forth.

Also, the guide or guard I arranged and applied to the frame A, to operate in the manner substantially as and for the purpose herein set forth.

No. 44,530.—Lewis Hilbright, Newark, N. J.—*Mode of fastening Buckles.*—October 4, 1864.—This invention consists in forming the two points of the tongue by cutting or stamping them from one piece so as to hold the strap and prevent it from slipping out. Upon the tongue are two ears bent so as to allow the strap to slip through easily when desirable. A cross-bar on the frame is pressed down from the inside so as to form a rest for the tongue.

Claim.—The fastenings A A, representing two points of the tongue D D, cut and stamped out of one piece, in a manner to hold and prevent the strap from slipping out.

Also, the two ears B B, bent upon the tongue D D, to form a loop to allow the end of the strap to slip through easily.

Also, the cross-bar C, of the buckle frame E E, pressed down from the inside and forming a rest for the tongue D, rest and frame being one piece.

Also, the fastening of the two straps with three tongues, which consist of one solid piece

No. 44,531.—A. D. Humphrey and Tobias Forbes, Clyde, N. Y.—*Water Elevator.*—October 4, 1864.—In this apparatus the crank shaft is pivoted upon the side of a large disk which is loose upon the shaft near the journal. On the end of the shaft and revolving with it is a smaller disk. Teeth are formed on the side of the large loose disk near the periphery, and a pawl is arranged in the frame opposite the ratchet teeth. The crank between its pivot and the small disk on the shaft forms a segment of a circle bearing upon the disk, which is held off therefrom by a coiled spring attached to a pin on the side of the loose disk and to the crank itself, so that while the spring is permitted to act, the end of the crank, which has a slight cam-like extension, presses upon the small disk and causes the shaft to revolve with the crank in raising the bucket.

Claim.—The crank C, constructed and operating substantially as specified, in combination with the loose disk B, and fast disk or cylinder A, for the purpose herein set forth.

Also, the disk B, having a scalloped or round furrowed edge, in combination with the rounded detent H, when applied to a windlass, substantially as shown and described.

No. 44,532.—Ignatz Illofsky, assignor to himself, Simon Donau, Philip Stern, Salamon Nordlinger, and Joseph Stern, Pesth, Hungary.—*Steam Pump.*—October 4, 1864.—The object of this invention is to raise thick liquid substances which, with the usual pumping apparatus, would be liable to clog the valves and render such pumps unreliable and inefficient. The novelty consists in the combination of a vessel with pipes so arranged as to facilitate the forming of a vacuum by the use of steam and the distribution of cold water.

Claim.—The arrangement of the vessel A, provided with pipes B D E F G and H, when combined in the manner and for the purpose substantially as specified.

No. 44,533.—Gustavus A. Jasper, Charlestown, Mass.—*Steam Blast Apparatus.*—October 4, 1864.—The object of this invention is to keep clean the pipes used in conveying waste steam to the ash pit of furnaces to increase the blast. By the addition of the condensed water collecting pipe, any deposit may at pleasure be blown off.

Claim.—The combination and arrangement of the dirt and condensed water collecting pipe C, provided with a stop cock D, with the series of perforated blast pipes A, and the conduit B, the whole being arranged substantially as and for the purpose or objects as specified.

Also, the combination of the auxiliary waste pipe F and the stop cocks G and E with the conduit B, the series of blast pipes A, or the same and the dirt and condensed water collecting pipe C, furnished with a stop cock D, as set forth, the whole being arranged substantially as and to operate in manner and for the purpose as hereinbefore explained.

No. 44,534.—George B. Jewett, Salem, Mass.—*Artificial Leg.*—October 4, 1864.—This invention is designed for cases of amputation below the knee, to hold up the leg to the stump in stooping positions of the body. An elastic strap which passes up behind the thigh is connected to the body strap above and to two cross straps which pass around and are connected with the lower limb. The elastic strap is stretched by the stooping or bending of the body and draws the leg upwards close to the stump.

Claim.—The combination of the secondary supporter, made substantially as described, with the artificial leg, and the primary supporter thereof, the whole being as and for the purpose or objects as hereinbefore specified.

No. 44,535.—John Lacy and George Watkins, Bristol, Wis.—*Stubble Cleaner for Ploughs.*—October 4, 1864.—This invention consists in attaching a wooden or metallic plate to the mould-board in such a manner as to prevent the stubble from falling over the mould-board and clogging the plough.

Claim.—Providing a plough with a plate B, when constructed and arranged substantially as and for the purpose herein set forth and described.

No. 44,536.—Conrad B. Lasher, New York, N. Y.—*Railroad Car Seat.*—October 4, 1864.—This invention consists of a movable seat extending from the side ranges of seats in such a manner as to afford additional accommodation for passengers in a crowded car, the said movable seat being higher and placed forward of the stationary seat.

Claim.—A movable seat combined with the stationary seats, substantially as specified, when the movable seat is forward of and higher than the stationary seat, as set forth.

No. 44,537.—Reuben Lezott, Plattsburg, N. Y.—*Railroad Switch.*—October 4, 1864.—This invention consists in the employment of movable and adjustable heads arranged to fit the rails and to operate as a switch for sidlings of railway tracks.

Claim.—The movable heads as attached to the horizontal rod, as herein described and for the purposes set forth.

No. 44,538.—William J. Lyman, East Hampton, Mass.—*Stove.*—October 4, 1864.—This invention consists in the arrangement of a series of dampers placed inside of the stove so as to divide the same into flues and give a sinuous passage for the products of combustion when placed in a particular position, and a direct draught when changed to another position.

Claim.—The employment or use, in a stove, of one or more series of axes or shafts, provided with plates or dampers, arranged so as to form, when turned in a certain position, flues within the stove, so as to give a sinuous route to the draught, and also admit of being turned so as to allow a direct draught when required.

Also, in combination with the dampers, the axes or shafts thereof, of tubular form, to serve as radiators, substantially as set forth.

No. 44,539.—W. R. Maffit, Wilkesbarre, Penn.—*Dumping Car.*—October 4, 1864.—This invention consists in the application to a car of transverse rockers, supported by cross rails or screws, which are secured to the under side of the truck frame in such a manner that the rockers are brought down to the ground as near as possible, and the car can be tilted sideways to an angle of forty-five degrees or more, while the platform or bottom of the same is comparatively low and close to the surface of the truck frame; the object being to make a dumping car as low as possible, to reduce or avoid the expense of shovelling the material.

Claim.—The rockers B, and cross rails or bearers D, applied in combination with the car body A and truck frame E, in the manner and for the purpose substantially as herein shown and described.

No. 44,540.—Henry Maycock, Verona, N. Y.—*Machine for loading Hay.*—October 4, 1864.—This invention relates to a hay loading attachment to be applied to wagons, and is designed to be operated from one of the wheels of the same so that hay may be gathered up from windrows and deposited in or on the wagon as the latter is drawn along, with but one attendant to manipulate the fork, and one to adjust the hay on the wagon.

Claim.—The standard C, with the horizontal movable turning arm E at its upper end, in combination with the fork H, rope G, and the elevating mechanism composed of the pulley D, arranged with a clutch and gearing with the back wheel A*, of the wagon, substantially as and for the purpose herein set forth.

Also, the lever F, applied to the arm E, and used in connexion with the rope G, chains or cords M O, and the fork elevating mechanism, substantially as and for the purpose specified.

No. 44,541.—John L. McDermut, New York, N. Y.—*Vulcanizing Apparatus for Dentists.*—October 4, 1864.—The nature and object of this invention are explained by the claims.

Claim.—First, an oblong, oval, or other shaped vessel adapted to receive two flasks, arranged in one double or two single clamping frames, side by side on the same level, and so as to place two vulcanite plates or pieces for a set of artificial teeth under like influences of temperature during the process of vulcanization, in contradistinction to a cylindrical vessel for placing two flasks one upon the other, substantially as described and shown.

Second, the combination of an oblong, oval, or other shaped vessel, with a double clamping frame or two single ones adapted to the interior thereof, and with two flasks and moulds for a set of artificial teeth mounted on plates or pieces of India-rubber to be vulcanized, and with springs and set screws, the whole to be arranged, combined, and operated substantially as and for the purposes described and shown.

Third, the form of the channel ways cut out of the plaster cast for the free escape of any surplus rubber placed within the moulds, substantially as and for the purposes specified and shown.

Fourth, the method of constructing a thermometer with an enclosed bulb chamber to be inserted within the steam chamber of a vulcanizing or other vessel, as and for the purposes described and shown.

No. 44,542.—John M. McIntyre and Robert Meginnity, Detroit, Mich.—*Water Heater.*—October 4, 1864.—The object of this invention is to dispense with the ordinary "water backs" which are placed in stoves or ranges, and it consists in the employment of a coiled pipe placed in the stove-pipe or flue, or over a hole in the top of the stove or range, the ends of the said pipe communicating with the heater, and the whole so arranged that the water will be heated by the waste heat.

Claim.—A coil pipe B, combined and arranged with a water heater A, in such a manner that the coil may be heated by the waste heat, either within the pipe or flue of the stove, or over or on the latter, or at any point or place outside the fire chamber of the stove or range, substantially as and for the purpose set forth.

No. 44,543.—John McKillop, Brooklyn, N. Y.—*Picture Varnish.*—October 4, 1864.—This invention consists of a varnish composed of refined white gelatine dissolved in water. To a proper proportion of this solution is added a solution made by dissolving alum in boiling water. Potash or other alkali may be used as a substitute for the albumen.

Claim.—The varnish or coating composed of gelatine, alum, or its described equivalent, and water, in about the proportions herein specified.

No. 44,544.—James McNamara, Buffalo, N. Y.—*Brick and Mortar Elevator.*—October 4, 1864.—This apparatus consists of a frame made light and portable, and so constructed as to be easily shifted from one story to another as the height of the building increases, in combination with an endless chain passing around pulleys fixed—one at the top of the frame and the other suspended near the ground. Boxes are fastened to the said chain so as to be attached and detached.

Claim.—The combination of the pulleys F F, endless ropes G G, and lower pulleys F′ F′, suspended in frame H, with the movable boxes K K and crank pinion gearing D C, or its equivalent, arranged and operating substantially as and for the purposes set forth.

Also, in combination with the endless ropes G G and receptacles K K, the hooks *b b*, constructed substantially as described, and operating as and for the purposes set forth.

Also, in combination with the grooved pulleys F F F′ F′, and endless ropes G G, the suspension pulley frame H, lever platform I and weight *a*, or its equivalent, whereby the ropes G G are made self-adjusting to a vertical position and retained therein, substantially as shown and described.

No. 44,545.—Dustin F. Mellen, Manchester, N. H.—*Breech Loading Fire-arms.*—October 4, 1864.—This invention consists of a longitudinally sliding breech plug, secured by the partial rotation of a sectional base piece, which is locked in position by a spring pin. On unlocking and drawing back the said breech plug a hinged cover on top of the barrel is automatically released and raised, which allows the insertion of the cartridge through the opening, while two spring hooks withdraw the empty cartridge case, and are tripped by the engagement of suitable projections when the cartridge is fully withdrawn, so as to release their grasp of the same.

Claim.—First, making the breech plug in two sections, substantially as shown—that is to say, connected by an axial screw bolt *g*, upon which the rear section rotates, clamped together by the engagement of the sectional screw thread *a′* on the rear section C′ of the plug, with the corresponding thread in the inside of the box, the rear portion being restrained from rotation, in either the firing or the loading position, by the engagement of one of the spring pins *d′ d′* with the holes in the sectional plug C′, from which they are drawn, when it is required to withdraw or drive home the breech plug, by the pin *d*.

Second, securing the cover B, of the opening in the breech of the gun, by means of its hook and the pin S in the groove of the plug, substantially as shown.

Third, the method of operating the cartridge case retracting hooks D D, by means of their spring shanks and the inclines *t t* on the back of the hooks, and the inclines *r r* in the bore, so as, by the impingement of the said inclines, to throw back the hooks and release the cartridge case, substantially as shown and described.

No. 44,546.—Anson Merriman, New York, N. Y.—*Combined Time, Percussion, and Concussion Fuze.*—October 4, 1864.—This invention consists in an arrangement of primers and a time fuze in a single fuze stock, so that a plunger is made to ignite the said time fuze by means of a friction primer at the front of the fuze, on the shock of the starting shell, and to ignite a friction primer at the rear end of the fuze stock, communicating directly with the explosive charge on the concussion of impact of the shell in case the time fuze should fail, and, in case this latter priming should also fail, to ignite a third percussion priming at the same time and by the same concussion.

Claim.—First, the combination and arrangement in a fuze of a friction primer, (to fire the time fuze composition,) located at the outer end of the fuze case, with a driver located at the inner end of said case, so that the former is outside of the time fuze, (when it is in place,) and the latter is inside of it, substantially as set forth.

Second, the combination and arrangement of a friction primer located at the inner end of the fuze case, (to fire the bursting charge of the projectile,) with a driver located nearer the outer end of the fuze case, substantially as set forth.

Third, the combination of the fuze tube with a driver, so constructed and arranged that it can displace the time fuze when moved outward in the fuze tube or case.

Fourth, the combination of the driver, for operating a friction primer, (or for displacing the time fuze,) with a percussion primer, so arranged relatively to the driver that said percussion primer may be exploded by the movement of the driver in performing its other function, substantially as set forth.

Fifth, the combination of the driver with a friction casing or sleeve, perforated and indented, substantially as set forth.

No. 44,547.—Bernard Morahan, South Brooklyn, N. Y.—*Vegetable Slicer.*—October 4, 1864.—This invention consists of an oblong disk of cast iron, lined with porcelain, and provided on its raised edges with projections and slots at different heights on opposite sides, in which may be placed an ordinary knife. The projections hold the knife securely in an inclined position, and vegetables are sliced by passing them across the edge of the knife.

Claim.—The dish A, provided with an oblique slot *d* and nicks *c*, in combination with the set screws *e* and knife B, arranged as specified, so that an ordinary table knife can be readily inserted and removed, and a simple and effective vegetable slicer is produced.

No. 44,548.—Oscar F. Morrill, Chelsea, Mass.—*Heating Apparatus.*—October 4, 1864.—This invention consists in the adaptation of a lamp to heating purposes; the lamp being of the "Argand" form, having a tubular wick and an inner foraminous disseminator open at both ends, in order to obtain a free circulation of air to supply combustion. Outside of the wick is an exterior foraminous disseminator for the same purpose, and outside of this device is a heat interceptor, consisting of a perforated cylinder, to intercept the laterally radiated heat and compel it to radiate upwards to the bottom of the cooking utensils placed on the stand over the lamp.

Claim.—The combination of the internal air current foraminous disseminator B with the Argand lamp or burner A.

Also, the combination of the external air current foraminous disseminator C with the Argand lamp or burner A.

Also, the combination of the external air current foraminous disseminator C with the Argand lamp or burner A and the internal air current foraminous disseminator B.

Also, the combination of the heat interceptor E with the Argand lamp or burner A and one or more foraminous disseminators, arranged with the wick, substantially as described.

Also, the combination of a lamp or burner A and one or more foraminous air disseminators with a stove or stand D, for supporting a vessel or article to be heated by such burner, the whole being arranged substantially as described.

Also, the foraminous disseminator, as made with the solid and extended head *k*, substantially as described.

Also, the combination of one or more air current foraminous disseminators, with a wick and a tube applied to a vessel for containing a combustible liquid to be taken up by or received into and burned on the said wick.

No. 44,549.—**OSCAR F. MORRILL**, Chelsea, Mass.—*Heating Apparatus.*—October 4, 1864.—This invention is designed as an improvement upon an apparatus for which a patent was granted to the said Morrill on February 16, 1864, and it consists in fitting beneath the angle of the conduit pipe or retort a cup to contain oil, which is ignited for the purpose of setting the retort or vaporizer in action. Surrounding the portion of the retort just above the cup is a foraminous chimney, placed concentrically with the said retort, for the purpose of spreading the flame evolved from the cup around the retort, and so mixing atmospheric air with it as to render it highly heating in its qualities.

Claim.—The combination of the air disseminator K and the cup I, or its equivalent, with the conduit, retort, or vaporizer D'', when combined with or making part of an roae-vapor heating apparatus, as described, or its equivalent.

Also, the combination of the air disseminator or chimney K and the cup I, or its equivalent, with a column D'', extending through the disseminator and over the cup or burner, and for the purpose of spreading the flame of the cup or burner within the disseminator, in manner as specified.

Also, the heating cup I and the air disseminator K combined with the retort or vaporizer D'' in such manner that such cup may be separated or insulated from such retort, conduit, or vaporizer, substantially as aud for the purpose specified.

Also, the combination of the cup I with the stand A of the heating apparatus, substantially in manner as described.

No. 44,550.—**CHARLES MOWRY**, Oneida Lake, N. Y.—*Machine for Sawing Staves.*—October 4, 1864.—This invention consists in the employment of a barrel saw in connexion with a feeding device and jointing saws, all arranged in such a manner that the staves may be sawed in proper bilge form and jointed at one and the same operation.

Claim.—First, the jointing saws M O, either or both, when used in combination with the barrel saw C, for the purpose specified.

Second, the operating or adjusting the jointing saws M O through the medium of the shaft H, connected with the bar E, as shown, the pulley or wheel J, and rods K K′, connected respectively with the slide L and bar N, to which the saw arbors are attached, substantially as set forth.

No. 44,551.—**JUSTUS PARCE**, Fairport, N. Y.—*Box or Tub for putting up Butter.*—October 4, 1864.—This invention consists in placing in the bottom of a butter box or tub a movable bottom or follower, consisting of a thin board or leaf, and making a hole in the bottom of the true bottom, which is closed by a plug. When the butter is to be taken from the box, the latter is inverted, the plug removed from the bottom, and the follower forced down.

Claim.—The follower B, in combination with the butter box A, provided with the opening *b* in the bottom, substantially as and for the purpose herein set forth.

No. 44,552.—**S. W. PERKINS**, Geneseo, N. Y.—*Weather Strip for Doors.*—October 4, 1864.—This invention consists in the application of two plates to a window or door, one at the bottom, the other at one edge, so constructed and applied as to prevent rain from being driven by the wind underneath a door or window, or between the disengaged edge of the same and the jamb against which it closes.

Claim—First, the plate D, provided with the oblique slot *a*, and having a pin *b* fitted in it, and also provided with the slot *c* to receive the spring F, and applied to the door to operate in connexion with plate i, in the manner substantially as and for the purpose set forth.

Second, the plate F, provided with the oblique slots *f f*, with pins *g g* fitted in them, said plate being applied to the door to operate in connexion with the plate *i*, substantially as and for the purpose specified.

No. 44,553.—**JOHN B. POWELL**, Philadelphia, Penn.—*Automatic Fan.*—October 4, 1864.—This invention consists in placing the spring that operates the fan in the base of the device, and connecting the fan itself to a pillar rendered adjustable in a column attached to the base, motion being communicated to the fan from the spring through the medium of such devices, so that the fan can be adjusted both laterally and vertically without any interruption of its free movements.

Claim.—First, the brace A, containing the driving spring, the column C and adjustable tube E, carrying the fan K, in combination with the devices herein described, or their equivalents, for transmitting motion from the spring in the base to the fan, without interfering with the ready vertical and lateral adjustment of the latter, as set forth.

Second, the internal tube D, and external tube E, (the latter carrying the fan K,) and any suitable system of gearing for transmitting motion to the same from the said internal tube, in combination with the column C and shaft B, the whole being constructed and arranged substantially as and for the purpose herein set forth.

No. 44,554.—**GEORGE PURPLE**, Wellington, Ohio.—*Harness Buckle.*—October 4, 1864.—This invention consists of a buckle frame having a metal piece fitted on the cylindrical bar, to which metal piece is secured a tongue, placed perpendicularly thereon. Attached to the buckle frame is a strap and tug, which is passed through the buckle frame so as to bear against the lower sides of the end bars and the upper side of the metal piece which is fitted over the cylindrical central bar.

Claim.—The combination of the buckle frame A with the metal piece C, tongue *b*, strap B, and tug E, when constructed and operated substantially in the manner and for the purposes described.

No. 44,555.—**JESSE F. RICHARDS**, Providence, R. I.—*Machine for Making Eyelets.*—October 4, 1864.—This invention consists of a series of annular punches and female dies, all operating one within the other and on the same axial line, by which the disk is cut from the sheet of metal, forced into a die, swaged into its proper shape, the flange turned, the bottom punched out, the finished eyelet withdrawn from the die, and discharged from the central punch by one revolution of the driving wheel; the different operations being performed in the order above mentioned.

Claim.—First, a compound male cutter 3, "former" 2, and punch 1, in combination as described, for the purposes specified, constituting together the moving instruments in the formation of an eyelet.

Second, a compound female cutter 4, "former" 5, and punch 6, in combination as described for the purposes specified, constituting together the stationary instruments in the formation of an eyelet.

Third, the combination of the series of moving instruments above mentioned, with the series of stationary instruments above mentioned, in the manner substantially as described, for the purposes specified.

Fourth, operating the said moving instruments above mentioned in the order and in the manner substantially as described.

Fifth, in combination with the stationary instruments above mentioned, wherein the eyelet is formed, a shield *n*, applied and operated in the manner substantially as described.

No. 44,556.—**FRANCIS G. SANBORN**, Andover, Mass.—*Scissors.*—October 4, 1864.—This invention is designed to combine the ordinary scissors and the button-hole scissors in one implement, and it consists in forming inside of one handle of scissors an incising blade or punch; on the opposite part is an adjustable plate set upon a thimble or sleeve held in position by means of a set screw.

Claim.—Attaching a cutting edge and bed to the shanks of scissors, in the manner substantially as described.

No. 44,557 —**N. C. SAWYER**, Boston, Mass.—*Machine for Condensing Peat.*—October 4, 1864.—This machine consists of an upright cylinder provided on the inside with a series of arms. The said cylinder rests upon the enlarged portion of a pipe which rests upon a block. Within the cylinder is an upright shaft, also provided with arms, and near its lower end with a screw plate which forces the peat down into a tube. A tube S, provided with a piston connected with a crank and shaft, is slotted at the end nearest the crank to allow the shaft to play freely within the same. At one end of the pipe is a segment which vibrates on a fulcrum and contains a mould corresponding with the pipe S in size. The segment is provided with a piston which is caused to press out the peat, when in the proper position, by means of a lever.

Claim.—First, the vibrating mould or segment T, in combination with the pipe S, piston R, and mill or hopper E, substantially as set forth and for the purpose described.

Second, the combination of the piston R, cam *h*, lever Z, link V, and mould T, substantially as and for the purpose described.

Third, the combination of the link W, piston U, and mould T, substantially as and for the purpose described.

Fourth, the slot *a*, in the link W, to operate in combination with the piston U, mould T, and pipe S, substantially as and for the purpose described.

Fifth, so constructing the end of the piston U as to leave a groove in one end of the blocks of peat formed in the mould, substantially as described.

Sixth, so constructing the mould S′ as to form a cornered or grooved block of peat, substantially as described.

No. 44,558.—**HENRY M. SEAVEY**, Chicago, Ill.—*Filter and Cooler.*—October 4, 1864.—This device consists of a vessel of suitable form and size, having a cylinder of much smaller diameter in its centre, which forms the ice chamber. At the bottom is a chamber for filtered water outside of the ice chamber, being covered by a perforated plate upon which is placed the filtrating medium. About one-third of the ice chamber is perforated to permit the outflow of the accumulated water from the dissolving ice.

Claim.—First, the combination and arrangement of the reservoir D and ice chamber C, when the latter is isolated from the former and arranged within it, as shown, and is provided with the perforations *a*, substantially as and for the purposes herein shown and described.

Second, in combination with the above, the employment of the removable cylinder G, as and for the purposes specified and shown.

No. 44,559.—Thomas Shaw, assignor to himself and Philip S. Justice, Philadelphia, Penn.—*Test Pump.*—October 4, 1864.—This invention consists in constructing the pump with a hollow piston and chamber, the piston being operated by a screw.

Claim.—The combination of hollow piston rod B with screw *u* and chamber *v*, for the purpose specified.

No. 44,560.—Warren A. Simonds, Boston, Mass.—*Apparatus for Carbonizing Air for Illuminating Purposes.*—October 4, 1864.—This invention consists of a cylinder, within which is placed a partition across the top of the central part to within one inch of the centre of its diameter. Through the centre of the cylinder passes a shaft, upon which are two wheels, to which are attached spokes, and upon the ends of the spokes are secured hollow perforated globes. The cylinder is provided with heads attached by means of screws, the joints being made tight with red lead or leather.

Claim.—A wheel or wheels with more or less spokes attached to each hub, and with perforated hollow globes made fast to each end of said spokes for agitating volatile liquids when used for the purpose of carbonizing the air for illuminating purposes, as herein specified and described.

No. 44,561.—Edwin R. Stilwell, Dayton, Ohio.—*Feed Water Heater.*—October 4, 1864.—This device consists of a box provided with steam induction orifices, overflow box, and perforated shelves. The water enters the vessel through the pipe in the top thereof and passes into the overflow vessel, from which it falls upon the perforated plates, which are heated by the steam entering through an aperture. It is alleged that crystallizable salts contained in the water will be deposited upon these plates; after having passed through the whole series of these plates it is further heated by the steam entering when it passes down through the filtering medium to the chambers below, from whence it is taken by the pump and forced into the boiler.

Claim.—First, purifying feed water for steam boilers by means of a steam trap, which consists of a box A C, provided with steam orifices *e g*, overflow box *c*, and perforated shelves *a a*, arranged substantially as described.

Second, the combination of the overflow box *c*, perforated shelves *a a*, and steam inlets *e g*, with the chambers C and D, substantially as described.

No. 44,562.—George D. Teller, Buffalo, N. Y.—*Railroad Rails.*—October 4, 1864.—This invention consists in making a groove in the top of a railroad rail in which is inserted a rail made of steel or hardened iron, and in the formation of a double rail held together by means of bolts and screws, one rail having a tongue and the other a groove to keep the same securely fastened together.

Claim.—First, a secondary rail E, made of steel or the best quality of iron, and inserted into a groove made in the top of the main rail, for the purposes and substantially as described.

Second, the part *e'*, whether made of iron or other elastic material, in combination with the main rail A B and secondary rail E, for the purposes and substantially as set forth.

Third, making the rails A and B with a tongue in one and a groove in the other, as represented at *e'*, (or the equivalent thereof,) in combination with the bolts D, for the more securely locking or fastening the said parts together, as described.

No. 44,563.—James E. Thomas, Pittsburg, Penn.—*Core Barrel.*—October 4, 1864.—This invention consists of a cylinder or barrel composed of four longitudinal sections, two of which are secured by means of a series of screws or bolts passing radially through them, and on which they are allowed to slide into the centre piece or core. The other two sections are connected by a series of toggle joints to bars sliding longitudinally in grooves in said core, and operated by a screw nut on the head thereof, playing on collars formed on the ends of said slides. Moving, these by means of the screw, causes the toggles to draw the sections hinged to them towards each other, and allow the two other sections likewise to collapse or move towards the centre.

Claim.—The longitudinally moving slides *g*, in combination with the toggle arms *d*, screws *b*, and sections *a a'*, constructed and operating substantially as and for the purpose herein shown and described.

No 44,564.—Nehemiah Trull, Shaker Village, N. H.—*Wind Wheel.*—October 4, 1864.—This invention relates to that class of wind wheels which are designed to be self-regulating according to the fluctuations of the wind, and it consists in the manner of applying a governor to the wings or fans of the wheels by means of a sliding shaft fitted within the wind wheel shaft, which is connected with rods and pinions and racks, so that the fans are made to adjust themselves more or less obliquely to the wind.

Claim.—The combination of the ball governor R with the wings or fans I, through the medium of the sliding shaft L, fitted within the wind wheel shaft E, and connected with the rods J of the wings or fans by means of the pinions *e* and racks *f*, substantially as set forth.

Also, the lever U and sliding tube T, when arranged in connexion with the governor R, substantially as and for the purpose specified.

No. 44,565.—W. Van Gaasbeek, William's Bridge, N. Y.—*Sash Stopper and Lock.*—October 4, 1864.—This invention consists of a lever operating in a recess in the frame and across the edge of the sash. In the long arm of this lever is a notch sufficiently wide and deep, when held in a horizontal position by a thumb piece on the short end, for the edge of the sash to pass freely through, but when released drops and assumes an angle which causes the sides of the notch to press both sides of the sash and prevent its descent. When closed the inner end of the lever rests upon the top of the sash at such an angle as to prevent it from being raised from the outside.

Claim.—The stopper and lock, consisting of a lever C so constructed with a recess *b c*, for the reception of the edge of the sash, that it may, when applied to work at right angles to the plane of the sash, hug or bite against or into the inner and outer surfaces of the sash, substantially as and for the purposes herein specified.

No. 44,566.—Maurice Vergnes, New York, N. Y.—*Piano-forte.*—October 4, 1864.—This invention consists in arranging the action beneath the keys in such a manner as to diminish the space occupied by the instrument without injuring its tone.

Claim.—The location of the action inverted in the contracted space from beneath the keys, in the manner described.

No. 44,567.—Samuel Wagner, Monroe, Wis.—*Machine for Shaving Hoops for Casks.*—October 4, 1864.—This invention consists in shaving poles or timber for cask hoops by drawing, with a pair of tongs, a hoop between two knives of any desired form, and when the hoop is drawn through, the wheels that operate the machine are thrown out of gear, when a weight carries, by a reverse motion, the tongs back to the knives, to repeat the process.

Claim.—The tongs L, arranged to be operated by a weight, gearing, and drum, substantially as shown, in combination with a cutter S and a semicircular cutter T, substantially as and for the purpose set forth.

No. 44,568.—Samuel Wallis Townsend, Mass.—*Knitting Machine.*—October 4, 1864.—This machine dispenses with the usual jacks, sinkers, pressers, and latches. Each needle, which also performs the function of a thread guide, is formed of a flat piece of steel with an eye for its thread near the centre and one near its end, and is so bent as to leave a space between its thread and itself for the opposite needle and its thread to enter. The needle bars incline and slide to and from each other, so that the needles pass each other; and they also have a lateral motion. When this lateral motion is arrested a fringe is knitted. The needles, in retreating, bear with their edges upon fixed bars, and thus scrape or draw off the previously formed loops.

Claim.—First, the double-acting guide needles *k l*, acting alternately as thread guides and needles, substantially as set forth.

Second, the draw bars *q r*, for the purpose of drawing off the loops from the needles, operating substantially as described.

Third, in combination with needles which act alternately as needles and guides, reciprocating one or both of the needle bars I J laterally by any suitable device for the purpose of interlacing or connecting the work, substantially as set forth.

Fourth, the wheels D and E, with their cam grooves *a*, for operating the carriages F and G, and the needle bars I J, substantially as set forth.

No. 44,569.—C. Weitman, Hazleton, Iowa.—*Method of Securing Shoes to Horses' Feet.*—October 4, 1864.—This invention consists in securing the shoe to the hoof by means of clips, with spurs on their upper ends and sides which enter the surface of the hoof, while the lower part, bent inward and passing in a groove in the upper surface of the shoe, and between it and the hoof, is again bent down on the inside of and hooks under the shoe, whereby the use of nails is entirely dispensed with, and the shoes rendered capable of being readily secured to and detached from the foot or hoof.

Claim.—Securing shoes to the feet or hoofs of horses by means of bars bent or curved, so that their lower parts may clutch the shoe or hook over the same, and their upper parts made to penetrate into the side of the hoof, in combination with the bar formed of two parts fitted together and arranged with a screw to serve as a clamp, substantially as herein set forth.

No. 44,570.—Joel A. Wheeler, Cleveland, Ohio.—*Mill Pick.*—October 4, 1864.—This invention consists in constructing the head of two parts, one being the upper and the other the lower section, fitting one within the other. The blades, being placed between the two sections composing the head, are firmly secured by a screw made to pass through the lower part of the head and screw into the upper part, thus drawing the two sections together, and acting at the same time as a clamp, whereby the blades are securely held in their respective places.

Claim.—The head, consisting of the parts D E F G, in combination with the screw socket H J and blades A A, when constructed and arranged in the manner and for the purpose set forth.

No. 44,571.—N. S. White, assignor to himself and Richard Vaughn, Port Chester, N. Y.—*Car Coupling.*—October 4, 1864.—This invention relates to a car coupling of that class denominated self-coupling, and it consists in the employment of a vertical sliding stop, arranged with springs and a cam, in connexion with a pin fitted on a shaft or axis provided with two arms; all arranged within or applied to a draw-head in such a manner as to insure its ready and efficient operation.

Claim.—The sliding stop F, arranged with springs *d* and a cam I, in connexion with the arms C D E attached to a hub *a* placed loosely on the shaft B, said parts being applied to a draw-head A, and all arranged to operate in the manner substantially as and for the purpose herein set forth.

No. 44,572.—S. Lloyd Wiegand, Philadelphia, Penn.—*Gas Engine.*—October 4, 1864; antedated September 16, 1864.—The object of this invention is to protect the pistons of gas engines from injury by the deposit of carbon which is precipitated from illuminating gas when imperfectly consumed, and also to regulate the velocity of the engine by a system or method designed to economize the supply of gas. The novelty consists in the introduction into the cylinder of the engine of a fluid of greater specific gravity than the carbon deposit, upon which the deposit floats off through suitable apertures, and thus tends to prevent injury to the packing and joints. The governor is so arranged and connected with the eduction valves as to regulate the duration of the flow of gas to the cylinder, and also to regulate the admission of air in such proportions as to form the proper admixture for operating the engine.

Claim.—First, protecting the piston, or its equivalent, from deposits of residuum in the cylinder by means of a fluid of greater specific gravity than the residuum, substantially in the manner shown and described.

Second, combining the conducting electrical points or circuit-closing apparatus with the valve gear, so that the circuit is closed after closing the valve, substantially as shown and described.

Third, combining the regulator with the induction valves so as to regulate the duration of flow of gas and air, or other explosive mixture, to the cylinder, or its equivalent, by the velocity of the engine, and thus to control the velocity of the engine, substantially in the manner shown and described.

Fourth, the induction valves, when constructed and used substantially as described.

Fifth, the eduction valves, when constructed and used substantially as described.

Sixth, imparting motion to the valves by means of the coupling shafts, in the manner hereinbefore described.

No. 44,573.—Charles W. Willard and John P. Willard, Chicago, Ill.—*Steam Hammer.*—October 4, 1864.—This invention consists in the construction of a double inclined cam attached to the cross-head of the engine, and two rollers attached to and made adjustable, upon a yoke in the direction in which the cross-head moves, with the cylinder and hammer. The rollers are so arranged upon the yoke that a change of their position is easily effected by spring catches, and such change produces a corresponding change in the length of the stroke of the piston, and consequently of the force of the blow.

Claim.—The rollers *b b′*, adjustable on the yoke *c* and operating in combination with the cam *a*, steam cylinder D, and hammer A, in the manner and for the purpose substantially as herein shown and described.

No. 44,574.—Charles E. Willis, New York, N. Y.—*Mode of Operating Railroad Cars.*—October 4, 1864.—This invention consists in constructing the track of two flat plain side rails and a central rail with a narrow groove to receive the guide wheels, which are hinged to the under surface of the platform, and connected with a suitable lever and hand screw in such a manner that the same can be easily depressed into or raised from the central guide groove, so that the driver at one end of the car is enabled to apply or take off both brakes, or to raise and lower both guide wheels without leaving his place.

Claim.—First, the brake levers H H′, arranged in combination with each other and with the hinged shoes J J′ and screw I I′, in the manner and for the purpose substantially as described.

Second, the combination of the brake levers and guide wheel levers with each other and with the screws I I′, or their equivalents, constructed and operating substantially as and for the purpose specified.

No. 44,575.—Morris Botticher, assignor to Richard Burr and Max Haarburger, Washington, D. C.—*Packing for Stuffing Boxes of Steam and other Engines.*—October 4, 1864.—This packing is composed of asbestos and soapstone pulverized and mixed with fibrous materials.

Claim.—The mode and manner of packing stuffing boxes with cotton, pulverized asbestos and soapstone, as herein described and for the purpose set forth.

No. 44,576.—Maxwell Cornelius, assignor to himself and R. B. More, Cincinnati, Ohio.—*Claw-bar.*—October 4, 1864.—This invention consists in making claw-bars, for drawing railroad spikes and bolts, double, that is, with a distinct pair of claws upon opposite sides of the head, whereby the ends of one pair serve as the fulcrum of the other pair.

Claim.—The double claw-bar, constructed substantially as above set forth and described.

No. 44,577.—Wm. R. P. Cross, assignor to himself and Charles H. Breed, Portland, Maine.—*Lantern Guard.*—October 4, 1864.—This invention consists in constructing a lantern guard with an opening and a slide, and providing it with hinged collars, so as to admit of its being readily removed from the globe.

Claim.—First, a lantern guard constructed so as to open at *f*, and to slide at *g*, substantially in the manner and for the purpose described.

Second, the combination of the sliding hinged joint at *g*, the hinged collars *b c*, and the hinged brace fastening *f*, substantially in the manner and for the purpose described.

No. 44,578.—Frederick Graves, Avoca, N. Y., assignor to himself and Charles G. Roberts, Greene, N. Y.—*Camp Chest.*—October 4, 1864.—This invention consists in constructing a camp chest so that it can be easily converted into a table, lounge, or chair, spaces being reserved for holding clothes and other articles, all so arranged as to occupy but little space.

Claim.—The special construction herein described, consisting essentially of the box A, provided with the compartments B C, folding chair and lounge sections H I K, adjusted by the straps *k k*, or equivalent bars D D, extension slides E E, and table-leaf G, the whole arranged, combined, and operating substantially as and for the purposes herein set forth.

No. 44,579.—Walter Greacen, assignor to himself and Wm. Robotham, Newark, N. J.—*Gag Swivel.*—October 4, 1864.—This invention consists in the application to a gag runner of a button in place of the loop generally used to fasten the same, in such a manner that when said button is passed through an appropriate hole in the head strap it retains the gag runner securely in place, and at the same time allows it to oscillate back and forth, and thus to accommodate itself to the motions of the check rein.

Claim.—The application of the button *c*, in combination with the loop *b*, and plate *a*, constructed and operating substantially as and for the purpose herein set forth.

No. 44,580.—A. W. Hall, assignor to himself, Samuel Jaudon, and R. H. Belden, New York, N. Y.—*Rock-breaking Device.*—October 4, 1864.—This device consists of a stationary and a movable jaw, the stationary jaw having a single plane and somewhat inclined surface, and the oscillating jaw having two plane surfaces, one being above the other, with a concave surface between them. The fulcrum pin of the oscillating jaw is on a line central with the concave surface, and all arranged in such a manner that a double crushing operation will be done by one and the same device, the rock being cracked by one operation, and reduced to a fine state by the other.

Claim.—The stationary jaw A, having a single plane surface in connexion with an oscillating jaw C, provided with two plane surfaces *b b′*, one above the other, with a concave surface *c* between them, to operate in the manner substantially as and for the purpose specified.

No. 44,581.—James McIntyre, assignor to himself and James D. Bacon, New York N. Y.—*Fuze for Explosive Shells.*—October 4, 1864.—A tapering or conical plug passes down through the composition of a columnar time fuze, so as to resist any tendency to being driven in by the starting of the projectile, while it is free to move forward or outward on the impact thereof, and thereby opens a communication between the burning composition and the explosive charge within the shell, in case the time fuze should not have been exhausted.

Claim.—A tapering plug introduced into a tapering hole in the powder of the fuze, with the larger end of the said plug towards the outer end of the fuze, for the purposes and as specified.

No. 44,582.—Raymond Balans, Paris, France.—*Jib Sail Ring.*—October 4, 1864; patented in France February 1, 1864.—The ring has attached to it a self-closing and a self-mousing hook, and across the ring below its centre is a concave roller, which prevents the ring from binding on the stay.

Claim.—The application to jib sail rings of a transversal roller, dividing the circle into two parts, and the addition to the said rings of a hold-fast hook, corresponding with the eyelets by which the sail is secured thereto, the whole constructed in manner and for the purpose substantially as herein set forth and represented in the annexed drawing.

No 44,583.—RICHARD BURLEY, London, England.—*Material for Lining the Bearings of Shafts, Axles, &c.*—October 4, 1864.—This invention consists of a composition of copper, iron, tin, sulphur, and arsenic. The copper is first melted and the iron then added, after which the sulphur and arsenic are added, and then the tin.

Claim.—The use of the metals, semi-metals, or alloys as above described, whether formed, mixed, or combined together by two separate processes as above described, or by one process, as the same may be done.

No. 44,584.—ALBERT PAGENSTECHER, Valparaiso, Chili.—*Hydraulic Propeller.*—October 4, 1864; antedated September 30, 1864.—In this apparatus the water is raised by means of conical rotary pumps, one on each side of the vessel, and lying horizontally. The water elevated by one pump crosses the vessel in pipes, and acts in propulsion on the water on the other side. The ejecting tubes revolve for backing, &c., and are of a larger diameter than the supply tubes.

Claim.—The employment or use of rotary pumps C, applied to a vessel A, in combination with pipes E, issuing into large pipes F, and producing an action similar to an injection, in the manner and for the purposes herein described.

Second, the combination of the horizontal pumping cones C *b b*, conical barrels B, pipes E E, and revolving nozzles G, all constructed, arranged, and operating substantially as specified.

No. 44,585.—WILLIAM WEILD, Manchester, England.—*Machine for Fluting Rollers.*—October 4, 1864; patented in England September 20, 1859.—In this machine the slender cylinder to be fluted or ribbed is supported at various points along its length by friction rollers, which at the same time steady it, while a series of steel milled rollers are, by means of weighted levers, brought to bear upon its upper surface, said milled rollers being turned by the revolving cylinder, at the same time that a slow translatory movement is imparted to them, by which they are caused to impress upon the surface of the cylinder throughout its entire length the required grooves or flutes.

Claim.—The milling mechanism, consisting of the milling tools, *g g g*, weighted crank levers *f f'*, and eccentric shaft h^2, or their equivalents, in combination with the friction rollers *k k k k*, or their equivalents, the whole being combined and used with the slide carriage, feed mechanism, and other parts of the lathe necessary to operate them, as described, for the purposes shown.

No. 44,586.—JOHN J. ALISS, Washington, D. C.—*Ball Screw for Fire-arms.*—October 11, 1864.—This implement is designed for extracting balls which have become wedged in the barrel of a fire-arm, and consists of two spring blades or jaws made concave at the front end, and provided with an inwardly curved joint on each jaw somewhat like the ordinary two-pronged gun wiper.

Claim.—The nippers A A and gouges B B, in combination with the horns C C, substantially as and for the purpose set forth.

No. 44,587.—J. D. ANGIER and FREDERICK CROCKER, Titusville, Penn.—*Ejector for Oil Wells.*—October 11, 1864.—This invention consists in having the discharge pipe, with its contraction and open lower end combined with the blast pipe having its lower end turned up and provided with a nozzle and inserted in the lower open end of the discharge pipe below the contraction thereof. The steam or air is conveyed to the ejector through a pipe which passes down below it, where it is turned up so as to discharge the steam directly into the ejector, in the direction of the moving fluid when passing out of the well.

Claim.—The discharge pipe with its contraction and open lower end substantially as described, in combination with the blast pipe having its lower end turned up and provided with a nozzle, and inserted in the open lower end of the discharge pipe, and below the contraction thereof, substantially as and for the purpose specified.

No. 44,588.—CLIFFORD ARICK, St. Clairsville, Ohio.—*Fuze for Explosive Shells.*—October 11, 1864.—An annular time fuze is ignited by a friction primer which communicates its fire to the desired opened point of such fuze, through an annular chamber formed by a groove surrounding the flange or head of the central plug, or of the screw-pin thereof, the said flange or head being also proportioned as to slightly overlap and secure in place the said annular time fuze.

Claim.—First, the formation of an annular fire-chamber within the radius of a Bormann or curved fuze, by combining a grooved head to its screw-pin, or by combining the grooved head of a screw-plug with the inner wall of its soft metal case, substantially as described.

Second, a packing disk for an annular fuze, having on one side of it the necessary wedge or wedges for packing it, and on the other a magazine, as described.

Third, the combination of an annular fire-chamber situated within the radius of a Bormann fuze with an independent primer, so that the flame generated by the primer is instantly injected into such fire-chamber, from whence escaping at the cut it will ignite the fuze, substantially as described.

Fourth, so combining with a soft metal fuze case a fuze plug, or a concussion or percussion fuze case, as to securely hold the former in the projectile by the combined action of the screw thread and flanged head of the latter.

No. 44,589.—RICHARD ATKINSON, Mount Vernon, N. Y.—*Composition for Pavements.*—October 11, 1864.—This invention consists in excavating the ground to a depth of eight inches, and then filling it to the depth of six inches with broken stone and gravel in equal parts. Boiling coal tar, mixed with gravel and hydraulic cement, is poured over the stone and gravel, then the whole is covered with gravel.

Claim.—Combining broken stone, gravel, boiling coal tar and hydraulic cement in about the same proportions specified to form a composition for the paving of highways, carriage ways, and sidewalks.

No. 45,590.—SAMUEL AYRES and HENRY J. CHAMBERLIN, Worcester, Mass.—*Wire Toaster, or Broiler.*—October 11, 1864.—This invention consists in the construction of a wire toasting frame, the main peculiarity of which is simplicity and consequent cheapness, being formed wholly of wire, the bars fastened by a single loop around the frame, and held in place and apart by a collar of fine wire coiled around the frame wire; the hinges on which the two sides of the toaster play to open and shut are two wire wings which enclose the frames loosely at the end, and the handles being mere extensions of the middle bars, are held together by a sliding wire clasp.

Claim.—The combination of the collars, bars, and frame, when constructed and operating in the manner and for the purposes above set forth.

No. 44,591.—CHARLES A. BALDWIN, Boston, Mass.—*Repairing Casks and Barrels.*—October 11, 1864.—The object of this invention is to repair casks when a stave has been broken at the chine, and it consists in the manufacture of blank pieces of staves shaped to correspond with the curvature of the barrel, and of different widths, and cut or chamfered from the crozing to any desired distance to an edge, and then cutting a corresponding piece from the broken stave and inserting the new piece in place of the broken stave that is cut away.

Claim.—As a new article of manufacture the chine blank having a formation substantially as described.

No. 44,592.—WILLIAM B. BILLINGS, Brooklyn, N. Y.—*Petroleum Lamp.*—October 11, 1864; antedated April 11, 1864.—The inventor says: The nature of this invention consists in an improvement in the art of burning petroleum, coal oil, and similar hydro-carbons. The statement of the claim requires a reference to the specification and drawings for an understanding of the invention.

Claim.—The combination of all the parts of my burner, in the manner substantially as described and for the purposes represented and set forth.

No. 44,593.—J. S. BROWN, Washington, D. C.—*Water Elevator.*—October 11, 1864.—This invention consists in the application of a curved link between the rope or chain of the windlass and the bail of the bucket, for the purpose of bringing one side of the bucket always toward the curb spout, in order that the water discharged through a valve in the bottom may be received by the spout. The principle of the invention is that the concave side of the curved link will invariably fit to the periphery of the windlass in whatever position it may come up from the well. Another feature of the invention is a chain, reaching from the upper end of the curved link to the valve at the bottom of the bucket, so that when the link fits around the windlass the chain is bent around the same, and therefore draws upwards and lifts the valve, thereby discharging the water.

Claim.—The curved link G, constructed and operating substantially as and for the purpose herein specified.

Also, the chain *l*, or its equivalent, operating in combination with the curved link G, or its equivalent, substantially as and for the purpose set forth.

No. 44,594.—JOHN W. BROWNING, Mattoon, Ill.—*Device for Transmitting Motion.*—October 11, 1864.—The object of this invention is to overcome the dead centres in machines in which reciprocating motion is to be converted into continuous rotary motion. The invention consists in the use of two shafts which are connected by a belt, or provided with a fly-wheel, each in combination with an eccentric on one, connecting with a crank on the other shaft, and with the main crank that connects by a pitman or other suitable means with the cross-head of a steam engine or other source of power in such a manner that by the combined action of the cranks, eccentrics, and fly-wheels, the dead centres are overcome, and the reciprocating motion of the piston of the steam engine or other prime motor is converted into continuous rotary motion.

Claim.—The combination of the cranks C F, eccentric D, shafts B B', and fly-wheel G, (one or more,) constructed and operating in the manner and for the purpose set forth.

No. 44,595.—**Ebenezer Buel**, Sheridan, N. Y.—*Churn.*—October 11, 1864.—This invention consists in a rectangular box having a hollow journal, for the purpose of admitting air into the body of the churn. The churn is hung upon an inclination upon its axis and secured in any desired position by brackets, thus preventing the cream from running out of the aperture in the journal and holding the churn in position while being emptied or filled.

Claim.—First, in combination with the brackets F a rectangular shaped churn with a hollow journal for the purpose of admitting air into the cavity of the churn, the churn having an inclination upon its axis, the several parts being constructed, arranged, and operating as specified.

Second, in combination with the churn A and the frame B the brackets F F, when constructed and used for the purposes set forth.

No. 44,596.—G. F. **Burkhardt**, Roxbury, Mass.—*Faucet.*—October 11, 1864.—This device consists of a plug which enters the barrel, and is provided with an exterior flange, a screw thread just within this flange to take hold of the barrel head or side, perforations on one side near the inner end, and a cap on the inner end. Within this cap a spiral spring holds to duty a hollow plug, open on one side on line with the perforations of the outer plug. The horizontal barrel of the faucet enters this plug from without and screws upon the inner plug, which it then carries around with it, and whenever the opening in the side of this inner plug is coincident with the perforations in the outer plug within the barrel, the liquid flows, and when this coincidence ceases, the flow ceases.

Claim.—The sleever B, with handle C, fitting loosely into the tubular socket A, and operating in combination with the same and with the tube D, or its equivalent, and plug E, substantially in the manner and for the purpose herein shown and described.

No. 44,597.—**George B. Brayton**, Providence, R. I.—*Steam Generator.*—October 11, 1864.—This invention relates to an improvement in that class of steam generators in which steam is generated in pipes which are in direct contact with the products of combustion. Its novelty consists in surrounding and combining with that portion of the pipe which is located directly above the fuel, an extra tube or covering, the object of which is to take up and transmit to the generating pipe the heat evolved from the burning fuel, and at the same time protect the pipe from injury by the intense heat which would otherwise come in contact with it. These tubes or covers are made of cast-iron, or other substance capable of enduring great heat, and at the same time of transmitting it rapidly to the enclosed water-containing pipe.

Claim.—In an apparatus in which steam is generated in tubes, having a constant supply of water in combination with said tubes, the surrounding of the same with tubes capable of being highly heated, so that complete combustion of the gases emanating from the fuel, and while in contact therewith, may be effected, while its temperature is transmitted to the steam generating tubes, as herein set forth.

No. 44,598.—**George B. Brayton**, Providence, R. I.—*Steam Generator.*—October 11, 1864.—This invention consists in placing a series of plates over the tops of the pipes forming the generator, in such a manner that they are nearly in contact with them. The object of these plates is to prevent the too ready escape of the flame from the fire which is directly underneath from the pipes, and also to form spaces between the pipes and plates, corresponding in form to the former, so that the upper as well as the lower sides may be enveloped in the flame.

Claim.—The use of plates in the furnace of a steam generating apparatus, substantially as and for the purpose specified.

No. 44,599.—**George B. Brayton**, Providence, R. I.—*Steam Generator.*—October 11, 1864.—This invention consists in combining with a steam generator a vessel which serves the purpose of a steam drum and a feed water heater. This vessel has a diaphragm, or false bottom placed above the regular bottom, forming a chamber for the reception of the exhaust steam, which is below the feed water. In the upper portion of the reservoir is a space which communicates with the steam space of the boiler, so that the feed water derives heat from above and below. The steam for use is taken from the top of this vessel.

Claim.—In combination with a steam generator the employment of a vessel substantially as described, operating as a steam drum and feed water reservoir, substantially as shown and described.

Also, in combination with the above, forming an exhaust steam chamber under the body of the feed water, so that it shall be heated both from above and from below, substantially as set forth.

No. 44,600.—**George B. Brayton**, Providence, R. I.—*Steam Generator*.—October 11, 1864.—This invention relates to that class of steam generators in which the supply of water is controlled and regulated by being passed through a contracted opening in the pipe leading from the reservoir to the generator, the pressure being equal in both. Its novelty consists in controlling and regulating the supply of water in the generator by combining it with the reservoir by means of a contracted tube, said contraction being of such dimensions as to admit only so much water as will keep up the supply in the generator.

Claim.—In a tubular steam generator substantially as described, controlling the supply of water and regulating its action by combining, by means of a contracted tube, the said generator with a reservoir, the water in both being under like pressure, substantially as described.

No. 44,601.—**George B. Brayton**, Providence, R. I.—*Steam Generator.*—October 11, 1864.—This invention consists in combining a tubular steam generator with a water reservoir, arranged with a contraction in the pipe which conducts the water from the latter to the former, for the purpose of regulating the amount of water which passes, in accordance with the demands of the generator. This is effected by maintaining the water in the reservoir at a temperature less than 212° Fahrenheit, and injecting it into the generator by its tending to equilibrate hydrostatic pressure, caused by the space in the reservoir which is above the water line, being in communication with the steam space of the generator.

Claim.—The combination of a tubular steam generator with a water reservoir under the arrangement described, so that the water shall be maintained therein at a temperature less than 212° Fahrenheit, and be entered the generator by tending to equilibrate hydrostatic pressure between the generator and the reservoir, substantially as set forth.

No. 44,602.—**Wm. Campbell**, New York, N. Y.—*Curtain or Shade Fixture.*—October 11, 1864.—This invention consists of a wedge actuated by a spring and cord for holding the roller or preventing it from winding up the curtain or shade, which is operated by the spring in the roller, so that the curtain may be held at any desired height.

Claim.—The wedge E, pulley D, in combination with the spring roller A, all arranged substantially as and for the purpose herein set forth.

No. 44,603.—**Morgan Chittenden**, Danbury, Conn.—*Horseshoe.*—October 11, 1864.—In this invention a thin plate of the same shape as an ordinary shoe, secured to the same, and extending across from heel to heel, has a flange projecting from its outer edge upward, to suit the angle and surround the lower portion of the hoof. To each side of the flange near the heel is fastened a metal band, which, passing over the upper edge of the hoof, and being united by a cam button, secures the whole thereto.

Claim.—As a new improved article of manufacture, an animal shoe, the upper *a*, band *c*, and sole *b*, substantially as and for the purpose as described.

No. 44,604.—**Thomas Clark**, Ware, Mass.—*Loom Shuttle.*—October 11, 1864.—A weight in the form of a disk, and having a central hole, plays loosely on a vertical pin between the tip of the bobbin and the eye of the shuttle. Under this tension weight the thread passes, and the weight is designed to prevent the thread from twisting and kinking between the shuttle eye and bobbin tip, especially at the moment the shuttle is struck by the picker, and when the thread is slack.

Claim.—The weight resting upon the filling yarn within the shuttle, constructed as herein described and for the purpose specified.

No. 44,605.—C. A. **Codding**, Battle Creek, Mich.—*Finishing Eaves Trough.*—October 11, 1864.—This invention relates to a device for confining the several sections of which a gutter is formed, while the same are being soldered, and consists in a block, having a groove to receive the head, and another for receiving the body of the gutter, and a series of adjustable levers which fit into and may be made to clamp the same at any desirable point.

Claim.—The combination with the bed or platform A, and concaves B and C, of the adjustable pivoted levers D and hooks E, the whole being constructed and arranged in the manner and for the purpose herein set forth.

No. 44,606.—**Wm. S. Colwell**, Pittsburg, Penn., and **Utilles Baird**, Alleghany Penn.—*Saw-Mill.*—October 11, 1864.—The object of this invention is to simplify the operation of sawing, and at the same time to re-saw lumber more perfectly, and it consists in an arrangement of gearing springs and feed rollers so arranged that any desired speed and pressure can be given to the feed rollers whilst in operation, or can be adjusted to feed in thick or thin stuff with great facility.

Claim.—First, the arrangement of the cone pulley 10, endless screw 1, wheels 16 1 2 3 4 5 and 6, leaders 7 and 8, rollers *f* and *f'*, constructed, arranged, and operating substantially as herein described and for the purpose set forth.

Second, the arrangement of the screw *s*, swivel nut *y*, disk *r*, spring *t*, strip *g*, screw *v*, and spring *u*, when used in connexion with the rollers *f* and *f'*, as herein described and for the purpose set forth.

No. 44,607.—**Simeon Coon**, Havre de Grace, Md.—*Watch.*—October 11, 1864.—The spring of the watch is of sufficient length and size to run the watch for eight days. Its axis is coincident with the centre of the watch, and it is wound up by a piece or key hinged to the barrel.

Claim.—First, placing the barrel wheel A on the centre of the main watch-plate G, and turning the barrel wheel to wind up the watch by means of the hinged stationary winder B, as herein described.

Second, the flanged rim E, for securing the barrel wheel A to the main plate G, as described.

Third, attaching the main spring I to the centre wheel J, the outer end attached to the rim of the barrel wheel A.

Fourth, the arrangement and combination of the barrel wheel A, hinged winder B, flanged rim E, and centre wheels J and C, for winding a watch and setting the hands at the centre of a watch.

No. 44,608.—Joseph V. C. Crate, Waterbury, Conn.—*Hinge.*—October 11, 1864.—This invention consists in cutting from one of the leaves the projecting tongue which usually forms the middle eye of the joint, and inserting in its place between the leaves and the pintle a U-shaped piece, with hooks or flanges on the ends, with which the leaves, when opened to a certain degree, come in contact, and are thereby prevented from further opening.

Claim.—A stop composed of a separate metal plate, bent or curved, and inserted in a space between the two eyes of the hinge and between the pintle and the inner edges of the leaves, which abuts against said stop, and all constructed and arranged in the manner substantially as and for the purpose herein set forth.

No. 44,609.—Jonathan Creager, Cincinnati, Ohio.—*Sawing Machine.*—October 11, 1864.—This invention relates to a circular sawing machine for sawing small stock from slabs, and it consists in providing a rest which acts as a support to the slab to be sawed, and the board when sawed in a firm position: and it also consists in a hinged gravitating apron, inclined and resting against the slab, and thus holds the board to be cut off in position till it is delivered into the proper place to be conducted from the machine.

Claim.—First, the rests I, attached at their lower ends to the back of the feeding-table G, and passing up in the rear of the saw, the same being constructed and operating as set forth.

Second, the provision, in rear of a circular saw, of the inclined gravitating apron or flap M, whose lower edge is connected by means of a hinge *m* to the chute D, and whose upper edge is supported in near proximity to, without touching, the saw blade, substantially as set forth.

No. 44,610.—Frederick Crocker, Titusville, Penn.—*Lifting Pump.*—October 11, 1864.—The object of this invention is to combine with a reciprocating piston of a lifting pump a sustaining valve which shall relieve the piston of its load at its upward stroke, and there retain the water or other liquid while each successive downward stroke is being made. The novelty consists in the combination and arrangement of a piston, piston rod, sustaining valve, and seat of the barrel of the pump.

Claim.—Combining with a piston of a lifting pump a sustaining valve, when such valve is placed above, concentric and free to play on the rod of the piston, and has its seat in the barrel of the pump, substantially as and for the purpose specified.

No. 44,611.—Samuel Darling, Bangor, Maine.—*Weighing Apparatus.*—October 11, 1864.—The invention consists of a scale beam furnished with several fulcra near one end, and several corresponding graduated scales. The beam is a T-formed bar inverted, the flat side to be laid on a table, so that the fulcrum to be used shall be near the edge of the table, while the hod or pan is suspended at that extremity, overhanging the table. Sliding weights of different sizes are made to straddle the vertical portion or flange of the beam. and this constitutes the entire weighing apparatus.

Claim.—The improved scale beam as made, with a series of separate fulcra and scales of divisions arranged therewith, and to be used with one or more movable weights, and a hod or its equivalent, substantially as explained.

Also, the movable beam weight as made with the index arm, and so as to straddle and be capable of sliding on the beam, as specified.

Also, with the scale beam as made, with a series of separate fulcra and scales of divisions as described, the construction of the saddle-box *x* with the two notches X S, the same to be used in the manner and for the purpose specified.

No. 44,612.—Henry Decker, Duncansville, Penn.—*Cooking and Heating Stove.*—October 11, 1864.—In this stove the coal is fed from buckets, setting in apertures directly over the fire-grate; the buckets are provided with valves in their centre of the size of the interior; there are two fire-grates, either or both of which can be used at pleasure; the products of combustion pass through the top part of the stove, around the bottoms of the cooking vessels, down back side flues, under the bottom of the stove to the front part, up through the bottom of a box containing lime, which is designed to extract the carbonic acid gas, into front side flues, to a space between front of stove and front of fire-place, when the heat communicated through two holes in front of fire-place filled with metallic caps is expected to burn the gases purified by the passage through the lime box.

Claim.—First, the combustion chamber 6′ 6′, formed in front of the fire chamber by the continuation and conjunction of the vertical flues 4 and 5 with the flue 6, so as to expose the smoke and gases to an intense heat, and thereby cause them to be consumed before they escape from the stove, substantially as described.

Second, the metallic caps 11 and 12 in the front wall of the fire chamber, constructed and applied substantially as and for the purpose described.

Third, the combination of the lime drawers 3 and 8, or either of them, with the flues of a heating or cooking stove substantially as described.

No. 44,613.—Abraham Dodder, Washington, Iowa.—*Weather Strips.*—October 11, 1864.—This invention consists of a metal plate attached to the sill of a door, in such a manner that it will lie flat and out of the way while the door is open, but as the door is closed will insert itself between two strips upon the bottom of the door, so as to completely exclude wind and rain.

Claim.—The hinged or pivoted plate upon the door strip or bed of the frame of the door, in combination with the plates or strips attached to the door, the parts being constructed and arranged in relation to each other and operated as herein set forth.

No. 44,614.—Harrison Doolittle, Aurora, Ind.—*Churns.*—October 11, 1864.—This invention consists in a combination of devices for securing the dasher in place, in combination with a movable horizontal brake for more thoroughly agitating the cream.

Claim.—First, the arrangement of horizontal dash B C *b b′*, driving arbor D *d*, flaring undercut and grooved recess *a* J′, and tapering dovetail key E, the whole being arranged and operating substantially as set forth.

Second, the arrangement of the removable horizontal brake L *l*, cavity M, ledge N, and pin O, as described.

No. 44,615.—Merriman P. Dorsch, New York, N. Y.—*Folding Paper Collars.*—October 11, 1864.—The collar, when formed, is placed in position within guides upon a table, and the folding line is indented upon it by the edge of a disk, moving in an arc of a circle thereon, said disk being attached to one end of a shaft, the other end of which is held by a vertical pivot; the collar is then folded by hand and passed between two rollers, one of which is shorter than the width of the collar, that the free edges thereof may be permitted to stand apart as the circular bend gives them liberty to do.

Claim.—Preparing paper collars for making the fold in a curved line, by subjecting the paper, while resting on a table or equivalent surface, to the action of a creasing wheel on a radial vibrating arm, substantially as described.

Also, completing the fold of paper collars which are folded in a curved line, by drawing them between two rollers which are free to turn on independent studs, when one of the said rollers is shorter than the width of the outer or folded part, substantially as described.

No. 44,616.—Gerhard F. Dresing, Buffalo, N. Y.—*Leather Pressing Machine.*—October 11, 1864.—This invention relates to an improvement in leather pressing machines designed for hand use in boot and shoe makers' shops. It consists in a frame having journal boxes formed in the top of the machine for the support of the upper roller, and slots for guiding the lower roller, and forked fulcrum lever, in combination with the convex and concave rollers, a pedal and a connecting rod.

Claim.—The iron frame A, having journal boxes formed in the top thereof for the support of the upper roller, and slots *g* for grinding the lower roller, and forked fulcrum lever D, in combination with the convex and concave rollers B C, pedal E, and connecting rod F, for the purposes and substantially as set forth.

No. 44,617.—Jacob Dunton, Philadelphia, Penn.—*Camp Stove.*—October 11, 1864.—This invention consists of a boiler attached by its edge to a casing or hood, the top or cover of both being identical. The casing extends all around some distance below the boiler, so that when used the heat can circulate about the bottoms and sides of the boiler. In the front of the casing, near the bottom, is a damper; at the end a smoke pipe. On top, at front, is a hole provided with a cover. In front and nearly on a level with bottom of boiler is a pipe and stop-cock. This invention is designed to be used over camp fires by soldiers in the field.

Claim.—The hood or casing B, employed in connexion with the boiler A to adapt the same to be heated by a fire built upon the ground and to protect the fire, in the manner and for the purposes explained.

No. 44,618.—William M. Eccles, Oberlin, Ohio.—*Machine for Shearing Sheep.*—October 11, 1864.—This machine consists in the employment of stationary and vibrating cutters, both of which are secured to a block, which also serves as a handle. The vibrating knives are put in motion by means of a spiral groove around a cylinder, into which a pin extends from the rear end of the knives. The pulley is worked by a cord and spring.

Claim.—The combination of the cam wheel, the ratchet, the pulley, the cutters, and spring, as above described and for the purpose set forth.

No. 44,619.—George E. Evans, Boston, Mass.—*Apparatus for Evaporating Saccharine Liquids.*—October 11, 1864.—This invention consists in supplying perforated steam pipes so as to heat evenly the bottom of the pan. A pan C assists in carrying off the vapors.

Claim.—First, the combination of the perforated pipes, or their equivalents, for conveying steam equally to all parts of the heating chamber with a separate vessel or steam trap, so arranged and operating as to prevent the presence of water in the said heating chamber.

Second, in combination with rotating disks or plates, a revolving pan or pans, operating substantially as described.

No. 44,620.—George H. Felt, New York, N. Y.—*Reefing and Furling Sails.*—October 11, 1864.—This invention consists in a method of furling or reefing sails by a special interlacing (diagonal crossing) of the reef ropes.

Claim.—The combination of ropes, in form and manner of lacings, for the purpose of reefing and furling sails, the said lacings remaining stationary and the sail being reefed by the yard being lowered, all arranged and combined as specified.

No. 44,621.—Henry Fleming, Chicago, Ill.—*Anchor Clutch.*—October 11, 1864.—The specialty of this invention consists in the application of a bed piece, in which slides the bar operating a two-pronged hook or detent.

Claim.—The bed piece A, the slide B, and the prongs D, when arranged and operating substantially as and for the purpose set forth.

No. 44,622.—Henry Gerner, New York, N. Y.—*Furnace Grate Bar.*—October 11, 1864.—This invention consists in forming a lateral groove in a grate bar, on both sides of which, at the bottom of the groove, is a series of small holes for the admission of air by the draught; and on the sides of the bar, of diamond-shaped corrugated projections, to keep the bars apart and at the same time allow the ashes to fall readily, while the draught is not impeded

Claim.—First, the groove *a* extending in a longitudinal direction throughout the upper edge of the grate bar A, in combination with the transverse holes *b*, constructed and operating substantially as and for the purpose set forth.

Second, in combination with the aforesaid groove *a* and holes *b b*, the diamond shaped corrugated projections *c c*, constructed and operated as specified.

No. 44,623.—Moore Hardaway, St. Louis, Mo.—*Machines for Making Bolts.*—October 11, 1864.—In this apparatus the blank on which the head is to be formed lies clamped in dies directly in line with a plunger, the diameter of which is equal to that required for the head. Around the plunger, near its extremity, and attached to a sliding carriage, is a die, which, in its normal position, projects beyond the end of the plunger and abuts close against the clamping dies, and thus surrounds the projecting end of the blank. While in this position the plunger, forced up by a cam, upsets the end of the blank and compels it to take the shape of the die, after which, the plunger still continuing to bear against the head of the bolt, the carriage is drawn back, which removes the die from around the head, at the same time that the clamping dies are made to separate from each other, and the bolt, thus entirely released, is free to fall from the machine.

Claim.—The combination of the die box *b*, header *k*, and clamp dies *d d'* in a bolt or rivet-heading machine, when operating in the manner and for the purpose herein set forth.

No. 44,624.—Stewart Hartshorn, New York, N. Y.—*Curtain Fixture.*—October 11, 1864.—This invention consists in providing the curtain roller with a pawl, which engages with notches in a hub on one end of the roller, so that the curtain may be retained or held at different points in the length of its movement, and the curtain adjusted by a simple manipulation of the same, the usual cord being dispensed with, a spiral spring within the roller causing the curtain to be rolled up with a quick motion that will not allow the pawl to take hold in the notches on the hub.

Claim.—A pawl E attached to the bracket or other fixture near a shade roller to engage with a notched hub E attached to one end of said roller, when said parts are used in connexion or combination with a spiral spring C placed within the shade roller, and all arranged to operate substantially as and for the purpose herein set forth.

No. 44,625.—James Hatfield and John Wall, Ogden, Ind.—*Grain Screen.*—October 11, 1864.—This invention consists in an octagonal screen covered with wire cloth of such fineness as to prevent the passage of the grains of wheat. The inside of the screen is armed with longitudinal slats which lift the grain about half the diameter of the cylinder and cause it to fall upon the screen. The grain is admitted through a hollow journal at one end, and passes out at the other through a series of openings at the opposite end.

Claim.—The hopper H and reel B, when constructed and arranged substantially as shown and described, and operating in the manner and for the purposes set forth.

No. 44,626.—E. G. Hofmann, St. Louis, Mo.—*Bucket for Preserving Butter, Fruit, &c.*—October 11, 1864.—The object of this invention is to produce a convenient and cheap bucket for family use, which may at the same time be adapted for use as a package for the preservation of butter, fruits, &c., and it consists of a bucket made of tin or other metal provided with a flanged lid fitting upon a shoulder in the bucket. In the lid is an aperture which is kept closed with a screw cap.

Claim.—The bucket A B *c f d*, constructed substantially as herein described and represented, as a new article of manufacture and trade, for the purposes set forth.

No. 44,627.—Benjamin J. C. Howe, Syracuse, N. Y.—*Pumps.*—October 11, 1864.—A hollow piston and hollow piston rod move in a cylinder having a valve at its bottom; and at the bottom of a side channel is a valve communicating with the upper part of the cylinder. Within the piston a cup valve rests with its bottom upon a hole in the centre of the under part of the piston, and an outer flange closes upward against holes between the piston rod and the perimeter of the piston. The side of the cup has openings to permit the ascent of the water from below. The water from above passes over the flange, and into the cup, and thence upward through the hollow piston rod. When the pump is at rest, the valve in the hollow piston so presses upon the heel of the valve at the bottom of the cylinder as to cause the latter to open while the interior valve is held centrally within the piston, so as to keep all its ports open. The piston rod, piston and cylinder are all thus kept empty.

Claim.—The construction and operation of the valve *c* within a hollow piston, as shown and described.

Also, the extension of the valve *d*, in combination with the piston *b b* and valve *c*, substantially as shown and described.

No. 44,628.—M. G. Hubbard, Syracuse, N. Y.—*Mowing Machines.*—October 11, 1864.—This invention consists in constructing the "corner plate" attached to and forming the rear end of the drag bar, and to which the inner shoe of the cutting apparatus is hinged, with an upward curve, in the form of an inverted U, for the purpose of allowing the pitman which plays through said curve to be made straight.

Claim.—The curve D, in the corner plate, substantially as and for the purpose set forth.

No. 44,629.—M. G. Hubbard, Syracuse, N. Y.—*Mowing Machines.*—October 11, 1864.—This invention has for its object the strengthening of the cutter bar at its inner or heel end, and consists in bending and doubling under about one foot, in length, of the steel bar forming said cutter bar. In addition to this end connexion of the parts of the bar, they are further secured to each other by rivets; the connexion at the end serves to prevent strain upon the rivets, and also to prevent any liability of the parts to relative endwise vibration.

Claim.—The manner of conducting and strengthening the cutter bar, substantially as and for the purpose set forth.

No. 44,630.—E. Hughes, McCartysville, Cal.—*Percussion Lock for Discharging Mining Blasts.*—October 11, 1864.—The invention consists in applying a spring plunger and a nipple for holding a percussion cap, (within a short tube,) arranged similarly to an ordinary gun lock, and combining therewith a spring-releasing detent for connecting the said percussion lock to the fuze of the mining blast, in such a manner that the cord by which the trigger of the lock is pulled simultaneously releases the said detent and allows the said percussion lock to be safely withdrawn.

Claim.—First, the barrel A, provided with a hammer D, tip B, nipple C, trigger G, and dog H, all constructed and operating substantially as herein shown and described.

Second, the combination of the trigger G, catch F, and hammer D, with the prop I, dog H, and cord J', substantially as and for the purpose set forth.

No. 44,631.—E. H. Hull, Millersburgh, Ohio.—*Submarine Shot Conductor.*—October 11, 1864.—The shot conductor consists of a tube, one end of which is attached to a gun-carriage, so that by its motion the tube may be protruded or withdrawn through the side of the ship in an India-rubber stuffing box. The outer end of the tube has an India-rubber valve, which is strengthened by a metallic casing. The shot forced through the tube is to issue from the valve. The valve, from its material and from the pressure of the water, is to close itself against the entrance of water into the tube, or through the tube into the vessel.

Claim.—The tube and valve G, together with the metallic lining F F F, when arranged and operating in the manner and for the purpose described.

No. 44,632.—William Huston, Wilmington, Del.—*Slide Valves for Steam Engines.*—October 11, 1864.—This invention relates to slide valves for steam engines, whereby a portion of the steam from the cylinder of a high-pressure engine is exhausted to the atmosphere and the balance into a condenser, in order that a vacuum may be formed. Its novelty consists in providing a double exhaust chamber in the valve in such a manner that by the usual movement of the valve a portion of the steam is exhausted into the atmosphere, and by a continuation of the movement of the valve in the same direction the remaining portion is exhausted into a condenser. To effect this, apertures are provided in the valve itself in addition to those usually employed, which carry the steam of the first exhaust to an escape aperture in the vent, from which it escapes, and the same apertures carry the steam to two other apertures in the vent, through which it passes to the condenser, to which an air pump is connected for the purpose of producing the vacuum.

Claim.—A valve D, with channel *d*, and apertures *e e' f*, arranged in combination with the seat A, and ports *a a' b b' c*, substantially as and for the purpose set forth.

Also, the exhaust *c* applied in combination with condenser exhausts *b b'* and valve D, or its equivalent, in the manner and for the purpose substantially as described.

No. 44,633.—JAMES JERVIS, Baltimore, Md.—*Machines for Cutting Files.*—October 11 1864.—In this device the anvil is susceptible of two motions, the one rotating and horizontal, the other rectilinear. The bed for the blank, straight upon its upper surface, lies in a semi-cylindrical groove in the face of the anvil, and is thus capable of a rocking motion, while the blank itself, by virtue of its curved surface, has, during the process of cutting, a longitudinal rocking motion imparted to it by a regulator, as it is called, which slides upon the face of the blank immediately in front of the chisel and presses it at this point firmly down upon the bed. The chisel stock, and consequently the chisel itself, is susceptible of adjustment in any desired inclination to a vertical plane, and force is imparted to the chisel by an adjustable spring, in the usual manner.

Claim.—First, the combination of the regulator Y with the movable conical cam, whereby the thickness of the shape is made to regulate the force of the blow of the chisel.

Second, the combination of the regulator aforesaid with the levers, through the action of which, as described in the specification, the thickness of the shape is made to impart a lateral movement to the conical cam.

Third, the arrangement of the devices, whereby the shape is kept upon the anvil, as described, and the regulator is made to impart a longitudinal rocking motion to the shape, and is moved forward under the chisel, so as to secure a perfect resistance to the blow of the latter, notwithstanding the shape and the flatness of the anvil.

Fourth, the combination of the saddle-shaped anvil proper, permitting the screw moving it to be placed beneath it with the rest on which it slides another clasp *f f* on the endless screw T.

Fifth, the combination of the endless screw on bolt *g*, Fig. 4, and cog-wheel *f*, with the regulator, whereby the parallelism of the latter with the edge of the chisel may at all times be secured.

Sixth, the combination of the chisel with the adjustable block D, arranged as described, whereby the tooth of the file may be cut sharper or blunter, as required.

Seventh, the arrangement of the chisel frame with the anvil frame, in the manner herein described, by which their distance from each other may be varied as described.

No. 44,634.—GEORGE JURY, Baltimore, Md.—*Working Oyster Tongs.*—October 11, 1864.—This invention consists in a method of operating the grappling tongs used in the oyster fishery, by means of a common barrel, mounted as a windlass and rigged with reverse cords, &c., so as to work two pairs of such grappling tongs alternately.

Claim.—The method above described of combining a common strong barrel as an elevator, with cords and blocks to several pairs of rakes, operating and geared as above described, for the purpose of raking oysters with but few hands.

No. 44,635.—HORACE M. KEITH, Pontiac, Mich.—*Distributing Fertilizers.*—October 11, 1864.—This invention consists of a long metallic cylinder pierced with holes in rows parallel to its ends. An equal number of bands pass around the cylinder, and are fastened to a metallic rod, extending along both sides and united at one end. By a movement of this rod the bands are slipped so as to cover, partially, or entirely, the holes, and regulate the escape of the fertilizer. The cylinder is upon a shaft that may be geared to any kind of traction wheels.

Claim.—The cylinder A, the forked rod B, the bands *e*, and bands *d*, the whole arranged, constructed and operating substantially as herein set forth.

No. 44,636.—WILLIAM H. KIMBALL, Lynn, Mass.—*Machine for Rubbing Seams of Boots and Shoes.*—October 11, 1864.—This invention consists in the combination of a convex and grooved rolls, arranged for the purpose of rubbing or pressing down the seams at the heel end and front of a closed boot or shoe upper before the same is bottomed; further, in the combination of a cylindrical roll with a hollow open roll with one end open for the introduction of a burner to heat the surface of the cylinder, and thus facilitate the pressing down of the seams; and finally, the arrangement of a lower roll upon the top of a post, to allow said roll to extend into the inside of the upper.

Claim.—The combination of the convex and grooved rolls, when arranged substantially as described, for the purpose of rubbing or pressing down the seams at the heel end and front of a closed boot or shoe upper before the same is bottomed.

Also, the combination of the cylindrical roller *r* with the hollow open roll *s*, in the manner and for the purpose substantially as described.

Also, the arrangement of the lower roll upon the top of a post, or any arm projecting therefrom, to allow said roll to extend into the inside of the upper, substantially as set forth.

No. 44,637.—JACOB B. KINGHAM, East Bridgewater, Mass.—*Nail Machines.*—October 11, 1864.—In this machine there are two movable cutters which co-operate with each other and with the stationary cutter in separating a blank from the plate, one of which being very narrow, cuts but a small portion near the edge of the plate. The other broad cutter, after the blank has been cut off, serves, in conjunction with the end of a support raised up from below and that of another support coming up from the rear, and the stationary cutter, to grip the blank firmly upon each of its four sides, and so hold it until a heading punch moving horizontally shall have formed the head upon the blank, the narrow cutter having previously been elevated out of the way, leaving a portion of the blank corresponding to its breadth projecting outside of the holding die, formed as above stated.

Claim.—The combination of the stationary cutter and gripper I, the movable cutter and gripper G, the movable cutter H, the two movable grippers K N, and the header R, arranged as set forth, and provided with mechanism for operating them, substantially as specified.

Also, the combination of the same and the steadying strut W, the object of the latter being as herein before explained.

No. 44,638.—JOHN H. KOELLER, New York, N. Y.—*Artificial Arms.*—October 11, 1864.—This invention is for amputations above the elbow. The shoulder joint is imitated by a cap or collar and a hoop which turns on the collar by looped brackets, which slide upon a wire ring suspended to the lower edge of the collar. The case which holds the stump is attached to the hoop by a hinged joint, and turns with it. The motions of the stump, whether rotary or back and forth, turn the hoop, and by means of a system of jointed levers, the fixed points of which are on the collar, and the case for the stump, motion is communicated to a segment wheel at the elbow joint, to which the levers are attached, and this wheel acting upon a pinion on the forearm causes it to be flexed and extended according to the motions of the stump.

Claim.—First, the method or mode of constructing the artificial shoulder joint by means of the collar A, the ring B B, and the hoop D D, sliding or moving on the same by means of the brackets E E, together with the hinge motion of the shell F of the upper arm, effected by the movement of the stump, and by means of pivots G G, as herein before set forth and described.

Second, the arrangement and mode of constructing the artificial elbow joint, and the following enumerated parts, for effecting the flexion and extension of the forearm, and the alternating right-lined motion of the slide T, for the flexion and extension of the thumb and fingers, to wit: the bracket N, the curved hinged link Q, the rod R, the link S, with its hinge P, the segment of cog-wheel H, the pinion wheel L, the brace W, the connecting rods U U, and the slide T, as herein before fully specified and described.

No. 44,639.—C. W. THEO. KRAUSCH, St. Louis, Mo.—*Washing Machine.*—October 11, 1864.—This invention consists of a mash tun with a step-block secured to its bottom, which has affixed to its upper end a horizontal level spur wheel, that also serves as a bearing for a central vertical shaft, which is supported in its upright position by a beam extending across the top of the tub. To the upper part of the vertical shaft is affixed a bracket, extending downwards towards the sides of the tun, so as to form a bearing for a horizontal rotating shaft, the other end of which rests in a collar box attached to the lower part of the vertical shaft. The horizontal shaft is provided with a number of oblique wings, and these wings have pins projecting from each side, and the shaft is so arranged that as it moves around with the vertical shaft it is rotated on its own axis by means of a pinion level wheel, the teeth of which engage with the stationary level wheel attached to the step-block.

Claim.—First, a machine provided with a horizontal rotating shaft F, having stirring wings on it, operating substantially as described.

Second, the bracket support E for the shaft F, in combination with a vertical turning shaft C, substantially as described.

Third, the combination of a horizontal shaft F for the stirrers *a*, vertical shaft C, circular rack *u*, a bracket E, and pinion spur wheel *g*, arranged and operating substantially as described.

Fourth, the construction of the stirring wings *h* with the teeth, or other equivalent projection, substantially as set forth.

Fifth, the use of spiral stirrers, applied to a horizontal shaft F, working within the tun, substantially as described.

Sixth, elevating and at the same time giving a lateral motion to the mat during the washing process, by means substantially as herein described.

No. 44,640.—WILLIAM E. LOCKWOOD, Philadelphia, Penn.—*Apparatus for Bending and Folding Paper Collars.*—October 11, 1864.—The rollers forming part of the apparatus, which were patented to J. F. Schuyler, February 24, 1863, are by this invention made one of them convex and the other concave, one of them having a narrow flattened surface in the direction of its length to relax the pressure as the fold of the collar passes through. The toothed plate, which urges the collar between the rollers, is bent to coincide with the surface of the rollers.

Claim.—First, the use of two rollers, one having a concave and the other a convex surface, in combination with a reciprocating plate *c* of a form corresponding with that of the rollers, substantially as and for the purpose herein set forth.

Second, cutting away the circumference of one or both of the rollers at one point, in the manner and for the purpose described.

No. 44,641.—Thomas Mason, Boston, Mass.—*Marine Propeller.*—October 11, 1864.—The propeller is of the class having floats on an endless chain. The improvement consists in feathering the floats or paddle blades by means of a sprocket chain, the links of the chains of which have a movement between the sprocket wheels.

Claim.—The combination of the feathering paddle blades *a* and sprocket chains *b*, when the links of the chains and the blades attached thereto are so arranged as to have a horizontal movement between the sprocket wheels *c c*, substantially as and for the purpose set forth.

No. 44,642.—B. W. McClure, Wyoming, Iowa.—*Horse-collar Block.*—October 11, 1864.—This invention consists in the crossing of the hame cord with its end attached to an adjustable bar, when said cord is used in connexion with the mould-block and rim-setter, the latter being attached to an elastic bar by means of a hinge also in a bar, provided with a series of curved legs resting on the rim-setter, and a stretcher combined with the mould-block and rim-setter.

Claim.—First, the crossing of the hame cord H, with its ends attached to an adjustable bar I, when said cord is used in connexion with the mould-block B and rim-setter C, substantially as and for the purpose herein set forth.

Second, the attaching of the rim-setter C to an elastic bar E by means of a hinge or joint D, to admit of the ready manipulation of the rim-setter, as described.

Third, the bar *e*, provided with a plurality of legs *f* at each side, when used in combination with the rim-setter C and mould-block B for the purpose specified.

Fourth, the enlarged stretcher L in combination with the mould-block B and rim-setter C all arranged substantially as and for the purpose set forth.

No. 44,643.—Edwin R. McKean, Washington, D. C.—*Ambulance.*—October 11, 1864.—The invention consists in arranging fans to be actuated by the motion of the carriage; also in certain conveniences in supplying water to the patients; also in ventilating by a peculiar arrangement of slats on the sides, and also in providing stretchers to run upon rollers, so that the patient can be raised into and run into the vehicle with ease and comfort.

Claim.—First, the false bottom B, constructed substantially as described, and supported upon the rubber springs *a*, or their equivalents.

Second, the roller F, arranged to operate as described, whether the same may be attached to the false bottom B or to the bottom of the body A.

Third, the stretcher D provided with the roller E and hook *c*, or its equivalent, when constructed and operating as and for the purpose herein set forth.

Fourth, providing an ambulance with a water vessel having tubes so arranged that the occupants can supply themselves at pleasure.

Fifth, arranging a fan in connexion with an ambulance, in such a manner as to supply a current of air to the occupant.

Sixth, constructing the sides of the body of an ambulance with vertical slats having bevelled edges, so that when said slats are closed they shall present a plane surface, both externally and internally, as shown and described.

No. 44,644.—Joshua Monroe, New York, N. Y.—*Artificial Leg.*—October 11, 1864.—This invention consists in the use of raw-hide as the material for artificial limbs.

Claim.—The employment or use of raw-hide in the manufacture of artificial limbs, substantially in the manner herein specified.

No. 44,645.—Andrew J. Morse, Melrose, Mass.—*Soda Water Apparatus.*—October 11, 1864.—This invention consists of a box provided with a cover, consisting of two parts, attached together by hinges. One of the parts is firmly attached to the box, and is provided with charging cups. The first named box contains an ice box and sirup boxes, which are placed directly under the charging cups, and are provided with indicators. Each sirup cock is so constructed as to have a space between the sirup conduit and the outer casing of the cock, this space communicating with the ice box.

Claim.—In connexion with one or more sirup vessels or jars, the indicating tubes, arranged and operating substantially as described.

Also, in combination with the sirup vessels and indicators, the charging cup *g*, arranged upon the top of the box and leading into the sirup vessels, as and for the purpose set forth; and, with an apparatus constructed with the charging cups and indicators, the construction of the top of the box with the fixed part *f* and hinged cover *i*.

No. 44,646.—George M. Mowbray, Titusville, Penn.—*Ejector for Oil Wells.*—October 11, 1864.—This invention consists in closing the lower end of the usual centre pipe, and perforating it with holes for a certain distance from the bottom, and covering these perforations with a deflector, which is made adjustable on the pipe. Immediately above this deflector is a cup-shaped piece, also made adjustable upon the pipe in such a manner that by screwing it down to its proper position a thin annular space is formed between it and the deflector, through which the air passes and gives an upward motion to the surrounding fluid. The office of the deflector is to receive the air or steam as it emerges from the perforations in the pipe and give it its upward direction.

Claim.—First, the ejector, composed of a pipe closed at the bottom and perforated at the sides, in combination with the conical cup D, constructed and applied substantially as and for the purpose described.

Second, the upper tube *e*, or its equivalent, for the purpose of increasing or diminishing the annular space *b* at the upper edge of the ejector, substantially as described.

No. 44,647.—S. P. Ochiltree, W. S. Weir, Jr., and A. P. Baymount, Monmouth, Ill.—*Machine for Filing Saws.*—October 11, 1864.—In this invention the saw is held in a clamp which slides in ways adjustable horizontally at any needed angle. The file is attached to a carriage, adjustable vertically to suit the angle of the teeth of the saw. A driving wheel, with a crank and pitman, gives the file carriage its proper motion. Another wheel, with a stud projecting from its side, raises a rod connected with the outer end of the file carriage, and lifts the file out of the teeth of the saw, when the latter at the same time, by means of studs projecting downwards from the under surface of the clamp and gearing into a cam slot in said wheel, is moved the proper distance forward for the file again to operate.

Claim.—First, the adjustable guide O in connexion with the slide M, crank F, and pitman N, for giving motion and a proper direction to the file T, substantially as and for the purpose set forth.

Second, the slide W provided with the pin *c*, in combination with the pin a^* of wheel K, for the purpose of raising the file during the feed movement of the saw, as set forth.

No. 44,648.—Adalbert Paersch, New Orleans, La.—*Apparatus for Washing and Drying Photographs.*—October 11, 1864.—This invention consists of a wheel with a hollow shaft to admit a flow of water, revolving in a box or chamber. The periphery of the wheel is made of frame work, against which the photographs are held by loosely woven cloth encircling them. The water from the shaft is admitted while the wheel is in revolution to wash the prints, and they are dried by the same or increased revolution by stopping off the supply of water.

Claim.—First, the washing, &c., between separate layers of textile material.

Second, the combination of the whole apparatus as set forth in the specification and drawing.

No. 44,649.—Ezra Parker, Beverly, Ohio.—*Bellows Pump.*—October 11, 1864.—This invention consists of a bellows pump with an air chamber above and eduction pipe continuous therefrom, the combination of the parts of which will be understood from the claim.

Claim.—The combination and arrangement of the upper and lower plates A, flat rings B, air chamber C, leather or gum disks *c*2, discharge pipe D, lever E, small plates or valve seats *f*, supply and exhaust valves *h*′, the whole arranged substantially as specified for the purpose set forth.

No. 44,650.—J. J. Parker, Marietta, Ohio.—*Feed Cutter.*—October 11, 1864.—This invention consists in suspending the feed box upon a shaft, and moving it up and down by means of a lever, thus bringing the hay or straw in contact with a stationary blade. A rake head moved by the same lever forces forward the straw. To the end of the feed box nearest the knife is fitted a V-shaped metallic mouth piece, with a face rounded to correspond with the arc of the circle formed by the movement of the box.

Claim.—First, suspending the box G on the shaft G, in combination with the rake head M, or its equivalent, in the manner and for the purpose set forth.

Second, the V-iron, when combined and connected substantially in the manner described.

No. 44,651.—H. K. Parsons, Harrisburg, Penn.—*Cider Mill.*—October 11, 1864.—In this machine the concave is armed with teeth similar to those on the cylinder. Two of these concaves are mounted side by side, occupying in width a space equal to one-half the length of the cylinder. They are hinged or pivoted to an adjustable breast board. Attached at each end to the concave is a metallic yoke or strap enclosing an eccentric, with which the latter is kept in contact. The breast board is made adjustable, so as to grind the material fine or coarse, as may be desired.

Claim.—First, the concave C in combination with the adjustable breast board D, constructed and operating as shown.

Second, the elongated yoke *c*, in combination with the concaves C and adjustable breast board D, when constructed and arranged to operate as and for the purpose herein set forth.

No. 44,652.—Isaac D. Peck, South Bristol, N. Y.—*Pitchfork.*—October 11, 1864.—This invention relates to the construction of the tines and mode of fastening them into their socket, and will be readily understood from the claim and engraving.

Claim.—Securing the tapering shanks of the tines of a fork into a correspondingly tapered recess formed in a socket piece *a* by means of wedges or keys inserted between the shanks, substantially as described.

No. 44,653.—John W. Penney, Mechanic Falls, Me.—*Wrench.*—October 11, 1864.—In this wrench the movable jaw plays in a longitudinal slot in the shank to which the stationary jaw is attached, and is held in its place by a ratchet and pawl, the latter attached to the outer edge of the tenon which forms part of said sliding jaw.

Claim.—The sliding jaw C, provided with a tenon *a*, which is fitted in a slot *b*, in the shank A, of the stationary jaw B, in combination with the rack *f*, on the back of the shank A, the spring D, fitted on the tenon *a*, and secured to jaw C, by screw *d*, and having a lip *c*, to engage with rack *f*, all being arranged substantially as and for the purpose set forth.

No. 44,654.—E. L. Perry, New York, N. Y.—*Horse Cover.*—October 11, 1864.—This invention, which relates to a means of protecting horses from the inclemencies of the weather, consists in a cover so constructed as to permit the circulation of the air between the same and the body of the animal, the ventilators having a roof over the openings, being supported by means of attachment that will keep it clear from the cover.

Claim.—First, a cover for horses and other animals constructed so as to permit the circulation of air through the same and between it and above the body of the animal, substantially as and for the purpose above described.

Second, making a ventilating cover for horses and other animals by means of louvers B and D, or either of them, constructed and applied substantially as above described.

Third, supporting the roof of the louver over the openings in the cover, and clear from the cover, by means of rivets and elastic or other rings fast on the rivet bodies, or of other fastenings or modes of attachment, substantially as described.

No. 44,655.—James Pine, Troy, N. Y.—*Mowing Machine.*—October 11, 1864.—This invention relates to the means for adjusting or raising and lowering the cutters connecting the draught with the vibrating cutter frame, whereby the cutter bar is slightly raised from the ground when in operation; and to the particular arrangement and manner of connecting the track clearer and the braces of the hinged cutter bar.

Claim.—First, the movable or adjustable lever L, arranged substantially as shown for raising the cutter bar.

Second, the brace H, arranged and applied substantially as shown, to serve as an efficient brace or stay for the cutter bar, and at the same time not interfere with the raising and lowering of the latter, as set forth.

Third, the draught lever P, applied to the draught pole and bar G, of the cutter bar M, to operate in the manner set forth.

Fourth, the track clearer S, applied to and made adjustable upon the outer end of the cutter bar M, by means substantially as and for the purpose specified.

No. 44,656.—John H. Porter, New York, N. Y.—*Foot-rest for Blacking Boxes.*—October 11, 1864.—The invention consists in the employment of a spiral spring which gives a limited movement to the foot-rest, whereby the foot adapts itself in position to the blacking brush.

Claim.—The combination of a box A with the foot-rest C, when the latter is attached to the former by means of a spring B, to admit of the adjustment of the boot or shoe, while on the foot of the wearer, to the brush, substantially as and for the purpose set forth.

No. 44,657.—Thomas J. Rice, Industry, Ill.—*Skimmer for Sugar Evaporators.*—October 11, 1864.—To the sides of the evaporating pan are secured two uprights, which form bearings for a rock shaft, having levers attached to each end, the lower end of the same being pivoted to rods to which the skimmer is attached. The front part of the pan forms a defecating apartment, having its front end made sloping, and the rear part of the pan is divided into smaller compartments by partitions which are slotted at their edges at alternate ends to allow the sirup to pass from one apartment to the other. The scum is carried off by means of a gutter into which it is thrown by the skimmer.

Claim.—First, the rock shaft J and rods O O, in combination with the skimmer frame *s* and skimmer L, as shown and described for the purpose set forth.

Second, the arrangement of the sloping end *c* and gutter *i*, in combination with the rock shaft J, skimmer frame *s*, and skimmer L, substantially as and for the purpose set forth.

Third, the combined arrangement of the defecating apartment B, the skimming apparatus, and sloping end, as shown and described for the purpose specified.

No. 44,658.—T. Louis Ray, Flora, Ill.—*Cultivator and Seeder.*—October 11, 1864.—The principal features of this improvement relate to a wheel for guiding the cultivator, and to bearing wheels for raising the cultivator, so that the teeth may work to a greater or less depth, as may be desired.

Claim.—First, the application to cultivators of the rudder A, for the purpose of steering the machine and raising the front end of the machine from the ground.

Second, the arrangement of the wheels Q and H, as set forth and for the purpose specified.

No. 44,659.—W. S. Riggs, Hightstown, N. J.—*Furrowing Device.*—October 11, 1864.—This invention consists in placing two runners at suitable distances apart, and secured by adjustable beams, and placing in the rear of each runner a furrowing plough. These ploughs may be lowered or elevated, as may be desired, and secured in their position by means of pins.

Claim.—The adjustable shares E, when constructed with the mould boards *c c*, curved outward at the upper and rear ends of the shanks *a*, which are secured in the rear ends of the runners A A, by pins *b*, to form a new and improved furrowing device, for the purpose specified.

No. 44,660.—E. R. Root, Hartford, Conn.—*Primed Metallic Cartridges.*—October 11, 1864.—In a metallic cylindrical cartridge case (closed at the rear) a circular disk is inserted from the front and pushed down to the bottom. It has radial slots in it, which contain the fulminate, placed there before the disk is put in the case. The disk is not entirely severed by these slots. One of these sections of the disk, receiving a blow from the hammer upon the case, is driven down upon the others, which act as anvils and thus explodes the fulminate.

Claim.—The employment, within the case of the cartridge, of movable sections of solid material, having fulminate confined or arranged between their adjacent surfaces or edges, substantially as and for the purpose set forth.

No. 44,661.—Marcus T. Rounds, Taunton, Mass.—*Nail Machine.*—October 11, 1864.—This invention consists of a gripping device, which seizes the blank as soon as it is cut off by the end on which the head is to be formed, and holds it firmly until it is grasped by the dies, which swage the shank of the nail, when the nippers release their hold and move away from it, thus leaving the end of the blank which projects beyond the dies free to be acted upon by the heading tool.

Claim.—First, the movable back piece *t* on the heading side of the dies, operated by means of a cane or other suitable device, substantially in the manner and for the purpose set forth.

Second, extending the nipper L, working on the heading side of the dies, to grasp the head of the blank between said nipper and the movable back piece *t*, substantially as set forth.

Third, the nipper L, working on the heading sides of the dies, in combination with the movable back piece *t* and the guage *c*, arranged and operating substantially in the manner and for the purpose set forth.

No. 44,662.—Theodore Scharfenberg, Brooklyn, N. Y.—*Machine for Charging Fireworks.*—October 11, 1864.—This apparatus is designed for charging rockets and other similar fireworks, and consists of a frame provided on its lower platform with a series of stationary spindles and a guide plate, with corresponding openings for properly securing the tubes or cases to be filled; also, a series of plungers or rammers, corresponding in number and position, for packing the composition therein, and a weight suspended above for driving the rammers. A removable hopper provided with suitably arranged openings, and a double sliding frame beneath, with short tubes, serves to measure and supply the composition to the cases to be charged.

Claim.—First, combining with a series of spindles *a a*, arranged upon the bed plate, the guide plate F, to insure a proper position of the tubes *b b*, during the process of charging with composition, substantially as described and specified.

Second, combining with a series of spindles *a a*, tubes *b b*, guide plate F, and runners *c c*, the weight or driver J, arranged to drive the composition into the tubes *b b*, substantially as described.

Third, the construction and arrangement of the hopper having double slides, and provided with two sets of tubes *m* and *n*, for charging the tubes of fireworks with composition, substantially as described and for the purpose set forth.

No. 44,663.—J. F. Schneider, Brooklyn, N. Y.—*Refrigerator.*—October 11, 1864.—This invention consists in the employment of a blower, in combination with a cold water trough, in the lower part of the refrigerator, in connexion with air passages and tubes, so arranged that the atmosphere may be changed. Pasteboard or layers of thick paper are placed upon the walls of the refrigerator for the purpose of preventing the conduction of heat and air into the refrigerator.

Claim.—The combination and arrangement of the cold water trough, air passages, and blower, when placed in the lower part of the refrigerator, so as to be supplied with the water from the ice tray above, substantially as described, for the purpose of changing the air in the lower part of the refrigerator without causing a current of air to come in contact with the ice above.

Also, the arrangement and combination of the valve and outlet passages above, with the blower, cold water trough, and induction air passages below, substantially as described.

Also, the arrangement of thick pasteboard or layers of thick paper with the walls of refrigerators, substantially as described.

No. 44,664.—Nathaniel S. Shaler, Newport, Ky.—*Preserving Fruit, &c.*—October 11 1864.—This invention consists in placing the fruit in a room filled with carbonic acid gas. The fruit is placed on the shelves, which are so arranged that they may be raised up through the floor into a room when it is desired to fill them with fruit. The gas is passed through a refrigerating apparatus before entering the room.

Claim.—The employment of carbonic acid gas, and a refrigerating temperature, together and relatively to such substance, substantially in manner as herein before set forth.

Also, the combination of a preserving chamber *a*, a moisture refrigerating apparatus, and a means of circulating the carbonic acid gas of such chamber through or so in contact with the surfaces of the refrigerating apparatus as to not only cover the gas, but cause such mixture to be frozen or condensed and abstracted from the gas, substantially as specified.

Also, the preservatory as constructed of one or more dumb waiters or elevators D, or the equivalent thereof, the gas chamber A, the gas refrigerating apparatus E, and the gas circulating apparatus, the whole being arranged and combined substantially as and so as to operate in manner and for the purpose as specified.

No. 44,665.—Silvester Shaw, Russelville, Ohio.—*Apparatus for Throwing Horses.*—October 11, 1864.—This invention consists in a combination of straps, buckles, and hooks, which require a reference to the specification and drawings for a proper understanding of the apparatus.

Claim.—The combination of the strap E, the rope P, the straps A and F, the spancel B1 and B2, and the strap C. the whole constructed and arranged for the purpose substantially as herein specified.

No. 44,666.—Richard Shepard, Brooklyn, N. Y.—*Tag-holder for Bales, &c.*—October 11, 1864; antedated March 17, 1864.—This invention consists of a metallic instrument formed of a handle and a blade, the latter being wide and thin and terminating in a sharp point. In this blade is a narrow but deep and long cavity, into which fits a thin blade of the form shown in the engraving, and held in position in the cavity of the first named blade by means of rivets passing through slots and extending into the handle, the solid part of which is cut away to allow it to be slid backwards and forwards in the cavity. A third blade, provided with a barb and teeth, is employed with the above in attaching the same to the bale.

Claim.—The blade *b*, in combination with the thin slide *g i k*, and the instrument C, when operated as shown and described.

No. 44,667.—Forrest Shepherd, New Haven, Conn.—*Tree Protector.*—October 11, 1864.—This invention consists of small strips of mica sewed into a band with the edges overlapping and completely breaking joints. A rope soaked in tar or coal oil is fastened securely around the tree. The band of mica is then fastened around just above the rope, which makes it stand out from the tree at its lower edges. The mica, when vibrating in the wind, shakes off the worms before they are able to crawl down one side and up the other.

Claim.—As a new article of manufacture, an apparatus made by attaching strips or plates of mica to a band, to be placed around the body of a tree, to prevent the ascent of grubs, worms, and other insects, when constructed and fitted to be attached, substantially as herein described.

No. 44,668.—William Smith, Shrewsbury, Penn.—*Spring for Carriages.*—October 11, 1864.—This invention consists of a frame composed of longitudinal beams and end beams in combination with any desired number of slats passing through the said end beams, having oblong slots for the reception of pins, and being connected together by cross-bars.

Claim.—The frame composed of the longitudinal beams A and A′, and end beams B and C, in combination with any desired number of slats G H H′ and I, passing through the said end beams, having oblong slats for the reception of pins *e*, and being connected together by any desired number of cross-bars J K L, all substantially as and for the purpose herein described.

No. 44,669.—Wm. H. Smith, Birmingham, Conn.—*Packing Projectiles for Rifled Ordnance.*—October 11, 1864.—This invention relates to a method of applying the expansible packing or sabet to projectiles, for the purpose of cutting off windage and effecting the rotation of the shot in rifled guns, and the invention consists in providing a space sufficient for the ready access of the gases between the adjacent surfaces of the shot and that portion of the packing band which is to be forced out against the bore of the gun, whereby the ready and instantaneous action of the gases between the shot and its packing band is admitted of, and the packing band is made to fill perfectly the bore and grooves of the gun.

Claim.—The combination of the expansible packing band with the projectile, when constructed and arranged to operate in the manner substantially as described and for the purpose set forth.

No. 44.670.—William H. Smith, Birmingham, Conn.—*Jacket for Sub-calibre Projectiles.*—October 11, 1864.—This invention consists in making the centring jacket or case with both its forward and rear ends large enough to fill the bore of the gun, (of equal diameters,) and the portion entering between the enlarged ends small enough to fit closely the body or bolt therein enclosed, whereby the centring case or jacket is made capable of effectually holding the bolt or body centrally in the bore of the gun, both at the rear and front end of the former, and at the same time have the greater portion of its length so small in diameter as to involve little weight.

Claim.—Making the metallic holder case or centring jacket to fill the bore of the gun at both its rear and forward ends, and its intermediate portion to fit to the bolt or body of the shot, substantially as and for the purposes set forth.

No. 44,671.—Daniel E. Somes, Washington, D. C.—*Mode of Securing Pure and Wholesome Air in Dwellings, &c.*—October 11, 1864.—This invention consists in placing a receptacle for containing charcoal so arranged that the air of the room may have access to it. This charcoal receptacle may be attached to any articles of household furniture, such as tables, sofas, washstands, wardrobes, bedsteads, chairs, and may also be placed in the recess between windows, in closets, &c.

Claim.—The manufacture of articles of household furniture with receptacles for containing charcoal, substantially as herein set forth and described.

Also, the mode herein described of purifying the air in dwellings, halls, hospitals, and other places, by means of a charcoal receptacle, constructed substantially as herein specified.

No. 44,672.—Daniel E. Somes, Washington, D. C.—*Mode of Cooling the Air in Buildings.*—October 11, 1864.—This invention consists in lowering the temperature of the air in packing-houses and other buildings by rarefying the air by means of an air-pump or other means.

Claim.—First, lowering the temperature in buildings or excavations in the earth by rarefying the atmosphere in the same, in the manner and for the purpose set forth.

Second, ventilating the interior of buildings or rooms, in the manner described.

No. 44,673.—Charles S. Stevens and Alonzo [illegible] Boon, Galesbury, Ill.—*Hay Press.*—October 11, 1864.—This invention consists of a preliminary mode of compressing a small quantity of hay into flakes, each of which is transferred to a press box, in which, when a sufficient number of said flakes is collected, a final pressure is given to the whole. Where a large quantity of hay is compressed, as in the ordinary way, the elasticity of the hay in the centre is such as to prevent its being rendered very compact. But by intermediate pressure, given to a small quantity at a time, and by final compression of a large amount at a time, the bales thus formed will be made more compact than those formed in the ordinary way.

Claim.—First, the combination of the endless carrier cloth *f*, compression rollers *a′ a′*, and band roller *a″* with the metallic knife-edged plate *a*, substantially in the manner and for the purpose herein set forth.

Second, the swing lever C′ and slotted cane wheel *c*, in combination with the toggle-jointed levers C C and follower D, substantially in the manner and for the purpose herein set forth.

No. 44,674.—Nathan P. Stevens, Boston, Mass.—*Piston for Steam Engines.*—October 11, 1864.—This invention consists in providing a channel or groove in the ring which is placed between the flanges of the head, in which is inserted a small ring whose width is less than that of the groove in which it works, so that as the piston changes its motion steam enters the groove and moves the ring to the opposite side of the channel. A close chamber is provided within the piston head, to which steam is admitted from the cylinder through one or more openings leading out of it and into the groove. This close chamber is intended to retain a sufficient quantity of steam to act as a spring, and keep the small ring expanded during the period which intervenes between the exhaust of the steam on one side of the piston head and its reception on the other.

Claim.—The improved piston or piston head, as made with the vibratory ring and its groove and the steam-tight chamber opening into the groove, the whole being in manner and so as to operate as described.

Also, the combination of the annular projection *c*, or its equivalent, with the vibratory ring and its groove and the steam-tight chamber and its opening.

No. 44,675.—Isaac Straub.—Cincinnati, Ohio.—*Mode of protecting and repairing Shingle Roofs.*—October 11, 1864.—This invention consists in dissolving by heat shale rock, or bituminous cement, and then pouring it over the shingles of the roof, and afterwards applying a top dressing of sand.

Claim.—The application of roofing cement on naked shingles, substantially as above described, which makes a durable roof, and a complete protection against all weather, and nearly so against all outside fires.

No. 44,676.—O. H. Taylor, San Francisco, Cal.—*Attachment for Ladies' Shoes.*—October 11, 1864.—This invention consists of an elastic strap or band to be passed around and attached to the upper part of the shoe or gaiter, provided with a buckle and adapted to fit over a stud fixed to the front of the shoe.

Claim.—The elastic strap or band to be attached to and passed around the upper part of the shoe or gaiter, provided with a suitable buckle, and adapted to fit over a stud L, all as herein described and for the purposes set forth.

No. 46,677.—O. H. TAYLOR, San Francisco, Cal.—*Washboard.*—October 11, 1864.—The nature of this invention is explained by the claim.

Claim.—As a new article of manufacture a separate and complete hand washboard, constructed with a rubbing surface of corrugated zinc, straight at its upper end and concave at the lower end. all as herein represented and described and for the purposes specified.

No. 44,678.—JULIUS THOMPSON, Taunton, Mass.—*Apparatus for Drying Photographic Plates.*—October 11, 1864.—This apparatus consists of a metal jacket made to fit over an ordinary lamp in place of a glass chimney, which, being flattened on two sides and furnished with projecting studs, it allows of two plates being supported by them to dry at the same time.

Claim.—The chimney or flue A B, with one or more plain surfaces, as described above and for the purpose specified.

No. 44,679.—THOMAS J. TINDALL, New York, N. Y.—*Harvester.*—October 11, 1864.—This invention relates mainly to the construction of the main frame and the manner of applying the gearing thereto, and it consists in a combination of devices designated in the claim, which do not admit of a brief description.

Claim.—First, a main frame of a harvesting machine, constructed with a tubular socket for the axle of the running wheels, in such a manner that the said socket performs the double function of sustaining the said axle and of stiffening the frame transversely, substantially as set forth.

Second, a main frame of a harvesting machine, constructed with a socket for the tongue, in such a manner that the said tongue socket performs the double function of sustaining the tongue upon all of its sides and stiffening the frame longitudinally, substantially as set forth.

Third, the combination of the cog wheels of a harvesting machine, with still or silent shafts, which are rigidly secured to the frame of the machine, substantially as set forth.

Fourth, the combination of two of the cog wheels that impart motion to the cutter with each other by means of a saw-toothed spring clutch, so that the cog wheel nearer the cutter remains stationary when the machine is backed, and that the clutch may be operated by a lever to stop the cutter, substantially as set forth.

Fifth, the combination of the finger beam with the main frame by means of lugs and one of the shafts of the cutter gear, in such manner that the said shaft performs the double function of pinion, shaft, and joint pin for the hinge joint, substantially as set forth.

Sixth, the mechanism for raising and lowering the cutter bar, consisting substantially of a winch, vibrating lever, and saw-toothed clutch, combined together and operating substantially as set forth.

Seventh, I also claim the combination of the bevelled wheels together, by means of flanges which engage with each other and prevent the separation of the teeth of the wheels by movement in the direction of the axis of the wheels. substantially as set forth.

Eighth, the combination of the driving pulley of the reel with the grain wheel, by means of a spring clutch, in such manner that the revolution of the reel stops whenever the said grain wheel runs backward, substantially as set forth.

Ninth, the combination of a hollow reel shaft with a rod that connects the upper ends of the reel standards, so that the reel turns upon the said rod.

No. 44,680.—OWEN TURNER, Clinton, Wis.—*Apparatus for Handling Vicious Horses.*—October 11, 1864.—This invention consists in a fetlock strap, provided with a buckle and a staple, a controlling rein, a fetlock strap and a girth, and an elastic supporting strap combined with the controlling rein. In combination with the latter are fetlock straps and looped girth, with a supporting strap. The fetlock strap for the front foot has a pulley applied to it, so as to allow the controlling strap to slip freely through it.

Claim.—First, a harness adapted for correcting vicious habits in animals, which consists of a fetlock strap *a*, controlling rein A, fetlock strap *d*, and girth B, applied and operating substantially as described.

Second, the elastic supporting strap C in combination with the controlling strap A, when the latter is arranged substantially as and for the purpose described.

Third, the combination of the controlling rein A. fetlock straps *a* and *d*, and looped girth B, with supporting strap C, substantially as and for the purposes described.

Fourth, the construction of the fetlock strap *a* for the front foot, with a pulley *b′* applied to it in such a manner as to allow the controlling straps to slip freely through it in managing the horse, substantially as described.

No. 44,681.—MAXIMILIAN WAPPICH, Sacramento. Cal.—*Mechanical Movements.*—October 11, 1864.—This invention consists in constructing a thread which works in a pin wheel gearing in the following manner: The thread is formed by raising a lenticular-shaped bar spirally around a shaft in such manner that the groove formed by the thread corresponds

with the angles which the several pins in active contact with the thread make with the tangent shaft, and gradually widens toward the termini on each side; or, in other words, the lenticular-shaped bar is formed of two segments of a large circular disk, the chord of one meeting and resting against the chord of the other.

Claim.—First, a spiral thread, partaking closely of the character of a compound wedge, but in form lenticular, substantially as and for the purpose herein described.

Second, in combination with a pin wheel a spiral lenticular thread which will practically operate upon two or more of the pins of said wheel at the same time, substantially as set forth.

No. 44,682.—J. L. WELLS, Stockbridge, N. Y.—*Horse Hay Forks.*—October 11, 1864.—The head of this fork is curved and made of cast iron, and is provided with arms which pass up the sides of the beam by which the fork is elevated, in which position they are held by catches at their upper ends and metallic straps along the sides of the beam. The tines are secured to the head by means of bolts and notches.

Claim.—First, the curved or concave cast-iron head A, provided with the arms B B, to operate in connexion with the catches G G and beam C, substantially as and for the purpose set forth.

Second, attaching the tines F to the head A by means of the bolts *e* and notches *f*, as described.

Third, the straps L L attached to the beam C, as shown, when used in combination with the arms B B and beam C, substantially as and for the purpose set forth.

No. 44,683.—CHARLES WINSHIP, New Haven, Conn.—*Apparatus for Preserving Provisions.*—October 11, 1864.—This device consists of a chest or box provided with two tubes. one of which passes through some cold place, as a well, or through the earth; the other leads from the box to some warm place, or is heated by artificial means, so as to cause a current of cold air to circulate through the box.

Claim.—Conducting cooled air to and causing the same to circulate through a chamber. substantially as specified.

No. 44,684.—ALBERT ALBERTSON, assignor to J. N. MCINTYRE, New York, N. Y.—*Method of Stopping Bottles.*—October 11, 1864.—This invention consists of a bottle on the interior of the neck of which is formed a shoulder. The stopper is formed of a stem or rod having a knob on which is secured gutta-percha or other elastic substance.

Claim.—First, the employment in combination with a bottle having the interior of its neck suitably formed to receive it of a stopper constructed to operate in closing and unclosing the bottle, substantially as described.

Second, so constructing the valve *c* and the mouth of the bottle that the former may be readily forced through the latter in one direction, and incapable of easy passage through it in the opposite direction, as herein before described, for the purpose set forth.

Third, making the entire stopper of such a length that it cannot turn over in the body of the bottle, as and for the purpose set forth.

No. 44,685.—ALBERT ALBERTSON, assignor to J. N. MCINTYRE, New York, N. Y.—*Apparatus for Filling Bottles.*—October 11, 1864.—This invention consists of a bed-plate from which extend upwards vertical stands, on the top of which is mounted a shaft. This shaft is arranged so as to turn freely in its bearings, and is made hollow for about half its length, and its hollow end is connected to a flexible tube which communicates with the supply fountain. To this hollow shaft is attached a short tube in which is a stop-cock, and is also provided with a rubber packing, against which the mouth of the bottle is pressed. From the shaft extend the arms, to which is attached a sliding platform which holds the bottom of the bottle. The bottle is forced up against the tube by means of spiral springs.

Claim.—Filling and closing the filled or supplied bottles, substantially as set forth, by the gravitation of the stopper.

No. 44,686.—JOHN D. DALE, assignor to himself and A. M. BADGER, New York, N. Y.—*Running Stitch Sewing Machines.*—October 11, 1864.—This invention relates to the class of running stitch machines in which the common hand-sewing needle is used with a single thread, being an improvement on Dale's patent of May 26, 1863. The clamping levers afford a convenient mode of holding the needle near its point, while the stop in which its but rests is turned away to allow the material to be pulled off the needle. The relief toothed wheel Q, situate in the rear of the feed rollers, draws the material and pushes it back so as to tighten it on the needle and prevent its accumulation under the clamping lever.

Claim.—First, the combination of the clamping levers E and D with the rolling needle stop A A′, operating substantially in the manner and for the purpose set forth.

Second, the relief tooth wheel in combination with yielding feed rollers B B and reciprocating cloth guide C, substantially in the manner and for the purpose set forth.

Third, the manner described, or its equivalent, for clamping and holding a common sewing needle firm enough to prevent its slipping while the cloth is being pulled off.

No. 44,687.—**Martial Dimock**, Newark, N. J., assignor to **Fitch, Estee & Co.**, New York, N. Y.—*Apparatus for Cutting and Creasing Paper for Envelopes, &c.*—October 11. 1864.—This invention consists in having a plunging die to crease or half cut pasteboard or thick paper, so that in addition to being cut of the form required by the dies, it shall be partially cut where folds are required to make thick envelopes or boxes.

Claim.—The countersink G, Fig. 4, with elastic bed, and the die F, Fig. 3, with projecting blades H, to indent or partially sever the paper or other material used, (for the purpose of facilitating the folding thereof,) constructed and operated substantially as and for the purpose set forth.

No. 44,688.—**Horatio Hodges**, assignor to himself and **David Wacey**, Lynn, Mass.—*Machine for Paring the Edging of Boots and Shoes.*—October 11, 1864.—This invention consists in the combination of an annular burr or cutter wheel and a guard or guide arranged together on a shaft, in connexion with a tubular split tapering shank, and its screw and nuts, with a burr and guide.

Claim.—The rotary or sole edge cutter or combination of the annular bur and the guard or guide, arranged together and on a shaft, as specified.

Also. the combination of the tubular split tapering shank and its screws and nuts with the burr and the guide or guard, the whole being arranged together substantially as specified.

No. 44,689.—**Henry T. Lee**, assignor to himself and **David Frost**, Jersey City, N. J.—*Caster for Trunks.*—October 11, 1864.—This invention consists in combining with the shank of the caster and with the spring and protecting cap a flanged socket, in such a manner that when the caster is subject to a certain pressure the spring is compressed between the flange of the socket and the top of a cavity in the cap, and the caster turns or revolves on its shanks with the same facility under pressure as it does when it is relieved

Claim.—The flanged rocket D, in combination with the caster E, spring C, and cap A, constructed and operating in the manner and for the purpose suubstantially as set forth.

No. 44,690.—**Thomas C. Luther**, assignor to **The American Hat and Cap Company**, Waterbury, Conn.—*Machines for Making Boxes.*—October 11, 1864.—Three rollers of proper construction are made to revolve with the box ends and a former between them: by their motion a band of paper is drawn under a roller, in a paste trough, and around the former; after which, the paper is cut, and the box disengaged by a counter weight raising one of the rollers, which during the pasting is held by a pedal.

Claim.—The stationary rollers G G, in connexion with the movable or adjustable roller I and belt J, all arranged to operate substantially as and for the purpose herein set forth.

Also, the box D and roller E, in connexion with the drum C and the rollers I G G, all arranged to operate substantially as and for the purpose herein set forth.

No. 44,691.—**Joseph F. Sargent**, assignor to **Elmer Townshend**, Boston, Mass.—*Pegging Machine.*—October 11, 1864.—This invention consists in so arranging the jack that it can be rolled laterally on its support to enable the shoe at all times or at all portions thereof, while being fed, to be properly presented to the awl and peg driver, and also in automatically producing that lateral change of position of the shoe; further, in a mechanism for producing a transfer of contact, in the manner of cutting the pegs from the peg-wood strip, the employment of a brake to prevent rotation of the wheel in a wrong direction, the method of producing the stop of the awl and peg-driver bars, and in the construction of the toe or throat piece to feed in channelled soles.

Claim.—In a pegging machine the employment of a jack, so constructed or mounted that it can turn or be turned laterally, to hold the shoe properly to the action of the awl, throughout its varying lateral curvature.

Also, so organizing the jack with the levers or system of levers supporting it that the jack is turned automatically, to bring the shoe laterally in position for the proper insertion of the awl and peg.

Also, operating the sewing piece by the eccentric, to produce the feed and transfer of contact, substantially as set forth.

Also, the combination of the eccentric for operating the swing piece with the cam and spring for operating the driver bar.

Also, giving the swing piece *k* a simultaneous lateral and vertical motion, substantially as and for the purpose set forth.

Also, the employment of the swinging brake *e2* operating upon the wheel *c2*, substantially as specified.

Also, so constructing and applying the feed foot as to operate in the same vertical plane with the retainer, (instead of through a slot in the same,) in the manner and for the purpose substantially as set forth.

Also, the construction by which the blow of the awl and peg-driver bar is arrested at the bottom of the swing plate, substantially as described.

Also, in combination with an awl bar, (or an awl and peg-driver bar, having its downward movement imparted by a spring,) the method of regulating the force of the blow given to the bar by an adjusting screw *o2*, substantially as shown and described.

No. 44,692.—**Charles E. Sneider**, assignor to himself and **Thomas Poultney**, Baltimore, Md.—*Priming Cartridges.*—October 11, 1864.—The cartridge has a metallic case projecting in front of the ball, and has a central pin or rod passing through the powder for exploding a cap or other fulminate or primer that base of the ball, the rear end of the cartridge case being so depressed as to close around the pin and form a tight joint on the explosion of the cartridge.

Claim.—First, in combination with a cartridge which is exploded by an end blow upon a pin reaching the fulminate or cap on the base of the ball, making the cartridge case extend out as far as the point of the ball, so as to abut against the rear end of the barrel and prevent the forward motion of the ball or its protrusion into the bore previous to firing.

Second, the combination of the recessed end of the cartridge case and the central cartridge pin, which form a gas-tight joint by the contraction of the rear of the case around the pin under the force of the discharge.

No. 44,693.—**Richard Tattershall**, assignor to himself and **A. J. Battin**, Beloit, Wis.—*Buckle for Harness Tugs.*—October 11, 1864.—This invention relates to a buckle for harness tugs, in which the use of a tongue is dispensed with, and consists in the employment of a clamp fitted on the frame of the buckle, in connexion with an eccentric and lever. The eccentric, which extends the whole length of the clamp and faces the plate underneath the buckle, is corrugated or fluted.

Claim.—The frame A, provided or cast with the plates *c c d*, in combination with the clamp B, fitted in the frame A, as shown, and the lever plate C, provided with the eccentric projection D, fitted to the bar *e*, substantially as and for the purpose herein set forth.

No. 44,694.—**Charles D. Tisdale**, East Boston, Mass.; assignor to himself and **Joseph H. Clapp**, Boston, Mass.—*Car Truck.*—October 11, 1864.—This invention consists of a mechanism for locking each of the wheels of a railway carriage in either of its positions on the axle, whether for a track of one gauge or for another of a different gauge or width, between the two rails of such track.

Claim.—The new or improved wheel-locking mechanism or combination, consisting of the double-catch D, the elastic band E, and either one or two grooves *c d*, and applied to the wheel sleeve and axle, and so as to operate therewith substantially as herein specified.

No. 44,695.—**S. Davis**, Montreal, Canada.—*Cigars.*—October 11. 1864.—This invention consists in mixing the leaves of belladonna with the tobacco used in making the cigar.

Claim.—As a new article of manufacture a medicated cigar composed of tobacco leaves mixed with the leaves of belladonna, in the manner and proportions herewith specified.

No. 44,696.—**Henry Ressel**, Vienna, Austria.—*Propeller and Steering Apparatus.*—October 11, 1864.—This invention relates to that class of propellers which contain a screw used in place of a rudder. The novelty consists in the addition of a cap to the hinge of a device to limit the range of the deflection of the rudder, and a device for sustaining the horizontal thrust of the propelling screw.

Claim.—First, the studs *f* and segmental grooves *e* applied in combination with the socket *c* and globe *d*, and with the shafts C and F, in the manner and for the purpose substantially as set forth.

Second, the use of the cap *h*, in combination with the ball and socket joint G and shafts C and F, applied and operating substantially as and for the purpose described.

Third, the grooves 4 and rings *j*, applied in combination with the ball and socket joint G, propeller screw A, shafts C and F, and frame B, in the manner and for the purpose substantially as set forth.

No. 44,697.—**A. H. Taylor**, San Francisco, Cal.—*Ventilating Sweat Leather for Hats and Caps.*—October 11, 1864.—The sweat leather is corrugated on both sides diagonally with the plane of the under side or rim, but is left smooth in front, so that the forehead may not be pressed by the corrugation.

Claim.—First, the application to a hat or cap of a corrugated sweat lining, said corrugations running diagonally with the plane of the under side or rim, as shown in the drawings, the corrugations running around the inside of the hat or cap, with the exception of a portion in front, which is smooth, to fit the forehead.

Second, the smooth part of the lining in front in combination with the diagonal corrugation, as described.

Third, corrugating a sweat lining, in the manner shown and specified, (as occupying the complete inner circle of the hat or cap, with the exception of the portion in front, which is made smooth to fit the forehead of the wearer,) substantially as shown and set forth herein.

No. 44,698.—**H. F. Bartlett**, La Grange, Mo.—*Evaporating Pan for Sugar.*—October 18, 1861.—This invention consists of a sugar pan, divided by transverse partitions into three compartments. Close in front of one of the partitions which divides two of the compartments is a gutter, the bottom of which is on a level with the bottom of one of the pans, and a similar gutter is close in front of the next partition, and extends to a level with the bottom of the next compartment. The latter compartment communicates with the third compartment through an opening which is situated above the level of the bottom of the first pan. The gate opening is closed by a plate, and the side of the first partition facing the compartment *c* has a grooved flange to hold the strainer. The second partition is arranged in the same manner as the first.

Claim.—The box-shaped strainers I, plates I, and openings K, arranged in combination with the pans *c e d* and gutters *f g*, in the manner and for the purpose substantially as specified.

No. 44,699.—George D. Bailey, Boston, Mass.—*Knife, Fork, and Pie-crimper.*—October 18, 1864.—This invention consists in the combination on one handle of a knife, a fork, and a pie-crimper, for trimming and ornamenting pastry.

Claim.—A pastry knife, fork, and pie-crimper combined, and substantially as set forth.

No. 44,700.—Wm. B. Billings, New York, N. Y.—*Baker Attached to Coal-oil Lamp.*—October 18, 1864.—This invention consists of a series of ovens arranged one over the other, and around the flue or chimney of a coal oil lamp, the bottom ot the top oven fitting firmly into the top of the second, and so on, the whole series being surrounded by a jacket. The heat circulates in a space between the jacket and ovens through perforated spaces in plates separating the ovens. On top of the oven and over the chimney a pan may be placed for frying, &c. Sheet-iron or tin may be used in constructing the ovens, jacket, and partition plates.

Claim.—First, the employment, in connexion with or as an attachment to the burner or burners of oil or gas lamps, of a heater or oven for baking and other purposes, the same consisting of a vessel divided into compartments or sections by means of partitions, the whole being arranged for operation substantially as set forth.

Second, in combination with a central flue or chimney of a coal-oil or other lamp, a heater oven, when divided into compartments as described, surrounding said flue or chimney, substantially as and for the purposes set forth.

Third, the employment, in combination with a heater or oven divided into compartments as described, and surrounding the flue or chimney of a coal-oil or gas lamp as described, of perforated partition plates, whether stationary or removable, substantially as set forth.

Fourth, the construction of the oven or heater to be used in connexion with and as attached to a coal-oil or other lamp, in sections fitting one over the other, substantially as and for the purposes set forth.

No 44,701.—Henry W. Bleyer, Buffalo, N. Y.—*Sad-iron Heater.*—October 18, 1864.—This invention consists in a plate or griddle of cast-iron, having one or more recesses in it for the reception of the sad-irons; said plate being made to fit into a hole in the top of a stove or range. These recesses consist of pits made in the shape of a sad-iron heater, and are made to screw fast to the bottom of the plate, so as to admit of being removed and replaced when burnt out. The recesses are also provided with covers, having slots cut in them for the handles of the sad-irons; and they are further provided with openers for the lids, consisting of sheet-iron, bent in such a way that a portion of it shall extend down vertically into the pits, another portion reaching over the front edge of the pit above the plane of the plate or griddle. The openers also have arms, which extend along the inside of the pits, close to the edges, and rest upon pins projecting outwards from either side of the pits. Pins also project upwards from the bottom of the pits, near the outer corners, and serve to retain the vertical parts of the openers in position.

Claim.—First, in sad-iron heaters constructing the pits or receptacles I for the iron, by attaching removable dishes K, to the plate or pan of the heater, so that the pits can be renewed, substantially as above described.

Second, the cover openers A, constructed and operated substantially as described.

Third, the combination of the pits I, the openers A, and the slotted covers B, substantially as above described and shown.

No. 44,702—Richard E. Bond, Detroit, Mich.—*Feed-water Regulator for Steam Boilers.*—October 18, 1864.—This invention consists in the arrangement of a lever which is fastened to the top inner surface of the boiler, by means of hangers upon which it rests, and to one end of which a float is attached to rise and fall with the varying level of the water in the boiler; other shafts and levers are employed by which a cock or valve is opened and closed to regulate the admission of water to the boiler. Upon the end of the lever, opposite the one to which the first one is attached, is a counter weight between which and the fulcrum is placed an arm which is connected with a cock shaft, one end of which projects through the head of the boiler, and to which another arm is attached, which, as the water rises or falls in the boiler, is made to open and close the valve which regulates the feed water.

Claim.—The float D, lever C and counterbalance E, all within the boiler, in combination with the rock shaft F and its arms *j* G, the whole arranged substantially as herein described, to operate either upon a cock or throttle or other valve by which the operation of the pump or other feeder is controlled, or with a steam whistle, or with both such cock or valve and whistle, for the purpose herein set forth.

No. 44,703.—James R. Brown, Boston, Mass.—*Pipe Wrench.*—October 18, 1864.—In this invention the shank of the wrench is formed of three flat bars, the two outside ones projecting some distance forward of the other. The ends cut under from the top corner, at an angle of about fifty-five degrees from the perpendicular, the downward face of which angle, is serrated, and forms one jaw. Between these bars is hinged the shank of the outer movable jaw, which turns upward and inward, at about a right angle with the other; but when opened, forms with it the two sides of an equilateral triangle, the shank of the movable jaw forming the other side.

Claim.—My improved pipe wrench as constructed with its claw *d* and the shank *c* thereof, applied and arranged relatively to the two jaws *b b* and their combined prongs *a a*, substantially in manner and so as to operate therewith as specified.

No. 44,704.—Jabez Burns, New York, N. Y.—*Coffee Roaster.*—October 18, 1864.—This invention consists in the use of a cylinder, which rotates on friction wheels by means of flanges, projecting from one or both of its ends, and which is provided with a stationary feed box at one end, and at the other with a rotary slide, or a gate opening into the cylinder, in such a manner that the substance roasted can be introduced and discharged from it without stopping its motion, or removing it from its bearings. The interior of the cylinder is occupied by double spiral flanges, one inside the other, and arranged in opposite directions, so that one flange, when the cylinder is in motion, propels the kernels in one direction, and the other flange in a contrary direction.

Claim.—First, the employment or use of the friction wheels *b*, in combination with the flanged heads of the cylinder A, constructed and operating substantially as and for the purpose described.

Second, the application of the stationary feed box B to the rotating cylinder A.

Third, the double spiral flanges *h h'*, extending through the interior of the cylinder A, and running in opposite directions, substantially as and for the purpose set forth.

Fourth, the slide or gate *j*, applied in combination with apertures *i*, flanges *h h*, and rotating cylinders A, substantially as and for the purpose described.

No. 44,705.—Thomas Carpenter, Battle Creek, Mich.—*Meat and Vegetable Slicer.*—October 18, 1864.—This invention consists of a table with two slicing knives inserted; between the knives is a guide strip, placed obliquely, so that a drawing cut will be obtained on the meat or vegetables.

Claim.—The guide strip D, arranged obliquely upon the slicer between the two knives, in combination therewith, substantially as and for the purpose herein specified.

No. 44,706.—William J. Clark, Southington, Conn.—*Die for Making Bolts.*—October 18, 1864.—This invention is designed as an improvement upon the dies, for which letters patent were granted to the said Clark, on the 2d of August, 1864, and it consists in making the faces of the cavity in which the angular portion of the bolt is to be formed not plane, as in the first instance, but somewhat convex surfaces may displace a portion of the metal from the body of the blank, which is cut from a round iron rod, and force the same into the angles of the dies.

Claim.—The die herein described and represented for making bolts partly square and partly round out of round rods or bolt blocks, substantially as and for the purpose described.

No. 44,707.—William R. Clark, Piqua, Ohio—*Beehive.*—October 18, 1864.—This hive is constructed in sections, the upper pieces of which extend beyond the side pieces. The sections are fastened together by a grooved clamp, the ends of the upper pieces of the sections being inserted in the groove, one end of the clamp being dovetailed to the outer section on one side, and the other end fastened by a key which passes through it and the end of the section. A shutter is employed to close the opening at one side of the hive, which, when placed in one position, tightly closes the entrance, and upon being turned about, covers it with wire gauze, thereby ventilating the hive. A honey box, in sections also, surmounts the hive.

Claim—First, the sectional hive *a*, when provided with the sloping platform B, and secured together by the grooved clamps A, substantially in the manner and for the purposes herein set forth.

Second, the combined ventilator and shutter F *f f'*, constructed in the manner described, and employed to permit air to freely circulate throughout the hive in summer and to close in the same in winter, as explained.

Third, in combination with a hive *a* and its appurtenances, constructed as herein described, the sectional honey box *g*, held together by the bars G', and having a shallow chamber *g*4, between its comb supporters *g*2 and the top of the hive, substantially as herein specified.

No. 44,708.—Robert Cornelius, Philadelphia, Penn.—*Instrument for Lighting Gas by Electricity.*—October 18, 1864; antedated August 20, 1863.—This invention consists in the employment of a Leyden jar in connexion with a gas burner for the purpose of lighting the latter. The inner brass jar is surrounded with a coating of lamb's skin, or fine wool or fur, and the apparatus is placed permanently on a bracket of a gas burner, with a chain passing from the metallic ball to a small insulated point over the gas burner, so that when the cylinders are drawn or raised up slightly a spark will be developed which passes through the chain and ignites the gas.

Claim.—The combination of the Leyden jar and electrophorus, substantially as above described, so as to generate electricity for the purpose of igniting gas or other inflammable materials, and for other purposes.

No. 44,709.—Hiram Curtis, New York, N. Y.—*Raking Attachment to Harvesters.*—October 18, 1864.—This invention relates to that class of raking attachments in which the rake is driven by an endless belt arranged beneath the grain platform, the teeth of the rake projecting through slots in said platform. The rake head is pivoted in bearings upon the belt, and is supported in the proper position for removing the grain by a loop attached to the belt back of the rake head, and by an elastic strap also attached to the belt forward of the rake head; the strap serves to hold the teeth in an upright position against the loop, thus holding it from the opposite side when removing the grain, and also by its elasticity allows the teeth to yield backwardly in such manner as to permit the teeth to pass back beneath the belt in a nearly horizontal position.

Claim.—First, the elastic strap or spring *s* and loop L, when used for the purpose set forth.

Second, in combination with the endless bands or chains B B B, rollers R R′ and P, the elastic strap or spring *s*, loop L, coil spring *c*, and cross-bar *b*, the whole operating substantially as set forth.

No. 44,710.—George W. Davy, Groton, N. Y.—*Weed Eradicator.*—October 18, 1864.—This invention consists of a common triangular frame, with a centre piece, as in common corn cultivators. A gauge is secured on the under side of each of the main timbers, and an adjustable knife is secured to the rear end of the frame for the purpose of cutting the weeds.

Claim.—First, the gauges or guides A A, either as adjustable or stationary, in this combination.

Second, the share G, either as stationary or adjustable, when applied to a suitable frame, in combination with the gauges or guides A A, the whole being arranged and combined to operate as and for the purpose set forth.

No. 44,711.—H. G Dayton, Maysville, Ky.—*Mode of Heating Stills.*—October 18, 1864.—This invention consists of a still surrounded by a steam jacket. Within the still is an annular chamber provided with double walls and connected with the steam pipe and escape pipe. The steam jacket is supplied with steam by a pipe, and it is also provided with a discharge pipe.

Claim.—The annular cylinder C provided with steam supply pipe *b*, and connecting through one or more pipes *a* with the steam jacket B, in combination with the still A, pipes *e g*, and helm E, constructed and operating substantially as and for the purpose set forth.

No. 44,712.—H. G. Dayton, Maysville, Ky.—*Apparatus for Cooling Liquids.*—October 18, 1864.—This invention consists of a tank enclosing the condensing coil, through which the products of distillation pass. A continuous stream of water passes through the tank and keeps the coil cool. The lower end of the coil connects by a pipe with a cooler; said cooler consists of two vessels connected with each other by serpentine pipes.

Claim.—The cooler D, composed of two crescent-shaped hollow vessels *a b*, connected by serpentine pipes *c*, in combination with the condensing coil A and tanks B E, constructed and operating substantially as and for the purpose herein shown and described.

No. 44,713.—L. M. Doudna, Elmira, N. Y.—*Loading Attachment for Hay Wagons.*—October 18, 1864.—This invention relates to the construction and combination of the several parts designated in the claim, and will be sufficiently understood from the claim and drawing.

Claim.—The rotating standard B provided with the lever C and placed at the rear of the wagon A, in combination with the hoisting rope D and drum F, the latter being on an adjustable shaft G at the rear of the wagon, and connected with and disconnected from one of the wheels K of the wagon, as shown, and all arranged substantially as and for the purpose set forth.

No. 44,714.—Henry W. Eastman, Baltimore, Md.—*Folding Table and Toilet Glass.*—October 18, 1864.—This invention consists of a folding table and toilet glass, so arranged as to fold into a small box for economy of room and for preservation.

Claim.—The combination of the table and toilet glass, substantially as herein described for the purposes specified.

No. 44,715.—William Farmer, New York, N. Y.—*Fan Blower.*—October 18, 1864.—This invention consists in combining a screw-formed fan, or impelled with a volatile case, in such a manner that the air or gas to be impelled is made to enter on one side and be forced out on the other.

Claim.—The combination of a screw-formed impeller with a volatile case, substantially as set forth.

No. 44,716.—Elias T. Ford, Stillwater, N. Y.—*Potato Digger.*—October 18, 1864: antedated October 11, 1864.—This invention consists in an arrangement of devices designated in the claim, by which the potatoes are loosened from the hills and carried up into the machine and separated from the earth or dirt. It does not admit of a brief description.

Claim.—First, the combination and arrangement of the two wheels formed with tubes U U, curved teeth *ax ax ax ax*, rotating upon the centres T T, nearly horizontal upon the dividers D D, or divider D, and being upon the angle in entering the ground as a whole; also, the centres T T, tubes U U, dividers D D, or divider D, with or without the colter H, shaft J, knives *g g*, pinions *f*; also frame C C, sections of frame *ce ce ca ca ct*, and bars D*b* D*b*.

Second, the arrangement of the gear G G upon axle F, bevel gear V V, shaft R, bevel pinion W W, pinions S S, yoke B B hinged to the sections *ce ce*, in front and below the axle F, in combination with the clutch K, ratchet *h*, slide Z, spring *b*, or springs *b b*, and drive wheels A A, as and for the purpose above described.

No. 44,717.—Moses F. Gale, Boston, Mass.—*Device for Adjusting Reflectors.*—October 18, 1864.—The object of this invention is to adjust reflecting mirrors used in solar cameras and microscopes, &c., from the inside of dark shutters. It is accomplished by the use of two toothed wheels and pinions gearing into them at pleasure, one to rotate the reflector and the other to change its angle, by the use of an inclined plane.

Claim.—The arrangement and combination of the hinge *m*, the rib *h*, the cam *g*, the toothed annulus *f*, and the pinion *i* and its shaft, together with the mirror A, the tube B, and the supporting plate or frame C, substantially in manner and for the purpose as herein before specified.

No. 44,718.—Wm. D. Goodnow, Albany, N. Y.—*Car Brake.*—October 18, 1864.—The object of this invention is to obviate those accidents that arise from applying the brakes of a railroad car to the outer sides of the four wheels of the truck by a compact arrangement of the brakes in the centre between the wheels of the trucks, thereby exposing them to less danger of breaking, or their parts becoming detached. The invention further consists in so constructing the brake bars, in combination with the jaw braces of the trucks, that in case said bars are broken they cannot fall to the track and obstruct the wheels; also, in operating the two brakes conjointly by the direct endwise thrust of a short connecting bar, whereby both are made to act upon the wheels simultaneously.

Claim.—Extending the brake bars F F over and beyond the jaw braces *f f* and connecting them thereto by means of the yokes *i i*, or their equivalents, substantially as and for the purposes set forth.

Also, in combination with the plank or hang-frame E of the car body and the brake bars F F the guide and safety rods *k k*, arranged and operating substantially as and for the purposes set forth.

Also, the combination and arrangement of the brake bars F F, lever G G′, connecting bar N, car-bearing E, and truck wheels B B, constructed and operating substantially in the manner and for the purposes shown and described.

No. 44,719.—James Gray, Albany, N. Y.—*Base-burning Stove.*—October 18, 1864.—Around the ash-pit is a cool air space for conducting air from the outside up through the stove; above the fire-pot is an annular chamber, which is surrounded by a perforated casing which encircles also the lower part of the fuel-supply cylinder. This lower part is formed by an upward flaring jacket, riveted at its base to a diaphragm. Through the casing which forms the outer jacket of the combustion chamber are openings and cool air passages to conduct the air from the air space about the ash-pit through arched spaces about the diaphragm into the chamber between the diaphragm and jacket. The top of the stove is perforated, and spaces may be opened or closed by a damper, according as it shall be found necessary to diminish or increase the combustion. There is also a damper in one of the entrances to the exit flues.

Claim.—First, so constructing a base-burning stove that the products of combustion rising from the fire-chamber will be condensed towards the top of the stove through flues which are formed by cylinders D and E and partitions *h*, and which are arranged around an ascending warm air flue or flues, substantially as and for the purposes described.

Second, the outer case *c*, constructed with horizontal openings *d*, vertical openings *e*, and arched openings *e′* through it, substantially as and for the purposes described.

Third, the arrangement of the damper *g*2, in combination with the three vertical chambers C D and E and depressed fire-pot B, substantially as and for the purposes described.

Fourth, the jacketed diaphragm C1 C2, applied at the base of the coal supply chamber, substantially as described.

Fifth, the flues *b e′ e e*1 *e*2, in combination with the flues *b′ i* and G, operating substantially as described.

Sixth, the case *c*, in combination with the jacketed diaphragm C1 C2 and supply chamber C, substantially as described.

Seventh, the combination of the three cylinders C D E and escape pipes J and G, arranged and operating substantially as described.

Eighth, the combination of the two cylinders C D with the jacketed diaphragm *c*1 *c*2, openings *e*2 *e*′, substantially as described.

No. 44,720.—M. C. GRITZNER, Washington, D. C.—*Sewing Machine.*—October 18, 1864.—This invention consists of a chain stitch in which two threads are used, passing through the same eye of the ordinary perforating needle, the seam so made being less liable to unravel than if made with a single thread. The claim defines the nature of this invention.

Claim.—The transformation of single-thread sewing machines into complete double-thread sewing machines by means of a combination of two threads with one needle of a sewing machine, when the tension and friction apparatus for each one of the two threads is so arranged as to act independently of the other, while requiring only one adjustment to regulate the tension and friction of each, said combination of parts being applicable to single-thread sewing machines as at present constructed, or to single thread sewing machines of new construction, without depriving them of their qualities as single-thread machines.

No. 44,721.—GEORGE L. and HERBERT C. HART, Unionville, Conn.—*Animal Trap.*—October 18, 1864.—This trap presents a slight modification of the ordinary "steel trap," consisting in the arrangement of the tripping pan or platform in connexion with the spring, so as to hold the same directly or independently of any detent over the jaws, which are thus left entirely free.

Claim.—The combination and arrangement of the frame *a*, jaws *b*, pan *h*, with its catch *m* and the spring *e*, when the pan is set or held directly by the spring, and independently of the jaws, substantially as described.

No. 44,722.—STUART GWYNN, New York, N. Y.—*Pneumatic Drills.*—October 18, 1864.—This invention consists in the arrangement and construction of a pneumatic drill, in which the drill bar is allowed to remain in contact with the rock to be bored, and in which the steam or pneumatic action is such as to enforce action to the drill bar in the fashion of a sledge hammer when striking a cutting tool. These drills are, therefore, denominated "sledge drills."

Claim.—First, a machine for boring rocks, &c., operated by steam, air, or other elastic fluid, consisting of a cylinder, piston, hollow piston rod, and their appurtenances, rendering the same self-acting, under such an arrangement as that the blow shall be exerted upon a drill bar or its holder, loosely inserted in the hollow piston rod, allowing the drill to remain in contact with the rock, substantially as hereinbefore described.

Second, in pneumatic rock drills, operating as described, the combination of a loose drill rod and hammer, with an automatic screw-feeding device, so as to follow up the drill as the work progresses, substantially as herein set forth.

Third, the method of securing the hollow screw to the hollow piston rod by means of a reversible nut, constructed and operating in the manner and for the purposes set forth.

No. 44,723.—H. A. HARVEY, New York, N. Y.—*Sharing the Heads of Wooden Screws.*—October 18, 1864.—In this machine there is an intermittingly sliding and revolving hub, in the periphery of which are fitted, so as to turn each upon its own axis, a series of tapered tubes arranged radially, each one through a portion of its length being slotted longitudnally, giving the appearance of a tube formed of a series of staves separated from each other by a slight space. Into these holders the blanks are placed, the projecting head of each resting upon the end of the tube, and when by the rotation of the hub a tube is brought to a horizontal position, the hub is pushed forward and the tube with its blank is thrust into a revolving socket made of a conical shape internally, and by means of which the divided tube or holder is closed in upon and made to firmly grasp the blank.

Claim.—First, the revolving collar or socket *c*4, or its equivalent, when adapted to perform the double office of compressing the spring-holder to gripe the screw blank, and communicating a rotary motion to the same, constructed and operating in the manner substantially as described.

Second, the combination of such revolving socket with a holder *h*, or a series of similar holders, substantially as described.

Third, the combination of the revolving socket and holder described with a cutting tool, whether revolving or otherwise, substantially as herein specified.

Fourth, the combination of the revolving socket and holder described with a yielding pressure finger or its equivalent, for pressing the blank home in the holder and keeping it in that position until it can be griped, substantially as described.

No. 44,724.—H. A. HARVEY, New York, N. Y.—*Files.*—October 18, 1864.—The nature and object of this invention are explained by the claim.

Claim.—Making the teeth of files in segments of circles extending across the face, substantially as and for the purpose specified.

No. 44,725.—G. D. HAWORTH, Springfield, Ill.—*Corn Planter.*—October 18, 1864.—This invention consists in the arrangement of parts by which the driver can, by the movement of a lever, transfer his weight so as to balance the forward frame, and thus cause the revolving coulters to penetrate more deeply into the soil.

Claim.—The relative arrangement of the rotary coalters F, curved mould-boards G, hoppers E, dropping mechanism *a b c* and dropper's seat W, substantially as herein shown and described.

No. 44,726.—WILLIAM HINDS, Little Falls, N. Y.—*Artificial Legs.*—October 18, 1864; antedated October 6, 1864.—The object of this invention is to render the artificial leg lighter than heretofore and less liable to cause a strain upon the body, and the devices claimed as new are the band at the top of the leg, the knee band forming the knee joint, the ankle band forming the ankle joint, the metallic belt to stop and hold the leg in a straight position, also the spring for actuating the knee joint and the changeable heel.

Claim.—First, constructing the inside half of the band securing the top of the socket A with a wide flange, as partly shown at *d*.

Second, the band *b*, with the book *h* and ears *j* to hinge to the foot, and shaped to form the knee joint.

Third, the ankle band *y* and *y*′ made with the ears *j* to hinge it to the foot, and shaped to form the ankle joint.

Fourth, the belt *k*, spring *m*, and strap *n*, arranged and connected to the parts A and B.

Fifth, the appendages *s* and *i*, in combination with the spring *g*, arranged as described, and operating across the diameter of the joint, as set forth.

Sixth, the heel piece F and rod *o*, all of which is constructed substantially as and for the purpose set forth.

No. 44,727.—H. C. HUNT, Amboy, Ill.—*Sleds.*—October 18, 1864.—This invention consists in so applying runners to the sled that the latter may be readily steered or guided through the medium of a rope. The two rear runners are provided with bolsters, furnished respectively with a socket and a tongue, fitted together and applied to the platform of the sled, and the two front runners are provided with semicircular plates, secured to a bolster by means of screws, and a bar, composed of two equal longitudinal parts, connected together by screws, and applied to the front parts of the runners, with a draught rope fitted in it to guide the sled.

Claim.—First, the two rear runners B B′, provided with bolsters D D′, provided respectively with a socket E and a tongue F, fitted together and applied to the bed or platform A of the sled, substantially as and for the purpose herein set forth.

Second, the two front runners G G, provided with semicircular plates H H, and secured to the bolster I by screws *f*: the bolster I being provided with a rib *g*, having ends to fit into recesses H, and lap over the edges of said plates in the recesses, substantially as and for the purpose specified.

Third, the bar J, composed of two equal longitudinal parts *h*′ *h*′, connected together by screws *i*, and applied to the front part of the runners G G, with the draught rope K fitted in, substantially as herein set forth.

No. 44,728.—DAVID G. HUSSEY, Nantucket, Mass.—*Horse Rakes.*—October 18, 1864.—This invention consists in the construction of the rake and its method of operation, and will be understood by the claim and engraving.

Claim.—First, attaching the axle D to the frame by means of perforated pendent bars C C, plates *c*, and screws *b*, substantially as and for the purpose specified.

Second, the holding of the lever O in different positions relatively with the wheel L, by means of the clamp P, provided with teeth *a*, notches *p* in the side of the periphery of the wheel, and the screw *r* passing through the slot *s* in wheel L, with the nut *t* on its end, substantially as described.

Third, the attaching of the arms *h* to the shaft G by means of a lock, composed of a slide *m*, or other equivalent device, in connexion with a socket formed of plates *i i*, substantially as shown, to admit of a vertical play or movement of the rakes, and also to admit of the elevating of the same by the turning of the shaft G, as set forth.

Fourth, the attaching of the bearings F of the shaft G to curved notched bars E, substantially as shown, to admit of the adjustment of shaft G and the rakes I, as set forth.

Fifth, securing the lines or teeth *g* to the arms *h* by means of the clamp B and bolt *a*, as herein described.

No. 44,729.—C. M. JENNE, Young America, Ill.—*Cultivator.*—October 18, 1864.—This invention consists in the attachment of the forward plough standards to a cross beam that is pivoted to longitudinal beams, by which means the pair of ploughs are moved in a lateral direction simultaneously.

Claim.—The securing of the plough I to the device by having its standards H attached to a bar G, which is connected to the inner beams of each pair by pivots *d*, substantially as and for the purpose specified.

No. 44,730.—PHILIP P. JOSEPH, Chicago, Ill.—*Sash Fastening.*—October 18, 1864.—In this invention the spring in the rear of a flat bolt presses the latter, which slides in a socket, inserted in the frame, into a notch in the edge of the sash when down, and locks it in that position. Pressing the bolt back, and raising the front end by a thumb lever attached thereto, releases the sash and allows it to be raised, but a downward motion is prevented by the bolt bearing diagonally against it, and operating as a cam, to hold it at any desired point. Lifting the bolt still higher throws it out of contact with the sash, and the latter can descend freely.

Claim.—The latch or catch D, in combination with the springs E F and notch G, and arranged within the case C, and applied to the window frame and sash, to operate in the manner substantially as and for the purposes set forth.

No. 44,731.—Moses J. Kelly, Chicago, Ill.—*Atmosphere Cooler.*—October 18, 1864; antedated October 6, 1864.—This invention consists in the employment of fans, put in motion by any convenient means, and operating to force air from a cooling chest through a series of pipes or tubes to cool an apartment, or be brought directly upon any object or matter which it may be desired to subject to its influence.

Claim.—The combination of the fanners F, the system of tubes T *t′ t′*, &c., and the ice chest or depository, in either of said forms, as and for the purpose shown and represented.

No. 44,732.—William W. Lapham, Decatur, Ill.—*Churn.*—October 18, 1864.—The churn body is divided into two parts by a vertical perforated partition. In each compartment a paddle works backwards and forwards through the arc of a circle; both paddles being moved by the same crank and gear. Dashers, composed of a perforated horizontal board, are united at right angles to a perpendicular solid portion.

Claim.—First, the paddle *n*, and plate *m*, combined with a suitable staff *j*, to form a dasher of superior efficacy, as specified.

Second, the arrangement and combination of the movable partition B, cover C, tub A, removable dasher staffs *j*, double crank shaft *e*, and gear wheels *f h*, all constructed and operating in the manner and for the purpose herein set forth.

No. 44,733.—James H. Maydole, Eaton, N. Y.—*Curd Cutter.*—October 18, 1864.—This invention consists in joining to the thin blades in common use two auxiliary parallel blades pivoted to the other blades at or near the ends opposite the handle. These auxiliary blades are joined together by a bar at their opposite ends, which serves as a handle in operating the blades.

Claim.—Guiding and controlling the blades of a curd cutter by the employment and use of auxiliary blades, said blades being jointed to the fixed blades at or near the points thereof, so as to enable the operator to move the opposite ends of said blades to any desired distance from each other, substantially as set forth.

No. 44,734.—Joseph Metzgar, East Cambridge, Mass.—*Machine for Pressing Watch Crystals.*—October 18, 1864.—This invention consists in a detachable die, in connexion with another rising and falling die, and a cup or socket, rotary or stationary, to hold or detain the detachable die; in the use of jets of gas, or other flames and blow-pipes, in connexion with dies; and in hooks, which, by operating a lever, may be brought together or spread apart at their lower ends, for the purpose of catching into or letting loose a groove made circumferentially in the movable die.

Claim.—First, the removable or detachable die M, in connexion with a rising and falling or pressing die F and a cup or socket J, rotary or stationary, to hold and retain the die M, substantially as and for the purpose herein set forth.

Second, the employment or use of jets of gas, or other flames and blow pipes, when arranged and used in connexion with dies, to operate substantially as and for the purpose set forth.

Third, the hooks G G′, applied to the arbor C, when used in connexion with the removable or detachable die M, for the purpose herein specified.

No. 44,735.—Antonio Meucci, Clifton, N. Y.—*Process for Removing the Mineral, Gummy, and Resinous Substances from Vegetable Material.*—October 18, 1864.—This invention consists in exposing the substances to be treated to the action of the gases developed by treating oyster shells and iron with nitro-muriatic acid.

Claim.—The process of treating a vegetable material, in a wet state, with the substances produced by the action of nitro-muriatic acid upon carbonate of lime and iron, or their equivalents, and then subjecting the vegetable material to the action of a caustic alkali, substantially as set forth.

No. 44,736.—Charles E. Miller, Amelin, Ohio.—*Broom Head.*—October 18, 1864.—This invention consists in the employment of metallic jaws, between which broom corn may be secured for making brooms at very little labor and expense.

Claim.—As a new article of manufacture, the metallic broom head, composed of the devices A B C D E F F′, arranged and operating substantially as described.

No. 44,737.—John W. Millett, Bachelorville, N. Y.—*Manufacturing Cans and Boxes.*—October 18, 1864.—In this invention the grooved rim, already bent around the circular top or bottom, is placed on a mandrel, by which the whole is forced into a slightly tapering cylinder, which holds the rim firmly clamped while solder is being applied through a slot made in the cylinder for that purpose.

Claim.—The use or employment of a hollow cylinder, or its equivalent, into which a box or can is forced, for the purpose of drawing or pressing the rim of the box or can closely around the top or bottom for soldering or otherwise fastening.

No. 44,738.—William S. Nelson, St. Louis, Mo.—*Adjustable Template.*—October 18, 1864.—This instrument has adjustable perforated side bars, combined with T-shaped heads upon the central bar; also adjustable and perforated slides combined with each other and with the central bar.

Claim.—First, the adjustable perforated side bars B B, in combination with the T-shaped heads A′ A′ of the central bar A, substantially as and for the purpose herein specified.

Second, the adjustable slotted and perforated slides E E and central slide D, in combination with each other, and the central bar A, substantially as and for the purpose herein set forth.

No. 44,739.—Tertius S. Norton, Chicopee, Mass.—*Method of Attaching Steel to Iron.*—October 18, 1864.—This invention consists in attaching steel to iron by brazing, and, while it is still hot, dipping it in water, or other suitable hardening liquid, in order to restore the steel to its original degree of hardness, and afterwards heating and tempering in the usual manner.

Claim.—My improved steel-facing process, the same being accomplished by brazing and hardening the steel under one and the same heating of it, such as may be requisite for the effective melting of the brazing metal, as specified.

No. 44,740.—Charles R. Otis, Yonkers, N. Y.—*Brakes of Hoisting Apparatus.*—October 18, 1864.—This invention consists in so combining the brake of a hoisting machine with the stop valve of a hoisting engine that when the said valve is closed, and the steam or other motive fluid shut off from the engine, the brake is always in operation, and when the valve is open to admit the steam or other fluid to the engine the hoisting machine is relieved of the friction of the brake.

Claim.—The combination and arrangement of levers and connexions, substantially as herein described, whereby the brake is automatically applied while the valve is closed, and withdrawn when the valve is open, to set the apparatus in motion.

No. 44,741.—William A. Overton, New York, N. Y.—*Rigging Screw for Turning in Deadeyes.*—October 18, 1864.—This rigging screw is designed for "turning in deadeyes." It is composed of a ring or jointed clasp. By the action of the screws the ring closes to bring the shroud or hawser close into the score of the deadeye.

Claim.—The clasp D, composed of two or more posts connected together by joints C, in connexion with the clamps E E, constructed to operate upon the clasp in the manner substantially as and for the purpose herein set forth.

No. 44,742.—Charles Parham, Philadelphia, Penn.—*Fruit and Vegetable Press.*—October 18, 1864.—This invention consists of a portable hand press for pressing juices from fruit and vegetables, and is formed of a shallow box with a corrugated follower hinged to one side of the box and operated by a lever.

Claim.—The combination of the box or holder A with a hinged elastic or yielding cover F, as and for the purpose described.

Also, in combination with the above, corrugating, grooving, or channelling the opposite faces of the receiver and the cover, as and for the purpose described.

No. 44,743.—Robert A. Parrish, Jr., Philadelphia, Penn.—*Valve Arrangement for Hose.*—October 18, 1864; antedated December 12, 1863.—This invention consists in introducing into the end of a perfectly straight piece of hose a metallic pipe truncated at the inner extremity at an angle of forty-five degrees, the slope of the said truncation inclining downward and forward, at which point the diameter of the pipe is to be half that of the diameter of the hose. When the hose is kept straight the pressure of the water causes the partition to press against the truncated end of the pipe and stops the flow of water, but when the hose is bent the partition or valve falls below the end of the pipe and allows the water to pass through.

Claim.—The employment of the curvilinear flexure and elasticity of hose as a leverage for opening and closing the branch pipe by the agency of any partition or valve, in the manner above described.

Also, in combination therewith, the truncation adjustment and packing of the branch pipe for about half its length with water-tight packing, as above set forth.

No. 44,744.—Julius A. Pease, New York, N. Y.—*Paper Pulp Hats.*—October 18, 1864.—The hat is made from paper pulp by moulding between dies or forming upon wire frames; and it is subsequently flocked or otherwise coated or covered.

Claim.—As an article of manufacture, a hat made of paper pulp, substantially as described.

No. 44,745.—Joshua Pierpont, La Harpe, Ill.—*Ploughs.*—October 18, 1864.—This invention consists in setting the standard, one side of the land slide, and mould-board for the purpose of preventing the plough from clogging. A slot is also made in the standard for the purpose of giving a vertical adjustment to the beam to regulate the depth of the plough.

Claim.—The bent standard E applied to the plough, substantially as shown, so as to admit of the beam being a requisite distance above the mould board and to the left of the land slide, for the purpose herein set forth.

Also, attaching the lower end of the standard to the land slide by means of a belt *b* passing through an oblong slot in the standard, for the purpose of adjusting the beam in a vertical plane to regulate the depth of the penetration of the plough, as specified.

No. 44,746.—Edward Pincus and George Rehfuss, Philadelphia, Penn.—*Punches for Attaching Buttons by Rivets.*—October 18, 1864.—A button, countersunk on its face and having a hole in its centre, is to be held by a rivet passing through the cloth from the inside of the garment and through the button, the object being to form a head on this rivet on the face of the button. The device consists of a punch with a projecting circle on the end to fit into the sunken centre of the button. Within this circle there is a conical cutter to divide the end of the rivet and expand it so as to hold the button firmly, and form an ornament in its centre. The bit carrying the die passes up into the handle socket, whence it may be expelled by a wedge driver through a transverse hole at its inner end.

Claim.—The rod A. or its equivalent, with a grinding projection *a*, in combination with a die having cutting or indenting edges, all substantially as set forth and for the purpose specified.

No. 44,747.—Edward Pratt, Grand Detour, Ill.—*Cultivators.*—October 18, 1864.—This invention consists in connecting together two plough beams, arranged in such a manner that each beam will have an independent movement, whereby the implement is placed under the control of the operator. The independent movement of this machine is longitudinal, and is claimed to perform its work much easier for both operator and team.

Claim.—The two plough beams A A, connected together at a proper distance apart by means of bars D or H attached to the beams A by pivot bolts *a*, to admit of an independent longitudinal movement of the beams A, the latter being used either with or without the central bar E and its plough G, and all arranged substantially as and for the purpose herein set forth.

No. 44,748.—Edmond Reynolds, Corunna, Mich.—*Horse Hay Forks.*—October 18, 1864.—This invention consists in combining a rotating box with the stock or handle. Parallel ribs extend across each side of the box, forming a groove for the reception of the shanks of the tines. The lower part of the handle is forked for the reception of the box, which is attached to the handle by a pivot passing through its centre and the lower ends of the handle. The box is constructed of two disks, between which are placed the devices for locking and unlocking the fork.

Claim.—First, the combination of the rotating box D, to which the tines of the fork are rigidly secured, with stock C, substantially as above described.

Second, constructing the box D of two disks, between which are placed the sliding rack, the spring *i*, the toothed lever, and the pulley *b* for locking and unlocking the parts of the fork, substantially as above described.

No. 44,749.—Asa B. Rodman, Lyons, Iowa.—*Rakes for Harvesters.*—October 18, 1864.—A crank on the inner or grain end of the main axle is connected by a pitman to a vibrating arm or lever, which is in turn connected by a pitman to a vibrating sweep rake; said rake is hinged to the main frame by a universal joint, and has connected to it by a similar joint one end of a sliding rod or bar, which, at its other end, passes through a swivelled guide; a cam on the crank arm acting at the proper time on said sliding rod to elevate the rake for the return movement after discharging the gavel.

Claim.—The cam F, in combination with the levers L K, the former being connected to the cam and rake head by the rods M N, and the latter arranged relatively with the cam F, guide *g*, and rake head L H, substantially as and for the purpose specified.

No. 44,750.—Joseph E. and Joseph C. Rogers, Lewis Township, Penn.—*Saw-Mills.*—October 18, 1864.—The object of this invention is to simplify and cheapen the means of adjusting the heads of Morley blocks to Morley saws, and it consists in the use of slotted sliding bars with notches in their sides, in which a spring is fitted to hold them in position. Adjustable guide bars, with thumb screws to adjust the saw, are also combined with a base plate and standards that secure them in position.

Claim.—The sliding bars B B, adjustable bars *a a*, (with thumb screws,) and spring C C, in combination with the standards C C C C and base plate A, substantially in the manner and for the purpose herein set forth.

No. 44,751.—Samuel J. Seely, New York, N. Y.—*Mode of Sinking Piles.*—October 18, 1864.—This invention consists in the application of a screw to a hollow iron pile, so that as the screw penetrates the earth below the water the pile is forced downward to its desired position, by means of a flange and wheels at the upper portion of the screw, and when the pile is sunk to a sufficient depth the screw can be removed.

Claim.—First, the use of a borer or excavator, constructed and operating substantially as above described, within a tubular pile, in order to facilitate the sinking of such pile by loosening, removing, or pressing aside earthy material or gravel from beneath or about the foot of the pile, and then withdrawing the borer and leaving the pile in place for the purpose of forming pile foundations.

Second, the use of a screw borer with an arm B resting on the pile, or its equivalent, to facilitate the sinking of tubular piles by applying the force generated by the rotation of the screw to draw down the pile, substantially as above described.

Third, the formation of a cement or concrete or similar suitable foundations beneath or about the foot and sides of a tubular pile by the application of a pressure to such cementing substance while in a soft state, so as to drive it through and out at the foot of the pile, substantially as above described.

No. 44,752.—John J. Squire, Windsor Locks, Conn.—*Preserve Jars.*—October 18, 1864.—This invention consists in making the top of a preserve jar in the form of a cup and providing it with apertures. One aperture allows the jar to be entirely filled after the stopper is inserted, the other aperture allowing the air to escape. Both apertures are closed by means of an arm and screw.

Claim.—First, constructing a stopper or cover to a preserving jar or other vessel, so as to form a basin or cup in the neck or mouth thereof, through which is made an ingress hole to allow liquid to flow into the jar and an egress hole for the escape of air therefrom, substantially as and for the purpose above described.

Second, the cross piece C, in combination with the ingress and egress holes in the bottom of the cover constructed and operated substantially as above described.

No. 44,753.—Henry M. Sherwood, Chicago, Ill.—*Fastening the Covers of Ink Wells.*—October 18, 1864.—The invention consists in the construction of the fastenings, which are inclined ways, operating so as to raise the cover from off the glass well and prevent breakage, instead of the usual manner of screwing downward.

Claim.—Fastening on the covers of ink wells by means of inclined planes *g g* on the under surface thereof, acting upon corresponding inclined planes on the upper surface of the well itself, in combination with the plane projections *f f* on the cover and the corresponding grooves *b b* in the rim of the well receiving the same, substantially as and for the purposes herein set forth.

No. 44,754.—W. C. Stickney and H. B. Taylor, Putnam, Ohio.—*Securing Shoes to Horses' Feet.*—October 18, 1864.—In this invention the shoe has attached to its upper surface a plate with four flanges, which are turned up against the hoof. To the two heel flanges are hinged straps, which, passing forward over the hoof, are clamped together in front by a screw; the upper ends of the front flanges, passing between these straps and the hoof, are bent over and hook upon said strap. By loosening the screw the shoe is readily removed from the foot.

Claim.—The employment or use of flanges *a a a' a'* attached to the plate B or directly to the shoe F, in combination with the straps C C and screw E, when constructed and arranged substantially as and for the purpose set forth.

No. 44,755.—J. B. Sweetland, Pontiac, Mich.—*Churn.*—October 18, 1864.—This invention consists of a shaft passing obliquely through a horizontal cylindrical churn, and is turned by gear wheels and a crank, or by a weight which is wound up over a cylinder. A valve is opened by a cam at each revolution so as to let in the air. A fly-wheel at one end of the shaft moves a pin, running in a slotted arm of a lever, to which the dasher of an upright churn is attached.

Claim.—First, a combination of box H, shaft D, and valve I, constructed and operated substantially as herein set forth.

Second, the box H, the pinions *n* and *o*, the cog wheels P and R, the cylinder S, balance wheel F, lever K, and churn T, the whole arranged, constructed, and operated substantially as herein described.

No. 44,756.—William Tansley, Salisbury Centre, N. Y.—*Bark Mills.*—October 18, 1864.—This invention consists in so arranging a series of toothed and serrated runners of different diameters, in relation to a series of open stationary grating rings of corresponding diameters, that the breaking and cracking of the bark will be done centrally, while the grinding and discharge of the ground bark will be effected near the circumference of each runner.

Claim.—First, a bark mill, which is constructed of a series of stationary grinding rings and a series of rotating grinders arranged in such relation to each other that the grinding and discharge of the ground bark will take place at the circumference of each runner, substantially as described.

Second, in a bark mill, which is composed of a series of stationary and rotating grinding rings, the employment of breaking teeth, arranged within the circumference of the grinding surfaces in such manner as to prepare the bark for its reception between said surface, substantially as described.

Third, the combination of the bottomless runners B C with the solid bottom runner D, arranged and operating in conjunction with a series of discharging rings, substantially as described

No. 44,757.—James E. Thomson, Buffalo, N. Y.—*Padlocks.*—October 18, 1864.—This invention consists in surrounding the keyhole on the face of the lock with a projecting frame, in which is fitted a metal plate, the same being pivoted at one end so that it may swing open like a door. This door is pierced with a keyhole, corresponding in position with the keyhole in the lock, and has arranged on its inner surface a spring, bent so as to conform to the margin of the keyhole, and lying close to it, riveted fast at one end, the other being provided with a dog, which passes into the lock proper and catches behind the face plate of the same. On unlocking, the bit of the key throws back and releases the dog at the same time that it throws back the bottom of the hasp.

Claim.—A lock holder, in combination with a lock, for the purposes and substantially as described.

No. 44,758.—Hiram M. Tremble, Mattoon, Ill.—*Seed Planter.*—October 18, 1864: antedated November 2, 1861.—The seeding apparatus in this machine consists of two lateral pendulous beams, which are pivoted to the frame, a cross piece, together with two seed boxes and two furrowing ploughs, which may be adjusted to any required depth of furrow. Pivoted between a forked upright is a lever, having at its upper extremity a cross-arm, the lower extremity of the lever passing under the cross piece of the seeding apparatus, by means of which the driver can throw the seeding apparatus entirely out of action.

Claim.—The arrangement of pendulum beams F F, cross piece G, seed boxes H H, furrowing ploughs I I, rocking shaft L, operating valves *j j*, pedal *h*, pivoted lever K, and wedges J, all substantially as and for the purposes set forth.

No. 44,759.—Barnett B. Whaley, Brooklyn, N. Y.—*Buttons.*—October 18, 1864.—A disk, having holes near its periphery, is sewed through them to the cloth. This disk on the side from the cloth has a slightly raised hub and a round hole therein, from which hole there is a slot open to the periphery. The button has a straight shank or stem, flattened slightly on two opposite sides, with an enlarged end. The flattened sides of this stem being set in line with the slot in the disk, the button shank is placed in the centre thereof, where the button is held in such manner as to give it a free movement in buttoning and unbuttoning.

Claim.—The combination and arrangement of the shank *g* and the disk or plate *a* with the button *f* and the cloth or garment *b*, substantially as and for the purpose set forth.

No. 44,760.—Frank Wicks, Kansas, Ill.—*Horse Hay Fork.*—October 18, 1864.—This invention relates to the combination of parts designated in the claim, which mainly explains the nature and object of the invention.

Claim.—The combination and hinged or pivoted connexion of the trigger E with the brace D, link C, and shank B, so that drawing upon the cord *g* will throw the brace out of its notch or recess, removing all contact or friction between it and the other parts of the fork, and thus allow the tines to drop and discharge their load, substantially as herein described and represented.

No. 44,761.—Frank Wicks, Kansas, Ill.—*Hay Elevator or Stack Builder.*—October 18, 1864.—This invention consists in the combination of a permanent and inclined braced main beam and a movable vertical beam, each furnished with metallic bearings or heads, for the purpose of making a firm structure and a substantial turning support for the upper upon the lower beam, and for allowing the apparatus to come close to the stack to be built. It further consists in so arranging and rigging the horizontal rope that the weight and draught shall not come entirely upon the ends of the swinging beams, but partly upon its central support, to give additional firmness and less liability to topple over. United to the lower structure is a mast or post so arranged as to admit of the raising up or lowering of the swinging beam for transportation or storage.

Claim.—The combination of the permanent and braced inclined main beam A and the movable, vertical, or upright beam H, furnished respectively with metallic bearings or heads E G, for the purpose of making a firm structure and a substantial turning support for the upper upon the lower beam, and for allowing the apparatus to come close up to the stack to be built, substantially as described.

Also, in connexion with the swinging beam and its end pulleys *c*, the metallic frame T and its pulley *e*, above said beam, for the purpose of bringing a portion of the strain more directly to the centre of the beam, and to ease off the angle at which the rope would otherwise pass the pulleys *c c*, substantially as described.

Also, the auxiliary post M, made to be united to the head E, for the purpose of enabling the user to place or displace and lower the swing beam, when the apparatus is to be moved away or taken down, substantially as described.

No. 44,762.—J. B. Woolsey, Bloomfield, Iowa.—*Corn Planter.*—October 18, 1864.—This invention consists in the arrangement of the levers for operating the slide valve, either by hand or automatically, by the movement of the bearing wheels.

Claim.—In combination with the seed-dropping device, the adjustable lever I and the hand lever M, when constructed, arranged, and connected with the working parts of the machine to operate the seed slide by machine or by hand, as herein shown and described.

Also, in combination with the seed-dropping apparatus, the cross roof-shaped scattering device *g*, substantially as and for the purpose herein described.

No. 44,763.—John Annis, assignor to himself and Norton Kelsey, Galva, Ill.—*Animal Trap.*—October 18, 1864.—The box forming the trap is divided into compartments, separated by doors automatically opened and closed by a treadle or tilting platform, in the last of which compartments an independent and removable box or trap is placed, provided with the usual conical or converging wire entrance, within which box or trap the animal is finally secured in his attempts at finding a means of escape.

Claim.—A trap for catching rats and other animals, composed of a box A, divided into a series of compartments, provided respectively with a treadle, connected with a sliding door, a bait box, and an animal reception box, having a conical wire entrance, and provided with a glass to admit the light, all being arranged to operate in the manner substantially as and for the purpose herein specified.

No. 44,764.—Erastus Boothby, Saco, Maine, assignor to himself and Charles A. Shaw, Biddeford, Maine.—*Apparatus for Trimming Paper Hangings.*—October 18, 1864.—The object of this invention is to trim the edges of the paper while in the roll. It is accomplished by having a semi-cylindrical trough clamped to a table to receive the roll of paper; a face plate or revolving knife at one end is made to cut the paper evenly without unwinding the roll.

Claim.—First, the combination of a rotating head piece, which revolves around a portion of the paper or article to be cut, a knife for cutting the paper, and a spring for actuating the knife with the trough or body K and wheel A, or their equivalents, substantially in the manner and for the purposes set forth and specified.

Second, in combination with a rotating head piece, knife, and spring, a clamp S, constructed and used substantially in the manner and for the purposes set forth and described.

No. 44,765.—Wm. H. Bovee and Charles Partinsky, San Francisco, Cal.—*Ironing Machine.*—October 18, 1864.—This invention consists of a cylinder rotated by a crank, above which is placed an iron box, which is heated by hot irons placed within it. Articles to be ironed are to be placed between the cylinder and the heated box, and the whole is to be operated by suitable machinery.

Claim.—The combination of the rotary horizontal cylinder C with the adjustable bar D, as operated by the lever F and the smoothing iron I, substantially as and for the purpose herein specified and set forth.

No. 44,766.—Thomas James Cain, assignor to himself and William G. and J. Lawrence, Cleveland, Ohio.—*Artificial Leg.*—October 18, 1864.—This invention consists in certain arrangements for connecting rods and springs which cannot be briefly described.

Claim.—First, the strap E, spring F, connecting rod H, and spring J', when arranged and operating as described.

Second, the adjustable hook I, in combination with the rod H and spring J, arranged and operating in the manner and for the purpose set forth.

Third, the bridge F', in combination with the strap E and springs F and J' and connecting rod H, arranged and operated as specified.

Fourth, the thimble h, pin h', and cap box h'', for the purpose specified.

Fifth, the links b, rods b', and springs c, in combination with the ball and socket joint D, arranged and operating as and for the purpose described.

Sixth, the bar P and heads $p\ p'$, when constructed and arranged as described, and for the purpose specified.

Seventh, uniting the thigh A and lower leg B by means of the connecting rod H, joints H' and $m\ m'$, as herein specified.

No. 44,767.—Augustine B. Crosby and Robert L. Thompson, Galpin county, Territory of Colorado.—*Apparatus for Roasting and Treating Ores of Gold and Silver.*—October 18, 1864.—The ore is pulverized and then placed in a drying cylinder, from which it is poured into the roasting cylinders, where it is heated by fire on the outside of the cylinders, with a good supply of air on the inside. The air is blown through the length of a vertical cylinder with inclined planes, and is also made to enter through a perforated hollow shaft. The ore is constantly stirred while passing through the cylinders. After being dried and burnt, the ore is ground in a mill with runners made of soft wood.

Claim.—The application of the perforated hollow axle, substantially as above described, for the purpose of furnishing a sufficient supply of air at all points in the length of the burning cylinder.

Also, the application of the gas chamber, with the inclined plane, or sole and trap, substantially as above described, for the purpose of separating the burnt solids from the gaseous and vaporous products without admitting external air so as to vitiate the draught.

Also, the application of a condenser, substantially in the manner and of the form above described, for the purpose of condensing the metallic vapors and obtaining a hot dilute solution of acid to aid amalgamation.

Also, the combination of a blower, substantially as above described, for the purpose of making an inward draught, with the cylinder, gas chamber, and condenser, so that no metallic vapors may escape before condensation.

Also, the application of grinders, made of some soft wood, or any kind of wood, or of any soft material suitable, substantially as above described, for the purpose of grinding burnt ores and removing any coatings that may be on the gold particles.

Also, the application of the general combination of the foregoing claims with the previously known arrangements involved, substantially as above described, for the purpose of making a compact, practical, continuous, economical, and thorough mode and means of working gold ores.

No. 44,768.—George Goewey, assignor to himself and William Bailey, Philadelphia, Penn.—*Corn Sheller.*—October 18, 1864.—This invention relates to the arrangement and construction of the shelling cylinders and spring or yielding concaves, of which latter there are two of each, the concaves being placed at the ends and at right angles to the axis of motion of the cylinders, one of which has a more rapid motion than the other.

Claim.—The arrangement and combination of the inner frame F with one or more yielding concaves H, a spring or springs Q, and the rollers G, in the manner and for the purpose substantially as described.

No. 44,769.—C. H. Griffin, Chelsea, Mass., assignor to himself and Henry A. Breed, Lynn, Mass.—*Ore Roaster.*—October 18, 1864.—This invention consists of a furnace provided with a fan blower. The furnace opens into a shallow circular flue chamber, which communicates with the chimney. Fitting upon the flue chamber is a roaster, from the centre of which rises a vertical shaft, by means of which rotary motion is imparted to the roaster. Over this roaster is placed a cover, through which passes a shaft provided with radial arms. A pipe leads from the cover, through a tube, in order to condense the gases that escape.

Claim.—The combination of the rotary pan or roaster with the furnace flues passing around the same, substantially as described.

Also, in combination with the rotating pan, the rotary arms *m*, operating in the manner and for the purpose substantially as set forth.

No. 44,770.—John D. Hall, assignor to himself and Osborn Conrad, Philadelphia, Penn.—*Railroad Car Window Fixtures.*—October 18, 1864.—The devices consist first of a small shaft attached to the bottom of the sash, and supported by suitable bearings at each end. On the outer end is a hook or crank pawl, catching in a rack attached to the window frame, and held in that position by a coiled spring, one end being attached to the shaft, the other to the journal box. On the other end of the shaft, at or near the bottom rail, is a thumb-piece, or lever for turning the shaft and throwing the pawl out of gear. Also, angular faced friction pulleys, one or more of which, on each edge of the sash, are attached to springs, and play in grooves of corresponding shape, to prevent rattling.

Claim.—First, the combination of the rod A, the finger-piece C, the thumb-piece B, the box and support D, the spring H, the ratchet E, and the ratch or strip F, substantially in the manner and for the purposes set forth.

Second, the angular faced rollers G I J, and the spring L, with roller, in combination with the angular groove, constructed and operating as and for the purpose described.

No. 44,771.—James Lawrence, assignor to Milo Peck, New Haven, Conn.—*Button Key.*—October 18, 1864.—This key is triangular, or heart-shaped, the ends being turned downward toward the apex, and passing through the edge of the button, being thus protected from contact with objects external to the key itself.

Claim.—As a new article of manufacture, the within described protected button key.

No. 44,772.—Melchiore F. Magliocco, Philadelphia, Penn., assignor to himself and Abraham Anderson, Camden, N. J.—*Furnace.*—October 18, 1864.—This invention consists in a cylindrical casing resting upon a base plate, and closed at top, except where the discharge pipes are attached to it. Within this casing is a smaller casing, open at top, and extending nearly to the top of the outer casing: in the centre of the inner casing is the fire-pot, beneath which is the ash-pit, the latter extending forward through both casings, and provided at its outer end with a door. The grate is hung to a rod, which turns in suitable bearings, and has a square end projecting through the door, to which a handle may be applied to shake the grate. Directly above the fire-pot is a casing, closed at top and at the bottom, except where it communicates with the fire-pot; an exit pipe projects through the top of this casing, and through the top of the outer casing, extending entirely through the furnace, from top to bottom; through the top of the outer casing is a series of vertical tubes, open at both ends, from the lower part of the inner casing, above the fire-pot; through the outer casing extends a square pipe, which has a door on its outer end, the said pipe and door forming a passage for the admission of fuel to the fire-pot; directly over the fire-pot is suspended a cone-shaped plate, to the lower edge of which is secured a perforated plate, there being a space enclosed between the two.

Claim.—First, the casing H, arranged above the fire-pot, and combined with the pipes *c* and the casings C and A, substantially as and for the purpose set forth.

Second, the plate L, perforated plate L′, and tubes *f*, or their equivalents, arranged in respect to each other and to the fire-pot, substantially as and for the purpose set forth.

Third, the funnel N, pipe M, with its damper *d*, and plates L, arranged within the casing H, above the fire-pot in respect to the latter and the pipe I, as set forth for the purpose described.

No. 44,773.—J. A. Merriman, assignor to himself and E. E. Bowns, Chicago, Ill.—*Machine for Cutting Bolts.*—October 18, 1864.—This invention consists of a stock or chuck, in which the dies or cutters are adjusted radially to or from the centre, by means of teeth on their sides, near the outer ends; hooking into a spiral groove in a flange, on the outer ring, moving on and surrounding the hub, in which, in suitable radial grooves, they are supported, with their cutting edges towards the centre of the hub, which latter is hollow to admit the bolt to be cut, and is rigidly secured to a suitable mandrel. A spiral spring attached, one end to the hub, the other to the outer ring, causes the latter to maintain its position, by which the cutters are held nearest the centre. By closing a brake or clutch surrounding the chuck, when the latter is in motion, the outer ring is retarded from moving until the spring is compressed sufficiently to overcome the friction, and the ring assumes a position by which the cutters are furthest removed from the centre to allow the insertion of the bolt to be cut on the removal of one. The degree of motion of the said ring is regulated by an adjustable gauge on the rear of the chuck.

Claim.—First, the brake E, applied in combination with the ring *g*, and dies e^*, substantially in the manner herein shown and described, so that by the application of the brake the dies are opened without stopping the machine.

Second, the spring $g2$, applied in combination with the ring *g* and dies e^*, substantially as herein specified, for the purpose of closing the dies.

No. 44,774.—Charles R. Penfield, assignor to himself and George W. Penfield, Lockport, N. Y.—*Planing Machine.*—October 18, 1864.—The object of this invention is to plane the sides or cheeks of ships' tackle blocks to the desired shape; and it consists in a drum of octagonal shape, provided with suitable dogs for holding the rough blocks to be planed on each face of the drum, the dogs being so constructed and operated upon automatically by a shaft having a worm wheel working in a pinion, on a shaft of which one of the dogs is screwed, coming in contact with cams, in order to tighten or loosen the block, so that when the drum revolves the shaft strikes a cam, pushing its end and causing the worm wheel to revolve the pinion and tighten the dog on the block, at the same time holding it until it is presented to revolving cutters, on a shaft upon which is a friction wheel that comes in contact with and turns upon the face of a former that is fast on the face of the drum, which gives the exact form to the block. As the drum is revolved, the other end of the shaft strikes another cam, forcing it in an opposite direction, which relieves the dog, and the block falls from the machine finished.

Claim.—The combination and arrangement of the movable and stationary dogs *d f* with the drum composed of the planes *c c c*, or their equivalents, in such a manner that the planes present themselves successively to the operator, and the dogs clamp the blocks automatically, substantially as herein set forth.

Also, in combination with the dog *f*, the screw shaft G, provided with the pinion *n*, and the rod H, provided with the rack or worm i, the whole being used in connexion with the drum B, substantially as herein specified.

Also, in combination with the rod H, shaft G, and dog *f*, the spring cam I, which yields when the dogs are fully clamped, substantially as described.

Also, the patterns L and friction wheel P, in combination with the drum B, cutter D, and sliding carriage C, for the purpose of giving form to the blocks, substantially as herein set forth.

Also, attaching the patterns L to the drum by means of the screw *p* and nib *n*, when the same is used in combination with the stops *m*, for the purpose of adjusting and holding the latter, substantially as specified.

Also, providing the box E, with the bearing *t*, for the purpose of sustaining the friction wheel P, independent of the shaft *b*, substantially as described.

No. 44,775.—James N. Phelps, assignor to Phelps's Electro-Amalgamating Company, New York, N. Y.—*Amalgamating Apparatus.*—October 18, 1864.—This invention consists of two amalgamating rolls, under which revolves a third roll, which supplies the first named rolls with mercury, in connexion with a trough containing mercury. These rolls are subjected to the action of galvanism or electricity during their operation, and are provided with scrapers. The ore is supplied from a tank, through a spout.

Claim.—First, in combination with the amalgamating rolls a reservoir of quicksilver and a conveying mechanism for constantly supplying said rolls with the quicksilver, as described.

Second, in combination with the quicksilver reservoir, conveying mechanism and amalgamating rolls, the use of chemical or mechanical electricity or galvanism for assisting in coating said rolls, as and for the purpose described.

Third, combining with the rolls that are constantly supplied with quicksilver, the scrapers for constantly scraping off the amalgam and conveying or directing it to a proper receiver, substantially as described.

Fourth, delivering the crushed and purified ores from the muller to the coated rolls, through a narrow slot in the pipe or tube conveying it, substantially as and for the purpose described.

Fifth, in combination with the rolls A B, the jackets M, for holding the ores to the rollers, until taken off by the scrapers, substantially as described.

No. 44,776.—Edward S. Ashcroft, Lynn, Mass.—*Machine for Cleaning Peat.*—October 25, 1864.—This invention consists of a hopper, under which are placed two revolving perforated cylinders provided with cleaners on the inside. As the peat passes from the hopper it passes between the cylinders and is crushed, the larger particles dropping down between the cylinders and the smaller passing through the apertures and upon the cleaners.

Claim.—The arrangement or combination of rotary perforated drums or cylinders, to operate together as separators, substantially as set forth

Also, combining with the separating cylinders the cleaners f, operating in the manner substantially as set forth.

No. 44,777.—R. P. Baillie, Detroit, Mich.—*Balance Steam Valves.*—October 25, 1864.—The object of this invention is to secure the action of the valve, under any given pressure of steam, without any increase or diminution of pressure on it, and thereby cause it to move in equilibrium. Its novelty consists in the arrangement of two seats and a valve chest in connexion with a double valve.

Claim.—The arrangement of the two seats B B, on the opposite side of the valve chest A, to operate in connexion with the double valve C, in the manner and for the purpose substantially as herein shown and described.

No. 44,778.—Isaac Bates, Poughkeepsie, N. Y.—*Diagram for Teaching Penmanship.*—October 25, 1864.—The invention consists in the construction of a diagram, to show the proper position of the arm and hand of the pupil, by laying it on the table or desk.

Claim.—The employment or use in teaching penmanship of a diagram representing the correct position of the arm, hand, and pen, substantially such as herein shown and described, and for the purpose set forth.

No. 44,779.—Eben Blakeman and Joseph R. Gill, Charleston, Ill.—*Clothes Wringer.*—October 25, 1864.—The main features of this invention consist in the combination of friction and gear wheels, so arranged that the strain shall be taken from the elastic covering of the rollers.

Claim.—First, holding the main parts of the frame of the wringer together by means of the rods a which sustain the springs c and the rods d, and the grooves in the roller shafts, substantially as described.

Second, the combination of the friction wheel D', its hanging journal box g, and top piece G, with the friction wheels D and D'' and the pressure roller C, substantially as described.

Third, the gear k and shaft S, in connexion with the lower friction wheel D, as set forth.

No. 44,780.—Alexander Boyden, East Foxboro', Mass.—*Scythe Fastenings*—October 25, 1864 —This invention relates to attaching the blades to the snath in such a manner as to dispense with the usual tang or shank. It will be sufficiently well understood from the claim and engraving.

Claim.—The combination of the movable bearer or wedged plate C, or its equivalent, with the snath holder A and the confining clamp B thereof.

Also, the combination of the adjuster D with the ribs $c\ c$, or their mechanical equivalents, with the snath holder A and its clamp B provided with screws and nuts, and applied to such holder substantially as specified, the said holder A having a slot i' made in it in manner and for the purpose hereinbefore specified.

No. 44,781.—O. G. Brady, New York, N. Y.—*Metal Shirt Bosoms.*—October 25, 1864.—This invention consists in forming the bosom of longitudinal strips of sheet metal, placed together in the manner of plaits, attached to each other in the rear, above, and below, by wire loops, their shanks being soldered to the back of one strip and the edge of the other, perforated for the purpose, moving free within the loop. The entire bosom has a full or convex appearance in front, and may be painted and varnished and otherwise adapted to taste and convenience.

Claim.—A shirt bosom of metal constructed substantially as above described.

No. 44,782.—Abel Brear, Saugatuck, Conn.—*Apparatus for Raising Water, &c.*—October 25, 1864.—The object of this invention is to raise water or other liquids by the injection of a jet of steam or other aeriform fluid, at the desired pressure, into the chamber connected with the delivery pipe, and thereby dispense with the usual enginery for such an object. Its novelty consists in the combination and arrangement of a chamber with its inlet and outlet openings, an elbow-shaped nozzle, with its mouth, all in line with each other in an upright position.

Claim.—The arrangement of the inlet and outlet openings of the chamber A and the mouth of the elbow-shaped nozzle D, all in line with each other and in upright position, substantially as herein specified.

No. 44,783.—John Broughton, New York, N. Y.—*Water Closet Cocks.*—October 25, 1864.—This invention requires a reference to the specification and drawings for a proper understanding of the same.

Claim.—First, the arrangement of the solid valve e and solid-headed valve rod g, connected together substantially as shown, and supported by and working in the tubular bearing of the nipple or neck n, in combination with the supply and discharge chambers and the elastic valve seat K, all constructed and operating substantially as described.

Second, forming an annular groove upon that part of the valve-rod g which slides within the neck of the chamber B, and filling the same with cork or other elastic material, substantially as and for the purpose above described, and thus dispensing with a cover on the end of the neck.

Third, the arrangement of a grate or strainer upon the valve stem below the valve and moving within the supply chamber above the induction pipe, substantially as described.

No. 44,784.—Robert K. Colving, Lancaster, Penn.—*Combined Gun and Pistol Bayonet.*—October 25, 1864.—A bayonet, having a revolving pistol connected with its shank, is attached to a musket by a bayonet joint in the usual manner. A supplementary trigger, acting through a rod, is so arranged as to discharge the revolver at the muzzle, independently of the usual trigger and charge in the musket; or if desired, both arms may discharge together.

Claim.—First, the arrangement and combination of two triggers to operate a gun and a revolving pistol, separately or together, as herein described.

Second, the arrangement and combination of the gun, pistol, and bayonet, when arranged and combined as herein described.

No. 44,785.—George S. Conkling, Goshen, N. Y.—*Plaster and Seed Sower combined.*—October 25, 1864.—This machine is designed for sowing plaster and seed at one operation. Both, in their desired proportions, are placed together in a hopper, the bottom of which consists of a wire-cloth stationary sieve or screen. A shaft armed with pins or teeth is caused to revolve immediately above this sieve, causing the grain and plaster to pass through into a hopper below, from whence it is deposited in the ground through suitable openings, in the usual manner.

Claim.—First, the combination of the rotary shaft H h, sieve G, and rectangular and triangular apertures $c\ f$, the whole being employed to agitate the seed and plaster, crush the latter, and separate straw and trash, in the manner and for the purpose set forth.

Second, the shaft J j, in combination with the triangular apertures $d'\ l$, substantially as and for the purpose specified.

No. 44,786.—L. D. Cowles, Armada, Mich.—*Harness Buckle.*—October 25, 1864.—This invention consists in the application to a frame of a stirrup and a lever, provided with eccentrics so constructed that the strap may be firmly secured without holes and tongues.

Claim.—The frame A, in connexion with the stirrup C and the lever frame B, provided with the eccentrics $c\ c$, all arranged to operate in the manner substantially as and for the purpose herein set forth.

No. 44,787 —L. D. Cowles, Armada, Mich.—*Buckles for Harness.*—October 25, 1864.—This invention consists in a lever frame provided with two cams, in combination with the frame or body provided with lips having flanges at their outer ends.

Claim.—The stirrup C and lever-frame D provided with the cams E E, in combination with the frame or body A provided with the lips B, having flanges a at their outer ends, all being arranged substantially as and for the purpose set forth.

No. 44,788.—John Crandell, Ilion, N. Y.—*Horse Hay Forks.*—October 25, 1864.—This invention will be understood by reference to the claim and engraving.

Claim.—A horse hay fork constructed of the tines A A' A' secured together at the proper distance apart by means of the collars F, bar E, and set screws *c*, with two of the tines A' A' formed with bars B at the rear, bent or curved upward, and connected to a head C, substantially as set forth.

No. 44,789.—Jonathan Dearborn, Seabrook, N. H.—*Water Elevators.*—October 25, 1864.—A succession of buckets are carried on transverse rods, the ends of which rods are secured to two endless chains, the links being flat on the outside. Each rod has a large transverse ridge on its inside to enter a space in its upper wheel. The wheels are each formed of a hub, a large disk on each side thereof, and bars near the periphery, on which bars the chain rests. The transverse rods pass through the buckets at or near their centres, the weight of the bottom of each bucket serving to keep it in proper position. A heavy disk rests upon the transverse bar on each side of the bucket. Each bucket has an ascending rod upon the outer side, to catch in a tilter connected with the trough, which causes the bucket to deliver its contents just before reaching its highest point in the revolution.

Claim.—The improved chain and its sprocket wheel as constructed in manner and to operate as specified, the chain under such construction having an arch or curved brace to each link as explained, and the wheel being made with recesses or spaces between its chain link bearings, and for the reception of such arches or braces of such links as described.

Also, the combination of the circular wheel D with the chain constructed with arches or braces to its links, and with the sprocket wheel made so as to support the links at their junctions, and with recesses or spaces for receiving the link arches in manner as specified.

Also, the application of each bucket to the chains by means of a rod running through the bucket and supported in bearings applied to the chains as described.

Also, the arrangement and combination of the sinkers *s s* with the bucket, the chains, the bucket rods, and the sprocket wheels, as described.

No. 44,790.—Joseph DeLong, Upper Sandusky, Ohio.—*Force Pumps.*—October 25, 1864.—A vertical cylinder is perforated midway between its ends for the admission of water, and has a solid reciprocating piston. Water is thus forced from each end into a lateral cylinder, at the centre of which is a double puppet valve which rises and falls sufficiently to open and close a lateral eduction port in the centre of said cylinder, changing its relation to the two channels from the pump cylinder with every reversal of the stroke of the cylinder. The upper part of the second cylinder or valve chamber, by the removal of a large hollow screw, fits within it in such a manner as to form the interior of each upper portion thereof.

Claim.—First, the arrangement of the single double-acting valve *d* with the intermediately perforated cylinder A, solid piston A', and valve-chamber C, the whole constructed and operating substantially in the manner described.

Second, the arrangement of the removable screw seat *e*, constructed with a passage through it, with the puppet valve d d' and the perforated cylinder A, substantially in the manner and for the purpose described.

No. 44,791.—Edgar S. Ells, Fairhaven, Vt., and George F. Ells, Troy, N. Y.—*Hand Cards.*—October 25, 1864.—This invention consists in fastening the handle in a mortise by means of the teeth themselves, without either screw or glue, and also in renewing the points of the teeth.

Claim.—First, a card having a wooden handle A fastened in a mortise or recess *d* in a wooden stock or recess B, by means of the wire teeth C of the card, substantially as herein described.

Second, a hand card having the projecting ends of its wire teeth brushed smooth and rounding, substantially as herein described.

No. 44,792.—A. V. and A. F. Fletcher, Athol, Mass.—*Pumps.*—October 25, 1864.—This invention consists first, in the arrangement of fulcrum post for the handle, which passes down within an enlarged open pump top, and is secured by a bolt passing upward into said enlargement outside the narrow pump stock, a supporting piece screwed to this post near its top, fitting by means of a groove upon an outer flange upon the said pump top, a rod passing from said post obliquely upward and bending around the piston rod as a guide therefor; second, in the combination of parts at the bottom of the cylinder, including the induction post, flap valve, and packing, all held and clamped together by the bolts that hold the cylinder to the base plate.

Claim.—The construction and application of the fulcrum post substantially as set forth.

Also, the combination of the rings *t q*, plate *s*, cylinder *a*, base *c*, and pipe *d*, when constructed and arranged to operate together, substantially as set forth.

No. 44,793.—Orlando Fuller, San Francisco, Cal.—*Bracing and Fastening Spiral Springs.*—October 25, 1864.—This invention consists in bracing spiral springs for mattresses, &c., by suitable cords in such a manner, at or near the centres of the springs, instead of the top, that each spring will yield to the pressure upon it without drawing upon other springs which are near to it.

Claim.—The employment or rise of a supporting web adjusted by the means and in the manner set forth, at or near the centres of the springs, and the attachment thereto of the upper coils of the springs, in the manner and for the purposes set forth.

No. 44,794.—A. M. George, Nashua, N. H.—*Hose Couplings.*—October 25, 1864.—In this device the female portion or socket of the coupling is attached to the flange of the same diameter on the other or male portion, by means of hooks hinged on the periphery of the former, one on each side, and passing over the latter. The said hooks have on their outer ends a cam button, which by being turned impinges upon the bottom of a shallow groove in the outside of the collar or flange of the male portion, so as to bind it firmly to the other.

Claim.—The hose coupling constructed and operating substantially as within described.

No. 44,795.—Gilbert Gibbs, Sugar Branch, Ind.—*Hay Presses.*—October 25, 1864.—This invention relates to that class of presses in which the substance to be baled is first packed or temporarily compressed by successive blows with a drop or beater, after which it is permanently compressed and tied, and the novelty consists in a removable platen or follower, by which the bale is permanently compressed; also in the mode of operating the same, and the mode of opening and closing a door to the chamber of the press by the action of the beater, the same having been heretofore opened and closed by hand.

Claim.—First, in combination with the beater D, a removable platen or follower K, when employed in permanently compressing the bale after it has been packed or temporarily compressed by the beater, substantially as specified.

Second, in the construction of the platen K, the catches *g h*, jointed bars g' h', bar *i*, pin *s*, in combination with the notched pieces h'', substantially as and for the purposes specified.

Third, operating the platen for permanently compressing the bale by means of the cam or eccentric levers H, acting upon friction rollers *n* and shoulders *o*, or their equivalents, carried by side pieces h'', which draw upon the follower or platen substantially in the manner described.

Fourth, closing the door I by the action of the beater D in its ascent, and releasing the same to be opened again in its descent, in combination with any appropriate mechanism, for the purpose substantially as herein described.

No. 44,796.—Reuben Gibson, Shelby, Ohio.—*Clothes Wringer.*—October 25, 1864.—This invention consists of compensating gearing arranged with adjustable arms in such a manner that the strain upon the rollers may be relieved, so that the elastic covering will not strip or turn upon the shafts.

Claim.—The adjustable arms H H and L L and gears G I J K, in combination with the rollers B and C, when operating conjointly as and for the purpose substantially as set forth.

No. 44,797.—Lyman A. Gouch, Yonkers, N. Y.—*Filters.*—October 25, 1864.—A vertical cylinder is surrounded by a dome. Several strata of filtering media occupy the space from the base of the dome to a line near the bottom of the cylinder, being retained by a perforated disk at each end. The lower disk may be elevated and depressed by means of the nuts beneath it on the ends of supporting rods, and thus the media may be rendered more or less compact at will. A supply pipe passes up the side of the cylinder to a point above it, having a lateral pipe to afford a pipe at the bottom of the cylinder, this lateral pipe having a cock near its upper end. The main pipe has a cock above the branch pipe. There is a pipe at the base of the dome communicating horizontally with the main pipe, and provided with a stop cock.

Claim.—The cylinder A constructed as described, in combination with the filtering media D, screws *e*, bolts *f*, and perforated plates C, for the purpose set forth.

No. 44,798.—Henry Hammond, Providence, R. I.—*Breech-loading Fire-arms.*—October 25, 1864.—The breech lock swings laterally on a pin or shank, connecting the barrel with the stock, and has its front and rear surfaces thereon formed slightly obliquely or helically, so as to recede somewhat from the open chamber of the gun as it is being turned one side.

Claim.—First, the method, substantially as described, of constructing the breech block E with an oblique or helical rear surface, and connecting the same with the stock or frame, so that in opening and closing the breech block, by rotation, it will be withdrawn laterally and obliquely backward, as herein described.

Second, the oblique or spiral-faced stationary cam or recoil piece F, in combination with the oblique groove *b* in the pin C, and the pin *c* in the hub of the breech piece, when constructed and arranged as herein specified.

No. 44,799.—James Hannan, South Lyon, Mich.—*Fruit Ladder.*—October 25, 1864.—This invention relates to the manner of joining the sections of the ladder together, so that it can be extended, and for the means used for locking it in that position; also to the adjustable table, and the manner of placing and retaining it in the desired place on the rounds; and to the combination of two or more ladders, by means of coupling joints, forming an extension ladder.

Claim.—First, the adjustable rounds *f f*, with the catches *f′ f′*, or their equivalents, in combination with the adjustable table F, for the purpose set forth.

Second, coupling or combining the sections B and H, Fig. 4, (either two or more sections,) forming a combined adjustable and extension ladder, in the manner and for the purpose set forth.

No. 44,800.—Harvey I. Harwood, Utica, N. Y.—*Coal-oil Lamp.*—October 25, 1864.—This invention consists mainly in the employment of a spiral ventilator, used, in combination with a chamber, to prevent the lamp from dropping the oil out when turned on its side.

Claim.—First, the spiral ventilator, as constructed and described.

Second, the arrangement of the additional sliding tube, as described, so as to be detached readily to change the lamp by the removal of the outer tube, as set forth.

Third, the arrangement of the curtain chamber in combination with the spiral ventilator, to secure the lamp against dripping oil when turned upon the side.

No. 44,801.—Henry K. Horton, Campton, Ill.—*Seeding Machine.*—October 25, 1864.—This invention relates to the manner of suspending the plough frames to the main frame of the machine, whereby the ploughs can be elevated at pleasure by the driver, by means of a cord and pulleys operated by a lever.

Claim.—The combination and arrangement of the seed coverer O and the hinged frames U and C, when constructed and operating substantially as herein specified.

No. 44,802.—W. R. S. Hunter, Blackberry Station, Ill.—*Weather Strip.*—October 25, 1864.—This invention consists in adapting strips of metal or other suitable material to the door and sill respectively, so arranged in relation to each other as to prevent the entrance of air or water, and cause the water to be carried off by a proper outlet.

Claim.—A device to be used as a weather strip for the bottom of doors, when constructed with two vertical shoulders *d* and *e*, shutting against each other beneath a horizontal projecting shelter *i*, and provided with a water channel *g*, to catch and convey away any water that may pass through the joint between D and E, substantially as described.

No. 44,803.—James Ives, Mount Carmel, Conn.—*Bracket and Chandelier Lamp.*—October 25, 1864.—This invention consists in so constructing bracket and chandelier lamps as to make the cone and chimney stationary, and the lamp reservoir movable.

Claim.—First, making the lamp adjustable while its cone or chimney seat is stationary, substantially as and for the purpose set forth.

Second, a stationary stopple for the filling hole of a movable lamp.

Third, a stationary cone or chimney base, substantially as and for the purpose set forth.

Fourth, a movable lamp, substantially as and for the purpose set forth.

Fifth, a hinged support for the lamp, substantially as and for the purpose set forth.

Sixth, the combination of the stationary bracket hinged lever support with the lamp attached and a spring, substantially as and for the purpose set forth.

No. 44,804.—Josee Johnson, New York, N. Y.—*Washing Machine.*—October 25, 1864.—This invention consists of a tub provided with V-shaped ends, in connexion with a pounder formed of parallel slats, with suitably formed teeth at their lower ends; at the upper ends is a grooved board for hand washing. A heavy roller with links attached to its ends, and secured to the sides of the tub, operates with the pounder on the clothing at the bottom of the tub.

Claim.—In connexion with a pounder B, the employment of a roller E, arranged as described, with or without guiding links, so as to operate in combination with the pounder, substantially in the manner and for the purpose herein set forth.

No. 44,805.—L. G. Kniffen, Worcester, Mass.—*Horse Hay Fork.*—October 25, 1864.—This invention relates to that class of horse hay forks which are composed wholly of metal, and it consists in combining a catch of novel construction with the tines of the fork, in such manner as to act readily and easily, without liability to premature or casual tipping. The catch is actuated by a cord which, when pulled, releases the fork and discharges the load.

Claim.—The handle B, cast with a recess *c* at its lower part, and with a hood projection *f*, and attached to the central tine A′ of a three-tined fork, as described, in connexion with the catch C and spring *e*, all arranged to form a new and improved horse hay fork, as described.

No. 44,806.—Ross Johnson, Urbana, Md.—*Machine for Cutting Soap.*—October 25, 1864.—This invention consists of a platform mounted upon wheels, and provided with a movable frame which slides upon longitudinal rails. Within the frame is a sash provided with two rows of wires arranged in planes at right angles with each other, and capable of being moved vertically.

Claim.—First, arranging the wire cutters in a single frame C and in planes at right angles to each other, so that during the act of making one cut the wires for making the succeeding cut will be brought in their proper position for the purpose, substantially as described.

Second, the vertically movable wire frame C in combination with the horizontally reciprocating frame B, substantially as described.

Third, mounting the cutter carrying frame upon a carriage which is adapted to enclose or partly enclose the mass of soap to be cut while the latter remains upon the floor or blocks, substantially as described.

Fourth, a vertically movable frame C, horizontally reciprocating frame B and movable carriage A A′ A′, all combined and operating substantially as described.

Fifth, cutting "frames" of soap into bars by means of machinery without the necessity of removing the "frame" or soap from the blocks upon which they are left standing after being moulded, substantially as described.

No. 44,807.—Jacob Kritch, Rochester, N. Y.—*Machine for Boring Wagon Hubs.*—October 25, 1864.—The object of this invention is to centre the hubs of wagon wheels ready for setting boxes, and it consists in a revolving hollow head that secures the hub while being bored by a non-revolving cutter that feeds forward. The head turns on a pivot, so as to be adjusted to the desired taper for the hole to receive the box, all being arranged so that the index shows the degree of taper; and the invention further consists in a tool adapted to the cutting of a screw thread in the hub for securing the box into the hub.

Claim.—The combination of the adjustable revolving hub head or socket H, capable of being set at any angle laterally, and the non-revolving feeding cutter-shaft B, the whole so arranged as to cut a tapering hole, substantially as herein described.

Also, the arrangement of the adjustable revolving hub head or socket H, disk K, ring L, and centring screws and nuts *f g*, for centring and sustaining the hub while being bored, substantially as herein set forth.

Also, the threading cutter D provided with the angular cutting points *m m′*, for producing the threads on the inside of the hub, substantially as described.

No. 44,808.—Isaac Lindsley, Pawtucket, R. I.—*Power Loom for Weaving Hair Cloth.*—October 25, 1864.—This invention is designed as an improvement on the inventor's patent No. 32,634. A delicate finger or detector has a movement across the position occupied by the selected weft after each operation of the selecting instrument between the same and the mass of weft or hair, when the weft is not present, from a failure of the selecting instrument to seize it, or the finger is arrested by the weft when it is so present. In the first case the stop becomes inoperative, and permits the selecting instrument to repeat its efforts, and in the latter place the stop is put into action, and arrests the operation of selecting. To effect the mode of operation mentioned in the second clause of the claim, a notched segment is used having as many notches as there are picks in working the round of the figure, and which is attached to a pawl much wider than a notch on a wheel which it detains, and this pawl being by the moving segment slidden laterally in the notch, is so operated as that the engagement of the pawl takes place when no weft is selected, and the segment determines how many picks should be worked during the suspension of the selecting operation, and permits it to resume it at the proper time.

Claim.—First, controlling the operations of the selecting mechanism by means of a detector constructed and operating substantially as described.

Second, the mode of operation, substantially as specified, by which in case the selecting instrument fails to select and present a length of weft to the instrument that places it in the open shed during the period allotted therefor, its selecting function is in consequence thereafter suspended during any determined number of picks, and resumed with the reopening of the proper shed, and so continues to suspend and resume its function automatically until a length of weft is selected and inserted in the proper shed, and to do so repeatedly as often as such contingency occurs.

No. 44,809.—P. W. Mackenzie, Jersey City, N. J.—*Blowing Apparatus.*—October 25, 1864.—This invention relates to an improvement in the arrangement of the bearings and shaft of the revolving drum and fans of a machine for blowing blasts of air. One of the fans may be fastened to the shaft or axle, so as to cause the said shaft to revolve in its bearings at certain points; the other fans are loosely attached to the shaft, so that by their oscillation they may adapt themselves to the continuous change of angle at which they pass through the drum for the purpose of enabling the attendant, when the machine is run continuously day and night, to oil the bearings.

Claim.—The combination of the hollow axle J and the straight shaft C with the fans B and the drum D, substantially as and for the purpose set forth.

No. 44,810.—Robert McCorkell, Warsaw, Minn.—*Corn Planter.*—October 25, 1864.—This invention relates to a machine for furrowing, dropping, covering, and rolling two, three, or more rows at one time, the machine being capable of automatic action, or of being used as a "hand dropper." Each planter in this machine is independent of the other, and the rolling cutter is so combined with the cylinder tooth that it opens the furrow and protects the tooth, thus saving the friction of a runner or shoe in the ground. The roller is rendered adjustable to regulate the depth of the furrow to suit any ground at any season. The planter may, if desirable, be attached to the rear axle of a wagon by substituting the rench for a tongue, and fastening the cross-bar to the hounds.

Claim.—First, the device or manner of moving the movable seat by the lever *r*, operated by the foot when used in corn planters, as specified.

Second, the hinged beam H, the tubular tooth C, the oblique rotary cutter *b*, the reversed share and adjustable roller *k*, arranged as and for the purpose set forth.

Third, the levers M M and *m* with the connecting rod *o*, for the purpose of elevating or depressing the beams H H with their use for that purpose, as set forth and described.

No. 44,811.—Robert McCorkell, Warsaw, Minn.—*Machine for Mangling Beefsteak and other Meats.*—October 25, 1864; antedated October 18, 1864.—This invention consists of two rollers, the faces of which are composed of ribs and ridges fixed in such a position that they will be opposite to or bear upon the meat in opposite directions as it is rolled between them for the purpose of making it tender. The rollers are secured in a frame with arms and levers in such a manner that the pressure can be graduated to the thickness of the meat.

Claim.—First, the construction of rollers having ridges and depressions as described, and arranged in relation to each other in such a manner that the ridges and depressions shall come opposite to or bear upon each other, for the purpose specified.

Second, the handle H and bar G with the levers F F and hooks *k*, for the purpose set forth substantially as described.

No. 44,812.—Josiah V. Meigs, Washington, D. C.—*Coal or Heating Stove.*—October 25, 1864.—The outer casing on this stove is cut away for nearly one-third of its height in the centre and in circumference so far as to leave two straps on opposite sides, of sufficient width and strength to support the top of the stove. To the inner sides of the top and bottom of the cylinder are secured two vertical ratchet bars; around the cylinder is fitted a jacket or sleeve of sheet metal, made to fit closely and slide smoothly over the opening made by cutting away the outer casing; to this jacket or sleeve, and directly over the vertical ratchet bars, are fastened two pawls, which turn on pins, and carry handles of greater weight than the pawls, so that when at rest the weight of the handles will engage the pawls with the teeth of the ratchet bars, and so support the jacket or sleeve at any desired height; and by means of the pawls and ratchet bars, the jacket may be elevated or lowered at pleasure, thus providing a close stove and rapid combustion, or an open fire and slow combustion, as may be desired.

Claim.—First, a jacket or sleeve surrounding and sliding upon a stove, leaving a central opening substantially as described, for the purpose of rendering it an air-tight or open stove at will, as set forth.

Second, the combination of the hinged pawls L L′ with the ratchet and stove, substantially as and for the purpose set forth.

No. 44,813.—Andrew J. Morse, Melrose, Mass.—*Faucet.*—October 25, 1864.—This device is intended chiefly for a sirup vessel, used with a soda fountain; and to keep the sirup retained in the cock cool an outer shell is made to communicate with a vessel containing ice. The liquid in the cock may be kept hot for other purposes by making the outer shell of the cock to communicate with a vessel of heated water.

Claim.—The improved cock, as constructed with a chamber surrounding the conduit through the same, or arranged in juxtaposition therewith.

No. 44,814.—Henry Neumeyer, Macungie, Penn.—*Foot Bellows.*—October 25, 1864.—The object of this invention is to obtain a continuous current or blast of air, by the weight and easy movement of a person standing with his feet on two bellows and resting his weight alternately on them. Its novelty consists in the combination and arrangement of a wind chamber, a central plate, and two bellows.

Claim.—The two bellows B B, in combination with the wind chamber F, and arranged and applied to the central board or plate A, and provided with the necessary valves, to operate substantially as and for the purpose herein set forth.

No. 44,815.—H. Nickolds, Providence, R. I.—*Hook and Eye.*—October 25, 1864.—This invention consists in forming the hook in the shape of the letter M, the interior part being flattened and in line with the outer parts, which are attached at their extremities to the cloth.

Claim.—A hook A, made substantially as shown, as a new article of manufacture.

No. 44,816.—Sanford E. Parsons, Wilkesbarre, Penn.—*Coal Stove.*—October 25, 1864.—This invention consists in constructing a stove so that the doors by which the cinders are removed shall be lined with fire-brick and constitute a part of the fire-pot, and also part of the outer wall of the stove. the door by which the fuel is supplied being higher up on the stove, above the fire stove.

Claim.—First, providing the passage for the removal of cinders from the stove with a door which constitutes a part of the fire-wall *c*, and also a part, of the outer wall of the fire-pot, substantially as described.

Second, hinging one of the fire-bricks of the lining *c* to the wall of the stove, substantially as described.

No. 44,817.—Benjamin F. Penniman, New York, N. Y.—*Process for Purifying Coal and Ores.*—October 25, 1864.—This invention consists in mixing alkalies and acids with coal or ores which contain sulphur, and then passing a current of steam through the mass.

Claim.—The process, substantially as described, of mixing coal or other mineral with acid and alkaline agents, consisting of caustic soda, carbonate of soda, nitric acid, and borax, and subjecting them to the action of steam, in the manner and for the purpose specified.

No. 44,818.—Frank P. Pfleghar and William Schöllhorn, New Haven, Conn.—*Machine for Finishing Nuts.*—October 25, 1864.—This machine is designed for finishing nuts after the same shall have been punched, and comprises several different implements or stools, arranged in a row, the nut being moved automatically from one to another by a finger arranged for that purpose. The first of the series is a tool for reaming out the hole; the second is a sharp-edged die, through which the nut is forced, and which shaves off its edges; the third is a die of a similar character, for smoothing the edges; the fourth is an arrangement of two milling tools, for planing off, simultaneously, the two broad faces of the nut, and the fifth and sixth are taps for cutting the screw thread.

Claim.—First, the successive use of a reamer D, punch or punches E E*, milling tools F F*, and tops G G*, in a machine for finishing nuts, constructed and operating in the manner and for the purpose substantially as herein shown and described.

Second, the use of milling tools F F*, arranged substantially as herein specified, for the purpose of cleaning off the faces of a nut.

Third, the steps *e* in the channel C, arranged substantially as and for the purpose set forth.

Fourth, the reversing gear I I′ J, clutch K, and switch lever L′, or their equivalents arranged in combination with the wheels *b* E3 *h*, which impart motion to the various tools, in the manner and for the purpose substantially as herein described.

Fifth, the adjustable shoulders *l l′*, applied in combination with the switch lever L′, and with the reversing gear, substantially as and for the purpose herein described.

Sixth, the automatically reciprocating rod *p′*, and finger bar *g′*, applied in combination with the channel C, and tools D E E* F F* G G*, in the manner and for the purpose substantially as described.

Seventh, the arms *p*3, and incline plane *r*, in combination with the reciprocating rod *p′*, finger bar *g′*, and channel C, constructed and operating as and for the purpose set forth.

No. 44,819.—John T. Plass, New York, N. Y.—*Machine for Crushing Ores.*—October 25, 1864.—This invention consists in a globular pestle, placed in a similarly shaped mortar, to which pestle a rubbing action is given by rotating the handle or upper end of the shaft in such pestle in a circle, or by a circular movement, combined with a spring applied to keep said pestle down to its work. Around the mortar is placed a circular basin for receiving crushing rollers, which are driven by a cross-bend and chains, attached to the shaft. The ore to be crushed is deposited in the basin, and when sufficiently small to pass into the mortar, is delivered out of the basin into the upper part of the mortar by means of a scraper.

Claim.—First, the globular or nearly globular pestle *h*, setting into the mortar *i*, and moved by the shaft *g*, and arm *f*, in combination with the adjustable spring *p*, whereby said pestle is pressed to its work with the desired force. as set forth.

Second, a stationary wheel *l*. and pinion *k*, on the shaft *g*, in combination with the pestle *h*, and mortar *i*, to communicate to said pestle the movements specified.

Third, the circular basin *g*, and rollers *r*, in combination with the pestle *h* and mortar *i*, for the purposes and as specified.

No. 44,820.—William Price, Cincinnati, Ohio.—*Washing and Scouring Machine.*—October 25, 1864.—This invention consists in the arrangement of pressure rollers and a revolving brush, compensating roller, and double yielding journal boxes, by which clothes and clothing may be thoroughly washed and scoured.

Claim.—First, the arrangement and combination of the presser feeding rollers, and a high speed revolving brush, the same acting upon the material, as it slowly passes over a compensating roller, in the manner as and for the purpose specified and in combination with the above.

Second, the construction of the double yielding compensating journal boxes, applied for the purposes herein set forth.

No. 44,821.—Joseph Rodefer, Cincinnati, Ohio.—*Roofs.*—October 25, 1864.—This invention consists of a cement or concrete bed, formed with grooves or gutters upon its upper surface. Upon the bed are placed tiles, their edges meeting over the gutters. A luting composed of pitch and hydraulic cement is then poured in between the edges of the tiles, so as to fill the gutters and slightly overflow the upper surface of the tiles.

Claim.—The mode of constructing a roof with slates or tiles secured upon a concrete or mortar bed B, by means of gutters C, and luting F, in the manner set forth.

No. 44,822.—C. B. Rose, Sunderland, Mass.—*Mode of Securing Bits in Braces.*—October 25, 1864.—This invention consists in the use of a sliding bolt or catch for holding in the bit, and is operated upon by a key, which is inserted in the side of the lower end of the brace and into the bolt, by turning which the bolt will slide out of or into the notch in the bit, and thus hold or release the bit.

Claim.—A fastening for securing bits in braces, composed of a sliding bolt or latch C, operated by a key D, arranged in the manner substantially as herein shown and described.

No. 44,823.—C. B. Rose, Sunderland, Mass.—*Mode of Securing Bits in Braces.*—October 25, 1864.—This invention consists in the use of a sliding bolt in connexion with a double cam formed within a loose collar, which turns upon the end of the brace, and arranged to operate on the bolt, which holds the bit in the stock upon turning the collar.

Claim.—The sliding bolt or latch C in combination with the collar D, provided with the two cams or eccentric grooves *d d′*, all being arranged and applied to the end A of the brace, to operate in the manner substantially as and for the purpose set forth.

No. 44,824.—Samuel C. Rundlett, Portland, Me.—*Revolving Hand Rake.*—October 25, 1864.—This invention relates to the construction of and means for operating the rake. The head is constructed in the usual manner, the teeth passing entirely through it. Two parallel curved arms are connected by metallic straps to journals on the rake head, and are connected in front by a cross-bar. To the right hand arm a curved lever is attached by a pivot, to the back end of which lever a flat plate is attached, which catches against lips on the head, thereby holding the rake in working position. A spring upon the cross-bar holds this lever in place. Springs are also attached to the lower part of each oven, which catch in notches in the sides of the head, and prevent the front ends of the teeth from rising.

Claim.—The revolving rake A in combination with the arms B B′, connected by the cross-bar C, the springs G G, lever D, spring E, and the lips *g g* on the head *a*, and with or without the guide F, all arranged to operate in the manner substantially as and for the purpose set forth.

No. 44,825.—John Russell, Cumberland, Md.—*Smut Mill.*—October 25, 1864.—This invention consists in so constructing the machine that as the grain is poured into the hopper it will fall into a revolving circular toothed beater, which, by its rapid motion, throws the grain against the surrounding cap with force enough to break the smut kernels and lumps of dirt that may be attached to the grain, and which will be carried off by the current of air coming into the machine through the holes in the outside cylinder up through the suction spout into a fan box, and thence out of the machine, leaving the grain to fall upon the upper surface of a hollow conical rubber, whence it is conducted between the inclined revolving rubber and ribbed surfaces, which thoroughly rub and clean the grain, the dust passing up through the suction pipe and the grain in an inclined plane, and coming in contact with another current of air, which completely expels all the dust and husks remaining with the grain.

Claim.—The combination of the conical or hemispherical toothed beater I, the corrugated rubbers H *h* H *h*, the short internal perforated cylinders O O, and the long external perforated casing cylinder N, with the fan G and suction pipe S, when the top of the annular space between the internal and external cylinders is closed by the flat ring *a*, or by any other suitable device, and the perforations in the casing cylinder are all formed at points above the said flat ring *a*, all for the purpose of directing and controlling the passage of the artificially created currents of air through the machine, in the manner herein set forth.

No. 44,826.—Blaney E. Sampson, Boston, Mass.—*Carriage.*—October 25, 1864.—This invention consists in the application of a movable bar or rest to the carriage seat in such a manner that the said bar or rest may be turned across and supported independently of the legs of the occupants of the main seat.

Claim.—The application or combination of one or more auxiliary seats, movable bars, or rests C, with a carriage seat, substantially in manner and so as to operate as and for the purpose specified.

Also, the combination of such an auxiliary bar or seat C with the main seat and either or both the arm-rests thereof.

Also, the arrangement and application of such an auxiliary seat C with the arm-rest of the main seat, so as to be capable of being moved relatively thereto, and into either position with respect to it, substantially as hereinbefore described.

Also, the construction of one or more of such auxiliary seats or movable bars C, with one or more recesses or equivalents, for receiving a part of another bar, or a projection from such bar, in manner and for the purpose set forth.

No. 44,827.—Cornelius W. Scott, Constantia, Ohio.—*Gun-lock.*—October 25, 1864.—In this device the hammer is actuated by a helical wire spring retained in place by a supporting rod with an adjusting nut, and is held in its cocked position by a double link connecting with its heel, forming a toggle joint at dead lock, which, when tripped or thrown out of line by the trigger, instantly yields to the action of the main spring.

Claim.—First, the combination of the coiled or spiral spring *m*, the stiffening and guiding rod *l*, the adjusting nut *n*, and the tumbler *w*, as described—that is to say, in such a manner that the pressure of the spring and the consequent force of the blow of the hammer may be readily and properly adjusted, while at the same time the spring is kept from being thrown injuriously out of line by the pressure thrown upon it, substantially as and for the purpose set forth.

Second, the combination of the arms *p* and *r* of the toggle joint *o*, the tumbler *w*, and the trigger *x*, as described—that is to say, one of the arms of the toggle joint being connected to the tumbler *w*, and the other to a support independent of the trigger, and the trigger being so arranged, with relation to the toggle joint, as to operate directly to move the bearing which connects the two parts of the latter to the opposite side of the line from that which it naturally occupies when the gun stands at full cock, and thus allow the hammer to fall, substantially as and for the purpose set forth.

No. 44,828.—Hennell Stevens, Memphis, Tenn.—*Cotton Picker.*—October 25, 1864.—This invention consists of a set of parallel wooden fingers arranged in front of a pair of traction wheels. These fingers catch the small branches of the cotton plant and carry them by the forward movement of the machine near the axle, where a roller, carrying rows of steel teeth and moved by a belt attached to the traction wheel, catches the ripe bolls and carries them to a receptacle in the rear. The upper ends of the fingers are notched or dotted, so that the small unripe bolls pass through, and do not come in contact with the picker.

Claim.—First, the fingers A, arranged, as shown, to form an inclined surface, and provided with notches *a* at their upper parts, substantially as and for the purpose specified.

Second, the shield E, in connexion with the fingers A and picker B, arranged to operate substantially as and for the purpose set forth.

Third, the picker B placed at such a distance from the fingers A that the unripe bolls may pass beneath it without being touched, while those in which the cotton protrudes are entangled and the cotton extracted from them.

Fourth, the comb G, in connexion with the picker B, shield E, fingers A, and receptacle C, all arranged to operate as set forth.

No. 44,829.—Edwin Squire, Cold Springs, N. Y.—*Hydraulic Pump.*—October 25, 1864.—The object of this invention is to simplify and arrange the parts, whereby two hydraulic presses can be operated simultaneously by motion of one and the same hand lever. The novelty consists in the combination and arrangement of a series of levers and links with a supply, waste valve, and hand levers.

Claim.—First, the levers F G I and links *g i*, in combination with the hand lever *h* and supply and waste valves D E, constructed and operating in the manner and for the purpose substantially as herein shown and described.

Second, the combination of the supply valves D D′ and waste valves E E′ with oscillating levers F G I and hand levers *h h′*, constructed and operating in the manner and for the purpose substantially as herein specified.

No. 44,830.—D. F. Walker, Potosi, Mo.—*Slide Valve for Steam Engines.*—October 25, 1864.—The object of this invention is to produce a slide valve which shall work without any stuffing box around its rod. Its novelty consists in constructing a valve with a stud secured to its back, or upper surface, which projects up through the steam chest cover. The cover is provided with a slot through which the stud carrying the valve works, and the valve rod is attached to the outer end of this stud. To prevent the leakage of steam around this stud, a circular projection is formed upon the back of the valve, and over which a plate having an annular flange projecting from it, to fit the projection on the valve, is placed. This plate is caused by means of set screws to work steam tight against the top of the chest, and thus the passage of steam is prevented. This plate also serves as a balance plate, it being made to present the same superficial area as the portions of the valve not relieved from pressure, by the cavity formed in the under side, to the upward pressure of the steam, thus counterbalancing the valve, and allowing it to work with a small amount of friction.

Claim.—A valve B, provided with a stud *d* and cap *f*, and operating, in combination with the steam chest A, in the manner and for the purpose substantially as herein shown and described.

No. 44,831.—Shepherd S. Woodcock, Summerville, Mass., and George F. Meacham, Watertown, Mass.—*Roofs of Churches.*—October 25, 1864.—This invention consists in supporting the roofs of churches by means of trusses, strengthened by wind braces, to avoid the necessity of pillars in supporting the roof.

Claim.—Supporting the roof of a building by means of trusses B, steadied and held in place by wind braces *b d*, in the manner substantially as set forth.

No. 44,832.—Wm. S. Bullen, assignor to himself and Wm. O. McIntire, Indianapolis, Ind.—*Scrubber and Mop.*—October 25, 1864.—This invention consists in the combination of a mop head with one India-rubber scrubber and a mop cloth. The mop head has a deep groove on its under side, and a compresser rod, operated by thumb screws, serves to clamp the mop cloth and scrubber at the same time.

Claim.—The combination of scrubber D and mop cloth E in one and the same machine, *i. e.*, the mop head A, with a deep groove in the under side, and compresser rod B, operated by thumb screws C, firmly clamping and holding in place the mop cloth E and scrubbing rubber D, constituting thereby a combined mop and scrubber in one machine.

No. 44,833.—DAVID B. COX and JOHN T. DAVY, assignors to DAVID B. COX and HARVEY CHURCH, Troy, N. Y.—*Parlor and Cooking Stove.*—October 25, 1864.—At the back of the stove are three pipes or flues, having a damper attachment, so arranged that when the damper is closed over the middle flue the products of combustion ascend the chimney by a direct draft, but when the damper is thrown back, in an upright position, the said products of combustion are forced down the side flues into a chamber between the cooking chamber and the bottom of the stove; thence passing into the middle flue they ascend into the exit pipe. The grate is intended as both a "dumping" and a shaking one. The shaft on which said grate turns projects out on the side of the stove, to which a lever for the purpose of moving it is attached, having on its inner side a "knuckle" or hook connecting with another hook which is firmly fixed to the stove, the latter hook forming a fulcrum by which the lever can be more easily moved.

Claim.—First, the flue pipes G G and H (more or less) passing through from the top of the oven to the bottom of the same, in combination with the oven space J, having fire chamber and ash space directly over the oven, as described and set forth.

Second, the hook or fulcrum F, attached to or cast on the stove, in combination with the shaking grate D, operating in the manner and for the purposes set forth.

No. 44,834.—DANIEL L. EMERSON, Rockford, Ill., assignor to MARY MANNY, Winnebago county, Ill.—*Driving Wheel of Harvesters.*—October 25, 1864.—This invention consists in constructing the main ground or driving wheel with a tubular rim, whereby the requisite strength and tread of wheel is secured by a smaller amount of metal than would be required if said rim were made solid, and whereby, also, the necessary weight of the wheel may be obtained by filling the hollow rim with sand or other inexpensive material. The cog teeth are combined with the wheel in such manner that the tubular rim forms the base of said teeth.

Claim.—A harvester driving wheel constructed with a tubular rim, substantially as set forth.

Also, the combination of the tubular rim of the wheel with the cog teeth of the main driving wheel, in such manner that said rim forms the base of said teeth, substantially as set forth.

No. 44,835.—SAMUEL E. FOSTER, assignor to himself and HENRY F. COGGSHALL, Fitchburg, Mass.—*Furnace.*—October 25, 1864.—This invention consists of a close fire-pot arranged in an air-heating chamber; the fuel throat is in the upper part of the fire-pot. The fire-pot is provided with an air induction pipe, having an adjustable valve for the purpose of regulating the admission of air to the fuel. The grate bars of the fire-pot are constructed with teeth on their upper surfaces and sides. Each grate bar has a projection from its lower side to extend down between the supporting bars, and of less length than the distance between said supporting bars, so that each bar may be moved lengthwise or sidewise on its supports without losing its position. The grate is arranged in a plane lower than the top of the ash-pit, so that an aperture exists between the grate and the bottom of the fire-pot. Each of the grate bars has a hole near the front end to admit a hooked rod for the purpose of moving the bar when necessary to clear the grate.

Claim.—In the air-heating furnace or fire-drum and the surrounding air-heating chamber having the fuel throat arranged within the top of the air chamber and with respect to the fuel opening of the top of the fire-drum, substantially as specified, and the ash-pit or fire-drum provided with an air induction pipe and a valve thereto, as explained, the described arrangement of the grate with respect to the doorway or throat of the ash-pit or chamber.

Also, the construction of each grate bar with a bottom projection *f*, having a length so much less than the distance between the supporting bars as may be necessary to allow of the grate bar being moved longitudinally back and forth on its supports sufficiently for the purpose of causing the ashes to be discharged from the fire-drum and between the grate bars.

No. 44,836.—MOSES NEAL, assignor to NEAL and FINCK, Kalamazoo, Mich.—*Churn.*—October 25, 1864.—This invention consists in a churn, having detachable breaks, with caps formed upon them, with oblique beaters, whereby, in the revolution of the beaters, the cream is forced around in contact with the breaks, and thrown upward in a vertical direction.

Claim.—The combination of the dashers with the cup-shaped detachable beaters, constructed, arranged, and operating, substantially as described and represented.

No. 44,837.—SAMUEL PARR, assignor to himself, JAMES A. FOX, and JOHN A. ROBERTSON, Boston, Mass.—*Construction of Monitor Vessels.*—October 25, 1864.—This invention consists in constructing monitor vessels with strengthening partitions, or bulk heads, extending to the opposite sides, and composed of layers or strata of iron, cork, and wood.

Claim.—The improved monitor or armored vessel, as made with the combination of the transverse strengthening partitions with the opposite layers of wood, the cork and iron arranged together, substantially as specified.

No. 44,838.—CHARLES H. PERKINS, assignor to THE UNION HORSESHOE COMPANY, Providence, R. I.—*Machine for Making Horseshoes.*—October 25, 1864.—In this machine the metallic block or die which supports the blank is perfectly plain, with the exception of having a groove cut longitudinally in its upper surface. The blank is laid upon the block directly over the groove, and a series of punches, fixed to a sliding cross-head in line with the groove, is caused to decend and be forced into the blank to a depth equal to its thickness, the groove permitting the displaced metal to protrude in the form of blisters or excrescences from the opposite surface of the blank, and which excrescences are afterwards sheared off by a machine described in another patent of even date with the present one, thus leaving the holes exposed on both surfaces of the blank.

Claim.—The combination of a series of punches with a die, constructed as herein described, operating substantially as and for the purposes specified.

No. 44,839.—CHARLES H. PERKINS, assignor to THE UNION HORSESHOE COMPANY, Providence, R. I.—*Machine for Making Horseshoes.*—October 25, 1864.—This device is intended for shaving off the blisters or excrescences formed on the surface of the shoe blank, and which result from the method of punching the nail holes in said blank, as described in his patent of even date with the present one, and consists in a pair of rollers properly arranged for this purpose, the lower of which being plane upon its periphery, supports the blank, while a square shoulder upon the upper one shears off the burrs as the blank is drawn through between them, the latter being constantly forced up against the shoulder and kept in position by a friction roller.

Claim.—The combination of the compound feeding roller and cutter C C′ and the friction roller A, substantially as described, for the purposes specified.

No. 44,840.—CHARLES H. PERKINS, assignor to THE UNION HORSESHOE COMPANY, Providence, R. I.—*Machine for Making Horseshoes.*—October 25, 1864.—This device consists of an arrangement upon a horizontal bed-piece of a pair of dies for narrowing and at the same time increasing the thickness of the two ends of a bar designed to be converted into a horseshoe, one of which dies is stationary, and to the other a reciprocating movement is imparted by means of a cam.

Claim.—The method of thickening the ends of horseshoe blanks by the combination of the dies C and C′, when constructed and operated in the manner substantially as described for the purpose specified.

No. 44,841.—JULIUS WATERMAN, New York, N. Y., assignor to himself and JOSEPH MAYER, Brooklyn, N. Y.—*Hoop Skirts.*—October 25, 1864.—In this invention the vertical tapes are in duplicate. The hoop passes between the spaces thereof, where its ends are secured together by a clasp; small clasps secure the hoop to the outer fold and are clenched externally. Thus the metal fastenings are not visible on the inner side of the skirt.

Claim.—The introduction of the clasps that unite the ends of the skirt hoops or springs within the pockets formed in the woven tape, substantially as and for the purposes specified.

Also, in combination therewith the spangles or small clasps introduced near the edges of the tape on each side of the clasp that holds the ends of the wires together, as and for the purposes specified.

No. 44,842.—JOSEPH P. WHITE, assignor to himself and THOMAS GANNON, New York, N. Y.—*Press.*—October 25, 1854.—This invention consists in the employment of one or more worms, secured to a longitudinally adjustable horizontal shaft, and gearing in a corresponding number of worm wheels secured to vertical arbors, each of which carries a worm gearing in a toothed rack, which rises from the follower of the press, and also a bevel pinion gearing in a wheel mounted in a horizontal longitudinally adjustable shaft, in such a manner that either of the two horizontal shafts can be thrown in gear with the rack or racks rising from the follower, and the motion of the follower and the power acting on the same can be graduated to be quick and less powerful at the beginning of the operation, and slow and very powerful toward the end of the operation, or after the material has been compressed to a certain degree by the quick motion.

Claim.—The worms E, toothed rack D, with or without bevel gears *c d*, in combination with the worms *g* and worm wheels *h*, and with the follower C of a press-box, constructed and operating substantially as and for the purpose set forth.

No. 44,843.—AUSTIN A. SMITH, Seneca Falls, N. Y.—*Injector for the Hair.*—October 25, 1864.—A small elastic bulb or bellows is provided with a tube terminating in several hollow prongs through which liquid is to be injected upon the head. The prongs enter among the hairs, and the openings in these prongs are upon one side near the extremities, this side being the one applied to the head.

Claim.—First, forming an elastic rim A with its sides *a a* so situated and formed that compressing the sides will gradually close the vacuum chamber from the angle of the periphery inward toward the centre, so as to expel all the fluid, substantially as set forth.

Second, constructing the vacuum bulb with rigid sides or plates B B, in combination with the elastic rings A, substantially in the manner and for the purposes described.

Third, in combination with the flexible vacuum bulb A B, the series of distributing tubes D so constructed as to inject a fluid beneath the hair in small jets, substantially as set forth.

Fourth, the hollow teeth or tubes D, formed with the eduction orifice *d*, on the under concave side thereof, to prevent the same from becoming obstructed, and to direct the fluid downward upon the scalp, and to prevent scratching or tearing, substantially as set forth.

Fifth, making the neck or base to which the tubes D are attached flexible, so as to render them capable of bending separately or together, to adjust themselves to the form of the head, in whatever position it may be applied, substantially as set forth.

No. 44,844.—Isaac W. Allyn, Philadelphia, Penn.—*Apparatus for Raising Grates.*—November 1, 1864.—This invention consists of a series of cam-shaped levers connected by means of rods and applied to the bottom of the grate: when pulled forward the grate is raised, the grate being lowered by simply pushing back the levers, when its own weight brings it down.

Claim.—The cam-shaped levers F hung to the sides of the fire-place and operating on the horizontal grate of a stove or range, substantially as and for the purpose herein set forth.

No. 44,845.—Daniel W. Amos, Bedford, Penn.—*Corn Planter.*—November 1, 1864.—This machine consists of a hopper to hold the grain and a plough to open a furrow, mounted on two wheels. As the machine advances the plough opens a furrow, feeding cups descend into the grain, and as they rise each cup brings up a single kernel which it drops into a conductor, whence it passes through a seed tube to the furrow. The furrow is covered by a side-plough and the driving wheel passes over it, the rim of the driving wheel being provided with indentations of such dimensions and so placed that each indentation comes over the spot where the seed is dropped, so that the earth at this spot is not compressed, but left in the form of a hill.

Claim.—The combination of the indented driving wheel, the gearing, the reciprocating feeding mechanism, and the cut-off with the seed tubes, substantially in the manner described, for the purpose of feeding the corn grain by grain, and securing an accurate register between the planting and covering devices, as set forth.

No. 44,846.—Sol. Andrews, Jr., Westfield, N. Y.—*Steam Engine.*—November 1, 1864.—This invention consists in returning a portion of the caloric contained in the exhaust steam to the water or steam space of a steam boiler or engine, through the agency of atmospheric air. To accomplish this the exhaust steam is made to surround a pipe through which air is forced by an air pump, for the purpose of absorbing the caloric contained in the steam and returning it to the boiler or engine.

Claim.—First, the return of caloric from the exhaust steam to the steam or water spaces of a steam boiler, or steam and water passages of steam engines, by means of atmospheric air.

Second, forcing air into the steam or water spaces of a steam boiler, or steam and water passages of steam engines, by means of an air pump in combination with the air tube and exhaust pipe, substantially as set forth.

Third, the heating of air on its passage from the pump to the steam or water spaces of a steam boiler, or steam and water passages of steam engines, by the waste heat of the exhaust steam.

Fourth, the construction and arrangement of the parts herein before described, for the purpose of increasing the power of a steam engine and the saving of fuel, and the production of fresh water from salt water for drinking and other purposes, or for other purpose on the working of a marine engine without additional expense for such a purpose or loss of power to the engine.

No. 44,847.—Wm. B. Birdsall and Edwin H. Cogswell, Hudson, Mich.—*Harvesting Machine.*—November 1, 1864.—This invention relates to the arrangement of the two rakes, the binders' stand, and the dumping platform, in relation to each other, and to the main frame of the machine. It will be readily understood from the claim and engraving.

Claim.—The arrangement of the rake heads *m*, constructed and operating as described in relation to the stand B and the dumper M, substantially as and for the purpose herein set forth.

No. 44,848.—Albert Brightman, New Bedford, Mass.—*Cover for Milk Cans.*—November 1, 1864.—This invention consists of a cover *a* and handle *b*. The uprights *c c* are made hollow and open into the can when the cover is placed upon it. The cross piece *d* is also hollow, and is provided with the aperture, directly under which is another larger aperture.

Claim.—A tubular ventilating handle for a milk or other can, constructed and operating substantially as set forth.

No. 44,849.—Alexander Buchanan, New York, N. Y.—*Balanced Slide Valve.*—November 1, 1864.—This invention consists in placing upon the back of the slide valve a frame of cast-iron, which frame is covered with a steel plate made so thin as to be quite flexible. To the top of this plate a yoke is fastened, having hooks upon each end to receive eyebolts, which pass up through the cover of the steam-chest, and have nuts upon their upper and outer ends for the purpose of adjusting them with reference to the valve. Between the slide of this frame and the end of the steam-chest are three connexions, two of which are links, and are used to prevent any lateral movement of the frame; the other of these connexions is a rod having a screw-thread upon the end, which enters a bearing nut upon the inside of the steam-chest. By turning the nuts upon this rod the frame is prevented from moving in the opposite direction from that in which it is held by the links. This frame is placed upon the back of the valve, and is so adjusted by the nuts on the top of the steam-chest that when steam is admitted its pressure will, in consequence of the yielding of the flexible plate, make a tight joint between it and the valve, and yet the valve will be relieved of its pressure, and provision will be made for the valve rising from its seat in case of back pressure caused by reversing the engine, or from any other cause.

Claim.—First, the attachment of the valve cover to the back or cover of the steam-chest by means of hooks *l l* and eyebolts *m m*, or their equivalents, substantially as and for the purpose herein specified.

Second, the attachment of the valve cover to one end of the steam-chest by braces having flexible connexions which permit the cover to rise from the valve, substantially as and for the purpose herein specified.

No. 44,850.—Harlow Butler, Chesterfield, Ohio.—*Sugar Evaporator.*—November 1, 1864.—This invention consists of a boiler made with a double bottom, leaving a space for the introduction of steam. It is divided into three chambers, and is provided with a screw separator. In the chamber C is a coiled tube H. The scum separator is placed at the sides of the chambers, and receives the overflow through openings.

Claim.—First, the use of the clarifying receiver I, or a tall narrow vessel for receiving and clarifying the already heated juice, the scum rising and flowing off by a spout, whilst the precipitate falls below the insertion of the discharge pipe for the thus clarified juice, substantially in the manner and for the purposes set forth.

Second, the combination and arrangement of the worm H, the receiver I, with the discharge tube K and the evaporating chamber C, substantially as specified.

No. 44,851.—John R. Champlin, Laconia, N. H.—*Ice Cream Machine.*—November 1, 1864.—This invention consists of sundry devices which will be understood by reference to the claim and engraving.

Claim.—The combined arrangement of the coupling devices whereby the whole freezing apparatus is readily coupled to the driving gear and as readily removed therefrom, substantially as and for the purpose herein specified.

Also, the construction and arrangement of the adjustable scrapers P P of the beater, substantially as and for the purposes herein set forth.

Also, the combined arrangement and construction of the two scrapers or scoops R S, being concave in front and having their lower edges most advanced, in combination with the side scrapers P P, substantially as and for the purpose herein specified.

No. 44,852.—G. F. J. Colburn, Newark, N. J.—*Stopper for Jars.*—November 1, 1864.—This invention consists of a stopper of glass, the packing and opening communicating with the interior of the jar, and provided with a cork.

Claim.—A stopper B, of glass or other suitable material, provided with a suitable packing C, when used in combination with a central opening *d*, communicating with the interior of the jar and provided with a cork D, or its equivalent, all arranged substantially as and for the purpose set forth.

No. 44,853.—G. F. J. Colburn, Newark, N. J.—*Coat and Hat Hook.*—November 1, 1864.—This invention consists of a T-shaped rail, or slip of wood, or other suitable material, fastened to the wall, in combination with a U-shaped bracket cast with a hook in such a manner that when the rail is secured to the wall any number of hooks can be slid upon it.

Claim.—The T-shaped or grooved slip or rail A, applied in combination with the U-shaped or double U-shaped bracket B, or their equivalent, a plain square rail and loop and hook C, in the manner and for the purpose substantially as set forth.

No. 44,854.—J. Phelps Davis, Middletown, Conn.—*Making Shoe Nails.*—November 1, 1864.—This invention consists in attaching the nail patterns by their heads in a vertical position to a card or board, the place of which, after being moulded, is filled by a metallic plate or chill, on which the heads of the nails are cast in the usual manner.

Claim.—As a new article of manufacture a shoe nail, constructed in the manner and by the process herein described.

No. 44,855.—Samuel F. Day, Bailston Spa, N. Y.—*Telegraphic Instrument.*—November 1, 1864.—The invention consists in increasing the delicacy of the motions of the armature lever by the employment of an extra magnet, opposed to the receiving or ordinary magnet, so that the extra magnet, by a suitable manipulation of the current, shall attract back the armature, thus performing the duty of a spring.

Claim.—First, the combination of the lever G, connecting wires *o p* and *m*, or their equivalent magnet B, one or more of the magnets P, and the sounder or registering lever, in the manner hereinbefore described and without the intervention of a local battery between the repeating or relay magnet B and the sounding or registering magnets P—that is to say, in such a manner as to completely break the circuit through the magnet or magnets P, by which the sounder or registering lever is operated, and the circuit around them, alternately, by means of the pulsations produced in the line current by the direct action of the operating key, substantially as herein set forth, and without changing the direction of the current upon the line wire, or breaking the connexion of the line by the action of the parts composing this combination.

Second, the combination of the shifting lever G, springs *e* and *f*, brackets D and E, or their equivalent magnet or magnets P and the sounder or registering lever, substantially in the manner hereinbefore described—that is to say, in such a manner as to continue the circuit in one of these directions till the connexion in the other is fully made, and without changing the direction of the circuit or current through the line wire or diverting it therefrom by its operation, substantially as and for the purpose hereinbefore set forth,

Third, the combination of the magnet Q, the registering lever or sounder, and the magnet or magnets P, when the said magnets are so connected to the current through which the message is received from the operating key that the pulsations of the said current are made to change its direction so as to send it through the magnet or magnets P and through the magnet Q alternately, thereby causing the same direction of current upon the line to attract the sounder or registering lever in opposite directions, substantially as and for the purpose hereinbefore set forth.

No. 44,856.—Wm. C. Dick, New York, N. Y.—*Tool for opening Tin Cans.*—November 1, 1864.—This device is formed of two levers pivoted together, the short arm of one of which forms the cutting part of the shear and is pointed so as to be easily thrust through the material of the box to be opened and is made to play between two circular disks, the peripheries of which form the other jaws of the shears and are attached to the corresponding short arm of the other lever.

Claim.—A tool A, provided with a pointed cutting blade D and grooved jaw E, substantially as and for the purpose herein shown and described.

No. 44,857.—John H. Edward, Ottawa, Ill.—*Harvester.*—November 1, 1864.—This invention is explained by the claim.

Claim.—Supporting the main axle of the driving wheels C by a pair of hinged levers E, whereby said axle and its driving wheels can be thrown forward and backward, substantially in the manner and for the purposes described.

Also, in combination with the loose pinion F the double spring pawl O when provided with the wedge-shaped projection *q*, so as to make it reversible, substantially in the manner and for the purpose herein described.

No. 44,858.—John H. Edward, Ottawa, Ill.—*Reaping Machine.*—November 1, 1864.—This invention will be understood by an inspection of the claim and engraving.

Claim.—The combination of the rollers K H and L and their endless belts, when the same are operated by the supporting wheel C of the platform and independently of the main driving wheels of the machine, substantially as herein described.

Also, the application to the rear side of the platform of two supporting wheels C Q, one being a swivel wheel the other a fixed wheel, substantially in the manner and for the purposes described.

Also, the combination of the rollers K H L and their endless aprons with the hooks X and U, when constructed and operated substantially in the manner and for the purposes described.

No. 44,859.—Philo S. Felter, Cincinnatus, N. Y.—*Lock.*—November 1, 1864.—Attached to the inner end of the knob arbor a circular disk communicates in the usual manner with the first one of a series of three circular tumblers, arranged to turn freely upon a pin, each tumbler, as also the disk, having a notch in its edge for the reception of the dog. The latter, in the form of a bell crank, is pivoted to the lock case, and, as one end of it lies within a notch in the bolt, while the other presses against the edge of the disk, the bolt cannot be moved, but when all the notches are brought to coincide with the end of the dog, the latter is forced into them by a spring, and the bolt may be then projected or retracted by simply turning the knob.

Claim.—First, the constructing of the tumblers E of two parts *c d*, connected together by fixed buttons *f* and adjustable or turn buttons *g*, provided with square holes *i*, to be operated upon by a key G, substantially as and for the purpose herein set forth.

Second, the circular disk D, in combination with the circular tumblers E, when the latter are rather less in diameter than the former, and both used in connexion with the dog H, for the purpose specified.

No. 44,860.—Jacob Frick, Philadelphia, Penn.—*Sash Holder.*—November 1, 1864.—This invention consists of a plate attached to the sash, and having a stud or fulcrum projecting therefrom, on which plays a lever, the inner end of which is pressed (by means of a weight on the outer one, and a spring against another short arm) against the sash frame at such an angle that it acts as a cam to prevent the descent of the sash.

Claim.—The plate E, its spring *d*, and the lever F, having the arms *a* and *b*, and weighted arm *c*, the whole being constructed and applied to a sash, substantially as set forth.

No. 44,861.—William F. Goodwin, Powhatan, Ohio.—*Combined Time and Concussion Fuze.*—November 1, 1864.—The time fuze is a circular or Bormann fuze, ignited by a friction primer on starting, if the windage of the gun is insufficient. The improvement consists in the application of a movable disk acting as a valve to close certain openings between the burning time fuze and the charge within the shell, the said disk being held in place by a cake of powder or its equivalent, which is ignited at the same time as the time fuze, and being consumed, leaves the disk free to slide forward by concussion on the impact of the shell, and thus open the interior of the shell to the immediate action of the burning fuze.

Claim.—First, the combination of the annular or Bormann time fuze B, the chambers C O′, the solid sliding disk D, and the apertures *a*1 *a*2 *a*3, all arranged and operating as and for the purposes specified.

Second, in combination with the above, the friction primer *b*1 *b*2 and apertures *a*, constructed and adapted to operate substantially as set forth.

No. 44,862.—Stuart Gwynn, New York, N. Y.—*Pneumatic Drill.*—November 1, 1864.—This invention consists in the combination, with a drill, of suitable machinery whereby it may be operated by direct action of steam or other elastic fluid. Also, in the employment of machines for drilling rocks by means of steam or compressed air, and of a hollow piston rod to contain the drill or tool, or the drill or tool holder. Also, in the combination, in one machine, of the following elements, viz., first, a cylinder, piston, and piston rod, the latter containing the drill or drill holder; second, a feed mechanism to cause the tool or tool holder to advance as the work progresses; third, a mechanism for rotating the drill during its operation.

Claim.—The employment, in machines for drilling rocks by means of steam or compressed air, of a hollow piston rod to contain the drill or tool, or the drill or tool holder.

Also, the combination, in one machine, of the following elements: 1, a cylinder, piston, and hollow piston rod, the latter containing the drill or drill holder; 2, a feed mechanism to cause the tool or tool holder to advance as the work progresses; 3, a mechanism for rotating the drill during its operation.

Also, the combination, with a drill, of machinery whereby it may be operated by direct action of steam or other elastic fluid, substantially as herein described.

No. 44,863.—Holman J. Hale, New York, N. Y.—*Smoking Pipe.*—November 1, 1864.—This invention relates to an apparatus for smoking the "tobacco cartridges" patented by Edward J. Mallett, March 31, 1863, and consists of a horizontal cylinder, underneath which is a hollow bulb to catch and retain the "nicotine." The stem is screwed into one end of the cylinder. A tube, on which a thread is cut, runs perpendicularly through the cylinder and projects up far enough to screw upon it a "radiator," consisting either of a flat disk or, in some instances, a cup-shaped disk. On the top of this disk the cartridge is placed, and the end of the perpendicular tube is screwed firmly into the bottom of the cartridge, which must be of pasteboard or some material strong enough to retain its position.

Claim.—First, the radiator S, constructed and applied to a tobacco pipe, substantially as and for the purpose above described.

Second, the combination of the radiator with the smoke tube *e* of the pipe, substantially as above described.

No. 44,864 —John Harris, London, England.—*Barrel.*—November 1, 1864.—The object of this invention is to strengthen the heads of casks so as to admit of a great pressure, either external or internal: and it consists in applying to the head of casks a metal truss or arched bars, one on the inside and the other on the outside of the head, and fastened together through the head by means of a screw bolt: the ends being secured by means of pins to prevent their spreading.

Claim.—The arched truss B, applied in combination with the head of a cask or barrel, in the manner and for the purpose substantially as set forth.

No. 44,865.—Hiram H. Herrick, Boston, Mass.—*Nutmeg Grater.*—November 1, 1864.—This invention consists in attaching a brush to a nutmeg grater that is formed of a roughened cylinder and pressure spring, so that the nutmeg, when grated, may be detached from the cylinder rapidly.

Claim.—The brush G. operated in the manner and for the purpose substantially as herein set forth.

No. 44,866.—Andrew B. Hester, Kent, Ind.—*Sash Balance.*—November 1, 1864.—The object of this invention is to balance one sash with the other by means of a cord and pulley, so that when one is raised the other is lowered, and *vice versa*; also, to shorten or lengthen the cord at pleasure by means of an apparatus, thereby moving either sash independently of the other.

Claim.—The cap or shield A enclosing a roller *d* and a forked lever *e g h*, in combination with the pulleys B C, and cord thereunto attached, in the manner and for the purpose described in the specification.

No. 44,867.—James M. Hunter, Greene, N. Y.—*Water Elevator.*—November 1, 1864.—This invention relates to the crank and its operation upon the shaft, but is not susceptible of a brief description, reference to the specification and drawing being essential.

Claim.—First, in a water elevator, making the friction clutch, which communicates the motion of the crank to the windlass, operate also as a brake when the crank is released, by means of the spiral spring *e*, the arm *g* of the crank, and the vibrating lever *d*, substantially as above described.

Second, the combination of the friction wheel C, the clutch arms D D, the vibrating lever *d*, and the slotted arm *g* of the crank with the windlass of a water elevator, substantially as above described.

No. 44,868.—William Johnston, Cincinnati, Ohio.—*Breech-loading Fire-arm.*—November 1, 1864.—This invention relates to that class of fire-arms in which the barrel rotates upon a longitudinal pin on the stock so as to swing to one side; and the improvement consists in the particular method of operating the cartridge retractor by means of an oblique cam or feather on a sleeve attached to the shaft or pin on which the barrel turns, engaging with a projection or lug connected with the stem or rod of the cartridge retractor, but capable of a limited play on said stem or rod.

Claim.—First, the cam *a*1, employed in connexion with a circulating pin *g*3 and a bar or bars G G2, and the bar G2, and spring I, (or springs I *i*, Fig. 9,) to effect the projection and retraction of the cartridge shell ejector during the movement which the barrel undergoes in being opened to receive its charge, substantially as and for the purposes explained.

Second, forming the cam *a*1 on a removable collar A2, for the purpose of adapting said cam to be readily and cheaply replaced, as herein set forth.

Third, the arrangement of the retracting bar, or bars, G G1, the bar G2, and spring I, (or springs I *i*, Fig. 9,) whereby the forward and backward movements of the circulating pin *g*3 are made available in projecting and retracting the ejector.

No. 44,869.—William Jones, Brooklyn, N. Y.—*Lock.*—November 1, 1864.—This improvement consists in inverting the lock, which is circular, and attached to a hasp fastened to the lower or body part of the trunk or chest, into a corresponding circular recess or socket in the lid or top: through an oblong hole in the bottom plate of said socket passes a short stud or shaft, projecting from the centre of the lock, and having on its outer end a hook, which by turning said shaft, operates as a button to secure the lock in the socket.

Claim.—First, the circular socket E for the reception of the lock, and the pivot *f* attaching the hasp, in combination with each other and with the circular form of the lock attached to the hasp, substantially as and for the purpose herein described.

Second, the revolving bolt F, with its notched and flanged disk H, applied and operating substantially as and for the purpose set forth.

Third, the tumbler I, combined with the revolving bolt by means of a notched guard plate L, substantially as herein set forth.

No. 44,870.—Samuel U. King, Windsor, Vt.—*Planing Machine.*—November 1, 1864.—The object of this invention is to dress timber either in parallel or tapering sides with rotary cutters, and it consists in a framing in which is placed a rotary cutter, driven by any convenient means; a carriage and ways arranged at an angle with respect to the plane of the cutter, and an adjustable mechanism by which the article to be dressed can be made tapering, or can be dressed so that the sides will be parallel.

Claim.—The machine or combination of mechanical elements as follows, viz: the cutter wheel G, the carriage H, the ways I I, (inclined with respect to the cutter shaft in manner as specified,) the main or auxiliary rests K M, the presser L, the self-adjusting back support O, and the adjustable bar N, the same being arranged together and having operating mechanism, substantially as specified.

Also, the auxiliary rest M as made, so as to be expansible with reference to the cutters, in manner and for the purpose as set forth.

Also, the combination of the "evener" P with the rotary cutter wheel, the carriage and its ways, (inclined with respect to the shaft in manner as specified,) the main and auxiliary rests and the presser.

No. 44,871.—George W. Livermore, Cambridge, Mass.—*Machine for Making Paper Collars.*—November 1, 1864.—By means of appropriate gearing, a pair of clamps or nippers in front of the platen are made to carry forward the strip of paper the distance of the width of a collar; when the punches to form the button-holes descend through the platen on the side next the nippers, simultaneously with which the die to excise the collar previously punched descends through the other side of the platen, and thus as one collar is punched another is excised, while a third is carried forward complete, or prepared for folding, if a "turn-over." The imitation stitching is made by a series of small pins in the face of the platen, or in the bed-plate or table.

Claim.—The feeding nippers *p q*, in combination with the cutting out dies, the presser plate *g* and table *h*, operating substantially as set forth for the purpose specified.

No. 44,872.—Heman S. Lucas, Chester, Mass.—*Reduction of Iron and other Ores.*—November 1, 1864.—The ore in powder is mixed with fine peat, with or without the addition of coal-dust and flax; the composition is made into cakes and dried; the cakes thus prepared are changed into the furnace, when the ore is reduced.

Claim.—As an improvement in the manufacture of iron from its ore, the use of the compound, in the condition and substantially as specified.

No. 44,873.—John D. Lynde, Philadelphia, Penn.—*Soda Water Apparatus.*—November 1, 1864.—This invention will be understood from the claim and engraving.

Claim.—First, the construction of the body of the fountain with a movable dishing bottom, as per Fig. 1, the said body being drawn in or depressed at the flange, so that the flange at its point of connexion with the fountain shall be less in diameter than the largest lateral diameter of the fountain.

Second, the conducting tube, Fig. 3, made as described.

Third, the sirup-holder of glass, Fig. 2, as described, with a device of any kind for drawing the sirup, in combination with the screw mouth-piece *h*.

No. 44,874.—Robert F. Macoy and H. L. Herwig, New York, N. Y.—*Metal Ruler.*—November 1, 1864.—The ruler is constructed of sheet-metal for lightness, and corrugated at one edge for strength, and to form a receptacle for ink which may become attached to it, and thus preserve the cleanliness of the paper being rolled.

Claim.—The metal ruler, constructed as and for the purposes set forth.

Also, forming a gutter, as specified, in the edge of the ruler, having its rear portion below the first edge thereof, so as to receive and hold any fluid deposited therein by gravitation, as herein specified.

No. 44,875.—Thomas T. Markland, Jr., Philadelphia, Penn.—*Coal Scuttle.*—November 1, 1864.—The invention consists of a common coal scuttle of sheet-metal, to which a wooden base and bottom is attached by a rebated joint, and fastened by screws; the inner surface of said bottom may be either lined with sheet-metal, or made fire-proof by some simple chemical process, whereby the pores are filled, such as soaking in salt and water, &c.

Claim.—Combining the wooden base B, constructed substantially as described, with the body A of the scuttle, as above specified.

No. 44,876.—Joseph McKnight, Pomeroy, Ohio.—*Device for Raising Water.*—November 1, 1864.—The object of this invention is to raise water by a current of steam being forced through the water delivery pipe, and thereby dispense with valves and the usual enginery; its novelty consists in the arrangement of a steam induction pipe with a chamber and an eduction pipe.

Claim.—The steam induction pipe C and water eduction pipe D, connected with the chamber A, constructed and arranged to operate as and for the purpose herein set forth.

No. 44,877.—Moses Merryweather, Richard Moses Merryweather, and Edward Field, London, England.—*Steam Generator.*—November 1, 1864; patented in England November 1, 1862.—This invention consists in placing in the crown sheet of the fire-box a series of tubes open at their upper ends, but closed at their lower ones, and communicating with the water space of the boiler. Each of these tubes has within it another tube of considerably less diameter than the one into which it is inserted. These smaller tubes rest upon the bottoms of the fixed ones, but have slots in their lower ends for the purpose of allowing the water to pass from the inner to the outer tubes. The inner tubes have a bell-mouthed top, for the purpose of deflecting the upward current of steam so that the water in passing into the inner tube shall not be interfered with. The object of these inner tubes is to induce a rapid circulation of water to the bottom of the fixed or outer tube. Located centrally in the fire-box is a plate, so constructed that the exhaust steam passes through it on its way to the up-take, for the purpose of stimulating the draught of the boiler.

Claim.—First, the use or employment (in apparatus employed for heating fluids by double tubes) of trumpet mouths, or other equivalently formed guides or deflectors, for the purpose of preventing the interference of the ascending and descending currents with each other, and insuring a steady and sufficient circulation through the tubes, substantially as described.

Second, the use or employment of a baffle plate, formed as a box or chest, through which steam is passed for the purpose of preserving such plate from injury by the flame and gases acting against it, substantially as described.

No. 44,878.—GEORGE M. MOWBRAY, Titusville, Penn.—*Ejector for Oil Wells.*—November 1, 1864.—The object of this invention is to eject oil and other liquids from deep wells, by introducing a displacing fluid through an adjustable orifice, and to be enabled to make the desired adjustment without removing the pipes, &c. Its novelty consists in the use of wings or flanges in connexion with a tripod, or its equivalent, attached to the pipe at the bottom of the well, supporting the air-tube and maintaining the cup in a fixed position while adjustment is being made.

Claim.—First, the wings or flanges F, substantially as above described and for the purposes set forth.

Second, the tripod, or its equivalent, attached tc a rod or pipe, with feet thereon, resting on the ground at the bottom of a well whereby to support the air-tube and its attachments and maintain the cup in a fixed position while the adjustment is being made, substantially as described and for the purposes set forth.

No. 44,879.—WILLIAM B. MUNGER, Hillsdale, Mich.—*Pump.*—November 1, 1864.—This apparatus consists of a series of lift-pumps in duplicate, constructed as follows: a single pipe ascends from the water, opening into a cross-pipe on its top; at each end of this cross-pipe a pipe or cylinder ascends, in which a piston is moved, forcing the water into another cross-pipe near the top of said cylinder; from the centre of this cross-pipe another vertical pipe ascends to another cross-pipe, when the pumps are repeated, and so on to the discharge. To the upper edge of each pump is attached the supports for the bearing of a walking beam, with one end of which beam the piston rod is connected, and with the other a rod connected with a crank wheel above. The crank wheels are operated through a system of gearing, by a single crank shaft, having a pinion thereon.

Claim.—The apparatus for raising water from mines and other places by means of two or more series of pumps, arranged so that two pumps shall work with the same connexions at each successive elevation or in each series, substantially as above described.

No. 44,880.—DAVID MUNSON, Indianapolis, Ind.—*Lightning Conductor.*—November 1, 1864.—The invention consists in making the rod of copper and zinc, or copper and galvanized iron: the two metals being laid together in flat strips and the edges overlapped, making a stiff rod, and the copper saved from decaying by the galvanic protection of the zinc.

Claim.—The electrical conductor, constructed substantially as described for the purpose set forth.

No. 44,881.—S. R. NILES, Rawsonville, Mich.—*Tugere.*—November 1, 1864; antedated November 8, 1861.—This invention consists in the construction of a blacksmith's hearth, with a movable bottom, capable of being raised and lowered by the action of a lever in combination with a damper for regulating the volume and pressure of the blast.

Claim.—First, the employment of the movable bottom *a*, in combination with the lever *b*, substantially in the manner and for the purpose specified.

Second, damper *d*, lever *f*, movable bottom *a*, lever *b*, and top *c*, when all shall be constructed and arranged in the manner and for the purpose described.

No. 44,882.—RUFUS NORWOOD, Baltimore, Md.—*Smoking Pipe.*—November 1, 1864.—This invention consists of a metal, earthen or wooden cylinder for containing the tobacco, in which is a sliding plunger, connected with a mouth-piece by a stem containing a small tube which conducts the smoke to the mouth-piece, then returns it to the plunger, and thence conducts it to the mouth. The plunger has a chamber in it containing some substance to filter the smoke; the outer end of the cylinder is closed by a perforated shield.

Claim.—First, a pipe which is constructed with a sliding stem B, having a hollow chamber which serves as a filtering or condensing chamber *b* within the bowl of the pipe, substantially as described.

Second, the combination of the chamber plunger *b*, and tube *c*, substantially as and for the purpose described.

No. 44,883.—GEORGE ODIORNE, Boston, Mass.—*Apparatus for Carburetting Air.*—November 1, 1864.—This invention consists of a vessel, partly filled with water, containing the air-forcing apparatus or drum into which the water enters. The drum is attached by means of perforated plates to a shaft. Upon the periphery of the drum are arranged a series of chambers open at one end and closed at the other, each chamber communicating with the interior of the drum by an opening near its closed end. The shaft has a bearing in the tube, which has a pipe projecting upwards above the level of the water. A vessel containing the hydro carbon liquid and gas is connected with the main vessel by means of a tube which is connected with a pipe rising up within a hollow float; around the close base of the float are the short tubes communicating with the upper portion thereof, with their lower ends in the hydro-carbon liquid.

Claim.—First, the air-forcing apparatus herein described, the same consisting of a hollow drum having a series of buckets or chambers arranged upon the periphery of the same and communicating with the interior thereof, all as specified.

Second, the combination of the air-forcing apparatus and float, arranged and operating with regard to each other as described.

No. 44,884.—JAMES M. OSGOOD, Somerville, Mass.—*Automatic Regulator.*—November 1, 1864.—The object of this invention is to regulate the amount of gas which goes to a burner which heats a retort or flask. The gas supply pipe enters a vessel and leaves by a pipe which leads to the burner. When the heat of the burner is too great a large amount of gas or vapor is given off from the flask and enters a vessel and passes the liquid over through one into the other so as to close, or partially close, the lower end of the tube, and thus more or less cut off the supply of gas from the burner. The device is especially intended to regulate the heat in the manufacture of laughing gas, which is generated in one flask, washed in another, the heat being automatically controlled by the device.

Claim.—An automatic regulator operating by the pressure of air gas or vapor upon a column of fluid, substantially as described.

No. 44,885.—SAMUEL L. OTIS, Manchester, Conn.—*Circular Knitting Machine.*—November 1, 1864.—The needles in this machine are longitudinally grooved: in the grooves slide eye-closers or casting-off needles, which reciprocate radially by means of ordinary cam grooves, a shoe, susceptible of vertical adjustment, so bearing upon the upper edges of the needles as to hold them down to their places and thus compensate for wear.

Claim.—First, the cams D E and cam groove *d*, in combination with the main needles *b* and casting-off needles *f*, constructed and operating in the manner and for the purpose substantially as herein shown and described.

Second, the shoe G, applied in combination with the needles *b*, needle bed A, and stationary top plate B, substantially in the manner and for the purpose set forth.

No. 44,886.—ADDISON OVERBAGH, Hudson, N. Y.—*Egg-frier.*—November 1, 1864.—This invention consists in an ordinary cast-iron spider or frying pan, having in the bottom several shallow, cup-shaped depressions, flat on the bottom, and with the sides nearly perpendicular, in which the eggs to be fried are placed: can be used by simply placing upon top of a stove without removing stove covers.

Claim.—Combining and arranging several distinct cup-like depressions *a a a*, *&c.*, of uniform depth, in one pan or spider, having perpendicular sides and flat bottoms, in the manner and for the purpose set forth.

No. 44,887.—FREDERICK C. PAYNE, New York, N. Y.—*Bureau Bedstead.*—November 1, 1864.—This invention relates to the construction of a bedstead so made as to fold up in the form of a bureau, whereby it is made to occupy but little space, and the novelty consists in the method of combining the several parts.

Claim.—The combination of the hinged front board D, folding frame E F, hinged legs *h h*, hinged standard *h*, hinged top piece B, and lugs *e c*, substantially as herein set forth.

No. 44,888.—LEONARD PHLEGER, Philadelphia, Penn.—*Combined Steam and Hot-air Heating Apparatus.*—November 1, 1864.—In this invention the fire-box is composed of V-shaped hollow bars, through which water passes and becomes heated; the upper arm of the bars unites with a water tube, in upper and lower arm, with tubes in the lower front of the grate, these tubes unite with a boiler placed in a chamber separated by a wall from the grate, between its centre and base. Over the fire-box and within a jacket are placed a series of inclined air tubes, the air in which, becoming heated, circulates into chambers around the boiler and thus, having been heated, can be carried off to warm the apartments. The products of combustion circulate through this jacket and can be carried off in any convenient manner. External air is admitted into this jacket; external air is also admitted into the space over the jacket and circulates thence into chambers where the boiler is placed.

Claim.—First, a fire-box composed of V-shaped hollow water bars, substantially as and for the purpose described.

Second, the combination of the fire-box with the jacketed or enclosed inclined air tubes or passages, substantially as and for the purpose described.

Third, the combination of the fire-box with the hot-air tube and with a steam boiler, when so arranged as that the heated air through the tubes and that heated in the boiler chamber shall commingle in a common chamber, and thus pass off to the room or apartment to be heated, substantially as described.

No. 44,889.—WILLIAM PREISS, New York, N. Y.—*Sewing Machine.*—November 1, 1864.—This invention consists in providing the bed-plate of a sewing machine with a small removable plate containing the needle and feed-dog holes, so that when the said holes become worn, or it is desired to use different sized needles, the plate A can be removed and another one inserted in its place.

Claim—The plate A, in combination with the bar B and removable plate of a sewing machine, substantially as described and for the purpose set forth.

No. 44,890.—C. E. PRÉTAT, New York, N. Y.—*Photographic Album.*—November 1, 1864.—The object of this invention is to construct the album so small that it can be conveniently attached to watch chains, bracelets, brooches, or finger rings. It is accomplished by making them of metal, the leaves being hinged in a peculiar manner and having special contrivances for holding the pictures.

Claim.—The construction of a photographic album, substantially as above described, in which all the leaves are hinged and turn upon a single pin or pivot, and also the arrangement for opening and closing the apertures for the admission of the pictures.

Also, the construction of the joint by which the leaves are attached to the hinges, as above described.

No. 44,891.—Andrew J. Reynolds, Sturgis, Mich.—*Double-acting Submerged Pump.*—November 1, 1864.—This invention consists of a pump cylinder provided with water passages at its top and bottom, to which ball valves are fitted, and with a tubular piston rod, all so arranged that when the piston rod rises water is admitted into the cylinder through its lower passage, while the upper passage is closed and the water in the upper part of the cylinder is forced out by the piston, and when the piston descends water is admitted into the cylinder through its upper passage, while the lower passage is closed and the water in the lower part of the cylinder is forced out *through* the piston rod.

Claim.—The cylinder A, provided with the two ball valves B and C, in combination with the water passages D D and *d*, all arranged to operate in connexion with a double-acting hollow discharging piston, as and for the purposes herein set forth.

No. 44,892.—P. H. Roots, Connersville, Ind.—*Blower Case.*—November 1, 1864.—The object of this invention is to so construct a blower case that it may be bored out true and the flanges planed or faced off at their ends, whereby a true, neat, and perfect case of cast-iron may be produced at a moderate cost of construction. The novelty consists in two semi-cylindrical shells connected by plates at the desired distance apart.

Claim.—A case for blowers composed of two semi-cylindrical shells A A, connected at the desired distance apart by plates B B, as set forth.

No. 44,893.—J. F. Seiberling, Doylestown, Ohio.—*Harvester.*—November 1, 1864.—This invention will be readily understood by inspection of the claim and engraving.

Claim.—First, the rubber spring K, in combination with the double pulley E and F, when used between the pulleys C and G, substantially in the manner and for the purposes set forth.

Second, the use of the adjustable stop *h*, in combination with the shoe and the notches *c*, for adjusting the track clearer to any desired height, substantially in the manner and for the purposes set forth.

No. 44,894.—J. F. Seiberling, Doylestown, Ohio.—*Harvester.*—November 1, 1864.—This invention relates to the particular construction and arrangement of the drag-bar, and the parts combined therewith, for the support of the cutting apparatus, also for the means of adjusting the divider, viz: the two links or double-hinged connecting pieces, as indicated in the claim.

Claim.—First, the crooked brace P, in combination with the coupling piece O, the short brace bar T, and the shoe S, when constructed and arranged substantially as set forth.

Second, adjusting the front of the dividing board to any required height by means of the double-hinged connecting pieces Y and Z, substantially as specified.

No. 44,895.—William Smith, Philadelphia, Penn.—*Hoisting Apparatus.*—November 1, 1864.—This invention consists in the use, in hoisting apparatus, of an intermediate shaft with a pinion operated from a driving shaft by a worm or worm wheel, in combination with a cog-wheel on the hoisting drum or drum shaft, so that the hoisting apparatus may be of limited dimensions and not require the application of breaking devices to resist the tendency of the drum to turn back in hoisting heavy weights.

Claim.—The use, in hoisting apparatus, of the intermediate shaft I with its pinion H, operated from the driving shaft by a worm and worm wheel, in combination with the cog-wheel G, on the hoisting drum or drum shaft.

No. 44,896.—David Stouder, Clarinda, Iowa.—*Seeding Machine and Cultivator.*—November 1, 1864.—This invention consists of a rectangular frame mounted on wheels or rollers, and the direction of the machine is given by means of a pulley on the caster wheel, around which a cord or chain passes or extends back, and connected to a pulley on the driver's seat. It also consists in a method of suspending the cultivator teeth and rotating harrow while at work.

Claim.—First, the governing device, consisting of the caster wheel M″, cord or chain and driver's seat H′, all arranged and combined for the purpose of guiding the machine, as set forth.

Second, the construction and arrangement of suspending the plough and rotating harrows suspended obliquely across the frame while at work, as herein specified.

No. 44,897.—P. D. Shaw, Carson City, Nevada Territory.—*Circular Saw-Mill.*—November 1, 1864.—The object of this invention is to provide a simple means of shifting the direction of a saw-mill carriage by tightening pulleys applied to two different belts, and it consists in arranging the driving and gigging back belts and pulleys in such manner that when the

tightening pulleys are applied, and the lever to which the pulleys are attached by suitable arms is turned one way, it will press the pulley upon the belt that feeds the carriage to the saw, and by reversing the lever the other pulley is brought in contact with the other belt that is crossed, which will in turn reverse the direction of the carriage.

Claim.—The belt-tightener formed or constructed with the two pulleys P P′, arranged as shown, in connexion with the two belts E H and cross belt L, all arranged with the saw shaft G and shaft B, to operate substantially as and for the purpose set forth.

No. 44,898.—Jacob J. Storer, Boston, Mass.—*Apparatus for Amalgamating Gold and Silver.*—November 1, 1864.—The ore pulp is made to circulate in a trough or sluice, returning into itself, both the sluice and the driving apparatus being lined or covered with plates capable of surface amalgamation.

Claim.—First, giving the "pulp," by any suitable mechanism, a circulating motion so that it shall constantly return and pass over the same points until exhausted of its gold or silver, substantially as described.

Second, the employment of an axle or axles furnished with rods, blades, interlaced wires, or perforated plates, so arranged as to form a spiral or a paddle wheel, and made to revolve in a suitable sluice or sluices, so as to dip into the quicksilver at the bottom, substantially as and for the purpose described.

Third, the wheel C, or its equivalent, with blades, rods, wire, &c., of copper or other metal not liable to be destroyed by the action of mercury, but capable of surface amalgamation, in combination with the sluice S or sluices *s s′*, substantially as described.

Fourth, the combined sluices *s s*, lined with copper or other metal capable of surface amalgamation, arranged and operating substantially as herein set forth.

No. 44,899.—Lauriston Towne, Providence, R. I.—*Chain for Ornament.*—November 1, 1864.—This invention consists in cutting out of sheet metal the links or plates of such a shape that by reversing their position longitudinally the ears or lugs of the first one fit in the spaces between the ears of the succeeding one, and lap or hook over it.

Claim.—The improved ornamental chain, shown and described, when composed of links of the form and structure substantially as herein specified.

No. 44,900.—William B. Treadwell, Albany, N. Y.—*Cylinder Stove Coal.*—November 1, 1864.—This invention relates to an improvement on the patent granted to the said Treadwell September 29, 1863, and consists as follows: Ascending and descending circulation through the stove, for the purpose of heating the upper and lower part of stove at the same time; also, arranging the fire-brick and fire-pot in such a way that the ashes shall not collect near the mica door, nor obstruct the flues passing from the pot. The arches over the flues are so constructed as to cause the descending fuel from the supply chamber to fall towards the centre of the fire-pot, and the flues are so arranged that provision is made for the ascent or descent of the products of combustion.

Claim.—First, a supply cylinder coal stove or base burner, which is constructed with ascending flues passing through the upper portion of the stove, and descending flues passing down through the lower portion of the stove, in conjunction with an appliance which shall admit of the escape of gas from the upper section of the stove into the exit flue, substantially as described.

Second, the application of a perforated valve or damper G, or its equivalent, to a base burner having ascending and descending flues, substantially in the manner described.

Third, constructing the fire-pot C with a lipped projection or projections, substantially as and for purposes set forth.

Fourth, so constructing the fire-brick lining that those portions thereof which cover the arched openings through this lining shall serve to protect said openings from filling up with coal, substantially as described.

Fifth, the combination of a lipped fire-pot, constructed substantially as described, with fire-brick lining having arched openings or flues through it, substantially as described.

No. 44,901.—George Vining, Boston, Mass.—*Rotary Engines.*—November 1, 1864.—This invention consists in the employment of a rotary pisten, which travels in a circular path in a chamber whose cross section is the same as that of the piston, in combination with a revolving disk placed at right angles to the chamber and piston. This disk is enclosed in a chamber, and is moved by a cam attached to the main shaft of the engine in such a way that that portion of it which is cut away to allow the piston to pass through it is, at the proper time, brought to the right position for that purpose, and immediately after the passage of the piston its position is changed by the same motion, so that it travels directly across the path of the piston, and forms an abutment for the steam to act against in its effort to urge the piston forward. The hub or cylinder to which this disk is attached is made hollow, and serves as the steam chest of the machine. Apertures are cut through the outer shell of this cylinder, which serve as induction and eduction ports, and are controlled by the cam motion above described.

Claim.—First, the combination of the piston, travelling in one and the same circular path in a suitable steam chamber, and a disk moving at right angles thereto, in such a manner and so constructed as to furnish a steam abutment to, and permit the passage through it of, the said piston, substantially as described.

Second, the combination and arrangement of the disk and steam-drum, so operating together that the rotary movement given to the said drum and disk shall be such as to permit the ingress and egress of the steam to and from the steam cylinder at the proper times, and also present a steam abutment to the piston, as set forth.

No. 44,902.—William H. Walton, New York, N. Y., and Ellen S. Naudain and Arnold Naudain, administrators of Andrew Naudain, deceased, West Farms. N. Y.—*Circular Looms.*—November 1, 1864.—In this machine one or more shuttles travel around a circle, being supported and guided by rollers running on flanges. The reed is stationary, and the weft is beaten up by vibrating combs either before or behind the shuttles, or both, as may be required. The heddles move in horizontal planes. The table, which carries an arrangement of pulleys for impelling the shuttles, also the cams for operating the other parts, revolves about a central column. The other parts of the frame do not revolve.

Claim.—First, the combination and arrangement of the shuttle K with the pulleys L M H and I, the rings of the flanges J and N, and the revolving table G, substantially as and for the purpose set forth.

Second, the combination and arrangement of the heddles Y, the rollers T, and the stationary reed C''' with the stud V, the cam U, and the revolving table G, substantially as and for the purpose set forth.

Third, the combination and arrangement of the reed comb D', the arm S, the support S', the rod R, and the pulley R' with the frame or table S'', the groove P', and the cam P, substantially as and for the purpose set forth.

Fourth, the combination and arrangement of the revolving table G with the cams P and U, the central column A, and the gear F, substantially as and for the purpose set forth.

No. 44,903.—J. H. Weaver, Waynesville, Ohio.—***Machine for Grinding and Polishing Saws.***—November 1, 1864.—This invention consists of a vertical shaft, projecting above and supported by a suitable frame, and having on its upper end a large wheel, the lower surface of which has secured to it in segments flat grinding surfaces of emery rubber or other suitable material. Beneath this, and arranged in a circle on top of the frame, are a series of boxes, on the bottom of which, adjusted by set screws, rest the saws to be ground, and the pressure of the grinding wheel thereon is adjusted by means of a movable spindle foot, operated by a lever.

Claim.—The rotary wheel F, with grinders or polishers G attached, in combination with the boxes C provided with the adjustable beds D on which the saws are placed, all being arranged to operate in the manner substantially as and for the purpose herein set forth.

No. 44,904.—James G. Weldon, Pittsburg, Penn.—***Stop-cock Cases.***—November 1, 1864.—The object of this invention is to overcome the difficulty in centring and retaining in a central position plugs of stop-cocks within their cases. The novelty consists in the construction and employment of a stop-cock case, placed in a central, upright position, and so arranged that it shall embrace and retain the stop-cock in a central, upright position.

Claim.—A stop-cock case so constructed that it shall retain the stop-cock in a central, upright position within it, whether the body of said case be made in one or more pieces, substantially as described.

No. 44,905.—William Williams, St. Louis, Mo.—*Breech-loading Ordnance.*—November 1, 1864; antedated August 7, 1862.—This invention consists of a movable chamber, which may be inserted in and removed from the bore of the gun at pleasure. The bore is enlarged at its rear end for the reception of this chamber, which is put in and taken out through an orifice in the breech. A block of India-rubber is interposed between the rear of the chamber and the breech pin, for the purpose of receiving the recoil. The chamber receives the charge, and when it is to be loaded is removed from the gun. The coincidence of the vent of the gun with that of the chamber is insured by a pin in the chamber working in a slot in the gun.

Claim.—The chamber *a*, breech pin *e*, and India-rubber block *d*, arranged in the breech of the gun, and in respect to each other in the manner described, the whole to be constructed as set forth.

No. 44,906.—Riley P. Wilson, New York, N. Y.—***Roasting and Desulphurizing Ores.***—November 1, 1864; antedated October 5, 1864.—The ore, having been previously comminuted, is received in a hopper, whence it falls into a retort situated in a furnace. Through the retort the ore is passed by means of a spiral conductor revolving in the retort. Another important function of the spiral conductor is to stir the ore. From the retort the heated ore passes into a mill, where it is reground, and thence it falls into a vat full of hot water and quicksilver, whence it is drawn off. The gases generated from the ores in the retorts are conveyed away by flues, and a supply of air is made to take their place by means of the furnace draught.

Claim.—First, conducting ores in a retort through a furnace, and stirring and grinding them in the passage by means of a screw shaft and elevators G, in the manner substantially as described, and for the purposes set forth.

Second, the re-grinding to an impalpable powder the desulphurized material in a dry state, when such material is what is termed the tailings of quartz mines, or other previously pulverized quartz, after being desulphurized.

Third, conveying in a flue D from the retort the gases evolved from the ores by the heat, and causing thereby a supply of air to take their place by means of the furnace draught.

No. 44,907.—Abner B. Wood, Jr., Ovid, Mich.—***Fastening Bags, Sacks, &c.***—November 1, 1864; antedated June 26, 1864.—A stopper of hard wood, in shape a frustrum of a cone, provided with a knot for a handle at its smaller end, is placed inside the mouth of the bag to be fastened, and upon the material within the bag. The mouth of the bag being gathered up, a ring, a little too small to pass over the larger end of the stopper, is slipped over it, (the mouth,) whereupon the stopper is drawn up within the ring as far as possible, and the mouth of the bag is thus confined between the stopper and the ring. A key is passed through the stopper above the ring, and a screw passes down through the top of the stopper to confine the key.

Claim.—The iron ring A, plug B, tapering key C, and screw D, combined and arranged substantially as described.

No. 44,908.—E. M. Wright, Wyandot, Kansas.—***Carriage Springs.***—November 1, 1864.—This invention consists in so connecting two or more elliptic springs that each set or pair will act independently of the others.

Claim.—The combination of two or more elliptic springs, connected at their ends by free joints, as described, so that the inner auxiliary spring shall begin to act only when the outer spring shall have been pressed down to a certain extent, substantially as and for the purpose herein specified.

No. 44,909.—Jacob Zuckerman, San Francisco, Cal.—***Friction Brake for Power Sewing Machine.***—November 1, 1864.—The object of this invention is to regulate or arrest the speed in sewing machines driven by spring or weight power. A friction pad bears against the fly-wheel, and is adjustable relatively to it by a slide, the same being held in any desired position by a spring pawl which rests in any one of a series of nicks on the slide.

Claim.—The combination and arrangement of the bent arm P and pad *h* with the slide *c*, notches *f*, and spring pawl *g*, operating substantially in the manner and for the purposes described.

No. 44,910.—Nicholas C. Szerelmey, Clapham Common, England.—***Manufacturing Leather Cloth, Imitation Leather, &c.***—November 1, 1864; patented in England January 1, 1862.—This invention consists in the use of the substance called "zopissa," in combination with various substances, such as alum, gelatine, stearic acid, resin oil, linseed oil, &c., in various proportions, for the purpose of converting linen, woollen, and cotton fabrics into a material resembling leather, and applicable to most purposes for which leather may be used.

Claim.—The use of the substance called zopissa in the manufacture of leather cloth, or imitation leather, and in rendering linen, woollen, and cotton fabrics water-proof.

Also, the compositions, as above described, and the mode of making leather cloth, or imitation leather, above described.

No. 44,911.—John M. Dunlop, Manchester, England, assignor to himself and Frederick and Francis Curtis, Newton, Lower Falls, Mass.—***Sizing Rolls for Cotton Machinery.***—November 1, 1864; patented in England June 7, 1858.—This invention consists of a shaft of metal, or other suitable material, covered with hard rubber.

Claim.—The improved roll, made as above described, that is, with a metallic or other suitable body or shaft, and an outer covering of vulcanite or hard rubber, or its equivalent, substantially in the manner and for the purpose herein before set forth.

No. 44,912.—Albert Albertson, assignor to J. N. McIntire, New York, N. Y.—*Stopper for Bottles.*—November 1, 1864.—This invention consists of a stopper, with a rod and float, and is designed to be placed inside of the bottle, so that when the bottle is filled the liquid, acting upon the float, will cause the stopper to move up into the neck of the bottle and close it.

Claim.—A stopper constructed and adapted to operate within a bottle, substantially as described.

No. 44,913.—Edmund P. Banning, New York, N. Y.—***Trusses.***—November 1, 1864.—This invention consists in combining abdominal and inguinal pads so as to cause them to co-operate. To this end the inguinal pads are attached to the abdominal pad, so as to bring the lower margin of the aforesaid pad nearly on a line with the inguinal pads. The abdominal pad is also attached to the main spring by independent adjustable springs at either end, so that these ends can be separately adjusted as to height.

Claim.—First, the scolloped front pad or plate E E2 E3 in the described combination with inguinal pads *e*3 *e*3 attached by separate springs to the main spring B, and occupying the scollops in the plate E, all substantially as herein described.

Second, in combination with the scolloped front pad or plate E and inguinal pads *e*3 *e*3 the extensible springs *e*9 *e*9, constituting adjustable attachments for the said inguinal pads, independent of the attachment of the plate E.

Third, the combination of the main spring B, front pad or plate E, and femoral hernia pad F F′, constructed and adapted substantially as herein specified.

Fourth, attaching the respective ends of the front pad or plate E by independent springs, so as to admit of changing the height of either end of said plate without affecting the other end.

Fifth, making the extension springs, which are attached by loops to the main spring, with slots working easily on guide pins or otherwise, so as to automatically extend and contract by the motion of the body, and become adjusted in length with the surface on which they impact, conforming in length to the linear extension due to the flexure of the body, and rendering the instrument relatively permanent while the attachment is adjustable.

No. 44,914.—Edmund P. Banning, New York, N. Y.—*Body Braces.*—November 1, 1864.—The invention consists in a peculiar arrangement and form of abdominal supporter and body brace combined, not readily described without recourse to the drawings.

Claim.—First, the shoulder bow D and pads D′, constructed and adapted to flatten the scapulæ and roll back the shoulders, in the manner explained.

Second, in combination with the aforesaid shoulder bow, constructed and operating as specified, and with the main spring B B, the lever A, for attaching and supporting the shoulder bow D and pressing forward the spine, as explained.

Third, in combination with the aforesaid shoulder bow D and with the main spring B B, one or more side posts K K′, for relieving tender, diseased spines, as explained.

No. 44,915.—John G. Baker, assignor to himself, Thomas S. Disston, and Thomas H. Asbury, New York, N. Y.—*Turning Lathes.*—November 1, 1864.—This invention consists in the employment of a worm wheel, the number of teeth of which is a multiple of the number of threads in the running inch of the screw into which it gears, and is used in combination with a dial and index in such a manner as to enable the workman to determine the correct position of the tool, so as to fit in and follow the same groove it made the preceding cut.

Claim.—The combination of the worm wheel G, dial H, index I, screw C, and slide D, constructed and operating substantially as and for the purpose set forth.

No. 44,916.—William E. Fischer, Boston, Mass., assignor to Frederick B. Ely, Newton, Mass.—*Lasting Machines.*—November 1, 1864.—This invention consists in a machine provided with cheeks or linings of elastic material attached to the jaws of the machine, so that in closing up they conform to the shape of the last, and so operate as to press the leather up to, and around, the last.

Claim.—The application of rubber or other equivalent elastic cheeks or linings to the jaws or clamps of lasting machines, substantially as and for the purposes described.

No. 44,917.—John Hunt, assignor to himself and George D. Sharp, New York, N. Y.—*Apparatus for Feeding Paper to Printing Presses.*—November 1, 1864.—The object of this invention is to feed paper to printing presses by atmospheric pressure, and to overcome the usual difficulty in thus feeding paper to presses occasioned by the sheets adhering and dragging, two pairs of bellows are used and the paper seized at both ends and raised perpendicularly, when it is seized by mechanical means and carried forward.

Claim.—First, the suction devices *n* and retaining clamp E, for the purpose of guarding against feeding too many sheets at once, as herein set forth.

Second, the reciprocating plate or divider *d*, and friction device G, or its equivalent, arranged relatively to the lifting device *m*, so as to require a simply vertical motion of the latter, substantially in the manner and for the purpose herein set forth.

Third, in combination with a paper feeding machine, a table motion, composed of the widely separated teeth *b*2, wheel Q1, pawl R, and the chain and lever P and O, or their equivalents, arranged substantially in the manner and for the purpose set forth.

Fourth, the accordion-like mechanism, composed of the parts N V′ and W W′, or their equivalents, hinged together and adapted to guide the motion and compel the horizontal portion of the table L, substantially in the manner and for the purpose herein set forth.

No. 44,918.—Thomas Nelson, West Troy, N. Y., assignor to New York Quartz Company, New York, N. Y.—*Emery Wheels.*—November 1, 1864.—This invention consists of a composition of emery and clay, with a flux, which is moulded in the proper shape, and subjected to the proper heat to vitrify the mass.

Claim.—Manufacturing wheels, slabs, rings, or other grinding articles or surfaces of the composition, and substantially in the manner specified.

No. 44,919.—Algernon Robert Tiffin, New Haven, Conn., assignor to Charles Rousha, Providence, R. I.—*Reefing Apparatus.*—November 1, 1864.—This invention relates to a reefing gear of the class which reduces the square sails of ships from the deck. The novelty consists in the arrangement of the jack-stay, the reef points, and pennants in relation to the yard and sail.

Claim.—The jack-stay *c*, the reef-points *g*, and the pennants *h*, arranged in relation to each other and to the yard *d* and sail B, substantially in the manner described for the purpose specified.

No. 44,920.—Joseph Olmsted, assignor to himself and John H. Lewis, Knoxville, Ill.—*Corn Planter.*—November 1, 1864.—This invention consists of a steel arm fixed upon each end of the axle, outside the traction wheels, carrying upon its two extremities, markers. By gears and short shafts the marker is made to rotate faster or slower than the traction wheel, and also at equal speed. By a method of attaching the colters they can be easily removed from the share proper. The lever working the seed devices is moved by a tappet upon the axle and its movements coincide with the revolutions of the marker.

Claim.—First, the arrangement of the gearing I N *b b c c′ g h*, and the shafts J J O, and axle C, substantially as shown and described, for the purpose of varying the speed of the rotary markers G, relatively with the wheels B B′, substantially as and for the purpose specified.

Second, the bars U, slotted at their upper ends and fitted within the spouts V, and seed boxes T, as shown, in combination with the elastic plates W, all arranged to operate in the manner substantially as and for the purpose set forth.

Third, the attaching the rear ends of the colters D′ to the shares C′ by means of the lip b^{*} and pins c^{*}, substantially as and for the purpose described.

Fourth, the levers R, with the bearings K K, attached to slotted slide I, operated by means of lever M, substantially as and for the purpose described.

Fifth, lever S, attached to bar *d*, in combination with the spring Q, and bearing P, substantially as and for the purposes described.

No. 44,921.—Charles and Henry Volkmar, assignor to Charles B. Steinbach, Baltimore, Md.—*Artificial School Slates.*—November 1, 1864.—This invention consists in first saturating common pasteboard with resin, coal tar, wax or other similar substance, after which it is coated with a composition of benzine, emery and flour or coloring matter.

Claim.—An artificial slate, having for its base pasteboard, which is prepared and coated substantially in the manner and for the purpose herein described.

Also, the application of a mixture of benzine or spirits of turpentine, japan, emery, flour and coloring material in the manufacture of artificial slate, substantially in the manner and for the purposes described.

No. 44,922.—C. H. Wheeler, assignor to himself, Richard Haddon, Robert Tuttle, and P. D. Beckwith, Dowagiac, Mich.—*Boiler Feeders.*—November 1, 1864.—This invention consists in attaching a pipe to a boiler in such a way that one end shall communicate with the water space thereof, and the other end with the steam space. While a portion of said pipe is perpendicular in position to this portion of the pipe, a vessel is attached in such a way as to move freely, and yet tightly, up and down. That portion of the pipe which is covered by this vessel is perforated so that the water contained in the vessel can pass to the boiler by being pressed upon by the steam conveyed there through the opposite end of the pipe. A pipe leading from the reservoir, is attached to that end of the pipe which communicates with the water space of the boiler; in this feed pipe a valve is arranged, which is opened and closed by means of a rod connected to the vessel, so that when it rises the valve is opened, and closed as it falls. Upon filling the boiler with water it will rise in the vessel to the same height as it does in the boiler, but as the water in the boiler is evaporated the vessel will rise upon the pipes, being aided by the counter weight, and its contents will pass through the perforation in the pipe to the boiler and supply the loss occasioned by evaporation. When the vessel has risen a certain height the valve is opened in the feed pipe, when the water rushes in and returns the vessel to its former position, and closes the valve preparatory against repeating the operation.

Claim.—The apparatus constructed as herein described for maintaining a constant level of water in steam boilers at all times, as far as practicable; this apparatus being applied to the outside of the boiler and communicating with the water and steam spaces of the boiler chamber, and also with a supply reservoir, and operating substantially as set forth.

No. 44,923.—George H. Wooster, assignor to E. C. Wooster, New York, N. Y.—*Band Ruffles.*—November 1, 1864.—This ruffle is composed of a piece of plaited or gathered muslin or other cloth, inserted into a double band, which is formed by folding a strip of muslin or other material along the middle of its width, and turning in both edges, such band and plaited or gathered strip being united by a double row of stitching, which also serves to secure the parts or gathers and to secure the two edges of the band in their turned-in condition, forming a ruffle which is alike on both sides, at the union of the plaited strip and band, and without a raw edge of the cloth on either side.

Claim.—The within described band ruffling, composed of a plaited or gathered strip and a double band, having the said strip inserted into and between opposite portions of it, and having its edges turned inward, such strip and band being united by a single row of stitching, which also serves the two other purposes of securing the plaits or gathers, and of securing the turned-in edges of the band.

No. 44,924.—S. H. Adams, Coulterville, Ill.—*Gang Plough.*—November 8, 1864.—This invention consists in attaching the plough beams to slotted levers in such a manner that the ploughs will be firmly held in a position parallel to the surface of the ground, whatever may be the position of the bearing wheels, so that one wheel may run in the furrow while the other is upon the unploughed ground, the beams being adjustable to suit various depths of furrow.

Claim.—First, pivoting the forward ends of the plough beams E E to a slotted lever D, and supporting the rear portions of said beams upon a slotted lever D′, both levers D and D′ being capable of receiving a lateral or endwise adjustment, substantially as and for the purposes described.

Second, the combination of the intermediate beam G, lever D, and hinged plough beams E E, with the adjusting lever J, substantially as described.

Third, the laterally and vertically adjustable levers D D′ pivoted to the supporting frame A B, and adapted to form a forward pivot connexion and a rear support for the plough beams, substantially as described.

Fourth, the vertical guides *e e* applied to the laterally adjustable lever D′, in combination with the pivoted plough beams E E and lever D, substantially as described.

No. 44,925.—Henry A. Alden, Matteawan, N. Y.—*Spring.*—November 8, 1864.—This invention consists:

1. In the employment of concavo-convex plates fettered in pairs upon a spindle or axle in such manner that the convex and concave surfaces shall be opposite, in combination with perforated vulcanized India-rubber disks mounted upon said spindle when interposed between said plates and enclosed within the concavities, substantially as hereinafter set forth.

2. In combining with concavo-convex plates fitted upon a spindle, as described, the indenting of the plates along this circumference in such manner as to increase their elasticity to compression from the centre toward the circumference, substantially as set forth.

3. In the combination with concavo-convex plates, fitted upon a spindle and indented along their edges, as described, of vulcanized India-rubber disks interposed between said plates, in the manner and for the purpose hereinafter set forth.

4. In the combination with concavo-convex plates, indented along their edges and fitted upon a central spindle, of locking the plates constituting a pair, in the manner and for the purpose hereinafter set forth.

Claim.—First, the employment of concavo-convex plates, fitted in pairs upon a spindle or axle in such manner as that the convex and concave surfaces shall be opposite, in combination with perforated vulcanized India-rubber disks mounted upon said spindle when interposed between the said plates and enclosed within their concavities, substantially as set forth.

Second, in combination with concavo-convex plates fitted upon a spindle, as described, indenting the plates along their circumference in such manner as to increase their elasticity to compression from the centre towards the circumference, substantially as set forth.

Third, in combination with concavo-convex plates fitted upon a spindle and indented along their circumferences, as described, the use of vulcanized India-rubber disks interposed between said plates, in the manner and for the purpose set forth.

Fourth, in combination with concavo-convex plates, indented along their circumferences and fitted upon a central spindle, the mode herein described, or its substantial equivalent, of locking the plates constituting a pair, in the manner and for the purpose set forth.

No. 44,926.—Louis L. Arnold and Francis X. Házmán, New York, N. Y.—*Instrument for Making Cigarettes.*—November 8, 1864.—This invention consists of an endless apron of India-rubber passed over two rollers and fastened at the ends on a small hinged frame. The rollers are brought together and the tobacco placed on the trough formed by the apron; the frame is then closed. The tobacco is formed into a compact roll by rotating the apron, and the edge of the paper is then inserted between the two sides of the apron and carried around the roll.

Claim.—First, the machine for making cigarrettes, substantially as herein described, the same consisting of a suitable hinged frame containing rollers, in combination with an endless band when the same is coated with vulcanized India-rubber, so as to impart rolling friction with yielding pressure, substantially in the manner and for the purpose set forth.

Second, in combination with an endless band and two rollers hung in a hinged frame, as described, making the said frame of a skeleton form, substantially in the manner and for the purposes set forth.

Third, the combination of rollers, vulcanized India-rubber band, and skeleton frame, the whole being constructed and arranged for operation substantially in the manner herein set forth.

No. 44,927.—Isaac Bannister, Newark, N. J.—*Buckle.*—November 8, 1864.—This invention consists in a bar for attaching the strap to the buckle placed forward of the bar upon which the tongue hinges.

Claim.—The holding bar *a*, or its equivalent, when placed in the position and for the purpose specified.

No. 44,928.—Wm. B. Barnard, Waterbury, Conn.—*Mode of Uniting Metallic Substances.*—November 8, 1864.—This invention consists in inserting one end of a rivet first covered with a coating of India-rubber, paint, or other insulating material, in a plain cylindrical hole, and then contracting the mouth or rim thereof by compressing the metal around the shank of said rivet by means of a suitable annular punch. The sheathing already punched, so as to allow the projecting portions of the rivet to pass through it, is then laid on the plate, and the outer ends of the rivets headed in the usual manner with the hammer.

Claim.—When a metallic rivet, screw, or screw socket is covered or partially covered by an envelope or coating of India-rubber, paint, or other suitable insulating material, combining such insulated rivet, screw, or screw socket, with a metallic plate, by inserting it in a simple cavity in said plate, and then securing it therein by means of the punch A, formed and employed as herein set forth.

No. 44,929.—C. Bauer and W. C. Munder, Newark, N. J.—*Machine for Nailing Boxes.*—November 8, 1864.—The object of this invention is to nail together boxes in a more rapid manner than could be done by hand, and it consists in a hammer with one part of the face projecting forward of the other, a rotary nail carrier, and a feeding device, so arranged that the nails are fed into notches in the nail carrier, which is circular, and are there held by the belt that revolves the carrier until they arrive at a point nearly to where the belt would relieve them, when the carrier ceases to revolve and the hammer is forced forward by crank motion, one part of the face forcing the nail into the wood, but as soon as the hammer has made the thrust, driving the nail partially, the feeding device feeds the box along the distance for another nail, at the same time the nail carrier is fed along by a ratchet and pawl, so that the two parts of the hammer come in contact with the nails, one finishing the driving of the first nail and the other one partially driving a second, and so on, completing the nailing.

Claim.—First, the employment or use of a rotating nail carrier in combination with a reciprocating nail driver and suitable table supporting the boards or boxes to be nailed, substantially in the manner and for the purpose specified.

Second, making the nail driver with a shoulder *k*, substantially as and for the purpose set forth.

Third, depressing the belt E by the automatic action of the machine, substantially as and for the purpose described.

Fourth, the automatic feed mechanism, in combination with the nail carrier and nail driver, constructed and operating in the manner and for the purpose substantially as herein specified.

No. 44,930.—Salmon Bidwell, Philadelphia, Penn.—*Apparatus for Condensing Air, Gas, &c.*—November 8, 1864.—This invention consists of a cylinder provided with rods which are connected at the top by a cross piece. Within this cylinder is arranged a series of cylinders, all provided with packing at their lower ends. The packing on each cylinder acts as a piston in the cylinder within which it is placed. The cylinder G is stationary and is attached to a cross piece, and the cylinder E is also stationary, being attached to the rods B and B′ by means of the flanges at its upper end. The cylinders F and D are connected together by bars, and are capable of a vertical motion on the frame formed by the bars B B′. All the cylinders are closed at the bottom, with the exception of a central aperture, which is closed by a valve above.

Claim.—A series of valves of different diameters provided with pistons and valves, and arranged and operating in union with each other, substantially as herein described, so that the elastic fluid compressed in the larger barrels shall pass directly into the smaller barrels, to be there further compressed, as set forth for the purpose specified.

No. 44,931.—Robert D. Bradley, Preston, Md.—*Hydraulic Indicator.*—November 8, 1864.—The object of this invention is to produce an alarm indicator for hydraulic purposes, so arranged that any sudden rise of water in a stream or pond will be called to the attention of the attendant by means of the alarm given by this apparatus. Its novelty consists in providing a rectangular box which is permanently located within the water whose height it is desirable to know. This box is provided with a float which rises with the water, and has a graduated slide attached for the purpose of indicating the amount of variation in the stream. An angular slot is cut in this slide in which a pin moves and gives motion to a lever which is attached to clock work, which is placed in any desired location, and connected with this bar by means of wire or rods in such a way that when the water rises to a given height the alarm is sounded, and the attendant is notified that the flood gates should be opened or any other means that may be provided should be brought into requisition to avoid the danger.

Claim.—First, the float B, slide B′, arm C, and lever D, employed in connexion with the indicator E, substantially as and for the purpose set forth.

Second, the employment of a spring F′ and wheel F, operating, in connexion with the float B′, to turn the cam G′, and operate an alarm apparatus, in the manner explained.

Third, the cross-heads M, and wires I L′, employed in combination with a float and indicator, as and for the purpose set forth.

No. 44,932.—Henry Brockway, Cohoes, N. Y.—*Take-Up of Circular Knitting Machines.*—November 8, 1864.—This invention relates to that class of machines in which the take-up is governed by the tension of the web. When, by reason of this tension, the pressure against the bar *t* is sufficient to overcome the force of springs *u* and F, and move frame H forward, this frame presses forward the arm *y*2 of shaft *y*, which is thus so turned that crank 5 and link 6 are made to act on lever *x*, so as to press its turned-up end 8 against the pawl lever *j*, and move said lever in the direction of the arrow, (Fig. 4.) This movement so actuates lever E as to bring roller *q* out or nearly out of range of the fixed cam B, so that the lever will not cause the pawl *k* to pass a tooth of the ratchet wheel; and hence the operation of roll C is stopped until the tension diminishes, and the parts resume their positions and the take-up again commences. By tightening or loosening spring F, by means of nut 10, its tension is increased or diminished, and the take-up made faster or slower, and consequently the knitted web is made more close or open.

Claim.—First, the combination with the stationary cam B and take-up roll D, of the levers E and *j*, pawl *k*, ratchet wheel *l*, gears *g f*, shaft *d*, endless screw *c*, and worm wheel *b*, the whole applied and operating, substantially as herein specified, to produce the movement of the said roll, substantially as herein specified.

Second, the shaft *y*, with its arm *y*2, and crank 5, the link 6, or its equivalent, and the lever *x*, applied in combination with each other, and with the frame H, ratchet wheel *l*, pawl lever *j*, and cam lever F, substantially as and for the purpose herein set forth.

No. 44,933.—John Broughton, New York, N. Y.—*Faucet.*—November 8, 1864.—The plug of this faucet is in line with the shank, and there is a stuffing box near the handle. At a suitable distance from the cask the shank widens and a screw thread is cut within it to receive the screw end of the extension. This end is closed, except that the plug passes through its centre, and two openings are left on opposite sides of the centre. A disk of cork, fitting flush with this male screw, has like openings. On the end of the plug a disk is fixed having similar openings. When the parts are screwed together the outer edge of the cork disk is embraced between the end of the male screw and a shoulder within the female screw. A coil spring inside the handle of the plug holds the disk in position. By turning the handle the openings of the interior disk are made coincident with the openings through the cork packing and the fixed disk against which it is pressed, or cuts off the flow by closing these parts. The eduction port is between the handle and these disks

Claim.—First, the arrangement of the rotating disk valve F, working in the interior of the supply chamber in combination with the elastic seat *n*, spindle H, and handle, substantially as described.

Second, the employment of the spring O to keep the valves in contact with its elastic seat, independent of the pressure of the fluid, when arranged in conjunction with the spindle H, the discharge chamber B, and the handle J, substantially as described.

No. 44,934.—Richard Chandler, New York, N. Y.—*Fire Escape.*—November 8, 1864.—This invention consists in attaching a bar of iron to the window frame of a house, across which a rope is suspended near the centre. An iron ring and bolt operates in the rope for the purpose of gently lowering persons or goods safely and quickly from a window to the ground.

Claim.—The arrangement and combination of the devices A C E F and H, when arranged, combined, and operated as herein described, and for the purposes set forth.

No. 44,935.—Alzirus Brown, L. C. Kniffen and Thomas H. Dodge, Worcester, Mass.—*Mowing Machine.*—November 8, 1864.—This invention consists in the construction of the pawl which is used in combination with the quadrant sheave of the lever employed for raising and lowering the cutting apparatus, whereby the driver, when on his seat on the machine, is enabled readily to operate the same by his foot, and whereby also said pawl is made, in a measure, self-operating.

Claim.—In combination with the ratchet quadrant sheave T, the self-acting pawl *l*, when applied, constructed, and operated substantially as and for the purposes described.

No. 44,936.—E. S. Clapp, Montague, Mass.—*Trunk.*—November 8, 1864.—This invention consists in so constructing a trunk as to make it capable of being transported upon self-contained wheels, which are concealed when the trunk is at rest, and projected from its sides when it is about to be moved.

Claim.—First, the combination of a trunk, or its equivalent, with wheels for transporting it, so arranged as to be concealed within its outside walls when at rest, substantially as described.

Second, constructing trunks for transporting baggage and other goods, with cavities to conceal wheels and their necessary connexions, which can be projected from and returned within their cavities by means of one of the handles of the trunk, substantially as above described.

No. 44,937.—Eliphalet M. Clark, Detroit, Mich.—*Unloading Grain from Cars.*—November 8, 1864.—This invention consists in the use of a shovel or scraper, or its equivalent, attached by a rope, or its equivalent, to machinery to work the same outside the car for the speedy and economical unloading of grain from the car.

Claim.—First, a shovel or scraper N, attached by a cord, or its equivalent, to a drum B, rotated by any suitable power, and adapted to be automatically thrown out of gear as the shovel approaches the end of its stroke, substantially as herein described.

Second, the hinged or swinging frame L, employed in combination with the shovel N and drum B, substantially as and for the purposes set forth.

Third, the automatic clutch movement C D F G H, operating in combination with the aforesaid shovel N, drum B, and cord T, substantially as specified.

No. 44,938.—Joseph Clark, Syracuse, N. Y.—*Composition for Pavements, Roofing, &c.*—November 8, 1864.—This invention consists in the following method of making composition pavements, &c.: Coal tar, asphaltum, or fire-pitch is boiled down until it dries easily, and is then mixed with hydraulic cement and plaster of Paris. It is then melted in a large kettle, and one and one-seventh part of gravel or broken bricks or cinders added, after which it is poured out upon the pavement or roof and rolled flat. Equal parts of hydraulic cement and plaster of Paris are then heated together and sifted over the composition while it is still warm and sticky.

Claim.—The manner herein described of making and laying composition pavements, roofs, and floors.

No. 44,939.—Smith Collins, New Haven, Conn.—*Spring Brim Hat.*—November 8, 1864.—The wire or hoop inserted in the periphery of the brim is made convexo-concave.

Claim.—A hat constructed of flexible material, its rim extended and form retained by means of one or more concavo-convex or corrugated steel hoops, substantially as and for the purpose herein set forth.

No. 44,940.—Richard Covert, Brooklyn, N. Y.—*Artificial Lump Coal.*—November 8, 1864.—This invention consists in mixing together, by the aid of heat, coal dust, asphaltum, and petroleum, and afterwards forming the composition into solid lumps by the aid of pressure.

Claim.—As a new article of manufacture, the artificial lump coal, consisting of coal dust, asphaltum, and petroleum, mingled by heat and stirring and aggregated by pressure, as hereinbefore described.

No. 44,941.—A. C. Crondal, New York, N. Y.—*Cork Hat.*—November 8, 1864.—Cork is cut into sheets, then saturated with animal oil, having spirits of turpentine or other volatile hydro-carbon liquid mixed with it, and then well pressed. When dry the sheets are to be united to both sides of cotton canvass by means of any suitable cement. The hat is then made of the material thus prepared, and lined and covered as desired.

Claim.—A cork hat made of prepared cork, as herein shown and described.

No. 44,942.—Henry P. Crouse, Hartland, Mich.—*Grinding Mill.*—November 8, 1864.—This invention consists in providing the shoe of the hopper of a pair of millstones with a screw, having a partition attached to it, with openings or notches in its lower edge, arranged in such a manner as to effectually separate sand, cockle, and other impurities from the grain before the latter passes into or between the stones.

Claim.—A shoe for the hoppers of millstones provided with a screen B, having a partition or barrier *g* attached to it, with openings or notches *h h* in its lower edge, in connexion with the opening *n* in the bottom of the shoe, and the opening *i* in the front end of the same, and either with or without the oblong spout *b*′, substantially as described.

No. 44,943.—Jacob and Henry A. Earhart, Campbellstown, Penn.—*Beehive.*—November 8, 1864.—This invention consists in the construction and arrangement of the several parts designated in the claim, from which, and the engraving, it will be readily understood.

Claim.—The construction of a hive with the two doors A B, shelf F, drawers E, glass slide K, cross piece G, and slats 1 2 3 4, when these several parts are arranged relatively to each other, and to the hive, especially in the manner shown and described.

No. 44,944.—Amelié Erhard, New York, N. Y.—*Composition for Flocking Cloth, Paper &c.*—November 8, 1864.—This invention consists in applying to cloth by means of varnish, tinted with any desirable color, a composition of cotton, silk, or woollen flock, and gold, silver, or steel powder.

Claim.—The mixing of the several powders, substantially as above described, with the flocks and the application of the same to the varnished tissue, thus producing the beautiful appearance which the cloth velvet presents, and which combination has never before been known or used.

No. 44,945.—Henry Fachs, New York, N. Y.—*Machine for Raising Sheet Metal Pans.*—November 8, 1864.—The main feature of this invention consists of a platform hinged on a centre on each side of, and on a level with, the two rollers at their point of contact with the sheet to be operated on. This sheet is laid upon the platform when in a horizontal position, and, as the flange is being turned by the rollers, the outer edge of the platform is elevated correspondingly by means of a segmental arm attached thereto, the teeth on which gear in a pinion operated by a crank in the hands of the workman.

Claim.—The tilting platform E, applied, in combination with the dies C, in the manner and for the purpose substantially as herein shown and described.

No. 44,946.—Othniel Gilmore, Raynham, Mass.—*Polishing the Soles of Boots and Shoes.*—November 8, 1864.—This invention consists in combining with a reciprocating roll a rocking jack, and in giving to the roll an extent of movement over a part only of the surface at each reciprocation, in connexion with a capability of longitudinal movement.

Claim.—Combining with the polishing or levelling roll or tool a rocking jack for turning the shoe under the action of the roll, substantially as set forth.

Also, so arranging the jack carriage and the mechanism which impels the polisher that the polisher has a reciprocating movement but partially over the surface polished, while the carriage is fed through this plane of movement, substantially as described, to bring the entire length of surface to the action of the polisher.

No. 44,947.—Wm. F. Goodwin, New York, N. Y.—*Pendulum Sight for Ordnance.*—November 8, 1864.—The upright graduated bar of the sight is provided with an additional extension bar, also graduated, and the whole is suspended by a single pointed bearing within a stirrup or yoke to which the plumb weight is attached, the said pointed bearing resting in a cup or concave recess of a bracket attached to the breech of the gun.

Claim.—First, a pendulum sight, consisting of graduate standards F F, supported upon a point D resting in a cavity *b* in a bracket B projecting from the rear of the gun, as herein set forth.

Second, the combination of the arms H H with the standards F F, weight G, and bracket B, all constructed, arranged, and operating substantially as and for the purposes specified.

Third, in combination with the graduated standards F F and notched slides S, the additional graduated extension bar I, provided with a sighting notch or aperture *l* at its upper end, as described.

Fourth, the pressure rod *g*, adapted to operate substantially as and for the purposes described.

Fifth, in combination with a gravitating or pendulum sight and spirit level M, the tube N and outer casing O, arranged and applied as described.

No. 44,948.—Allen F. Gray, Boston, Mass.—*Paper Collar.*—November 8, 1864.—The plain collar or blank is doubled on the division line between the outer portion and neck band; the neck band is then moistened with a sponge, and the collar is drawn around a heated conical block, which shrinks the bands and produces the desired effect.

Claim.—A paper collar in which the finished form is given by treatment of the neck band, substantially as set forth.

No. 44,949.—H. A. Hannum, Cazenovia, N. Y.—*Beehive.*—November 8, 1864.—The hive is constructed with a doubly-inclined bottom, one of the inclined boards forming the same being removable, and, when in place, projecting sufficiently beyond the other to form an alighting platform for the bees, and also to form, in connexion with such other inclined partial bottom, an angular or dovetail-shaped space for the support of the angular slide which controls the entrance to the hive.

Claim.—The combination and arrangement of the removable angular side *b′ b″*, slide D, and rigid slide *b*, of the hive in such a manner that the interior of the bottom of the hive may be opened, and a lighting board formed for the bees, and a space formed to retain the slide by the angular position of said slides and without the danger of clogging by filth, substantially as herein set forth.

No. 44,950.—C. A. Harper, Canterbury, N. C.—*Grinding Mill.*—November 8, 1864.—This invention consists of a bolting chest, so constructed as to answer the purpose of a frame or stand for the mill, and so as to contain within itself, when packed up for transportation, the mill, bolting reel, and all the fixtures necessary for the complete operation of the same when put together for use. The invention also consists of a bolting reel, turned by gearing a small shaft from an endless screw on the main shaft of the mill, also of a temper screw to regulate the fineness of the grinding by pressing on the shaft of the grinding cylinder.

Claim.—The arrangement of the bolting chest Z, reel X, temper screw O, main shaft *y*, and feed regulator C, when constructed and operating substantially as described.

No. 44,951.—George Shaw Harwood, Newton, Mass.—*Machinery for Oiling Wool.*—November 8, 1864.—A revolving cylinder containing oil is supported over the feed apron; within it are spikes or rods for agitating the oil or other lubricant; a longitudinal row of perforations allows the oil to be thrown out and sprinkled upon the wool at regular intervals. A pressure roller, if desired, may be applied between this cylinder and the feeding basin.

Claim.—First, the method herein described of oiling wool while being fed to a carding or other wool-preparing machine by means of an apparatus attached to and working in unison with said machinery, and operating as set forth, by showering or dripping the oil or lubricating compound upon the wool, either directly or through the intermediary of a pressure roller.

Second, the method herein described of oiling wool while being fed to a carding or other wool-preparing machinery by means of an apparatus attached to and working in unison with said machinery, and operating as set forth, by first agitating and then showering or dripping the oil or lubricating compound upon the wool, either directly or through the intermediary of a pressure roller.

Third, the method herein described of oiling wool while being fed to a carding or other wool-preparatory machinery by means of an apparatus attached to and working in unison with said machinery, and operating by applying the oil or lubricating compound upon the wool in parallel and equidistant lines, substantially in the manner and for the purpose set forth.

Fourth, in combination with carding or other wool-preparing machinery, an apparatus for oiling the wool while being fed to said machinery, the same consisting of a revolving perforated cylinder arranged for action, substantially as set forth.

Fifth, the combination of a revolving perforated cylinder with internally projecting arms or other means for agitating the oil or lubricating matter before being dripped from the cylinder, substantially as set forth.

Sixth, the revolving oiling cylinder, when provided with holes arranged in rectilinear series, in the manner and for the purposes set forth.

No. 44,952.—Gustave Henze, New York, N. Y.—*Machine for Preparing Mouldings.*—November 8, 1864.—The machine is provided with a reservoir for the composition used in coating moulding, surrounded by a water jacket, heated in any suitable way, which is moved on guide ways over the moulding. The adjustable moulding tool is made to follow the reservoir.

Claim.—First, the box E, provided with a jacket F, for steam or hot water, and applied, in combination with the guide ways C and scraper G, in the manner and for the purpose substantially as herein shown and described.

Second, the endless carrying belt C′, in combination with the box E and scraper G, constructed and operating substantially as and for the purpose set forth.

Third, giving to the scraper a bevelled edge with flanges projecting over the sides of the moulding, substantially as and for the purpose specified.

No. 44,953.—Freeman W. Hood, Worcester, Mass.—*Revolving Fire-arms.*—November 8, 1864.—The cylinder of the arm is provided with independent chambers or sliding cartridge cases, which, by being moved forward against an arm or rammer attached to the centre pin or cylinder spindle, have their cartridges removed. The invention consists in the connexion of the rammer to the centre pin, and in the application of a spring bolt, serving both to lock the rammer spindle in position and to retain the cartridges in the cylinder.

Claim.—The application of the waste cartridge or shell discharger E to the spindle D of the magazine, substantially in manner and so as to operate therewith, as described.

Also, in combination with the spindle D, the discharger E, and the series of detachable cartridge tubes or carriers ***a a a a***, &c, combined together and with the barrel and the rotary magazine as set forth, the latching mechanism, so arranged as to serve the double purpose of retaining the cartridge cases and locking the spindle, substantially as explained and represented.

No. 44,954.—Wm. W. Hubbard.Philadelphia, Penn.—*Machine for Cutting Threads in Nuts.*—November 8, 1864.—In this machine a strong vertical column supports a circular platform with a series of clamps for holding the nuts arranged in a circle on its upper surface, and above this a series of tap spindles arranged to correspond with the several nut-holders. The platform and series of spindles have a movement of rotation around the supporting column, and each individual tap spindle has, besides this, a separate movement of rotation which is produced by a system of gearing. Moreover, each tap spindle is provided with a collar, which, when the general movement of rotation has brought any one of the spindles around to a certain point, enters upon and slides forwards and upwards along the ascending surface of a stationary inclined plane, thus lifting each tap in succession with its adhering nut upward out of the clamp or nut-holder, so as to allow a new blank to be placed therein. After the shank of each tap has become filled with nuts the taps are removed from the spindles and the nuts stripped off.

Claim.—First a series of taps arranged in a circle, and caused to revolve round the centre of the same and round their own axis.

Second, the plate J, with its checks 7 and the dovetailed recesses in the same, in combination with the said revolving taps.

Third, the combination of the spindles and their taps with the adjustable reservoir G.

Fourth, the plate q arranged beneath the plate J, substantially as and for the purpose set forth.

Fifth, the plate H', with its inclined teeth, tubular projections r, and spindles u, in combination with the worm U.

Sixth, the pinion T on the shaft P, the bevel wheel N, and cog-wheel M and sleeves K, with their pinions t, the whole being arranged and operating substantially as set forth.

Seventh, the shaft C, with its wheels f h adapted to each other, as set forth, in combination with the spring treadle E.

No. 44,955.—Wm. G. Kenedy, Greenfield, Ind.—*Corn Planter.*—November 8, 1864.—This invention consists in a device for opening and closing a valve at the lower end of the dropping tube by levers connected with the handle of the machine, and also in rods placed as guards in front of the plough.

Claim.—A seed dropping or seed distributing device composed of a slide O, elastic cut-off Q, a valve H, and a spring L, all arranged and applied so as to be actuated by the driver at the rear of the machine, substantially as set forth.

Also, the guards G, when arranged and applied to the machine in relation with the shares D F F, to operate as and for the purpose specified.

No. 44,956.—M. C. Kilgore, Washington, Iowa.—*Harvester.*—November 8, 1864.—This invention relates to the particular arrangement of a vibrating gaveller and a dropping platform in connexion with two endless aprons, one horizontal and the other inclined, which convey the cut grain to the gaveller. It will be readily understood from the claim and engraving.

Claim.—First, the box or chamber with its lever and arm and hooks or arms of the shaft u, for receiving and dropping the grain or sheaf, arranged and operating as set forth.

Second, the horizontal and inclined aprons in combination with the box or chamber having a movable bottom, and with the books or arms of the shaft u, arranged and operated substantially as described.

No. 44,957.—E. M. Kimball, Toledo, Ohio.—*Tool for Watch-repairers.*—November 8, 1864.—This invention consists of a template, made of a disk of metal mounted on a pedestal, and corresponding in size to the watch, each portion of which through which the screws pass, and their positions therein, are marked on said disk by lines and perforations, which latter form the sockets for the reception of the screws of their corresponding respective positions in the watch.

Claim.—First, the screw holder, consisting of a plate having a system of holes arranged, substantially as herein described, for the reception of the screws of a watch, for the purpose herein set forth.

Second, constructing the said screw holder, with a central foot or pedestal, with a central hole or socket 14, substantially as and for the purpose specified.

No. 44,958.—Thomas Kirk, Waterbury, Conn.—*Detachable Metal Button.*—November 8, 1864.—The looped shank is made with feet turned outward in line with the loop. The feet are pressed into a slot in the back of the button against the resistance of a spring covered by a disk. A quarter turn is then given to the shank, which brings its feet under raised parts of the back of the button where they are hinged.

Claim.—A button with a detachable eye, which is held to the button by pressure from within the button, substantially as above described.

No. 44,959.—S. H. Laman, Willoughby, Ohio.—*Ventilator.*—November 8, 1864.—This invention consists of a combination of two sections of pipe, each formed of a smaller and larger cylinder, fitting into each other and forming an annular chamber, at either end of which are holes fitted with registers. In the end of the pipe is also a register. The invention can be used to fit in a stove-pipe hole in summer for ventilating purposes, and the two sections adjusted to suit the thickness of the partition by pushing them in or drawing them out.

Claim.—The special arrangement of the adjustable sections A and B and annular chamber C, and when used in combination with the ventilator h' and register H', as and for the purpose set forth.

No. 44,960.—Samuel P. Kittle, Brooklyn, N. Y.—*Spring Mattress.*—November 8, 1864.—This invention consists in the construction of the box which supports the springs and mattress, so that the whole may be folded compactly when not in use.

Claim.—First, the hinging or pivoting the box which contains the springs at two points on each side, at the distance apart of twice the thickness of the stuffing, so that the parts of the box which are folded together may be parallel to each other, the stuffing being inclosed between them, substantially as and for the purposes set forth.

Second, the hinging or pivoting the box which contains the springs at the central point of each side, so that the parts of the box which are folded together may be parallel to each other, the thin covering or stuffing being between them, in combination with the braces or strengthening pieces P or Q, substantially as and for the purpose set forth.

Third, combining the central portion of the double hinge C, or its equivalent, with the ticking of the mattress, in the manner described; that is to say, the said ticking being gathered at each of the joints of said hinge, and secured to and along the middle section thereof, substantially as set forth.

Fourth, the combination and arrangement of the catch N with the adjacent slats F and F of the box A, substantially as and for the purpose set forth.

No. 44,961.—William R. Landfear, Hartford, Conn.—*Device to prevent Slipping on Ice.*—November 8, 1864.—This invention consists in the employment of an elastic band to be worn around the boot or shoe in such a manner that one portion of the band shall pass under the sole and rest upon the ground, and the part under the shoe having secured to it some gritty properties to prevent the foot from slipping upon the ice.

Claim.—The employment of the elastic band, having connected with it the gritty or frictional substance, to be worn upon the boot or shoe, for the purpose of preventing slipping upon icy or other surfaces, as herein described and set forth.

No. 44,962.—Henry Lathrop, Utica, N. Y.—*Spring Bed Bottom.*—November 8, 1864.—This invention consists in providing tracks or ways on the frame, opposite the springs, and connecting them thereto by loops or rings, so as to prevent the lateral movement or tipping of the springs towards the centre.

Claim.—The tracks or ways made in or through, or secured to the frame or box, and the mode of connecting the outermost springs in a bed bottom, seat or other article to the ways or tracks so provided by means of slides, loops or rings, or in any other way substantially the same, which will freely pass or move along the tracks as the action of the springs may require, the whole being arranged as and for the purpose set forth.

No. 44,963.—Edwin Lawrence, Antrim, N. H.—*Pumps.*—November 8, 1864.—The object of this invention is to raise and force water and other liquids with increased facility and advantage.

Its novelty consists in the combination and arrangement of the cylinder, with wings on the piston, with flanges; the double partitions, with openings through and valves upon them, and the openings through the shaft.

Claim.—The combination of the cylinder with the wings, or piston with flanges, with openings through the shaft, and the double partitions with openings through, and valves upon them, as herein before substantially set forth.

No. 44,964.—Lorenzo Ling, Pulaski, N. Y.—*Clothes Dryer.*—November 8, 1864.—This invention consists of an improvement in the metal head to which the arms are attached, and in using, in connexion with the head, a slide on each arm, so that the arms will be locked automatically when adjusted, either in a folded or unfolded position, and each arm allowed to work independent of the others.

Claim.—The slides C, on the arms B, provided with the recesses f, in combination with the points or spurs e, the ends of the flanges a, of the head A and the shoulders g, on the upper edges of said flanges, all arranged substantially as and for the purpose herein set forth.

No. 44,965.—Sylvester Marsh, Chicago, Ill.—*Apparatus for Descending Gradients.*—November 8, 1864.—The invention consists in coupling one or more wheels of a railway carriage or other wheeled vehicle, with a movable piston or cylinder filled with air or other elastic fluid, in combination with valves or other equivalent means for regulating the egress from and ingress to, or displacement in said cylinder, of its contents.

Claim.—Coupling one or more wheels of railway carriages, locomotives or other wheeled vehicle or apparatus with a movable piston or diaphragm of a cylinder filled with air or other more or less elastic fluid, in combination with valves or other equivalent means for regulating the egress from and ingress to, or the displacement in the said cylinder of the contents thereof, substantially as and for the purpose herein set forth.

No. 44,966.—THOMAS McDONOUGH, Middletown, Conn.—*Hot-air Engines.*—November 8, 1864.—This invention consists in the combination of the heaters and coolers with the plunger. These heaters consist of pipes or tubes arranged vertically around the outer portions of the fire box, they being open at their lower ends and filled with fine wire so that the air as it enters the lower end of the tube is divided into finely comminuted currents and is brought into contact with a large amount of heating surface on its passage to the cylinder. The coolers consist of sheets of metal soldered or brazed together so as to form one continuous sheet which is corrugated and connected at one end with the passage leading to the upper end of the cylinder, and at the other end with the passage leading from the valve chest. The air in moving from the lower end of the cylinder passes between these sheets and is cooled before entering the upper end of the cylinder.

Claim.—The combination of the heaters and coolers with the plunger, by means of which the increased power is utilized, substantially as described.

No. 44,967.—ASHLEY H. PALMER, Skaneateles, N. Y.—*Portable Fence.*—November 8, 1864.—A few inches from the inclined side of the bottom of the post is placed a loop of brass through which the stake is driven, thus securing the fences without any other fastening.

Claim.—The use of the stake B, in combination with the post A, substantially as and for the purpose described.

Also, the stake B, in combination with the loop C and post A, when arranged and constructed as herein described.

Also, the chamfering the ends of the boards or which enters the posts, substantially as and for the purpose described.

No. 44,968.—MILTON J. PALMER, Homer, N. Y.—*Coupling Whiffletrees.*—November 8, 1864.—This invention consists in making the whiffletree in two sections: the lower section is fastened to the cross bar by means of screws, and by an arm at the back of the plate projecting downward. On the upper surface of the lower section is a flange near the front and back edges, in two segments. Through the centre of the plate is a hole enlarged on the lower side to receive a nut. The upper section consists of a similar plate, in the centre of which is a point projecting downwards and passing through the hole in the lower section and is fastened by a nut. Projecting from the surface is a flange fitting into the flange of the lower section. The machine is put together by turning the plates at right angles and inserting the pivot in the hole of the lower section, thus bringing the sections together, then turning them to a parallel position.

Claim.—The arrangement of the flanges F and G, in combination with the pivot E, the nut I, the standards A B C, the screws S S, in the manner and for the purposes set forth.

No. 44,969.—JABISH PIERCE, Wyanet, Ill.—*Ploughing Machine.*—November 8, 1864.—This invention relates to a method of employing a common plough, in combination with a frame, supported upon wheels, and having a seat for an attendant within suitable proximity to the devices by which the necessary movements are imparted to the plough. By this arrangement such persons as are not able to walk can perform the labors of the ploughman.

Claim.—First, the combination of the plough F F′, clevises G G′ and axle D, with the frame A, axle D′, seat M and wheels B, substantially as and for the purposes set forth.

Second, the combination of the lever H, link J, clevis J′ and pin K, the whole being employed in the manner and for the purposes herein specified.

No. 44,970.—ISAAC PITMAN, Providence, R. I.—*Thermo-circulating Ventilator.*—November 8, 1864.—A system of ventilation for houses by which the air of each apartment circulates down into a space around the furnace and then returns by a different flue, in combination with apertures near the floor of said apartments communicating with flues leading to external air, to carry off the foul air or to regulate the heat.

Claim.—The circuitous circulation of the air of an apartment, from the floor of the same through a heated air chamber, by entering at the bottom of said chamber and passing through in a continuous current, without contact with any falling or counter current, back into said apartment again, for the ultimate purpose of ventilation at a low point of altitude, close to the floor, by the uniform temperature acquired in consequence of the complete circulation of the air, in the manner and by the means herein described.

The ventilation of an apartment at a low point of altitude by a ventilating aperture at or near the floor, in combination with the circuitous circulation of the air by the means and in the manner described herein.

No. 44,971.—GEORGE QUIRIN and LORENZ BERKEL, Smithson, Ill.—*Gang Plough.*—November 8, 1864.—This invention consists in the arrangement of the lever and jointed bar upon which the hind wheel runs, and which may be elevated and lowered by means of the lever. Another feature is the arrangement of the boulster bar combined with the hinged beams, the plough being mounted on three wheels.

Claim.—First, the combination of the vertically-adjustable bar E, pivoted bar F, and laterally-adjustable pivoted connexions G *e*, with the plough beams H H, all arranged and operating substantially as described.

Second, the combination of the sector-plate supports G G, with plough beams H, which are capable of being expanded or contracted laterally, substantially as described.

Third, securing the axle of the rear supporting wheel J, to a lever *h*, which is connected to a sector *j* by means of a rod *k*, the whole operating substantially as described.

No. 44,972.—S. G. RANDALL, New York, N. Y.—*Apparatus for Supplying the Pneumatic Springs of Railroad Cars.*—November 8, 1864.—A vertical cylinder on the platform has its induction air valve on top and its eduction distributing tubes also leading from the upper part. The piston rod descends through the bottom and is bent at right angles near its lower end. This bent end, as it ascends, closes the steam-escape valve at the bottom of the cylinder by impinging upon a cam, and as it descends opens said valve. The steam acts directly upon the piston, and is admitted at the discretion of the engineer, whether the cars are at rest or in motion.

Claim.—The combination of an air pump F with the platform A of a locomotive tender or car and with the boiler G and air springs E, constructed and operating substantially as herein specified, so that the air springs can be supplied with air by the action of steam derived from the boiler, whether the engine or car be in motion or not.

No. 44,973.—CHRISTOPHER RANDS, Englewood, N. J.—*Artificial Millstone.*—November 8, 1864.—The millstone is made of hard or indissoluble glass, mixed with corundum or other similar materials, and cast or pressed in a suitable mould or in any other suitable manner, so that by the action of the corundum, the grinding surface is prevented from working smooth.

Claim.—An artificial millstone, produced as herein described, as a new article of manufacture.

No. 44,974.—S. G. RICE, Albany, N. Y.—*Snuff Sifter.*—November 8, 1864.—This invention consists in a breaker, in combination with a sieve, whereby particles of snuff, or any other substance of a lumpy nature are broken with great facility by the friction of the breaker both laterally and longitudinally upon the sieve.

Claim.—First, the combination of a free breaker with a screen or sieve, substantially as and for the purpose set forth.

Second, the constructing of the free breaker of longitudinal and transverse bars, in such manner that in its vibration over the screening surface the whole of such surface shall be traversed, substantially as described.

Third, constructing the free breaker of segment form on its under side in a transverse direction, substantially as and for the purpose set forth.

Fourth, so constructing a free breaker and using it in a vibratable sieve or screen that it will traverse the screen longitudinally and laterally, and also rock or roll transversely, substantially as set forth.

No. 44,975.—SAMUEL G. RICE, Albany, N. Y.—*Machine for Dressing Tobacco.*—November 8, 1864.—This invention consists of a rectangular shaped box, in which are shaking shelves for the purpose of dressing and loosening the tobacco without separating the shorts from the mass.

Claim.—First, a machine for dressing fine-cut or cut tobacco, when adapted for giving a tossing motion to the tobacco, substantially as herein described.

Second, the employment of shelves D D, in a box A, arranged and adapted for dressing tobacco, in combination with a sliding frame or frames C C, substantially as described.

Third, the employment of a covering or bag *c*, or its equivalent, in combination with alternately rising and falling shelves D D, substantially as described.

Fourth, the employment of flexible strips *g g*, or their equivalent, in combination with movable shelves D D, substantially as and for the purposes described.

No. 44,976.—SAMUEL M. RICHARDSON, New York, N. Y.—*Latches.*—November 8, 1864.—This invention consists in constructing the latch bolt in two sections and connecting them by means of a pin projecting from the end of that section which is operated by the lever and a corresponding hole in the end of the latch section. A small opening is made through the lock plate, which exposes to view the junction of the two sections of the bolt, and allows the latch portion to have its position reversed at any time by simply removing the plate which covers the small opening.

Claim.—So constructing the ordinary lockplate with an opening, receiving the movable section I, in combination with the reversible latch, constructed substantially as specified, whereby access is allowed to the latch without uncovering the other parts of the lock, as set forth.

No. 44,977.—SAMUEL M. RICHARDSON, New York, N. Y.—*Knob Latches.*—November 8, 1864.—This invention consists in the application of an inner supplementary plate for holding the hub of the harbor in place while the latch bolt is being drawn out of the case for the purpose of turning it around.

Claim.—The plate *l*, to hold the parts of the lock in position in combination with the reversible latch and the cap plate *n*, as set forth.

No. 44,978.—Philip C. Rowe, Boston, Mass.—*Pumps.*—November 8, 1864.—Two diaphragm pumps are so arranged as to be operated by an oscillating movement, their induction being from one chamber and their eduction into another, so as to keep up a continuous flow.

Claim.—The employment or use of the two chambers C C, elastic diaphragm D, in connexion with the induction and eduction passages *e e′*, communicating with the induction and eduction tubes H I, provided with valves *g i*, and all arranged to operate substantially as and for the purpose herein set forth.

No. 44,979.—James C. Sloan, Camden, N. J.—*Water Cooler.*—November 8, 1864.—This invention consists of a reservoir divided by a horizontal partition, the upper part of which contains the supply of water. Ice is introduced through a side door into the lower compartment. The ice rests upon a coiled pipe containing the water to be cooled; or upon a floor beneath which is the water. A pipe descends from the reservoir above and communicates with the coil or shallow basin below, having a cock at its upper extremity and at the lower bend. These cocks have handles or levers passing through the wall of the cistern so as to be operated on the outside. The handles are so connected with a combination of levers on the outside as to be moved thereby simultaneously, and so that one cock is always closed when the other is opened; and thus, when the water is at rest in the cooler, the upper cock is open; and, when the cooled water is flowing, the upper cock is closed to keep the uncooled water from flowing out.

Claim.—The combination of the cock E and F, and levers G H and J, with a water cooler, substantially as described.

No. 44,980.—Addison Smith, Perrysburg, Ohio.—*Adjustable Atmospheric Fountain Feeder for Ruling Machines.*—November 8, 1864.—The object of this invention is to secure a uniform supply of colored ruling fluid, and it is accomplished by a series of adjustable reservoirs to contain the colored fluids, kept at a uniform head by atmospheric pressure, and is adaptable to ordinary ruling machines.

Claim.—A series of adjustable reservoirs, of any shape or material, with atmospheric fountain feeders, each containing a colored ruling fluid (to be attached to ruling machines) for the purpose of ruling colored lines.

No. 44,981.—Gilbert E. Smith, Racine, Wis.—*Dampers for Stove Pipes.*—November 8, 1864.—This invention consists in the arrangement of two circular plates near to each other, hung on a pivoted rod in the ordinary way. in one of which plates are two openings near the sides, and in the other one opening in the middle, which is covered or enclosed by a slide, worked through the suspension rod, admitting of a nice adjustment and regulation of the draught.

Claim.—The combination of the two circular plates B C, provided with the openings *c c*, and the central opening in B, with the slide D, or its equivalent, and the rod *d*, arranged and operating as shown and described.

No. 44,982.—Earle H. Smith, Hudson, N. J., and Daniel C. Chapman, New York, N. Y.—*Sewing Machines.*—November 8, 1864.—In this machine the needle and shuttle are driven by crank mechanism, and their movements are so timed as that the shuttle, after passing through the loop taken from the needle, slacks its thread while the needle rises, the latter completing its upward stroke during the return movement of the shuttle; the thread of the latter is therefore slack and the needle thread draws a portion of the shuttle thread above the cloth in the form of a small bight or loop. The needle now descends and the shuttle continues its return movement, drawing down below the cloth the bight aforesaid before the eye of the needle, in descending, reaches the cloth. Thus each thread is alternately drawn on and tightened, while the other is slack; the drawing also affecting, more or less, the previous stitches.

Claim.—The described combination and arrangement of mechanism, or the equivalent hereof, as set forth, wherein the movements of the needle and shuttle are caused to take lace with respect to each other, so as to manipulate the threads, in the manner and for the urpose specified.

No. 44,983.—R. A. Smith, Philadelphia, Penn.—*Dumping Carts.*—November 8, 1864; antedated October 25, 1864.—This invention consists of a cart, the axle of which passes through the body so that it may be turned and its contents discharged by a forward movement of the horse.

Claim.—The body A, formed, hung to the wheels, and connected to the shaft, all substantially as and for the purposes herein set forth.

No. 44,984.—Basil Spencer, Lewisburg, Penn.—*Cotton Seed Planter.*—November 8, 1864.—This invention consists of the following combination: The colter is followed by a large wedge-shaped hollow opener, into which the seed is carried by a grooved cylinder; a curved scraper for covering the seed follows the opener; the cylinder passing through the seed box is furnished with wheels, carrying pins upon the outside to move ratchet arms connected with a revolving stirrer.

Claim.—The arrangement, construction, and combination of the devices G I J K S and U, as herein described and for the purposes set forth.

No. 44,985.—Elias Stangeland, Rochester, Minn.—*Vegetable Steamer.*—November 8, 1864.—This invention consists of a steamer or boiler made of wood or metal. Through a pipe entering a side steam is introduced into a perpendicular perforated pipe, which extends nearly from top to bottom through the centre of the boiler. This perforated pipe is fastened to a perforated false bottom resting on a grating at the bottom of the boiler. At the junction is a small vessel enclosing the pipe which is used to catch the moisture condensed from the steam. The upper end of this pipe is closed and attached to a cross-bar at the top of the boiler. The bottom of the boiler is perforated. There is also a square hole of sufficient size to allow the bottom to be cleared of refuse matter, &c. This hole is covered with a slide. The invention is designed for steaming vegetables, &c., to feed to cattle.

Claim.—A steamer for agricultural purposes, constructed substantially as above described, containing a perforated pipe, extending from its top to its bottom. a perforated false bottom D, and perforated bottom *a*, and gate *d*, closed by a slide *f*, or their several equivalents.

No. 44,986.—Robert Spencer, New York, N. Y.—*Method or Decomposing or Desulphurizing Ore.*—November 8, 1864.—The ore is reduced to a fine powder preparatory to separating the metal, by subjecting it, as taken from the quarry, to the action of heat long enough to drive off the sulphur, when it is suddenly cooled while in a highly heated state by being let fall into a basin containing water, or, preferably, dilute sulphuric or other acid, whereby it is caused to crack and crumble into atoms.

Claim.—First, the within-described process of treating ores, consisting in heating, quenching, grinding, and amalgamating, substantially as described.

Second, precipitating the heated ore directly from the kiln into a bath of acidulated liquid previously to the grinding operation, substantially as described.

No. 44,987.—Robert H. Staples, Lowell, Mass.—*Spring-back Chair.*—November 8, 1864.—This invention consists in pivoting the back of the chair to the main frame, and attaching springs, so that the back will yield to the pressure of the occupant.

Claim.—The backs of chairs mounted on pivots, in combination with the springs, substantially as described and for the purposes set forth.

No. 44,988.—Erastus N. Steere, Providence, R. I.—*Self-oiling Spindle Bolster for Spinning Frames.*—November 8, 1864.—The claim and drawings indicate in general terms the character and object of this invention. The channel or reservoir extending the whole length of the rail serves to connect the several bolsters and their oil chambers, so that a general supply may feed a number or all of them, and thus lubricate all the spindles.

Claim.—First, the annular chamber, formed by cupping out the rail, in combination with the bearing of a spindle bolster, substantially as described.

Second, in combination with an annular chamber surrounding the bearing of a spindle bolster, as described, a suitable flange or cap *i* as a cover for the same, substantially as described and for the purpose set forth.

Third, the channel or reservoir H, in combination with a spindle bearing, substantially as described for the purpose specified.

No. 44,989.—James D. Whelpley, Boston, Mass.—*Ore Crushers.*—November 8, 1864.—This invention consists in crushing copper ores by means of a rotating circular table provided with radial blades or cutters. The ends of said blades or cutters are curved, so as to prevent the material broken from crowding between them and the incline of the cylinder, of which the table forms the bottom.

Claim.—The employment of a whirling table H, provided with radial blades or cutters J, and forming a bottom to the cylinder in which it revolves, in combination with the flange *h*, the inclination *t*, and the curvature *s*, all constructed and arranged substantially as set forth.

No. 44,990.—James D. Whelpley and Jacob J. Storer, Boston, Mass.—*Grinding Mills.*—November 8, 1864.—This invention consists in the employment of a return pipe furnished with a valve or regulator leading from the collecting chamber into the hopper, for the purpose of relieving the pressure of air in the chamber. Also, in having a trap-door at the bottom of the mill for the purpose of letting down heavy lumps of metal collected in the mill when the latter is in motion. The invention also consists in the use of steam in the collecting chamber or fan-blower, or any part of the mill, for the purpose of condensing and settling the fine dust.

Claim.—First, the employment of an adjustable valve *f* in a return pipe V, for regulating the quantity and quality of the yield, substantially as described.

Second, the employment of the trap door *i*, the grooved cylinder H, the spring plate *b*, the slide or cover *e*, and the beaters M, in combination with a grinding mill, all constructed and arranged substantially as set forth.

Third, introducing steam into the collecting chamber, fan blower, or any part of the mill for the purpose described.

No. 44,991.—ELI WHITNEY, New Haven, Conn.—*Breech-loading Fire-arm.*—November 8, 1864.—The nature and object of this invention are mainly explained by the claim and engraving.

Claim.—First, so constructing a breech-loading fire arm that the breech of the barrel shall be exposed for receiving the charge, and again tightly closed by giving a horizontal (or nearly so) lateral swinging movement to a pivoted breech check, which has no endwise play, substantially as described.

Second, so applying a laterally swinging breech check to a breech-loading gun that when closed it constitutes the upper portion of the neck of the stock, substantially as described.

Third, in a breech-loading arm having a horizontal laterally swinging breech check, applying the hammer, hammer spring, and check, or their equivalents, to said check, and operating these portions of the lock by means of a trigger applied to the frame B, substantially as described.

Fourth, in a breech-loading arm, having a horizontal laterally swinging breech check, the use of a cartridge case retractor, arranged and operating substantially as described.

Fifth, in a breech-loading arm, having a horizontal laterally swinging breech check, the slot *s* in said piece, in combination with the slide *b'* and retractor *b*, substantially as described.

Sixth, in a breech-loading arm, having a horizontal lateral swinging breech check C, the employment of a spring latch *e f*, or its equivalent, for locking said check in place, substantially as described.

Seventh, half cocking the piece, both in the act of opening and closing the breech piece C, by means of the double bevelled surface *p*, substantially as described.

No. 44,992.—H. N. WINANS, New York, N. Y.—*Draught Regulators for Steam Boilers.*—November 8, 1864.—This invention consists in an addition to the diaphragms in use of a deflecting plate or flange, which extends down from the ordinary diaphragm and between the exhaust pipes and the flue sheet, for the purpose of deflecting the sparks and gases downwards and increasing the draught through the lower row of tubes. This flange or plate is attached to the diaphragm, and forms a slight angle therewith, and reaches down several inches below the same, and there forms an obstruction to the products of combustion as they emerge from the flues, which compels them to pass down to the lower position of the smoke box before passing out through the stack to the atmosphere. By this means it is alleged that a more uniform draught is obtained.

Claim.—An improved diaphragm, as at *a'*, constructed and arranged substantially as within described and for the purposes set forth.

No. 44,993.—OLIVER EVANS WOODS, Philadelphia, Penn.—*Knapsack.*—November 8, 1864.—This invention consists in so constructing the same knapsack that the leather composing the sack proper shall project beyond the frame in such a way that the latter will never come in contact with the body of the soldier; in suspending the haversack from the knapsack by means of hooked straps; in various pieces and partitions to adapt the articles to be packed, and in straps adjustable to the haversack.

Claim.—First, a framed knapsack, so constructed that the webbing or any articles placed therein will project beyond and around the edges of the frame to protect the back of the soldier from injury, as explained,

Second, the corner pieces *a a*, for permitting the articles contained within the blanket side of the knapsack to be shifted vertically, in the manner and for the purpose explained.

Third, the partition C C, constructed in any suitable manner, and employed to adapt the articles to be more readily packed and retained in the compartment A, as described.

Fourth, the adjustable bolts *e' e'*, whereby the knapsack straps may be shifted to any position laterally, so as to make them fit the shoulder of the wearer, as stated.

Fifth, the balance loops H, arranged and employed in the manner and for the object specified.

Sixth, suspending the haversack D from the knapsack by means of the hooked straps *d d*, or their equivalent, substantially as and for the purpose herein set forth.

Seventh, the straps E, so constructed that either may be detached and applied adjustably to the haversack when the latter is to be carried alone, as described.

No. 44,994.—JOHN H. CORNELL, administrator of JOHN CORNELL, deceased, assignor to CHARLES NOBLE, Brooklyn, N. Y.—*Artificial Fuel.*—November 8, 1864.—This invention is explained by the claim.

Claim.—Producing fuel by incorporating the dust or waste of anthracite, bituminous, and other coals with a solution of dextrine or starch, and pressing or otherwise forming the composition into lumps or blocks, which are subsequently dried, all as herein set forth.

No. 44,995.—JOSHUA GRAY, Medford, Mass., assignor to himself, E. H. ELDRIDGE, Boston, Mass., S. J. BUCKLIN, Providence, R. I., and W. G. LANGDON, Malden, Mass.—*Breech-loading Fire-arm.*—November 8, 1864.—The arm is constructed as a magazine or self-loading fire-arm, but is also adapted to be used as an ordinary or hand breech-loader. The improvement consists in the particular arrangement of a transversely sliding breech piece, moved downwards by a pivoted lever linked to the trigger guard lever, in connexion with a longitudinally sliding carrier block moved in a similar manner; and also in a pivoted stop or "turn button" in the magazine tube for holding back the cartridges therein when it is designed to load the piece by hand.

Claim.—First, the combination and arrangement of the breech pin C and sliding carrier B with the swinging arm M, the trigger guard lever H and its link I, substantially as shown and described.

Second, a stop or projection U at the end of the magazine, or entering the same, for the purpose of retaining cartridges in the magazine when it is required to use the rifle as a breech-loader or to extract a charge.

No. 44,996.—ISAAC HAWLEY, Pekin, Ill., and DANIEL S. STAFFORD, Decatur, Ill., assignors to themselves and S. E. BARKER and S. F. HAWLEY, Pekin, Ill.—*Harvesting Machine.*—November 8, 1864.—This invention relates to the construction and arrangement of the gavel former and discharger used in connexion with the endless carrying belt or apron, and will be readily understood by inspection of the claim and engraving.

Claim.—The box D, provided with a door *d*, and applied to the apron frame C, in connexion with a cord or chain E, all arranged to operate in the manner substantially as and for the purpose herein set forth.

No. 44,997.—RICHARD P. MORGAN, assignor to himself and RICHARD P. MORGAN, jr., Chicago, Ill.—*Constructing and Operating Locomotives for Railroads.*—November 8, 1864.—This invention relates to the construction of a locomotive adapted to run upon three rails, the ordinary wheels thereof being only supporting wheels; and horizontal wheels, pressing against the centre rails, propel the locomotive by reason of the friction upon said centre rail, and operate as driving wheels. Also, in devices for regulating the pressure of the wheels upon the centre rail.

Claim.—First, so constructing a locomotive with reference to a railroad constructed as herein described that none of the supporting wheels need be used as driving wheels, substantially as above shown.

Second, the guide frames *f f*, with their pins *g g'*, in combination with the sliding frames *h h'* and slots *w w'*, by means of which the bearing wheels *b b* may always be drawn from a point in advance thereof, whether the locomotive be moving backward or forward.

Third, the cams S S, the springs *t t*, the rod *u*, and the screw *v*, for the purpose of producing the requisite pressure of the driving wheels upon the central rail, substantially in the manner and for the purpose described.

Fourth, the use of independent bearing wheels with short axles, in combination with horizontal guide wheels and a central rail, constructed and arranged as above described.

No. 44,998.—ELISHA O. POTTER, assignor to himself and CHARLES, A. WARLAND, Pawtucket, R. I.—*Machine for Cutting Files.*—November 8, 1864.—In this apparatus the bed which supports the blank to be cut is stationary, while the cutter is movable, its supporting frame being connected by an intermittingly revolving worm-wheel with a rack attached to the frame of the machine. By means of a combination of mechanism the chisel, as it passes along over the file blank, has its inclination varied to correspond to the curved surface of the blank, and the force of the blow varied to correspond to the difference in the thickness and width of the blank at different points of its length, while, by another system of devices, the feed of the chisel is governed so as to form the cuts wider apart on the broad and thick portions of the blank where they are deepest, and closer together on the thinner and narrower portions where they are of less depth.

Claim.—My improved file tooth cutting machine, as made with the stationary bed A, the movable cutter carriage C, the rotary or vibratory cutter stock supporter F, and the sliding cutter or the stock thereof, arranged and combined substantially in the manner and with operative mechanism so as to operate as specified.

Also, in combination with the machinery for making the cuts or indentations in the file blank, a mechanism, substantially as described, for automatically varying the inclination of the cutter relatively to the bed, so as to maintain the cutter in the same or approximately the same angle with the varying surface of the file blank during the process of making the teeth thereon, however such surface may differ from a plain surface.

Also, the arrangement of the lever *g*, the pitman *l*, and the bar *m* with the frame B, the spring G, the cutter carriage C, or its rotary or vibratory supporter F, such lever, pitman, and bar being mechanism for varying the pressure or active power of the spring by which the blow of the cutter is obtained.

Also, the mechanism or combination for varying the feed of the cutter as occasion may require, such combination consisting of the shaper *f*, the plates *b' c'*, bar *d'*, and stud *e' e'*, the whole being applied together and to the movable rack M and the cutter carriage, substantially as and so as to operate as described.

Also, in the combination composed of the following mechanical elements, viz: 1. A stationary bed; 2. A mechanism for moving the cutter longitudinally over the file blank; 3. A mechanism, substantially as described, or its equivalent, for varying the feed of the cutter as occasion may require.

Also, the mechanism or combination for so varying the inclination of the cutter relatively to the bed so as to maintain such cutter at the same or approximately the same angle with the varying surface of the file blank during the process of making the teeth thereof, such combination consisting of the slotted plate H, the toggles I K, and the rotary or vibratory supporter F, or their mechanical equivalents, they being combined together and with the frame B and the cutter carriage, substantially in manner and so as to operate as specified.

No. 44,999.—J. S. Wareen, Stafford, N. Y., and R. A. Chesebrough, New York, N. Y.—*Combined Cartridge and Percussion Cap Box.*—November 8, 1864.—A circular revolving box within a suitable circular case, similar to those commonly employed for holding percussion caps, is provided with suitable divisions or chambers for holding both cartridges and caps.

Claim.—The construction and combination of the case G and revolving box L, constructed, combined, and operating as herein described, and for the purposes set forth.

No. 45,000.—Cullen Whipple, Providence, R. I,, assignor to John W. Fielder, Boston, Mass.—*Hand Printing Press.*—November 8, 186[illegible].—This invention consists in so arranging a secondary lever that it shall slide the bed of the press from over the ink-well, and at the same time depress the primary or printing lever to ink the type. The printing lever, being independent, can be depressed on to the printing bed, which remains over and covers the ink-well.

Claim.—The ink-pad beneath the sliding bed, the sliding bed, the secondary lever, and their connexions, in combination with the printing lever, all made and operating substantially as set forth, or their mechanical equivalents.

No. 45,001.—Francois Haeck, Brussels, Belgium.—*Process for the Manufacture of Good Flavored Spirits and Neutral Alcohol.*—November 8, 1864; patented in Belgium July 17, 1862.—This invention consists in the combination of several processes and operations in the manufacture of spirits, the principal of which are, first, depriving the crude or first distillation of unpleasant oils, ethers, &c., before rectification, and second, in the arrangement of the apparatus for distilling so that the different kinds of spirits are separated during the process of manufacture. The apparatus is so arranged that it is easily taken to pieces for the purpose of cleaning. The specification is very long, giving the entire process of manufacture, with full description of all the apparatus necessary.

Claim.—First, the process of separating injurious constituents from phlegms or other alcoholic liquid prior to distillation by diluting it, permitting it to rest, and decantation, substantially as set forth.

Second, the process of separating injurious constituents from phlegms or other alcoholic liquid prior to distillation by treating it with gypsum or its equivalent, substantially as set forth.

Third. the process of separating from phlegm or other alcoholic liquid injurious constituents which volatilize at a lower heat than alcohol by subjecting the phlegm to continued heating at a lower temperature than is required for the distillation of alcohol prior to the distillation, substantially as set forth.

Fourth, the process of separating the injurious constituents from phlegm or other alcoholic liquid prior to distillation by the combination of the three secondary sub-processes of dilution and decantation, treatment with gypsum or its equivalent, and heating at a temperature lower than is required for the distillation of alcohol, substantially as set forth.

Fifth, the process of distilling phlegm or other alcoholic liquid by two consecutive simultaneous and continuous distillations, (the first at the lowest practicable temperature required to disengage the alcohol in vapor, and the second at a temperature sufficient to expel the remaining alcohol,) and of condensing the products of each distillation in a separate vessel, so that they do not mingle, substantially as set forth.

Sixth, the process of distilling phlegm or other alcoholic liquid, substantially as specified in the last preceding claim, in combination with the process of separating the injurious constituents prior to distillation, substantially as specified in the fourth claim.

Second. the process of distilling phlegm or other alcoholic liquid substantially as specified in the fifth claim, in combination with each of the preliminary separating processes specified in the first, second, and third claims.

No. 45,002.—Francois Haeck, Brussels, Belgium.—*Apparatus for Concentrating and Analyzing Alcoholic Liquids.*—November 8, 1864; patented in Belgium July 17, 1862.—This apparatus is on the principle of what is known as the analyzing column. The outside of the apparatus is a jacket containing water or air, which may be kept at a regulated temperature. The vapor to be condensed and analyzed enters by tube T and the liquid for the jacket by *j*. The column is divided into chambers $e\ e'\ e''$, &c., partitions M, (see Fig. 3,) with flanges, so as to leave a narrow space *g* between the flanges and the jacket. The vapor in going from *e* to *e'* passes through this narrow space *g*, which space is further divided as shown in Fig. 4, so that the vapor passes one or more times around the vessel in going from chamber *e* to *e'*, &c Each chamber *e e'*, &c., is further divided by disks *p*, as shown by Fig. 5. Instead of a cylindrical jacket it may be oblong, square, or any other form, the disks and plates being made to conform to it. The whole is put together in such a way as to be easily taken to pieces.

Claim.—The concentrating analyzing apparatus herein described, consisting substantially of a series of chambers, analyzing channels, and return pipes, arranged within a vessel having double sides, between which the cooling fluid is contained, substantially as set forth.

Also, the construction of the vessels and pans and partitions forming analyzing channels as herein set forth, in such a manner that they may be withdrawn from the vessel that contains them for the purpose of being cleaned.

No. 45,003.—François Haeck, Brussels, Belgium.—*Refrigerating Condenser for Distillers.*—November 8, 1864; patented in Belgium August 16, 1859.—The vapors from distillation are condensed by being passed between concentric cylinders, the cold water for condensing being on each side of the vapor in the spaces between the cylinders. The vapors enter by one tube and the cold water by other tubes. Instead of cylinders, rectangular or other shaped vessels or boxes may be used The parts are so united as to be easily separated for the purpose of being cleaned.

Claim.—The refrigerating condenser herein before described, constructed of parts enclosing a thin chamber for the reception of the vapor to be condensed, and exposing broad condensing surfaces in such manner that the parts may be separated to permit the condensing surfaces to be readily cleansed; the said condenser being provided with pipes for the supply and removal of the refrigerating fluid and for the supply and removal of the fluid to be condensed, all operating substantially as set forth.

Also, the combination of the aforesaid condenser with pipes for the escape of air, substantially as set forth.

No. 45,004.—François Haeck, Brussels, Belgium.—*Apparatus for Cooling and Aerating Liquids.*—November 8, 1864; patented in Belgium August 16, 1859.—This apparatus is especially intended for cooling and oxygenating the mash and worts of distillers and brewers. The cooling is effected in a vessel in a thin sheet between two sheets of cold water. After being cooled the liquor is aerated in another vessel, in which is a diaphragm containing small tubes with holes just above the diaphragm. As the liquid enters the holes to pass through the tubes to the lower part of the aerating vessel air is thrown in through the open upper ends of the tubes, so as to charge the cooler liquid with oxygen and thus dispose it to ferment. The apparatus may also be used as a vinegar maker.

Claim.—The cooler herein before described containing a thin chamber for the liquid to be cooled, thin chambers for the cooling liquid, a perforated gutter or its equivalent to distribute the liquid to be cooled, a pipe for its escape, and suitable means for the supply and escape of the cooling liquid, all the parts being constructed substantially as set forth.

Also, the oxygenator herein before described, composed substantially of two chambers and perforated tubes, through which tubes air is drawn by the flow of the liquid, all constructed substantially as set forth.

Also, the combination of the cooler and oxygenator as described, so that the liquid may be cooled and oxygenated at one continuous operation.

No. 45,005.—Peter R. Higley, Oshawa, C. W.—*Bottle Stopper.*—November 8, 1864.—This invention consists of a metallic frame having a tube sliding therein provided with an aperture so as to open communication with the bottle. The said tube is pressed upward by a spring when the communication is shut off. The frame is attached to a band secured to the neck of the bottle, and is surrounded by a packing. A clamp is slipped over the frame when the stopper is in place and holds it tightly.

Claim.—First, a valve stopper composed of a frame B *b*, packing C, and cylinder G, the latter having an aperture g^2, and adapted to slide within said frame so as to open communication with the bottle, and pressed upward by a spiral spring H to close the same, substantially as set forth.

Second, the metallic frame B *b*, constructed as herein specified and adapted for the application of an elastic packing C.

Third, in combination with a stopper constructed as herein described, the double link or hinge F F and the yoke D, both being attached to the collar E and employed in the manner and for the purposes specified.

No. 45,006.—Marius Vian, Marseilles, France.—*Composition for Protecting Ships' Bottoms.*—November 8, 1864.—This invention consists in first applying to the bottom of a ship a composition of beeswax, spirits of turpentine, manganized oil, that is, linseed oil treated with black oxide of manganese, then making a paint by mixing the above composition with white zinc and a liquid paint of a white color and applying it to the bottom of a ship. A cement composed of the compound oil, white zinc, and mastic, to which is added a certain quantity of binoxide of mercury and arsenous acid, is then spread on the bottom.

Claim.—As new, the herein-described compound called feno-manganic mixture, to be applied to the bottom of iron or iron-plated ships or vessels, in the manner and for the purpose of protecting the parts thus coated against oxidation and incrustation, substantially as set forth.

No. 45,007.—Wm. Adamson, Philadelphia, Penn.—*Apparatus for Purifying Mineral Oils.*—November 15, 1864.—This invention consists of a reservoir, across one side of which, near the top, ascends a perforated tube. At each side of the tank are two uprights connected by cross pieces, and through each cross piece extend elevating screws attached to a movable cross-bar. In bearings connected to the movable cross-bars the shaft of a paddle wheel revolves, and across the bottom of the tank extends a perforated board which can be removed at pleasure.

Claim.—The mode herein described of purifying mineral oils, that is to say, mixing the oil with acids or alkalies and washing the mixture with water in a tank or reservoir, by means of a paddle wheel acting on the contents of the tank, in the manner described.

No. 45,008.—Daniel M. Adee, New York, N. Y.—*Manufacture of Cast-steel.*—November 5, 1864.—This invention consists of a composition of manganese, charcoal, sal ammoniac, red lead, antimony, lime, red brick, clay, glass, and Franklinite, to be melted with iron.

Claim.—First, the use of antimony in the manufacture of cast-steel.

Second, the use of lime in the manufacture of cast-steel, substantially in the manner described.

Third, the use of the composition herein before specified, and made of the ingredients above set forth, for the purpose described.

No. 45,009.—F. W. Alexander, Baltimore, Md.—*Bayonets.*—November 15, 1864.—The bayonet is a flat or sabre bayonet, and is provided with saw-teeth on one edge, so that the implement may be used as a knife-blade or as a saw.

Claim.—The application of the principle of the saw to a bayonet, in other words, supplying to each gun a saw as well as a lance or sword, whether the saw-bayonet be constructed precisely like the shape in the drawings appended or in a modified form.

No. 45,010.—Alexander Allan, Perth, Scotland.—*Pressure Gauges.*—November 15, 1864.—The object of this invention is to provide a pressure gauge, in which a measured volume of gas or air is used as a substitute for steel or other springs. Its novelty consists in a siphon tube which is attached to the boiler, and upon the short rim of which is placed a conical chamber. the internal diameter of which is reduced by a curve from bottom to top, in order that the lines indicating the increments of pressure may be at equal distances apart from bottom to top on the external surface. Between the siphon and this vessel is inserted a cock for the admission of the air or gas to the vessel when desired. Outside of the air-vessel is placed a gas-tube to be filled with water, for the purpose of indicating its pressure by comparing its height with the lines on the vessel. When steam is admitted to the siphon it presses against the liquid in the long arm thereof and forces it up in the short arm, thus compressing the air gauge vessel until its density corresponds exactly with the pressure of the steam. The glass tube being in communication with the liquid in the siphon or gauge vessel, its surface will correspond in height with that in the vessel, which will be shown by the graduated scale on the outside of the gauge vessel.

Claim.—The pressure gauge as composed of the siphon tube G, the non-transparent vessel A, and the transparent glass tube D, or its equivalent, arranged and connected substantially as described.

Also, the means of fixing the glass tube in place with tight joints at its ends, the same being effected by the tubular screw nut *e*, the female screw *f*, co-operating washers *b* and *c*, and the extension B′, the whole being arranged substantially as herein before described.

No. 45,011.—Amos Allerton, Aztalan, Wis.—*Sheep Racks.*—November 15, 1864.—This invention consists in a sheep rack, so constructed as to admit of the lids or covers being placed in any desired position, and also in combination therewith of the inclined floor, which can be removed at pleasure for the purpose of removing all refuse matter from the troughs.

Claim.—The special construction and arrangement of the adjustable doors or covers K K, crib I, with the inclined floor J, in combination with the racks E E, grain troughs D D, and guards when used conjointly, so that the grain troughs are between the guards and racks, with the hay cribs inside, as and for the purpose set forth.

No. 45,012.—Alexander Bain, New York, N. Y.—*Faucets.*—November 15, 1864.—The plug of this faucet passes horizontally through the board and is kept closed by the pressure of a volute or helical spring within an enlargement of the barrel. To an exterior extension of the plug at each end is attached the end of a yoke, which descends below the mouth of the faucet, so as to require to be displaced to permit the reception of the liquid in a vessel, and thus, when the vessel is removed the springs force the plug to revolve and close the channel of the faucet.

Claim.—The yoke or lever *c* applied below the plug of the cock or faucet, in the manner specified, so that the liquid may be drawn by pressing the said yoke or lever by the vessel to receive the liquid, as specified.

No. 45,013.—Alexander Bain, New York, N. Y.—*Apparatus for Drawing Liquids.*—November 15, 1864.—A pipe passing through the side of the vessel is bent downward outside, and upward within, where it ascends nearly to the top; the sleeve packing where it passes through, retaining its close hold upon the pipe, and turning with it as a flexible joint. The upper end of the interior pipe carries a float to keep the aperture above the water, except when, for the purpose of drawing the liquid, it is forced below the surface. A horizontal tube passes through the side of the vessel near the bottom, having a like sleeve packing, this pipe being open within; outside, it flows into a long transverse pipe, the shorter and closed end of which is weighted, by which means the longer and open end is held against a catch at the top of the vessel. When this longer end is depressed below the surface of the liquid within, the liquid flows. A platform for the vessel to be fitted is suspended from the long end of this pipe near the top, a rod hinged from the lower end of this hanging platform and to the opposite leg of the support for the reservoir serving to hold it in its proper position, relatively to the discharge outlet.

Claim.—First, a pipe connected with the lower part of a vessel containing the liquid to be drawn, and rising above the level of such liquid, to retain the same, and fitted so that said pipe can be turned down below the level of said liquid for its delivery, as specified, thereby dispensing with the cocks or faucets heretofore employed for stopping the delivery of liquid, as set forth.

Second, the sleeve *f*, fitted as specified, to make a water-tight joint at the place where the discharging pipe passes through the thimble or stationary pipe *e*, as set forth.

Third, the step or platform *i*, and parallel motion bar *k*, in combination with the pipe *d*, as and for the purposes specified.

No. 45,014.—Halsey H. Baker, New Market, N. J.—*Locks.*—November 15, 1864.—This lock is made in two sections, which are joined together by a swinging bar. The latter is hinged at one end to the face of one of the sections, its opposite end being provided with a spur or double catch, which, passing through the face plate of the opposite section, forces apart two sliding tumblers until the bevelled head of the catch has passed them, when the tumblers are forced forward again by springs and thus take hold of the double catch and prevent the bar from being swung back. To release the catch, a key of peculiar construction is used for separating the tumblers. Besides this fastening, one of the sections carries a bolt which by means of a key is shot forward, as in ordinary locks, into a mortise made in the edge of the opposite section, and is held there by two sliding dogs, which enter notches made in the edges of the bolt-head. The other section, in turn, has arranged within it two small locks which lock the two sliding tumblers.

Claim.—First, the combination of the bar B with the catches E′ and the double-acting tumbler I′, substantially as and for the purpose set forth.

Second, the combination of the bar B and cam L with the recesses M and N of the projection C, substantially as and for the purpose set forth.

Third, the combination of the plate I and its projections with the recess M and the bar B, substantially as and for the purpose set forth.

Fourth, The combination of the bolt Q and the catches R and S, substantially as and for the purpose set forth.

Fifth, the combination of the small locks G and H, one or both, with the catches E′, substantially as and for the purpose set forth.

Sixth, the combination of the flanges J′ and K′ with the lock plates A and the bar B, substantially as and for the purpose set forth.

No. 45,015.—Henry D. Barnes, New Haven, Conn.—*Flaring Metal Hoops.*—November 15, 1864.—This invention consists in giving the proper bend edgeways to the iron from which the hoop is to be made, by passing it edgeways through rolls which are properly grooved and adjusted for that purpose.

Claim.—Giving to a metal hoop the requisite flare, by rolling upon its edges, substantially as and for the purpose set forth.

No. 45,016.—Fordyce Beals and C. T. Grilley, New Haven. Conn.—*Sash Fastening.*—November 15, 1864.—In this device the inner end of a horizontal bolt, inserted in the bottom rail of the sash is attached by a pin to a plate lying loosely against the upright surface of the rail and in or near the middle thereof, and is covered by an outer plate or case through a >-shaped slot in which projects a stud from the inner plate. This stud has on its outer end a button, which, being moved up or down, causes the sides of the slot to act as an inclined plane against the stud and withdraw the bolt from the catch or socket in the window frame. A spiral spring behind the bolt keeps it pressed outward or in its normal position and the stud in the angle or middle of the slot.

Claim.—The bolt C and spring D in combination with the plates E F, the latter being provided with the >-shaped slot g, and the former provided with the pin h, passing through said slot g, all arranged substantially as and for the purpose herein set forth.

No. 45,017.—John H. Bloodgood, New York, N. Y., and Moses A. Johnson, Lowell, Mass.—*Felting Machines.*—November 15, 1864.—The ends of roving to be felted are passed between an endless apron and a steam-heated wire gauze cylinder, which revolves and also has an endwise reciprocating motion, and next pass between another similar apron and the same cylinder, where they are still further felted and finally delivered and reeled, or wound upon bobbins for the shuttle The wire gauze is laid over a series of equidistant wire rings surrounding an inner perforated cylinder, and when pressed and secured will form slightly depressed channels between the wires, in each of which channels a single yarn is designed to lie and be acted upon in passing through the machine.

Claim.—First the use in machines for felting of a rubbing cylinder, whose surface is so constituted that steam or hot air may readily pass through the same, from within or without, and act directly upon the material to be felted, whether said cylinder be used in combination with an endless apron as herein described, or any other opposing surface.

Second, in machines for felting, the use of a vibrating rotating cylinder, heated from within by steam, hot air, gas, or other means, substantially as and for the purposes described.

Third, covering the rotating vibrating cylinder of felting machines with wire cloth, substantially as and for the purposes above set forth.

Fourth, the combination of the cam herein described with the felting cylinder, for the purpose of giving the rapid vibratory motion to the latter.

Fifth, the wire guides R R, shown in Figs. 4 and 5, the object of which is to form suitable channels for guiding the yarns, substantially as described.

Sixth, the use of drums heated by steam or hot air, as the carrying rolls of the endless aprons in felting machines, substantially as described.

No. 45,018.—J. Nelson Buell, Middletown, Conn.—*Device for Operating Centre Boards.*—November 15, 1864.—Centre-boards are actuated by a rod passing up through the deck of the vessel; in the centre-board, which turns on a pivot at one end, there is necessarily an elongated slot, to allow for the fore and aft motion of the lifting rod. The invention consists of a cover to the slot, which cover is movable by the motion of the rod, and thereby the slot is kept reversed, so that loose substances (such as coal) may not fall in to bind or clog the motion of the centre-board in an elevation or depression.

Claim.—The movable part M, arranged to operate in combination with the lifting rod D, or its equivalent, and with the removable support G, on or near the deck of a vessel, substantially in the manner and for the purpose herein set forth.

No. 45,019.—John M. Burke, Danville, N. Y.—*Cultivators.*—November 15, 1864.—This invention consists in fastening the wings of the central plough by wooden pins to projections on the under side of the plough. The upper surface of the shank of the cultivator tooth in the rear is curved out, leaving sharp edges, which bite firmly into the wood of the beam, so that it can be firmly secured by a single nut.

Claim.—First, the shovel E, having a narrow central fin c and staples e e formed on its inner or under surface, in the manner described and for the purpose set forth.

Second, the teeth J, with cutting hooks i and concave ends p, in the manner and for the purpose described.

Third, the arrangement of the shovel E c f, wings G G, side beams B B, handles D D, cross beam C, main beam A, and teeth J i p, the whole constructing an improved cultivator, substantially as and for the purpose set forth.

No. 45,020.—John F. Cleu, New York, N. Y.—*Tompion Cap for the muzzles of Ordnance exhausted of Air.*—November 15, 1864.—The wooden tompion is sectioned radially by small cuts, but not entirely severed thereby, thus to weaken it for easier rupture upon explosion of the charge. A rubber cap fits over the front of the tompion and the muzzle of the gun, which excludes the air.

Claim.—The combination of the muzzle cap A of India-rubber and the tompion B of wood, or other stiff material, partially or wholly divided by radial cuts i i, the whole being applied to the muzzle of a piece of ordnance, substantially as and for the purpose herein set forth.

No. 45,021.—John F. Cleu, New York, N. Y.—*Projectiles for Fire-arms.*—November 15, 1864; antedated November 6, 1864.—This invention consists in tapering the sides of the projectile toward the rear, so as to present a vertically flattened or vane-like tail; and in so ballasting the projectile, or constructing it with its centre of gravity below its centre of figure, that it will retain its position during its flight.

Claim.—First, the reduction of the size of an elongated projectile toward the rear end in a more or less flattened form, substantially as and for the purpose herein specified.

Second, so ballasting or distributing the weight of an elongated projectile as to keep a certain side of it always the lowest, substantially as herein described, with reference to Figs. 2, 3, and 7, for the purpose herein set forth.

No. 45,022.—John F. Cleu, New York, N. Y.—*Enamelled Projectiles.*—November 15, 1864; antedated October 30, 1864.—This invention consists in glazing the exterior surfaces of projectiles for ordnance and fire-arms.

Claim.—The glazing of the exterior surfaces of projectiles for ordnance and fire-arms, substantially as and for the purpose herein set forth.

No. 45,023.—John F. Cleu, New York N. Y.—*Sabots for Ordnance Projectiles.*—November 15, 1864; antedated October 30, 1864.—The sabot, made of wood or similar material, is adapted to cover projectiles tapering at their rear end, and is divided longitudinally into two parts, which are held together by a metallic band, and also by metallic tongues fitted into suitable grooves in each half of the sabot.

Claim.—First, the sabot, composed of two or more longitudinal pieces B B of wood or other material, arranged side by side, and united only at their rear ends by a metal band C, thereby enabling it to be attached tightly to the projectile by an elastic pressure, substantially as herein specified, without the aid of straps.

Second, the metal supporting pieces D d D d fitted into and secured to the body of the sabot, to operate substantially as herein set forth.

No. 45,024.—John F. Cleu, New York, N. Y.—*Fuze for Explosive Shells, &c.*—November 15, 1864.—The fuze belongs to the class of those ignited by a friction primer; and the improvement consists in employing an elongated roughened pin or rod within a fuze-tube perforated throughout its length, and extending nearly through the explosive charge; the fulminate or priming composition being closely packed between the said central pin and the perforated tube, so that a blow (or traction) upon said pin will produce a simultaneous ignition through the explosive charge.

Claim.—The combination of the perforated tube B, extending through the charge to be exploded, and the pin or rod E inserted into the said tube, and connected or held therein by the fulminate priming, substantially as herein specified.

No. 45,025.—J. E. Craig and J. Madden, Cleveland, Ohio.—*Steam Generators.*—November 15, 1864.—The object of this invention is an improvement in that class of steam generators, in which the products of combustion are made to pass through and mingle with the water in the boiler, for the purpose of allowing the water to take up and retain the caloric which would otherwise pass off with the gases. Its novelty consists, first, in the arrangement and combination of the annular space surrounding the furnace, the flue which passes directly through the centre of the boiler, the throat through which the products of combustion pass to the outer space of the boiler, the valve on top the flue, and the furnace; second, it consists in the combination of a valve at the lower end of the induction pipe through which the water is injected to the boiler, with the perforated diaphragm which surrounds the internal flue, the pipe for conveying the products of combustion, and flues through which the gases pass to the atmosphere when the fire is first kindled, or when it is not thought advisable to pass them all through the water space of the boiler.

Claim.—First, the arrangement of the opening b'', furnace C, and flue D, in combination with throat e and valve D$'$, substantially as and for the purpose set forth.

Second, the pipe E and pipe H in combination with the flue D, substantially as and for the purpose set forth.

Third, the valve J and diaphragm F in combination with the pipe E, flue D, and boiler, when arranged, substantially as and for the purpose set forth.

Fourth, the annular chamber b' and box B in combination with the fuel throat d and boiler, when arranged, substantially as and for the purpose set forth.

No. 45,026.—A. W. Cramer, Bethany, Penn.—*Churn Dashers.*—November 15, 1864.—This invention consists in having a centre-board in the body of the churn, with two rollers, one on each side of the centre-board, operated by springs attached to the cross pieces of the dasher handle. These rollers are slotted longitudinally, for the purpose of giving more efficient action to the cream.

Claim.—The combination and arrangement of the handle a, cross piece b, cross pieces c c, pieces or springs d and f, rollers e and g, with the centre-board h, substantially as and for the purpose set forth.

No. 45,027.—Moses G. Crane, Charlestown, Mass.—*Gun Cleaner.*—November 15, 1864.—This device consists of a number of outwardly turned tongues, which are expanded against the inside or bore of the barrel by the action of a central plug, which is driven in by contact against the bottom of the bore, so as to wedge the said scraping tongues apart.

Claim.—First, making the gun cleaner of a series of leaves or springs, which are held together normally, and spread open by the action of an expander, substantially as described.

Second, the combination of the tongue, the expander, and the depressions in the spring, arranged and operating together, substantially as set forth.

No. 45,028.—Anson Dart, Dartford, Wis.—*Compound Oil*—November 15, 1864.—This invention consists of a mixture of olive oil and the oil obtained from the seeds of the India musk melon.

Claim.—The use of an oily substance composed of oils extracted from the olive and the seeds of the India musk melon (to be used as above) as a preventive or protection against taking the diseases, as herein described.

No. 45,029.—Thos. B. and Linson De Forest, Birmingham, Conn.—*Labels or Tags*—November 15, 1864.—This invention consists in using sheet-metal strengthening pieces bent over the top of the cord through which the eyelet is fastened.

Claim.—The combination of the metallic bearing surfaces *c*. or their equivalents, with the label A and eyelet *b*, the whole arranged to operate substantially as and for the purpose set forth.

No. 45,030.—Zabina Ellis, Philadelphia, Penn.—*Furnace and Cupola.*—November 15, 1864.—This invention consists in forming within a furnace or cupola, immediately beneath the bed, a reservoir having a lapping hole and slag hole. The furnace is also provided with doors and a plate for supporting the charge in the furnace, the opening being too small to permit the passage of fuel, but large enough to allow the molten slag and metal to flow into the reservoir.

Claim.—First, forming within the body of a furnace and beneath the bed of the same a reservoir H having a tapping hole *h* and slag hole *i*, all substantially as described.

Second, the doors E and E′ and plate F, combined and arranged in respect to the body of the furnace substantially as specified.

No. 45,031.—Zabina Ellis, Philadelphia, Penn.—*Boiler for Heating.*—November 15, 1864.—This invention consists of a cast metal boiler of cylindrical form with a head in each end, said heads being retained in position by a bevelled joint and lead filling. In one of the heads are two tubes, the large one to permit the water to enter and the shorter one for its exit. The boiler is to be used for heating purposes.

Claim.—The boiler consisting of the hollow cast-iron cylinder A with a socket at each end and a cast-iron head secured to each socket by a dovetailed packing of lead or other suitable material, all as set forth.

No 45,032.—William Field, Providence, R. I.—*Mosquito Bar.*—November 15, 1864.—This device consists of a frame hinged to uprights at the rear of the bed, so as to support a netting over the head of the occupant and also to admit of its being readily folded back, the frame being furnished with hooks, by which it is held in an elevated position.

Claim.—First, a mosquito bar furnished with a hinged frame C to support the netting over the head of the sleeper, or permit it to be folded back, substantially as described.

Second, in combination with the frame C, the post B, and hooks *c*, or other attachments, to support the said frame in its elevated position.

No. 45,033.—C. W. Gage, Homer, N. Y.—*Churns.*—November 15, 1864.—This invention consists in a churn having double dashers; one section of each dasher being fixed upon the standard, the other dasher upon the rod in the descent movement of the rod, one dasher is closed, and the action of the cream is forced through the apertures, which are contracted by the movement of the loose dasher.

Claim.—First, the employment of two double-headed reciprocating dashers, constructed, arranged, and operating in the manner and for the purpose specified.

Second, in combination the lever F, connecting rods E E′, hollow journal *c*, key *b*, and dasher rods R R′, when the several parts are arranged as and for the purposes set forth.

No. 45,034.—C. L. Goddard, New York, N. Y.—*Feed-roll Boxes for Wood-burring Machines.*—November 15, 1864.—This invention is explained by the claim and engraving.

Claim.—So combining and arranging the upper and lower feed-roll boxes that the upper one is adjustable in the arc of a circle concentric to the axis of the lower one, substantially as herein specified, for the purpose of enabling it to be set backward or forward without altering its distance therefrom.

No. 45,035.—Wm. F. Goodwin, New York, N. Y.—*Fuze for Shells.*—November 15, 1864.—This fuze is designed as a modification of the Splingard concussion fuze, and consists in providing within the fuze-stock a tube formed in sections connected by tongues, closed at its inner or forward end, but open at the other end into the chamber of the shell. The sectional tube is surrounded and supported by meal powder, which is ignited by the propelling charge, and continues burning during the flight of the shell, thereby leaving the sectional tube unsupported, so that it is dislocated by the concussion of impact, opening a communication from the burning fuze to the explosive charge.

Claim.—A concussion fuze provided with a sectional tube H H1 H2, constructed and adapted to operate in the manner and for the purposes herein described.

No. 45,036.—Loure Green, Great Bend, Penn.—*Plough.*—November 15, 1864.—This improvement consists in an adjustable friction wheel at the rear of the plough. By raising and lowering the shaft of this wheel the pitch of the plough is regulated.

Claim.—The combination of the centre wheel or roller W with the adjustable brace rod B, constructed and operating substantially as set forth.

No. 45,037.—John Hanford, Jr., Detroit, Mich.—*Sawset.*—November 15, 1864.—In this improvement a flat oblong bar, the edges of which form the faces of the anvil, has through each end at the middle a transverse bar, through one end of which passes a screw to fasten the anvil to the bench. Through the outer end of each of these cross-bars is a vertical set-screw to adjust the saw to a proper angle relatively to the curved face of said anvil, at each end of which latter there is also a gauge capable of being reversed to suit either face, for the purpose of adjusting the saw laterally thereon.

Claim.—The combination of the reversible anvil piece A with its anvil faces having curvatures of different radii, in combination with an adjustable set gauge or gauges C, whose vibration affords an additional means of limiting on either face the set of the teeth and the screws B or other suitable support for the back of the saw.

No. 45,038.—Charles W. Harris, Pittsburg, Penn—*Mode of Cancelling Postage and Revenue Stamps.*—November 15, 1864; antedated February 1, 1864.—The nature and object of this invention are explained by the claim.

Claim.—The mode of cancelling government stamps, whether postage or revenue stamps, by tearing them by means of a string interposed between the stamp and the letter or instrument of writing to which it is attached, substantially as described.

Also, constructing government stamps with a string or strings attached thereto, for the purpose of cancellation, in the manner described.

No. 45,039.—Eldridge Heath, Rochester, N. Y.—*Sectional Boat.*—November 15, 1864.—This invention consists of a recess or cavity between the ends of the sections and of a new combination of windlass and chain with extended rails for securing the connexion of the sections.

Claim.—First, the recess or cavity O between two adjacent ends of the sections of a boat, substantially as described.

Second, the combination of the windlass and chain, the dead-eye arrangement U, and the extended rails *p* and *q*, for the purpose of connecting adjacent sections of a boat, substantially as described.

No. 45,040.—Birdsill Holly, Lockport, N. Y.—*Pump.*—November 15, 1864; antedated January 17, 1864.—This invention consists in fitting over an open pump-stock a hollow tight top, arranged so as to revolve upon the stock. The revolving top part is secured in its seat and allowed a free motion by means of a rim and a bearing screw inclining downwards towards the inner part of the pump. The revolving top part is sustained in a central position on the stock by means of radial spurs or projections extending downwards within the stock. The handle or lever is fitted in the top part, so as to form a tight joint in the same.

Claim—First, a hollow revolving tight top B having the operating lever secured thereto, in combination with an open pump-stock A, substantially as herein described.

Second, in combination with the above, securing and tightening the revolving top in its seat, and still allowing it a free revolving motion by means of the rim *f* and inclined bearing screw *k*, or its equivalent, arranged, combined, and operating substantially as herein specified.

Third, in combination with the revolving top B and stock A, the radial spurs or projections *h h* for sustaining the revolving top in a central position and allowing the free passage of water to the discharge spout, substantially as herein set forth.

Fourth, in combination with the revolving top B the operating lever C, forming a tight joint therein by means of the thin, rounded bearing *m* and shoulders *l l*, arranged and operating substantially as herein set forth.

No. 45,041.—Edwin J. Homer, Wilmington, Del.—*Machine for Drawing Spring Points.*—November 15, 1864.—This invention consists in securing to suitable rolls segmental dies, one having a suitable V-shaped groove, and the other a corresponding projection, to give the required shape to the spring points which are passed between them.

Claim.—The cylinders H, in combination with the dies M and N, the whole constructed and operated substantially as and for the purpose herein set forth.

No. 45,042.—Truman Hotchkiss, Stratford, Conn.—*Nautical Logs.*—November 15, 1864.—This invention consists of a winged log, formed of a propeller shape and attached by a cord to a clock-work indicator.

Claim.—The employment of a winged log or propeller A, in combination with the cord C and clock-work indicator, substantially as set forth and for the purpose decribed.

No. 45,043.—G. W. Hughes, Bloomington, Ill.—*Magazine or Self-loading Fire-arms.*—November 15, 1864.—The magazine, which is placed within the stock of the arm, consists of an endless chain of receptacles within which the cartridges are supplied at the side of the stock, so as to occupy a vertically transverse position, and from which cartridges are fed into the chamber of the arm by means of a rolling breech or carrier piece, having a sliding breech block, and to which the hammer and cartridge extracter are attached; the rolling breech or carrier, the hammer and the trigger-guard lever all oscillating on the same centre.

Claim.—First, pivoting the rolling breech-piece C upon the circular head of the lever b, as shown and described.

Second, the sliding breech block D, when constructed with the flange having an opening for the hammer to strike through, and operating in connexion with block C, as herein set forth.

Third, pivoting the lever guard b, breech-piece C, hammer E, and the independent cocking device all upon a single bolt, substantially as shown and described.

Fourth, the retractors $g\ g$, when constructed and operating as set forth.

Fifth, the use, in a magazine gun, of a chain constructed and operating substantially as set forth

Sixth, the plate G, or its equivalent, when constructed and operating as and for the purpose herein set forth.

Seventh, the independent cocking device, when constructed and operating as shown and described.

No. 45,044.—Jerome N. B. Jaquith, Boston, Mass.—*Catch or Fastenings for Breastpins, Ear-rings, &c.*—November 15, 1864.—This device consists of a staple-shaped guard, hinged by one arm and placed across the notch in a post made to receive the end of the pin.

Claim.—A fastening for breastpins, shawl pins, earrings, and like articles, composed of the pin B, slotted projection c, and catch C, all constructed and arranged in the manner substantially as herein shown and described.

No. 45,045.—J. G. Jennings, Cleveland, Ohio.—*Damper.*—November 15, 1864.—This invention consists of a semicircular damper of sheet metal set in the throat of a chimney just above the fireplace or grate; said damper is made so as to completely close the chimney when desired, and thus serves to keep the soot, &c., from falling into the room; the damper is opened and shut by means of a screw with the handle on the outer end of it for regulating the draught. At the bottom of the fireplace, or beneath the grate, is an opening by which the accumulated soot may be removed from the chimney flue; this opening is closed by a hinged cover.

Claim.—The hinged damper or door e, screw E, arm D, jointed to the lug b of the damper, in combination with the fireplace chimney, when arranged as and for the purpose described.

No. 45,046.—Elijah D. Johnson, Jr., Augusta, Me.—*Machine for Cutting Boots and Shoes.*—November 15, 1864.—This invention consists in a combination of devices for intermittently revolving the sole cutter, and the arrangement of a certain mechanism for stopping the said sole cutter. Further, in a combination for operating the gauge, by which the position of a sheet of leather, to be reduced to soles, is determined on the bed preparatory to each upward movement of the latter toward the sole cutter.

Claim.—The combination for intermittently revolving the sole cutter; the said combination consisting of the wiper or arm S projecting from a shaft b and provided with a roller g, the lever h, the rack k, the pinion l, the ratchet n, the pawl m, and the spring $g2$, the whole being arranged and applied together and to the frame A and the shaft of the cutter stock, in manner and so as to operate substantially as herein set forth.

Also, the arrangement of the lever r, the rod q, the lever-catch n, the spring p, and the catch wheel m, with the cutter shaft E, and the mechanism as described, for rotating such shaft, substantially as specified.

Also, the combination for operating the gauge L, the same consisting not only of the adjustable gauge supporter U and its elevating spring y, but of the spring latch f, its lever b', and the tripper or post K, the whole being applied together and to the gauge, the bed-block carrier, and a stationary cross-bar c', substantially in manner and so as to operate as specified.

No. 45,047.—Daniel and George T. Jones, Philadelphia, Penn.—*Wool Burring Machines.*—November 1, 1864.—The object of this invention is to prevent the wool from being carried away with the burr, burring cylinders being used in conjunction with a carding engine. The wool is taken from the feeding rollers by one cylinder and carried down by it to another cylinder, which acts as a carder, and also prevents the burrs from passing between them. The burrs fall into the pocket formed by a roller E, where, by reason of its comparatively slow velocity, they are retained and turned over and over until all its adhering fibre is taken off. Should any burrs pass this roller they are knocked off by a fan.

Claim.—First, the combination of the fluted roller E, or its equivalent, and one or more burring cylinders, so arranged as to form a pocket between the fluted roller and one of the cylinders, the roller E running at a less velocity than the cylinder D, thereby more fully cleaning the burrs.

Second, the combination of two burring cylinders B and D when used in conjunction with a carding engine or cylinder A, the cylinder D being caused to run at a higher rate of speed than cylinder B, and acting to cylinder B as a clearer of the burrs with the small portion of wool which adheres to them, the main portion of the wool being stripped from cylinder B by the carding cylinder A.

No. 45,048.—Edward N. Kent, New York, N. Y.—*Mode of Preparing Ores.*—November 15, 1864.—This invention consists in mixing the ore with a solution of chloride of sodium and then forming it into bricks, which, after drying by exposure to air, are calcined in a common stove, furnace, or kiln.

Claim.—The preparation of crushed or pulverized ores and tailings by caking them with a solution of chloride of sodium or salt and water, introduced in any manner so as to admit of forming the crushed ore into cakes, lumps, or bricks, as specified.

Also, the calcination of crushed ores and tailings in a common stove, furnace, heap, or kiln, when previously prepared by a solution of chloride of sodium or salt and water, and made in lumps of any form so as to admit of the decomposition of the salt by the passage of a current of heated air through the interstices of the lumps so formed, substantially as herein described.

No. 45,049.—Thomas W. S. Kidd, Springfield, Ill.—*Washing Machine.*—November 15, 1864.—This invention is explained by the claim and engraving.

Claim.—First, the apon C C′, having its ribs attached or secured by means of fastening cords or devices which are sewed or lashed into recesses c', and thus protected from wear, substantially as herein set forth.

Second, in combination with the frame F $f f'$, the arms D2 on the frame D1, for tightening the apron and facilitating its removal, as set forth.

Third, the corrugated and removable rubber D3, occupying journal bearings of removable rollers D4, and employed in combination with the rollers D, as and for the purposes herein specified.

No. 45,050.—Charles P. Kimball, Portland, Me.—*Carriage.*—November 15, 1864.—This invention consists in the arrangement and application of a jump seat with the floor and posts of the carriage body in such a manner that when such seat may be turned back it shall be supported against the said posts, and when thrown forward it may rest on or near the floor, lateral supporters being used in combination with the jump seat, so arranged and applied that said supporters shall operate with the posts in sustaining the jump seat when thrown back.

Claim.—Arrangement and application of the front jump seat B with the floor and front posts of the carriage body, the same being in such manner that when such seat may be turned up or back it shall be supported directly against such front posts, and by them and its parallel bars or legs $d\ d$, and when thrown forward it may rest upon the floor or the supporting frame thereof.

Also, the combination of the lateral supporters $e\ e$ with a jump seat, so arranged that when turned back it may be supported by the front posts, as described.

No. 45,051.—Z. King, Cleveland, Ohio.—*Construction of Bridges.*—November 15, 1864.—This bridge is constructed of boiler iron plate riveted together, forming chords of a rectangular form, and connected together by beams made in the same manner. For turn bridges the whole structure is supported by a turn-table in the centre resting upon friction wheels and strengthened by means of towers in the centre, with stay rods from tower to tower, and also others extending to the ends of the chords. The floor is laid upon wooden stringers extending from beam to beam. The beams project through the chords to form a footpath upon one or each side.

Claim.—First, the beams A and chords B in combination when the beams A pass through chords B, and are secured in the manner and for the purpose substantially as specified.

Second, the beams F and G and braces D in combination with the beams A and chords B, the several parts being constructed and secured together, substantially in the manner and for the purpose set forth.

Third, the towers H in combination with the chords B and beams A F and G, when constructed substantially as set forth.

No. 45,052.—Dieterick W. Kolbe, Philadelphia, Penn.—*Artificial Arm.*—November 15, 1864.—The claim gives the general character of the invention, which is a combination whose details would require a lengthy description.

Claim.—First, the within described devices, or their equivalents, so arranged in respect to an artificial arm and detachable hand, and so operating that the mechanism in the arm may be connected to or detached from that in the hand, substantially as specified.

Second, the levers 4, arranged and operating in respect to the mechanism in the fingers and thumb, substantially as and for the purpose described.

No. 45,053.—S. C. Lane, Philadelphia, Penn.—*Stair Rod.*—November 15, 1864.—This invention consists of a stair rod composed of metal as a frame and a reflecting glass set in it, with a padding of Canton flannel.

Claim.—First, a stair rod composed chiefly of plate glass employed in any manner, substantially as described and for the purposes set forth.

Second, the combination with the plate glass B' and metallic frame B of the padding D, composed of Canton flannel or analogous yielding material, and employed in the manner and for the purpose set forth.

No. 45,054.—L. W. Langdon, Northampton, Mass.—*Screw-cutting Machine.*—November 15, 1854.—In this machine the rod to be cut is moved through the mandrel of the lathe, the closing and opening of which are operated by a sliding collar and lever, the latter of which also carries an adjustable gauge to measure the length to be cut. The cutting dies are secured in the arms of a horizontally rotating carrier, which moves forward on a slide, at each operation withdrawing when the screw is cut, and presenting the cutting off tool in another arm.

Claim—First, in combination with a mechanism for cutting screws from wire, a chuck so arranged that the length of each screw may be adjusted while the machine is in motion.

Second, also the combination of an adjustable length gauge with the means for operating the chuck, substantially as described.

Third, attaching the tool which cuts off the screw to the revolving head, thereby dispensing with the ordinary cross-head.

Fourth, in combination with a rotating tool carrier, the means for intermittently operating the same, when arranged substantially as described.

Fifth, the arrangement of an adjustable stop with each socket in a rotating tool holder, so that by the operation of said stops on some fixed part of the tail stock each tool may be separated and easily adjusted as to its own extent of forward movement.

No. 45,055.—L. W. Langdon, Northampton, Mass.—*Mitre Box.*—November 15, 1864.—This invention relates to the construction of a mitre box, and it consists in constructing a box with a series of open cylinders and rotary saw guides, applied to and removable from such open cylinders, which can be adjusted to any angle desired; the saw guides are so constructed that as the saw cuts its way into the stuff the guides fall into the cylinders, so that the saw is at all times supported in the guides.

Claim.—Constructing the mitre box with rotary saw guides *e f*, when such guides operate in cylinders or tubes *b d*, and are so constructed and applied that they may be changed from one set of cylinders to another, substantially as set forth.

Also, making the cylinders or tubes *d* in which the guides operate, integral with the side of the box, as described.

No. 45,056.—James Leffel, Springfield, Ohio.—*Lever Jack.*—November 15, 1864.—This invention relates to improvements upon the jack patented to said Leffel, December 10, 1850, and consists, first, in the manner of constructing the body of the jack, whereby it is greatly strengthened; second, in the method of securing the pawl in place without the use of a bolt; third, in the peculiar construction of the lower head, whereby it is rendered strong and durable.

Claim.—First, the body or standard B, when constructed and operating in the manner and for the purpose herein set forth.

Second, providing the solid support of the pawl *g*, in the manner herein described.

Third, constructing the head of the lever D, in the manner shown and described.

No. 45,057.—Henry Loewenberg, New York, N. Y.—*Adhesive Postage and Revenue Stamps.*—November 15, 1864.—This invention consists in applying to paper, or other material made transparent by varnish, a coating of mucilage on which the device is printed. A stamp of this property attached is not readily removed to be in a state for second use.

Claim.—A self-cancelling postage, revenue, or other stamp, produced by applying to a transparent material an adhesive substance, and printing or otherwise producing the desired picture, characters, or design, upon the surface of the adhesive material by which the stamp is to be stuck upon a letter, document, or other object, substantially as described.

No. 45,058.—William Loughridge, Weverton, Md.—*Axle Box for Car Trucks.*—November 15, 1864.—The object of this invention is to prevent the heating of the boxes and the delay of trains, to economize in the consumption of oil for lubricating, and to greatly diminish the amount of friction which is produced by the lateral motion of the cars, and in turning curves. The invention consists, first, in reducing the end of the axle journal to a pivot, or to a size much less than the portion of the journal on which the bearing rests, thereby diminishing the tendency to heat at the point where the axle comes in contact with the spring or check. A spring is placed in the front part of the axle box, and at right angles with the journal, and so arranged as to receive the end thrust of the axle, and ease the intensity of the blow of the axle arising from a quick lateral motion or side swinging of the cars, thereby reducing the tendency of the journal to heat at its end, and relieving the axle from much strain. The invention consists also in a peculiar stuffing box, constructed and arranged in such a manner as to prevent the admission of dust within the box, and the escape of oil therefrom.

Claim.—First, the stuffing box composed of the leather B, or its equivalent, annular socket *a*, metallic packing *b*, and pressure plate E, substantially as described.

Second, the arrangement of the springs *d d′* and rods F F with the socket *a* and pressure plate E, all arranged to operate substantially as and for the purpose set forth.

No. 45,059.—W. A. Mack, Cleveland, Ohio.—*Sewing Machine.*—November 15, 1864.—The lever which carries the shuttle has on its opposite end a thimble or socket, playing loosely thereon, and in which also plays loosely the end of a vertical lever, operated by the driving shaft, thus forming a sort of universal and compensating joint. The tension spring for the shuttle thread is tightened and held in its place by screwing on the heel of the shuttle.

Claim.—First, the arrangement of the shuttle holder I, race J, and shuttle H′, in combination with the vibrating arm H, socket H‴, lever *u* and cam V, constructed and operating as and for the purpose set forth.

Second, the spring *n* in combination with the screw N and shuttle, as and for the purpose described.

No. 45,060.—George F. Marshall, Cleveland, Ohio.—*Horse Collar.*—This invention consists in the use of a metallic tree or frame, with chafing leather attached, and applied to the upper part of a horse collar, being adjustable, and so constructed as to prevent the hames slipping over the rim of the collar at the top; straps attached to the upper part of the collar pass through slots on both sides of the upper part of the tree and a slot in the chafing leather.

Claim.—The metallic tree or frame A, constructed and applied to the horse collar B, substantially as and for the purpose herein set forth.

Also, in combination with the tree or frame A, the chafing leather C, point *c* or check hook, either or both on the part *p* of the tree or frame, and the straps D D′, all arranged and applied to the horse collar, substantially as herein described.

No. 45,061.—David J. Marvin, Stocton, Cal.—*Harvesting Machine.*—November 15, 1864.—This invention relates to the manner of combining the parts of a threshing machine with those of the "header" or harvesting machine, and will be understood by the claim and engraving.

Claim.—First, in a combined header and thresher, so pivoting or hanging the cutter frame upon the main axle *a* that it can be moved longitudinally, and also raised or lowered at pleasure, substantially as and for the purpose specified.

Second, in a combined header and thresher, having its cutter frame mounted or hinged as above described, the combination and arrangement of the bar *a′*, posts *b b′*, pulley *d′*, cord *c′*, and crank rod N, substantially as and for the purpose herein set forth.

No. 45,062.—Douglass McIntyre and George C. Reeves, Central City, Colorado Territory.—*Hoisting Machine.*—November 15, 1864.—This invention relates to a hoisting apparatus, designed more especially for elevating water, but applicable to other purposes. The invention consists in the arrangement of a friction crutch and gearing, whereby the motion of the gearing may be reversed, at the will of the operator, and any number of devices operated from one and the same shaft.

Claim.—The two bevel toothed wheels B B placed loosely on the shaft A, with the horizontal wheel C gearing into them, in combination with the friction pulley D D, keyed or otherwise secured on the shaft A, the stationary rings D′ and the movable rings E provided with the bevelled projections *b b′*, and also placed on the shaft A, all arranged to operate in the manner substantially as and for the purpose herein set forth.

No. 45,063.—George McKnight, Hebron, N. Y.—*Automatic Gate.*—November 15, 1864.—This invention consists of two parallel sleepers sunk into the earth with a ditch between them; to one of these sleepers a gate is hinged by its lower edge; two levers connected with posts in the rear, enable the driver to raise and lower the gate without leaving his seat; an extension rail rises automatically with the gate, and projects several inches above it, thus adding to its weight.

Claim.—The two sleepers A A in combination with the gate D, the latter being attached by hinges to one of the former, and a ditch or trench C being between the sleepers, all arranged substantially as and for the purpose specified.

Also, the two levers F F applied to the gate D, and suspended from the uprights H H, substantially as and for the purpose herein set forth.

Also, the extension rail I, when applied to the gate D, to operate automatically therewith, substantially as and for the purpose specified.

No. 45,064.—John H. Mead, New York, N. Y.—*Calendar for Almanacs.*—November 15, 1864; antedated November 3, 1864.—This invention consists of a series of concentric rings or bands, the outer bands being stationary, and the inner movable, and having upon them the days of the month, the months and the years, which are made to appear in succession, through openings in the outer ring. The several series are mounted in pyramidal form, upon a suitable stand adapted to use, upon the desk or mantel.

Claim.—The combination and arrangement of the stationary sections A and revolving rings B, constructed as and for the purposes set forth.

No. 45,065.—Benjamin Merritt, Jr., Newton Corner, Mass.—*Tree Protector.*—November 15, 1864.—This invention consists of a ring of glass in sections, united by a metallic strap with a bag, which is fastened around the tree; some six inches above. The glass band is grooved upon the under side, and hangs some two or three inches from the body of the tree.

Claim.—The apparatus having a construction substantially as and for the purpose specified.

No. 45,066.—GEORGE D. MILLER, Lovington, Ill.—*Cultivator.*—November 15, 1864.—This invention consists of a combined roller and cultivator, in which the cultivator ploughs are moved laterally by a segmental pulley and cords, at the feet of the driver. A hand lever elevates and depresses the ploughs and rollers simultaneously.

Claim.—First, the swivel frame D D D1 D2, in combination with the segmental pulley E, bar or lever E′, foot piece *e e*, cords H, and pulley I, the whole being arranged to operate substantially as and for the purposes herein set forth.

Second, the manner herein described of employing the roller R, so that it may be adjusted simultaneously with the ploughs, by means of the lever O.

No. 45,067.—S. M. MOORE, Beloit, Wis.—*Harvester.*—November 15, 1864.—This invention relates to that class of machines having the finger beam and main frame connected by a yielding joint in, or about in, the line of the cutting apparatus, and consists in the arrangement of certain devices for preserving the horizontality of the finger beam, while it is being raised or lowered. Radius bars, provided with rollers which run on the ground, and with upright segment racks, are pivoted, one to the main frame, the other to the outer shoe, or divider; a rock shaft arranged behind the finger bar, and extending its whole length, is furnished at each end with a pinion, which gears with the rack upon the radius bar, corresponding thereto. Motion is imparted to the rock shaft from a hand lever, through a cord or chain, passing around a pulley on said shaft, thereby causing the elevation or depression of the finger beam. The finger beam has an upright rigidly secured on its heel end, which upright is connected by a link to the opposite or long arm of the hand lever, which operates the lifting cord at a sufficient distance from the fulcrum of said lever, to give the necessary vibration of the finger bar relative to the frame, for maintaining it in a horizontal position in raising and lowering the same.

Claim.—The combination of the hand lever L, post M, and link bar N, with the finger beam, when arranged and operating substantially as described and for the purpose set forth.

Also, the combination of the main frame, finger beam, rock shaft, radius bars, racks and pinions, hand lever, lifting chain and link bar, as described, for the purpose set forth.

No. 45,068.—ENOCH R. MORRISON, New York, N. Y.—*Drill and Sand Pump.*—November 15, 1864.—The object of this invention is to facilitate the boring of oil wells, and the removal of detritus formed during the operation. The invention consists in the construction of the drill for boring oil wells, its internal arrangement being such that it takes up at every stroke the detritus, and holds it in a hollow shaft until the same is raised to the surface, when the detritus is drawn off at an orifice in the bottom.

Claim.—First, the peculiar form of the drill head, so constructed and combined with a cone or ball valve and a hollow shaft, as to perform the double action of a drill and sand pump for boring oil wells, as herein described.

Second, the manner of taking up the detritus in boring wells, and discharging the same from the openings at the lower end, near the bottom of the drill, as herein specified.

No. 45,069.—HENRY G. NELSON, Lockport, N. Y.—*Water Wheel.*—November 15, 1864.—The object of this invention is to so combine the horizontal with the turbine buckets that the force due to the momentum and specific gravity of water shall be made available for the propulsion of machinery, and at the same time present a mechanism, combined in such manner as to involve but little liability to derangement. Its novelty consists in the combination and arrangement of the collars on the shaft, and buckets with a supporting lip, flange, turbine buckets, horizontal buckets, scroll, annular eduction passage, a diaphragm, and its arrangement with reference to the horizontal and turbine buckets.

Claim.—The combination of the turbine buckets K K with the horizontal buckets C C, shaft A, scroll G, and annular eduction passage I I, arranged and operating substantially as set forth.

Also, the diaphragm H, in combination with a wheel composed of the straight buckets C C, and turbines K K, arranged in the manner and for the purpose described.

Also, in combination with the collars B B′ on the shaft A and buckets C C, the supporting lip *a*, flange *b* and pin *c*, operating conjointly with the bolt *f*, substantially as and for the purpose set forth.

No. 45,070.—FREDERICK S. OTIS, Brooklyn, N. Y.—*Hoop Skirt.*—November 15, 1864.—To cover the ends of the bustle hoops, a strip of woven material is prepared, to be fastened to the waist belt, and to reach down to the lowest bustle hoop. Longitudinally, in the centre of this strip, a narrow strip of kid is placed. The strip is then folded over the ends of the hoops in such manner as to bring the kid on the outside. The hoops are secured within this two-fold strip in any desired manner, to secure the attachment near the edges of the woven strips, leaving the double end of the hoop or wire some latitude of movement within the folded cloth and kid.

Claim.—First, forming the covering to the ends of the bustle hoops, where they are attached to the tapes of a woven fabric, secured to the tapes and hooks by small clasps or spangles, and having a strip of kid or similar material at the edge of said covering, as specified.

Second, the clasp *f*, formed in the manner specified, and securing the hoops where they are brought end to end, in the manner set forth.

No. 45,071.—S. W. and J. F. PALMER, Auburn, N. Y.—*Clothes Wringer and Mangle.*—November 15, 1864.—This invention consists in the arrangement of levers, springs, and rolls, with regard to the frame, and in the means of securing the machine to the tub by cam-catch and spring.

Claim.—The arrangement of the levers F for carrying the upper or yielding roll, and their connexion with the frame and non-yielding roll, as and for the purpose described.

Also, in combination with the wringer and mangle, the cams *h*, levers *b*, springs *i*, and projections *n m*, for making a clamping device for holding the machine to a tub, table, stand, or other support, substantially as described.

No. 45,072.—WM. H. PARMELEE, Hopkins, Mich.—*Evaporator.*—November 15, 1864.—This invention consists in regulating the flow of sirup from one pan into another by means of a pipe, in connexion with a pipe trough and valve, operated by a rod connected with the float by means of a curb, and also in regulating the discharge of the sirup from the pan by means of a cistern with the float, and to which is attached the valve in the valve seat. The float is balanced by means of a weight attached to a lever.

Claim.—First, the arrangement of the pipe I, trough J, valve I′, rod *l*, float L″, and curb L, in combination with the pans A and B, when operating conjointly, substantially as and for the purpose specified.

Second, the float *n*, cistern D′, valve with the stem *p*, balance beam *p′*, in combination with the evaporator, substantially as and for the purpose set forth.

No. 45,073.—E. L. PERRY, New York, N. Y.—*Life Raft.*—November 15, 1864.—This invention consists in the use of buoyant cylinders attached by a continuous membrane to the frame of the raft; the elastic cylinders being provided with stays and "lacing cords," by which the water covering of the elastic cylinders can be adjusted in its tension or strain around and upon the main cylinders.

Claim.—First, the cylinders C, attached by membranes to the framing of the raft, and provided with stays D and lacing cords *d*, substantially as described and represented.

Second, in combination with the above, the inner elastic air and water-proof sacks O, for the purpose set forth.

No. 45,074.—MOSES POND, Boston, Mass.—*Stove.*—November 15, 1864.—This invention consists of an upright elliptical or cylindrical sheet-iron stove, having in its top, above the fire chamber, a chamber for cooking articles of food; in the bottom of said cooking chamber is a hole in which to place kettles, &c.; this hole is closed by an iron cover, which is fastened down by means of hinged buttons; the entire cooking chamber is covered by a hinged iron top.

Claim.—A stove of the kind described, (that is, one having an oven over its fireplace, or flue leading therefrom,) as made with or having means of fastening the cover of its oven bottom plate opening down to such plate, for the purpose set forth.

No. 45,075.—WASHBURN RACE, Lockport, N. Y.—*Skate.*—November 15, 1864.—This invention consists in a chilled cast-iron skate runner, provided with enlarged plane bearings on the ends of its standards for holding firmly against the wood, said bearings being secured in place by means of screws and nuts; the screw in the rear forming the heel screw, and being capable of adjustment higher or lower, at pleasure.

Claim.—A cast-iron skate runner, with chilled running edge or surface, as a new article of manufacture.

No. 45,076.—WILLIAM RALPH, Utica, N. Y.—*Cheese Vat.*—November 15, 1864.—This invention consists in the invention of a false bottom, so that the water from the heater does not come in contact with the bottom of the inner vat until it has been in contact with the arms and sides. Hollow pipes extend from the false bottom to the heated water below; opening at the top under hollow supports, upon which the vat rests.

Claim.—The false bottom partition or diaphragm D, so constructed as to keep the water heated by the heater E from contact with the bottom of the inner vat B until it shall have been in contact with the sides, or the sides and ends thereof, and imparted a portion of its temperature to the same.

Also, the hollow supports *g*, used in combination with the outer vat A, inner vat B, or the false bottom or partition D, substantially as and for the purpose described.

Also, the use of one or more pipes F, in combination with the valves or damper *n* and P, for the purpose described.

No. 45,077.—W. H. Reed, Philadelphia, Penn.—*Fastening Buttons to Fabrics.*—November 15, 1864.—A button, with a solid shank, countersunk at the end sufficiently to permit a flange to be struck down upon a washer inside the fabric, to which the button is to be attached.

Claim.—First, the use, for fastening buttons to fabrics, of a rivet, having a stem countersunk at the end, substantially as and for the purpose set forth.

Second, the rivet, with its countersunk stem, in combination with the annular ridge *d* of the button.

No. 45,078.—Jacob C. Robie, Binghamton, N. Y.—*Latch.*—November 15, 1864.—In this device a sliding spindle, which passes through a slotted plate attached to the face of the door, passes upon a bent spring which lies underneath the plate, and forces a spur, attached to the end of said spring, into a hole made into a latch bolt.

Claim.—The mode of locking or bolting a door-knob latch, by means of the slide and spring, connected with a bolt or pin which passes through the woodwork of the door and the shell or case of the door-knob latch into the latch in such a manner that said latch cannot be drawn back or moved from its position by means of the knob when the bolt or pin is pressed into it, as set forth.

No. 45,079.—E. K Root, Hartford, Conn.—*Priming Metallic Cartridges.*—November 15, 1864.—The nature of this invention is explained by the claim.

Claim.—A cartridge case formed with a centrally located teat or projection, in combination with a fulminate disk, substantially as and for the purposes set forth.

No. 45,080.—S. L. Sage and O. T. Baker, Huntington, Ohio.—*Combined Portable Sheep Rack, Shed, and Fold.*—November 15, 1864.—The novelty of this invention consists in such a construction of the shed that the sheep can be enclosed therein to protect them from the inclemencies of the weather, and at the same time afford abundant opportunity for feeding. A fold is formed by joining a portable fence to the portable shed.

Claim.—First, the sections A A, when constructed and arranged as described, and provided with feed racks, in the manner and for the purpose specified.

Second, the combination of the fence I with the sections A A, whether said sections are united as shown or placed end to end, as described.

No. 45,081.—Daniel Sager, Albany, N. Y.—*Manger.*—November 15, 1864.—This invention consists in mounting the manger on journals or pivots in such a way that it can be readily tilted or rotated, and at the same time adjusted in height to suit the animal. The manger is also provided with a rod in front, upon which the halter ring slips, thus allowing the animal to move from one end of the manger to the other, at pleasure, with a short rope.

Claim.—First, the rotating manger, provided with the journals *o* and rod D, substantially as shown.

Second, the bracket 6, or its equivalent, when used in combination with the manger, as and for the purpose set forth.

No. 45,082.—Benjamin Saunders, Nashua, N. H.—*Friction Apparatus for Warp-dresser Machine.*—November 15, 1864.—The object of this machine is to obtain a variable friction on the yarn, such as will maintain it at a uniform or proper degree of tension while it is being unwound from the beam for the purpose of being sized or dressed. The friction weight acts by gravity on the yarn, its pressure being lessened as the yarn on the beam diminishes, by reason of the shortening of the leverage of the falling arm to which it is attached. By means of the screw and nut the side of the weight or pad is also made to act with more or less friction upon the head of the beam.

Claim.—The application of the friction weight G to the dresser beam by means of a vibratory arm D, and in manner so as to operate with such beam, substantially as hereinbefore described.

Also, the application of the friction weight G to the vibratory arm D by means of a hinge-connexion, or its equivalent, in order that the weight may be free to adjust itself to the periphery of the yarn on the dresser beam.

Also, the combination of the sliding journal E with the stationary bearing F, and the vibratory arm D, and weight G, applied to the section or dresser beam, substantially as described.

Also, the combination of the adjusting screw *e* and nut *f* with the sliding journal, the vibratory arm, and the friction weight, applied to the section or dresser beam, in manner as specified.

Also, the combination of the retainer *h* and the groove *g* with the milled nut *f*, the screw *e*, the sliding journal, the vibratory arm, and the friction weight applied to the section or dresser beam, in manner and so as to operate therewith, substantially as hereinbefore explained.

No. 45,083.—Edward Th. Savoral, Washington, D. C.—*Manufacture of Spiral Tubing.*—November 15, 1864.—The mode described in this invention has reference to the use of hard metals, such as copper, iron, &c.; and consists in cutting two annular blanks, of the proper outline from sheet metal, and by means of dies, giving to each ring thus formed a semi-cylindrical shape, after which the two sections are brought together, and their two sections secured by solder or rivets.

Claim.—The manfacture of circular spiral or otherwise curved pipes, made of hard sheet metal, in the manner described within and for the purpose set forth.

No 45,084.—Louis Scharff, Conshohocken, Penn.—*Forming Sockets on Terra Cotta Pipes.*—November 15, 1864.—This invention consists in forming sockets on terra cotta pipes by the aid of a circular block placed within, and the application of a former to the exterior of the socket, so that the terra cotta of which the socket is made becomes thoroughly incorporated with the body of the pipe.

Claim.—Forming sockets on terra cotta pipes by the aid of the block B and former D, substantially in the manner and for the purpose described.

No. 45,085.—Henry Schnautz and Henry Bremenkamp, Cincinnati, Ohio.—*Faucet.*—November 15, 1864.—Through the shank of this faucet there is a central horizontal channel for the liquid, and an upper channel ascending into the body of the faucet for the vent, the lower channel being cut away at its under part within the cask, and thus made shorter than the other. The plug of this faucet is hollow, and has holes coincident with the mouths of the two channels, when the handle of the plug is in line with the shank of the faucet. A smaller and shorter hollow plug falls within this plug, having a flange around its upper end, the air vent being above this flange, and the liquid port below it. A piston revolving through the screw-cap over the plug descends into this interior plug, to be used at discretion to excite the liquid drawn, and cause it to foam.

Claim.—The hollow plug C, divided by a horizontal partition *f*, in two distinct compartments *d e*, and provided with two holes *a' b'*, to operate in combination with the shell A, and and double-channelled shank B, substantially in the manner and for the purpose herein shown and described.

No. 45,086.—Daniel Sexton, San Gabriel, Cal.—*Apparatus for Racking off Wines, Liquors, &c.*—November 15, 1864.—This invention consists of a plate to which a bellows is attached, which is operated by a lever. Through the plate a tube passes into the lower part of the bellows. The tube is to be fitted into the bunghole of the vessel, into which the liquor is drawn, and the bellows is then put into operation.

Claim.—Racking off wines and other liquors by means of an air-pump constructed on the principle of, or similar to, a bellows, and of wood and leather or other flexible material, applied in the manner substantially as and for the purpose herein set forth.

No. 45,087.—Albert Seymour, Hartford, Conn.—*Tree Protector.*—November 15, 1864.—This invention consists of a cast metal trough in two or more sections, the ends being so formed as to be readily joined and secured in position around the tree. The inner wall of the trough is recurved upward and outward, so as to form a roof to the trough, which is to be supplied with oil or other fluid.

Claim.—As a new improved article of manufacture, a tree protector, each section of which being made in one piece of cast metal, with a trough *a*, shed *b*, partitions *d*, prongs *d'*, substantially as shown and described.

No. 45,088.—Josiah Shepard.—New Britain, Conn.—*Buckle.*—November 15, 1864.—This invention consists of a case provided within with a plate pivoting at the centre of each side of the case on each side of the plate; and near its end there is a pin projecting at opposite sides. The strap is provided with holes to receive the pins, the strap being passed through the case at opposite sides of the plate.

Claim.—The case A, in combination with the plate C, provided with pins *d d*, at opposite sides, all arranged substantially as and for the purpose herein set forth.

No. 45,089.—George W. Smith, Springfield Township, N. J.—*Drain.*—November 15, 1864.—This invention consists in providing the bottom slabs of a drain with cleats, and cutting out the side slabs so that they will readily lock together when set up.

Claim.—As a new article of manufacture the combination of the bottom slabs with the cleats A, and the side slabs cut out so as to lock when set up, in the manner and for the purpose substantially as shown and described.

No. 45,090.—William H. Spooner, Bristol, R. I.—*Composition Oil for Lubricating Paint, &c.*—November 15, 1864.—This invention consists of a composition of caoutchouc dissolved in hydro-carbon, mixed with the oily distillates of coal, peat, tar, or petroleum, to be used as a lubricating paint, wool, curriers', or other like oil.

Claim.—First, the method herein described of preparing oil adapted for use as a lubricating paint, wool, curriers', or other like oil, by combining with dissolved caoutchouc paraffine oil, when said combination is effected in the proportions and in the manner herein set forth.

Second, as a new article of manufacture, a composition oil, the same consisting of caoutchouc dissolved in hydro-carbon mixed with the oily distillates of coal, peat, tar, or petroleum, in the manner and the proportions set forth.

No. 45,091.—DAVID J. STAGG, New York, N. Y.—*Seat for Schools and Public Buildings.*—November 15, 1864.—The claim fully sets forth the nature of the invention.

Claim.—A seat or settee for schools, public buildings, &c., having its seat board B suspended between the uprights A A by means of pins *b*, which project horizontally from the uprights and pass through or into cleats or ledges C at the ends of the seat boards and above them; said seats or ledges having semi-circular slots *c* in them to receive stop pins *d*, which are in front of the pins *b*, and also above the seat boards, substantially as herein set forth.

No. 45,092.—JOSEPH SUTTER, New York. N. Y.—*Sleeping Car.*—November 15, 1864; antedated November 3, 1864.—This invention relates to a means for holding the backs of seats in the car in a horizontal position above the respective seats, so as to form an upper berth or lounge by the backs of the seats. Also of a spring head-rest and protecting bars on the side next the passage or space between the opposite couches, and extension leaves turning up under the seats.

Claim.—First, sustaining the backs in a horizontal postion by means of the swinging link *f*, applied in the manner and for the purposes specified.

Second, the folding extension piece *g*, applied to the back and employed between one back and the other when in a horizontal position, as set forth.

Third, the spring head-rest *l* or *l'*, constructed and applied in the manner and for the purposes set forth.

Fourth, the protecting bars *h*, connected by the slotted bars *i* and slide bars *k*, at the ends of the backs, forming the sides of the lounge or berth, for the purposes and as specified.

Fifth, the folding extension leaves *g'*, turning up under the seats or reaching from one seat to the next, for the purposes and as specified.

No. 45,093.—R. TILLMAN, New York, N. Y.—*Skate.*—November 15, 1864.—This invention consists in constructing with an adjustable heel and an adjustable toe clamp, the heel clamp being composed of a slide, provided with a slot, a projecting flange, and a forked lug, applied in combination with a screw in the heel post of the skate. The toe clamp consists of two slides, moving in a lateral direction, provided with ratched teeth to operate in combination with a spring catch.

Claim.—First, the forked lug *c*, projecting from the outer or rear end of the slide F, and applied in combination with the neck *d* in the shank of the screw G, in the manner and for the purposes set forth.

Second, the serrated laterally moving slides *e e*, in combination with the spring catch *h* and toe plate D, constructed and operating substantially as and for the purpose described.

No. 45,094.—JOHN S. TRUXEL, Mt. Pleasant, Penn.—*Reaping and Mowing Machine.*—November 15, 1864.—This invention relates to the arrangement, in connexion with the driver's seat, of the means employed for raising and lowering the cutting apparatus, whereby the height of the said apparatus and the angle of inclination of the frame which supports the driver's seat may be raised, while the machine is in operation, without affecting the horizontality of said driver's seat.

Claim.—The main frame A and cutter bar frame H, connected as shown, in combination with the pivoted seat support C and lever E, all arranged to operate in the manner substantially as and for the purpose herein set forth.

Also, the bar F, provided with oblong slots *d*, to receive the catch G, and admit of the up and down self-adjusting movement of the cutter bar, as set forth.

No. 45,095.—JACOB VAIL, Newfield, N. Y.—*Fruit Gatherer.*—November 15, 1864.—A pole or standard, the foot of which is planted in the ground at the foot of the tree from which the fruit is to be gathered, is lashed to the tree, and is of sufficient height to allow a crane to be secured to its top to swing clear of and above the branches. This crane is provided with a slot running lengthwise, and has a grooved roller which works back and forth therein, and from which is suspended a box by a suitable arrangement of cord and pulleys, to enable the attendant located in the box to raise and lower the same by means of a windlass and crank, and by means of a band passing over the grooved roller, and dropping down within reach of the attendant, to move the roller and therewith the box nearer or further from the tree as may be required.

Claim.—First, the employment of the box C, elevated in the manner described, and suspended from the beam B *b*, so as to be turned about the central pole or standard A in the manner and for the purpose explained.

Second, the pulley F, operated by the cord G, and adapted to traverse the slot *b2* to move the box C toward or away from the centre of the tree, as and for the purpose set forth.

Third, in combination with the box C for gathering fruit, the arrangement of the block and tackle E E', windlass D', crank D, and pulley *e*, substantially as described.

No. 45,096.—ANDREW WALKER, Claremont, N. H.—*Rotary Pump.*—November 15, 1864.—The object of this invention is to cause a continuous stream of water to flow from the pump, and to close all the discharge pipes at once, or to open any one desired in a moment, and to change from one to the other with great facility. Its novelty consists in the combination of

the rotary piston, the floats or pistons, the ball valves E and F, the ball valve K, and the orifices G and H.

Claim.—First, the rotary piston L, substantially as described and for the purpose set forth.

Second, the combination and arrangement of the rotary piston L, the horizontal floats or pistons *c* and *d*, the ball valves E and F, the ball valve K, the orifices G and H, substantially upon the principle and in the manner herein set forth.

No. 45,097.—LEVI J. WALLICH, Knoxville, Ill.—*Machine for Sawing, Boring, and Mortising.*—November 15, 1864.—This invention consists in the arrangement of a series of devices designated in the claim, and requiring a reference to the specification and drawings for a proper understanding of its construction and operation

Claim.—The arrangement of the screw and smooth-pointed augers L L L, chisels M M, and lever Q, and the arrangement of the ground auger F, guides *f f*, and spring *f'*, for throwing same up or down, and the arrangement of the notched lever J'', bearing lever J''', wood horse J, and saw G'', in combination with the gate C and frame B, substantially in the manner and for the purposes herein specified.

No. 45,098.—JOHN WALLMER, Goshen, Ind —*Board-holder in Making Board Fence.*—November 15, 1864.—This invention consists of two parallel strips of board of some six or eight inches in length, one of which has a transverse rest attached to it, and a slot made in it to receive a slide with a slot attached. The other strip is provided with a spring, and the two strips are connected together by a bolt. The device is for holding boards while nailing them to a fence for the purpose of keeping them at equal distances apart without the aid of an assistant.

Claim.—The two strips A A' and transverse piece or rest B, in combination with the screw bolt D and adjustable stop *d*, all arranged substantially as and for the purpose herein set forth.

No. 45,099.—C. W. WARNER, Williston, Vt.—*Horse Rake.*—November 15, 1864.—This invention relates to means of operating the rake with the feet, and will be readily understood from the claim and engraving.

Claim.—The method, substantially as described and represented, of operating the same by means of the combination of the foot-triggers K K', bar J, and rocking pawl *f g*, with the notched bars *h* on the rake head.

No. 45,100.—RODOLPHUS L. WEBB, West Meriden, Conn.—*Knob Latch.*—November 15, 1864.—In this invention the yoke or pendent lever, which is operated by the knob, has in its lower end a hole through which a round shank of the bolt passes sufficiently far to receive a spiral spring thereon, one end of which is secured to the end of said shank, the other bearing and pressing the yoke against the shoulder of said shank. This arrangement admits of the latch being withdrawn sufficiently from the socket to allow it to be turned one-half way round to suit either a right or left hand door.

Claim.—The combination of the latch *a*, collar *c*, spring *e*, with the yoke and thimble, all constructed and arranged as described.

No. 45,101.—CHARLES WEED and WILLIAM C. MARR, Eldorado, Iowa.—*Water-wheel.*—November 15, 1864.—The object of this invention is to produce power by the agency of water acting upon a combination of mechanical devices. The novelty consists in the combination of buckets, projecting centre, recurved receding wings, the rings F, and the central rotary gate *i*.

Claim.—A water-wheel provided with buckets B, with a projecting centre and recurved receding wings, as represented in the drawings, and operating in combination with the rings *f* and central rotary gate *i*, in the manner and for the purpose substantially as herein shown and described.

No. 45,102.—THOMAS WELHAM, Brownsville, Nebraska.—*Siphon Water-wheel.*—November 15, 1864.—The object of this invention is to produce a water-wheel to operate in connexion with a siphon. Its novelty consists in placing side by side a series of wheels, which are enclosed in an air-tight case. The water is admitted to this case through a pipe attached to one end of the case at a proper angle to give the greatest effect to it, and passes underneath the wheel, acting upon the buckets as in an undershot wheel; from this point it is conveyed through a suitable passage to and over the top of the second wheel, in this case operating the wheel as an overshot; from this point it passes through another passage to the under side of the third wheel, the buckets of which it acts upon, when it passes out into a pipe attached to the case at this point. This pipe is extended some distance from the case, and bears a downward inclination so as to form the long leg of the siphon, and thus it is alleged will aid in the passing of the water through the case, and increase the power of the wheel.

Claim.—Keeping the water enclosed in a siphon after it leaves the first wheel, and conducted through the siphon enclosing any number of wheels, at any required distances apart, by which the water is used over a series of wheels from the same head, as herein described and for the purposes set forth.

No. 45,103.—**MORRIS WELLS**, Williamsburg, N. Y.—*Machine for Making Sheet Metal Ware.*—November 15, 1864.—This apparatus consists of an ordinary die and plunger, the latter being operated by steam or hydraulic power, to which is added another cylinder and piston, which, operating independently, serves to elevate and depress the heavy plate by which the sheet of metal to be wrought is held firmly down over the die.

Claim.—The application of the secondary cylinder M, in combination with the plates I J, female die B, plunger H, and main cylinder E, constructed and operating substantially as and for the purpose set forth.

No. 45,104.—**H. S. WESTON**, Akron, Ohio.—*Soldiers' Shoulder Brace for Knapsacks.*—November 15, 1864.—This invention consists of metallic shoulder braces for soldiers, in combination with a strap, extending from the front round the sides and back, and serving to keep the springs forming the brace down in place on the shoulders.

Claim.—The metallic shoulder brace, in combination with the strap B, when constructed and arranged substantially as and for the purpose described.

No. 45,105.—**ROBERT WILSON**, Macomb, Ill.—*Self-loading Fire-arms.*—November 15, 1864.—This arm belongs to the class of repeating fire-arms provided with a magazine of cartridges in the stock; and the improvement consists in the employment of a removable magazine, in which the cartridges, arranged in series, are pressed laterally to the lower side of the stock by suitable springs, from which position they are fed successively forward by a reciprocating bar operated by the trigger-guard lever, which, on being closed, brings the movable chamber in line with the barrel.

Claim.—First, combining with a vertically sliding chambered breech-block D, and pivoted guard lever E, a sliding feeder J, or its equivalent, constructed and applied to said lever, and a chambered gun stocked in such manner as to feed the cartridges therefrom and introduce them one at a time into said breech-block, substantially as described.

Second, the use of spring-hooks *d d*, or their equivalents, applied to the breech-block D, and operating in conjunction with the guard lever E, substantially as described.

Third, the sliding strap J, when constructed with spring fingers *h*, and applied to a lever guard E, and the stock of a gun, substantially as described.

Fourth, the cartridge magazine G, when it is provided with lateral followers g' g', and spring fingers *f f*, or their equivalents, substantially as described.

Fifth, a removable cartridge case or holder G, in combination with contrivances for impelling the cartridges laterally downwards and then forwards, substantially as and for the purpose described.

No. 45,106.—**JOSEPH WOOD**, Red Bank, N. J.—*Shoe for Car Brakes.*—November 15, 1864.—This invention consists of a brake-shoe, with a sole capable of being readily detached therefrom, and as readily attached thereto, and provided with a device for being kept in a comparatively cool state.

Claim.—First, the sole B, its lugs *c* and c', and lug *d*, in combination with the shoe A, the latter and the sole being constructed and adapted to each other so as to be secured by a simple pin *i*, substantially as specified.

Second, a groove or grooves *x*, formed in the face of the sole, substantially in the manner and for the purpose set forth.

No. 45,107.—**ISAAC LINDSLEY**, North Providence, R. I.—*Loom for Weaving Hair Cloth.*—November 15, 1864; patented in England September 21, 1863.—This invention consists in the following features: Pins are placed in one jaw of the nippers, and the jaws are so operated as to grasp a selected hair, between the selecting instrument and the mass of hair, as not to be closed so suddenly as to crush the hair, but gradually and gently. The heddles are worked within a short portion of the time required for a cycle of operations of the loom, in order that the nipper and its adjuncts may have ample time to perform its functions; they also remaining unchanged when the weft is not supplied. The selvidge heddles are so operated as to prevent the formation of an overshot of weft of undue length where the body and selvidge join. The let-off and take-up rollers operate coincidently and positively, by means of a connecting rod and pinions, both being arrested when the weft fails. A reed, curved in a direction opposite to that in which the moistened hair, &c., are found usually to contract and curve, compensates for this, and by beating up the weft in the warps in a curve allows the shrinkage to bring them straight and even. The devices for supplying the hair to the nipper are automatically operated, so as to prevent the nipper, when advancing, from coming in contact therewith. A clipping device automatically cuts off the straggling ends of the bunch of hair, to prevent them from interfering with the operation of continuous parts of the machine.

Claim.—First, so combining and arranging the selecting or serving instrument and the nipper, and the mass of weft presented thereto, as described, that the end of the weft that has been selected will be deflected and held aside from the mass directly across the path of the nipper, which is thus enabled to seize the weft between the selecting instrument and the mass substantially as described.

Second, the employment of two projecting pegs, or their equivalent, in the jaws of the nipper, substantially as described to effect the purpose specified.

Third, the mode of operation, substantially as specified, by which the nipper is first closed sufficiently to encompass and secure the hair or weft, and at the commencement of its retreating movement the jaws are made to close gently upon the hair or weft with sufficient force to hold the same and draw it from the mass into the open shed, substantially as described.

Fourth, the employment of two sets of fixed and movable pulleys *o o* *p* p', or their equivalent, in combination with the treadle levers R' R', and a suitable strap or band connecting with the nipper staff, substantially as described for the purpose specified.

Fifth, giving to the cam shaft, or its equivalent, that works the heddles or harness, an intermittent rotation at each change of the shed, by means of a ratchet and pawl, or other suitable devices, whose operation upon the cam shaft is made to depend upon the supply of weft to the shed.

Sixth, the arrangement of the cams *r*1 *r*2 *r*3 *r*4, or their equivalent, which operate the selvidge heddles or harness, substantially as and to effect the purpose specified.

Seventh, combining a positive "take-up" and a positive "let-off" with the devices that actuate the same, so that when the weft fails to be supplied to the shed, their operation will be arrested, and will be resumed when the weft is duly supplied.

Eighth, not the use of a waved reed for giving a permanent waved form to the weft, but placing the weft in the cloth, by means of the curved reed or otherwise, in such a position as will counteract the effect of the unequal shrinkage of the parts, substantially as described.

Ninth, combining with the automatic "serving" mechanism a detent or stop, so arranged as to work in concert with the nipper and arrest the operation of the serving mechanism when in a position to be out of the way of the nipper as it advances to seize the weft, and to release the serving mechanism after the nipper has retired, substantially as described.

Tenth, in combination with the mechanism which supplies the weft to the nipper, or its equivalent, the employment of a clipping or shearing device, substantially in the manner and for the purpose described.

No. 45,108.—**JAMES MARSHALL**, Stockport, England.—*Apparatus for Applying Adhesive and Lubricating Material to the Spindles of Spinning Machines.*—November 15, 1864; patented in England October 28, 1863.—The object of this invention is automatically to apply adhesive material to the spindles upon which cops are formed, to cause the threads to adhere together and retain their position when removed from the spindle, and so avoid waste; and also to apply a lubricant to the bush of the spindles. A box containing the adhesive or lubricant is caused, by the friction of the revolving spindles against a pad on the box, to traverse across the machine behind the spindles, and to deposit the material, by means of a sponge, upon each spindle. The sponge is situated above the pad, except in lubricating the bushes, when the arrangement is reversed, and the oil chamber is underneath, and the friction pad above.

Claim.—First, the application of the friction created between the revolving spindles and a part or parts of the paste or oil receptacle, for the purpose of effecting the traverse of the same along the spindle carriage behind the spindles in mules.

Second, the receptacle or box containing adhesive substances or lubricants, and for applying the same to spindles, constructed and arranged substantially as described.

No. 45,109.—**WILLIAM WAUKLYN**, Albion Mills, Bury, England.—*Roller for Cotton Gins.*—November 15, 1864.—The nature of this invention is explained by the claim and engraving.

Claim.—A roller for cotton gins made of cast-iron, or other metal, with its grooves cast or cut in the solid face of the periphery of the roller, and with a "land" between, serrated, wrinkled or notched, as herein described and represented.

No. 45,110.—**F. WATKINS**, London Works, Birmingham, England.—*Machine for Tapping Nuts.*—November 15, 1864.—This machine consists of a series of tap spindles arranged in a circle around a strong supporting column, motion being communicated to all the spindles simultaneously, but at different rates of speed, by a system of gearing. Each spindle is connected to the supporting column by a lever, by means of which it may be elevated or depressed at the will of the operator.

Claim.—First, grouping six or more revolving sliding spindles around an upright driving shaft, the said shaft giving motion to the spindles and taps which they carry in combination with the levers P, all constructed and arranged as described.

Second, in combination with the subject-matter of the above, so proportioning the gearing between the driving shaft and the various spindles that two or more spindles will be driven at different rates of speed and with greater or less power, so as to adapt the machine for different classes of work.

No. 45,111.—**EDWARD BROWN WILSON**, No. 10 Strand, Middlesex, England.—*Fire-place and Furnace.*—November 15, 1864.—This invention consists in so constructing the fire-box that all the gases which arise from the fresh fuel are compelled to pass down through the hottest part of the fire-box, to insure their being heated, so as to burn as soon as a supply of air comes in contact with them. The arrangement necessary for carrying out the invention varies with the kind of fire-places or furnaces employed.

Claim.—The method herein described of construction and working of fire-places and furnaces in such manner that when fresh fuel is supplied as usual, on the top of the fuel already ignited, the gases generated therefrom are made to pass downwards through the hot fuel, air being supplied at such points and in such quantities as may be suitable for complete combustion, substantially as set forth.

No. 45,112.—ALBERT ALBERTSON, assignor to J. N. McINTYRE, New York, N. Y.—*Bottle Stopper.*—November 15, 1864.—This invention consists of a disk of India-rubber or other suitable material, confined on a rod by means of a metallic washer and button. A rod is coiled at one end so as to form a spring, which rests against the bottom of the bottle and presses the stopper against the neck of the bottle.

Claim.—A stopper or closing device for bottles, composed of a valve or cork in combination with a spring rod or its equivalent, the whole constructed to operate substantially as herein before described.

No. 45,113.—AUGUSTO ALBINI, Genoa, Italy, assignor to JAS. HENDERSON.—*Armament of Ships of War.*—November 15, 1864.- This invention consists in a construction of the bulwarks of ships by which the ports present two openings, the one fore and aft, as in the usual constructed battery. while the other opens transversely to the former. This is accomplished by availing of the widening of the ship from aft forward, and from forward towards the centre of the ship. The guns therefore can be trailed to fire in a line with the keel or in a line across it. The port-hole shutters are arranged so as to cover the angles of ports and to present the usual flush line of the ship's side.

Claim.—The construction and arrangement of the gun deck and bulwarks of a ship in the manner herein described, so that the guns may be fired from the bow or the stern, or from both at the same time in a direction parallel with the keel.

No. 45,114.—H. K. ANNIS, assignor to JASON KIDDER and HIRAM C. BAKER, Enfield, N. H.—*Water-wheel.*—November 15, 1864.—The object of this invention is to regulate the expenditure of water, that a just relation shall be maintained between the amount of water used and power generated, from the maximum to the minimum capacity of the wheel. Its novelty consists in the employment of aprons combined with a sectional wheel and issues; also in semi-annular chutes, in combination with water passages and a sectional wheel.

Claim.—The aprons E E, in combination with the sectional wheel and issues, arranged to operate substantially as and for the purpose herein set forth.

Also, the semi-annular chute C, in combination with the water passages D D, aprons E E, and sectional wheel B, all constructed and arranged to operate in the manner substantially as and for the purpose specified.

No. 45,115.—J. M. BAKER, Providence, R. I., assignor to himself and ELLIOTT P. GLEASON, New York, N. Y.—*Loom for Weaving Palm-leaf, Straw, &c.*—November 15, 1864.—The fabric woven is composed, both in the warp and weft, of short pieces. One end of each strip of warp is held or gripped by a small notched eccentric, pivoted to a shoe piece and connected by a metal strap to the surface of the warp beam; this avoids the usual delay of tying each strip to a cord on the beam The cloth beam is wound up by the force of a spiral spring, together with the action of the sley in beating up; and the warp beam is by a similar spiral spring of similar power restrained from delivering too fast. The weft nipper has its jaw opened to receive a strip of weft by entering a recess, and thus causing a swell on its nipping lever to come in contact with a swing finger. The jaw is closed by a spring.

Claim.—First, the combination of the nipper, arranged substantially as described, with recess 4, the opening 2, and the swing finger R, the whole being arranged and operating substantially as described for the purpose specified.

Second, the described arrangement and method of operating the cloth and warp beams, whereby the warp is made to progress regularly by the action of the sley in beating up the successive lengths of weft, substantially as described for the purpose specified.

Third, the use of the cam 3, or the equivalent thereof, arranged with the strap V and warp beams B B′, substantially as described for the purpose specified.

No. 45,116.—GEORGE B. BRAYTON, Providence, R. I., assignor to THE BRAYTON RIVET COMPANY.—*Machine for Making Rivets* —November 15, 1864.—The nature of this invention will be mainly understood from the claim. It will not admit of a brief description.

Claim.—First, a machine operating as described, so as to form a rivet by forcing the shank into the head, substantially as described.

Second, the combination in one machine of the following elements: first, a mechanism for feeding the wire or rod to a cutter dividing it into shanks, and a mechanism for feeding the heads into the machine as herein described; second, a pair of nippers or grippers seizing the shank and conveying it successively to the head blank and hammer and the header, as herein described; third, a plunger or hammer actuated to insert the shank into the head blank, and a header to force the shank home into the head against the heading die; fourth, a means for stripping the header of the finished rivet.

Third, the employment of a pair of grippers which receive the shanks, one at a time, and whose motion is such as to present them first to the plunger or hammer for the insertion of the shank into the head, then conveying them to the header, and then release them, substantially as set forth.

Fourth, the combination of the cutter severing the wire or rod as it is fed into the machine with a griping lever mounted upon the cutter stock, so that the two, being actuated by suitable cams, move together in their translatory movement, though acting as grippers, substantially as before described.

Fifth, the combination of feed rollers feeding the wire or rod during the intervals of action of the plunger and header, as described, with a cutter and griping lever for action together, substantially as and for the purposes set forth.

Sixth, the combination of a hopper for supplying the machine with rivet head blanks, with a carrier so arranged as to seize one head blank at a time, presenting it to the plunger in position for the insertion of the shank. as set forth.

Seventh, the means herein described for regulating the stroke of the plunger within the header, according to the length of the shank, and to compensate for wear, substantially as set forth.

Eighth, in combination with the hammer for setting the shank into the head of the rivet, a means for adjusting the same according to the length of the shank, and to compensate for wear, substantially as set forth.

No. 45,117.—L. A. DOLE, assignor to himself and ALBERT R. SILVER, Salem, Ohio.—*Saw Gummer.*—November 15, 1864 —This invention consists of a disk formed of two plates between two flanges, on the periphery of which is a groove, in which the grindstone or emery wheel is clamped by securing the two plates together by screws. The orifice in one of the plates is of a size to fit the saw mandrel, that in the other being large enough to admit the collar thereof.

Claim.—The employment of metallic clamps B C, constructed to receive and hold the grindstone, and also to constitute a thin central plate for receiving the saw arbor and the collars thereon, substantially as described.

No. 45,118.—C. W. GAGE, assignor to himself and JAMES NORTHRUP, Homer, N. Y.—*Thill Attachment or Coupling.*—November 15, 1864.—This invention relates to that class of thill attachments having a movable jaw, and it consists in attaching the jaws of the shackle joint to the clip when one of the jaws is hinged to it by a pivoted joint, and its object is to permit the thill or the pole to be removed or exchanged without disturbing or loosening the clip.

Claim.—The combination of the jaws *b* and *d*, constructed as described, with the clip C, for the purposes set forth.

No. 45,119.—JEREMIAH GREENWOOD, assignor to himself and WILLIAM E. ARNOLD, Fitchburg, Mass.—*Clothes Pins.*—November 15, 1864.—This invention consists in a wedge-shaped piece, which slides up and down between the jaws of the pin, and is operated by a rod or plunger passing longitudinally through its centre, in connexion with a notch or indentation in the jaw opposite the wedge, by which means when the wedge is forced down the pin will be securely fastened upon the line.

Claim.—The jaw *a* with its notch or recess *c*, in combination with the wedge *e*, operated by the rod *d*, substantially as set forth.

No. 45,120.—C. B. HUTCHINGS, assignor to MARIA HUTCHINGS, Rochester, N. Y.—*Grain Separatar.*—November 15, 1864.—The main features of this invention consist in the employment of a divider for the inflowing grain, which is so constructed and operated that the changes in its adjustment do not affect the atmospheric current entering the machine through the tube or flue in which it is located. Also, in the use of a horizontal primary section flue, through which the grain is dropped vertically. The suction blast is obtained by means of a double-headed suction fan, and the strength of the current is governed by an adjustable guide located at the entrance of the blast.

Claim.—First, in combination with the suction flue B, the sliding divider J, whereby, without affecting the inflowing current, the grain coming in contact with the current of air is separated or graded, so that the plump well-filled grain, by reason of greater density, passes through the current, while the shrunken or poorer portion, with the refuse, is deflected from its course by the current and turned into the receptacle M, preparatory to screening and cleaning.

Second, the horizontal suction flue B in combination with the double-headed fan F, when the grain to be operated upon by the suction current is fed through it vertically, or nearly so.

Third, the valve *d* in combination with two or more inducting flues B and C and double-headed fan F, when said fan is enclosed in a vacuum chamber G.

Fourth, the employment of the wind board K, for the purpose of concentrating and directing the current preparatory to its acting upon the falling grain, as set forth.

No. 45,121.—G. O. Munroe, New York, N. Y., assignor to the Army and Navy Button Company, Waterbury, Conn.—*Pin-fastening for Medals.*—November 15, 1864.—In this invention, instead of the usual hinged pin, a pin with a head is bent and introduced through the back plate of the medal and allowed to turn sideways and fastened by a tongue cut and bent up from the back plate.

Claim.—Forming the pins of breastpins, medals, &c., of a headed pin passed through a hole or socket, in the manner and for the purposes specified.

Also, forming the clasp or catch of a tongue pressed up from the plate *b*, in the manner set forth.

No. 45,122.—Herman Rice, assignor to himself and Moritz Fleischman, Youngstown, Ohio.—*Washing Machine.*—November 15, 1864; antedated October 30, 1864.—This invention consists of a reciprocating and a yielding rubber placed within a rectangular tub and operating with suitable gearing and a crank, whereby the clothes may be rubbed, turned, and squeezed.

Claim.—First, the combination of the hinged cover or lid A2, section A′, and tub A, with the interior box B, adapted to be turned back with the section A′, for admitting of the insertion of clothes between the rubbers C and J, as set forth.

Second, in combination with the above parts, the guides D D, constructed and employed substantially as and for the purpose explained.

No. 45,123.—Joseph Rider, Newark, Ohio, assignor to himself and E. Remington & Sons, Ilion, N. Y.—*Breech-loading Fire-arms.*—November 15, 1864.—This invention consists in providing an additional security for preventing the metallic cartridge case being struck by the hammer while the hinged breech piece is open, which is done by an additional spring that bears on the heel of the trigger, having an elbow, the upper end of which bears upon the breech-block under its pivot. A tooth on the hammer and a corresponding indentation on the hinged breech-piece effect the same purpose in case of an accident to the spring.

Claim.—Locking the hammer while the arm is being loaded, or the bore is exposed for the insertion of the cartridge, substantially as and for the purpose set forth.

Also, an auxiliary locking mechanism, consisting of the recess 1 in the breech-plate, and the projection 2 on the hammer, as and for the purpose described.

No. 45,124.—W. G. Smith, assignor to himself, John F. Barney, and Jacob A. Wilder, Chicago, Ill.—*Railroad Car Journal.*—November 15, 1864.—This invention consists of a short steel journal, on which small friction wheels are placed working inside the hollow hub of the car wheel.

Claim.—First, the journal I when disconnected from the shaft of the wheel, substantially as and for the purposes set forth.

Second, constructing a journal disconnected from the shaft varying in size—that is, having two or more different diameters, substantially as herein described.

Third, the combination and arrangement of the journal I, the friction wheels R and L, and the hollow hub C, when constructed and operating substantially as specified.

Fourth, the combination and arrangement of the journal I, the journal box D, provided with the face plate E and the hub C, when constructed and operating substantially as herein delineated and set forth.

Fifth, the combination and arrangement of the journal I, the washer P, and the hollow hub C, when arranged substantially as herein described.

No. 45,125.—H. B. Thomas, assignor to himself and S. S. Merrill, Chicago, Ill.—*Grain Screen and Sieve.*—November 15, 1864.—This invention consists in the construction of flat sieves or screens, composed of narrow strips of sheet metal, and crimped into such form that, when two or more strips are joined together side by side, hexagonal openings are left between them, sufficiently large to admit the passage of a grain of wheat; when the screen is fixed in a horizontal position and shaken with mixed grain, as wheat and oats, the wheat will readily pass through, while the oats will be carried forward by the moving grain, and prevented from passing through with the wheat by reason of the greater length of the grains of oats.

Claim.—In the construction of sieves or screens, the employment of the bent metallic strips *a*, when constructed, arranged, and operating as and for the purposes herein shown and described.

No. 45,126.—Edward S. Wright, assignor to himself and George Brown, New York, N. Y.—*Breech-loading Fire-arms.*—November 15, 1864; antedated November 13, 1864.—The arm is provided with a hinged breech-block turning up over the barrel to open the rear thereof, and down behind the cartridge when inserted, so as to form a solid abutment thereto, and the improvement consists in so hanging and arranging the hammer that, in striking the sliding pin or "hammer-rod" passing through the hinged breech-block, it effectually locks and secures the said breech-block in position. Another improvement consists in a particular arrangement of the main and sere springs in the lock.

Claim.—First, the hammer H and centre *h*, arranged to confine and release the movable piece C, and to operate in combination with C and the striking pin D, substantially as specified.

Second, the within described arrangement of the main spring I, sere J *j*, sere spring K, and screw L, for the purposes specified.

No. 45,127.—Richard Covington, Washington, D. C.—*Marine Propeller.*—November 15, 1864.—The main features of this apparatus are as follows: An oscillation is given, which alternately raises the floats above and sinks them below the surface of the water; the floats are arranged upon expanding and contracting arms or shafts; there are also devices for the reversal of the action of the floats: a system or combination of levers is employed, which are so braced and connected that the floats in the water act in nearly a straight line of movement.

Claim—First, giving an oscillating motion to expanding and contracting paddle arms by means substantially as described.

Second, reversing the action of expanding and contracting propellers by means of a rock shaft *f* and pendulum F, acted upon by a fixed fork H, or the equivalents thereof, substantially as described.

Third, the levers D D′ with an oscillating frame C, moving about a fixed centre *d*, substantially as described.

Fourth, the fixed guide *c* and stops *c′ c′*, in combination with a pivoted frame C and devices for oscillating this frame, substantially as described.

Fifth, the paddle J *j j*, substantially as and for the purpose described.

Sixth, the employment of expanding and contracting levers D D′ D2 D3 and E E′, arranged on each side of and supported by a fixed or an oscillating frame C, or the equivalent thereof, substantially as described.

Seventh, the arms D D2, pivoted at different points on the paddle arm E, substantially as and for the purposes set forth.

No.. 45,128.—Clifford Arick, St. Clairsville, Ohio.—*Combined Time and Concussion Fuze for Shells.*—November 22, 1864.—The ordinary C-shaped or Bormann time fuze has its case constructed with a tube or cylindrical chamber connected with the air or fire space by which the said time fuze is ignited, and opening into the charge cavity of the shell; the said cylindrical chamber being provided with a concussion device similar to that of the Splingard concussion fuze, or an equivalent arrangement.

Claim.—First, the construction of a soft metal fuze case, having an annular chamber or groove for the reception of an annular time fuze, and a vertical or other independent chamber or tube, for the reception of a concussion or percussion fuze.

Second, the union, in a single magazine to an annular fuze, of the two ends of the fuze by independent vents, one operated in the usual way on time, and the other by concussion or percussion.

No. 45,129.—John H. Barnes, Brooklyn, N. Y.—*Knob Latch.*—November 22, 1864.—This improvement in Janus-faced latches consists in the peculiar bevelled shape given to the projecting end of the latch bolt, and in a striker or nosing bevelled to correspond with it, but which cannot well be described without reference to the drawings.

Claim.—The construction of the latch-head D, having three bevelled surfaces, substantially as and for the purposes set forth.

Also, the bevelling of the outside ends *g g* of the keeper or striker E, substantially as and for the purposes set forth.

Also, the arrangement of the inner inclines ***k k*** of the keeper or striker E, substantially as and for the purposes set forth.

Also, the combination of the bevelled latch-head D and the keeper or striker E, for the purposes set forth.

No. 45,130.—G. W. Barnett, Urbana, Ohio.—*Traction Engines.*—November 22, 1864.—This invention consists in the employment or use, in combination with the truck, of a hinged frame which carries the steam boiler and cylinder and the driving gear, and which forms the bearing for the axle of the driving wheel in such a manner that said driving wheel is free to follow the sinuosities of the ground and to act with its full power, assisted by the weight of the boiler and driving gear, and independent of the position of the wheels supporting the truck frame.

Claim.—The driving wheel F, steam boiler H, and cylinders G, mounted upon the hinged frame D, in combination with the truck frame A, all constructed and operating substantially as and for the purposes set forth.

No. 45,131.—William Beaton, Grinnell, Iowa.—*Cloth Measurer.*—November 22, 1864.—A tape measure secured in a box has attached to its ends hooks for attaching it to the inner end of a roll of cloth; the hollow bill from which the tape runs out from its coil is at right angles to the coil, and, being inserted into the centre of the roll of cloth, is carried, by means of a handle grasped by the operator, along the successive folds of the cloth until it arrives at the outside of the roll; the tape in the mean time paying out; and when the bill emerges from beneath the last fold, the measurement of the cloth will be indicated by the scale.

Claim.—First, a cloth measure for measuring cloth and other materials in the roll or folds, substantially as described.

Second, the hollow bill for inserting the tape in the folds of the goods to be measured in the roll, in combination with the reel of the tape, substantially as described.

No. 45,132.—**Asa Blood**, Sr., Janesville, Wis.—*Gate.*—November 22, 1864.—This invention consists of a gate sliding horizontally in a line with the fence upon friction rollers at the bottom, a friction roller being placed at the top end running upon a groove directly over it: this wheel sustains the weight of the gate as it is rolled out, and no balance weight is required, nor guides upon the bottom of the sill.

Claim.—A gate and door, when constructed and supported substantially as and for the purpose described.

No. 45,133.—**William G. A. Bonwill**, Dover, Del.—*Screw.*—November 22, 1864.—This improvement consists in cutting a groove, either straight or spiral, across the threads and so as to form thereof a series of cutters, extending the whole length of the threaded portion upward through the plain cylindrical portion, and emerging at the upper surface of the head. In the tapered point of the screw the groove is always straight, and is of such depth as to divide the extremity into two separate points.

Claim.—As a new article of manufacture, a wood screw, constructed as herein specified.

No. 45,134.—**Lewis Boore**, Buffalo, N. Y.—*Soldering Furnace.*—November 22, 1864.—This invention consists in constructing the furnace with the mouth or air flue above the surface of the fire and an opening or flue both above and below in the rear of the grate. Either of these openings can be closed by a single swinging valve. When the fire is to be kindled the valve is thrown down, and the upper rear flue left open, but when kindled and in use the valve is reversed, and thus closes the upper and opens the lower flue, forcing the draught downward through the grate. A hearth with a lid of proper construction in front, and on a level with the grate, admits the tool to be heated and closes around the shank.

Claim.—The relative arrangement and combination of the coal chamber A, draught opening F, hearth E, for the soldering irons, and smoke flue H, so that the air for combustion will enter above and draw down on the soldering irons, for the purpose and substantially as described.

No. 45,135.—**John Brower**, Newark, N. J.—*Water Closet Valve.*—November 22, 1864.—The valve is a disk, a V-shaped flange near its periphery fitting into a groove of corresponding shape in the valve seat. The valve is lifted clear of its seat by means of a lever having its fulcrum beyond the diameter of the valve. On the upper side of the valve, at its centre, ascends a small solid hemisphere or dome, from the centre of which a pin ascends. The end of the lever has a hole, and fits loosely upon this pin. and a nut holds it to its place ; thus the lever adapts itself to every possible position with reference to the valve which it carries or presses down.

Claim.—A water closet valve held to its place by a bar secured by a hemispherical connexion, and rendered water-tight by means of a V-shaped joint, all substantially as shown and described.

No. 45,136.—**Daniel J. Brown** and **Cyrus W. Baldwin**, Boston, Mass.—*Lubricating the Packing of Pistons.*—November 22, 1864.—This invention consists in saturating the packing with an adhesive varnish, such as is used in the manufacture of patent leather, and then coating the surface with plumbago, steatite, or talc.

Claim.—To coat over or infuse into raw hide, leather, paper, and canvas, or cloth, employed for the packing of caloric engines and pumps, as well as the parts of machines subjected to abrasion or wear, with a good adhesive varnish or paint, and, when said packing and part of machines are partially stiffened or dry, to dust and further coat them over with finely pulverized plumbago, steatite, or talc, immediately afterwards rubbing or burnishing them to the desired degree of smoothness or firmness required, substantially as and for the purposes herein described.

Among the advantages claimed by this invention are durability, protection from abrasion, moisture, and a considerable degree of heat, when applicable to the packing of caloric engines and pumps, as well as to various parts of machines.

No. 45,137.—**Joseph Linus Clark**, Chester, Conn.—*Cork Screw.*—November 22, 1864.—This invention consists of a screw made thin with sharp edges, the shank of which revolves in a handle, and when the screw is pressed into a cork it will revolve without turning the handle, and when the cork is being drawn the shank will catch on a pin in the handle to prevent it from revolving.

Claim.—The increased pitch of the thread when used for the purpose herein described, and operating in connexion with the pin P and catch K, or their equivalent.

No. 45,138.—**Frederick Closs**, New Haven, Conn.—*Boots, &c.*—November 22, 1864 — This invention, relating to a mode of attaching the soles to the uppers, consists in sewing the soles of boots or shoes to the uppers from the outside to the inside of the article, leaving the outer sole to be worn off to the last pellicle which can hang together before the wear comes in contact with the stitches securing the outer sole to the boot.

Claim.—Sewing by machinery the soles to the uppers of boots and shoes, substantially as herein described.

No. 45,139.—**A. Crisman** and **M. Whitmer**, Sugar Creek, Iowa.—*Seed Planter.*—November 22, 1864.—This invention consists of an elastic bar of wood fastened at one end firmly near the driver's seat, and connecting at the other end with the seeding device. The middle of the bar presses against the side of an annular plate fastened to the inside of the wheel hub. This plate is furnished with pins that, at certain points in the revolution, agitate the bar and open the orifices in the seed box.

Claim.—The combination of a hinged lever G, cross bar K, rocker shaft H, short arms ***i i***, and feed blocks K K′, or their equivalents, with the running gear and seed box of a seeding machine for the purpose of effecting and controlling the discharge of seed therefrom, when a regular vibratory movement is imparted to the lever G and its attachments by means of an annular plate ***a*** and pins ***b b***, operating upon a cam ***g***, substantially in the manner herein set forth.

No. 45,140.—**J. E. Chase** and **Joseph Toy**, Simsbury, Conn.—*Safety Fuze.*—November 22, 1864.—This invention consists in covering the body of the fuze, in making water-proof safety fuze, with a covering made of fibre when in the condition known as "sliver."

Claim.—Enclosing the body of the fuze within a covering of loose fibres in the condition of sliver, or its equivalent, substantially as and for the the purpose above described.

No. 45,141.—**Edwin De Mortimer**, Cincinnati, Ohio.—*Soap Composition.*—November 22, 1864.—This invention consists of a composition made by boiling together common bar soap, potash, pearlash, and water, and adding to the boiling mixture coal oil, starch, and soapstone. The mixture is then allowed to cool, and aqua ammonia is added. For toilet use glycerine, coloring matter, and perfumes are added.

Claim.—The compound of materials in the proportions and manner and for the purpose set forth.

No. 45,142.—**Roswell Denison**, Grand Rapids, Mich.—*Bolts in Grinding Mills.*—November 22, 1864.—This invention relates to a means for knocking or jarring flour bolts during the operation of bolting; to this end the invention consists in the employment or use of balls placed in tubes attached to the frame of the bolt and arranged in such a manner that each ball will, as the ball rotates, produce two jars or concussions during each revolution of the bolt, and thereby operate in the most efficient manner.

Claim.—The employment or use of a series of tubes containing balls or other shaped weights and applied to the bolt, to operate in the manner substantially as and for the purpose herein set forth.

No. 45,143.—**Henry P. Dennis**, Peoria, Ill.—*Soldering Metal Vessels.*—November 22, 1864.—This improvement consists in mounting upon a shaft in a suitable frame an expanding cylinder, upon which the can is placed, the joint or seam held by a clamp while being soldered. The cylinder is composed of four or more staves, fastened at one end to segments with slotted radial arms, capable of adjustment out or in by means of set-screws passing through the slots into the disk forming the head of the cylinder. Turning the shaft, on the outer end of which is a cone-shaped disk, forces the latter out or in, by means of a screw on said shaft, between the ends of the staves, and expands or contracts them to suit the size of the can.

Claim.—The machine composed of the two-armed standard A, with the sliding box C, vibrating box with lever or arm D, in combination with the shaft B, the adjustable cylinder or mould and finger lever E, all constructed and operating substantially as described.

Also, the cylinder or mould constructed with the head I, the stave plate L, with adjustable and set-screws ***n*** and K, and springs P and stave ***q***, in combination with the expansion plate O and shaft B, all arranged to operate in the manner and for the purposes set forth.

No. 45,144.—**Julius C. Dickey**, Saratoga Springs, N. Y.—*Machine for Amalgamating Gold and Silver.*—November 22, 1864; antedated November 19, 1864.—This invention consists in arranging within the amalgamator one or more channels in which are one or more conductors.

Claim.—The employment of one or more of the conductors G, in combination with one or more channels F, for the purpose set forth.

No. 45,145.—**Henry J. Dickerson**, Gloversville, N. Y.—*Machine for Cutting out Gloves.*—November 22, 1864.—The object of this invention is to cut out a piece of kid or buckskin, so that when folded upon itself it shall form a glove; the cutter is arranged on the under side of a platen, the outer line of said cutter being secured by lateral pins or screws to ledges descending from the platen, the finger cutters being held in place by lateral pressure against pins pendent from the platen and by being wedged in slots formed in a bar transverse upon the lower side of the platen. Quirks of diamond form are cut at the end of the short fingers and from the piece formed at the thumb hole by cutters attached to the main cutters, and having notches at their cutting edges contiguous to similar notches on the main cutters for the purpose of preserving a slender connexion with the glove, that the quirks may always be preserved. The platen is attached to its follower by means of a dove-tail bar on its upper side sliding into a similar groove in the follower.

Claim.—First, the method of attaching cutters *h j* to the bed-plate B, as herein shown and described, to wit, by having the cutter *h* secured to ledges *g*, and the cutters *j* secured in position by pendent pins or projections *i* and the notched cross-bar *k* and the wedges or keys *l*, substantially as herein set forth.

Second, the employment or use in combination with the cutters *h j* of the quirk cutters *n n o*, arranged substantially as and for the purpose specified.

Third, in combination with the aforesaid bed-plate B and cross-head *f* of a glove-cutting machine the dove-tail S and slot *t* for securing the bed-plate to the press, substantially as set forth.

No. 45,146.—A. Eliaers, Boston, Mass.—*Folding Chair.*—November 22, 1864.—This invention consists in connecting a pivoted seat by means of suitable braces with the hind legs of the chair and held there by a locking device, in such a manner as to vary at pleasure the angle which the rear legs make with the front ones. Also, in constructing a flexible back with a rigid ring or bar, so attached to the legs of the chair as to shape the flexible back and enable it to be folded into a small compass.

Claim.—First, the arrangement of the pivoted seat, supported by suitable braces held by a locking device in such a manner that the chair can be set at any desired inclination, as described.

Second, the arrangement of the locking device and pivoted or hinged legs, operating together as described.

Third, the use of a rigid pivoted ring or bar to shape the flexible back and also to enable it to be folded into a small compass, arranged substantially as described.

No. 45,147.—David Evans, Philadelphia, Penn.—*Rock Drill.*—November 22, 1864.—This invention consists in providing a rock drill, with permanent cheeks or cutters a short distance from the point of the drill, for the purpose of cutting or reaming the hole drilled of a uniform size as the point of the drill wears away in use.

Claim.—Providing a rock drill with permanent cheeks or cutters a short distance from the point of the drill, to cut or ream the hole drilled of a uniform size as the point of the drill wears away in drilling.

No. 45,148.—Elisha Foote, Saratoga Springs, N. Y.—*Skate.*—November 22, 1864.—This invention, relating chiefly to the form of the runners in skates, consists in a thin upright rib with two flanges, one at the top, the other at the bottom, the lower flange constituting the bottom of the skate.

Claim.—First, the form of the runner as above set forth, consisting of a thin upright rib and one or two flanges.

Second, the combination of such a runner with standards to prevent it from turning over sideways, as described.

Third, the use of two screws at the heel, constructed and arranged as described.

Fourth, the improved mode of attaching the clamps and screws to operate them, as set forth.

No. 45,149.—Eunice N. Foote, Saratoga Springs, N. Y.—*Paper-making Machine.*—November 22, 1864.—The main object of this invention is to avoid the liability of the fibres to become laid upon the face of the cylinder in directions parallel with each other. The endless band of slats partially surrounds the cylinder and moves coincidently with it. At the point where the pulp leaves the water and ascends to the coucher is placed a couple of rolls, one within and one above the water, both being connected by an endless rubber or other cloth band to which the pulp will not adhere; the object of this is to avoid that disturbance of the water at this point which tends to wash the fine particles from the pulp, to break it up, or to leave it in ridges or blotches on the cylinder.

Claim.—First, giving to the pulp on its approach to the cylinder of a paper machine the motion of the cylinder by means of the band of slats described, or other equivalent means, for the uses and purposes above set forth.

Second, the combination with the cylinder of an endless band of slats, or its equivalent, constructed and operating as and for the purpose described.

Third, the use of the rolls *b* and *c* and band *d*, or their equivalents, to effect the objects specified.

No. 45,150.—Walter K. Foster, Bangor, Me.—*Carriage Wheel.*—November 22, 1864.—This invention consists of a band of metal carried nearly around the circumference of the felloe and provided at or near its termination with two projections, which have female screws made through them for the reception of two male screws; the latter are extended in opposite directions from a cylindrical head arranged between the two projections. One of these screws is right-threaded and the other a left-threaded screw, in order that when the two are revolved they may mutually operate in either contracting or expanding the tire.

Claim.—The combination of the holding screw-bolt *g* with the wheel and the tire-contracting mechanism thereof.

Also, the combination of the series of tenons *i i i* with the wheel and the tire-contracting mechanism thereof.

No. 45,151.—O. P. Furman, Addison, N. Y.—*Invalid Bedstead.*—November 22, 1864.—The invention consists in the arrangement of the appliances by which the head portion of the bed is elevated; a large semi-circular rack is attached to the back of the head-board and frame, and a lever or handle, which is moved back and forth across the rack, (dropping into notches in the rack at suitable intervals,) is attached to the axis of a large pulley wheel placed within or in front of the head-board or frame. Over this pulley are cords going to smaller pulleys on each side of the head frame. As the lever is moved back and forth it operates through the pulleys on the head frame to raise and lower it at pleasure.

Claim.—The pulley F, provided with a lever G, at the rear end of its shaft, which works over a semi-circular notched bar H, in connexion with the cords E E, attached to the pulley F, as shown and connected to the pivoted part C of the bed bottom, all applied and arranged to operate substantially as and for the purpose specified.

No. 45,152.—Alexander Grillet, Philadelphia, Penn.—*Breech-loading Fire-arms.*—November 22, 1864.—A pivoted or rolling breech is provided with a spring bolt, which automatically secures it in place when closed; this closing of the breech being also effected by the action of a spring. The hammer which is hung upon the same pin is so arranged that it may be sprung by the trigger, either simultaneously with the pivoted breech or independently thereof. A cartridge retracting hook of peculiar arrangement is pivoted to the stock and operated by the opening of the breech.

Claim.—First, the breech-piece E and hammer H hung to the pin F, and combined with the devices herein described or the equivalents to the same, whereby said breech-pieces and hammer may be made to operate together or independently of each other, as set forth.

Second, the spring bolt G, with its spring catch *g′*, combined with the breech-piece, substantially in the manner set forth and for the purpose specified.

Third, the breech-piece, its spring bolt G, the pin *e* attached to the same, and the curved slot *j*, in combination with the hammer H, and its two pins *i* and *i′*.

Fourth, the combination of the breech-piece E, hammer H, and the spring *u*, or its equivalent, for maintaining the breech-piece in advance of the hammer.

Fifth, the arm J, its projection *p*, and curved projection *r*, in combination with the pin *t* on the breech-piece, the whole being constructed and arranged substantially as and for the purpose herein set forth.

No. 45,153.—T. B. Gunning, New York, N. Y.—*Oil Ejector for Oil Wells.*—November 22, 1864.—The object of this invention is to admit the gas which escapes from the elevated oil into a gas chamber and to make it subservient in forcing up the oil. Its novelty consists in the enlargement of the tube F at the upper portion of the tube B, flap or door G, valve I, and the gas tube H communicating with it.

Claim.—First, the employment or use of a gas tube or gas chamber arranged with the air pump and oil tube, substantially as shown, for the purpose of admitting of the gas which escapes from the elevated oil being made subservient in forcing up the oil, as described.

Second, the enlarged portion F, at the upper part of the oil tube B, provided with a flap or door G and a valve I, and having the gas tube H communicating with it, and all arranged substantially as and for the purpose specified.

No. 45,154.—A. W. Hall, New York, N. Y.—*Flax and Hemp Brake.*—November 22, 1864.—The claim indicates the general character of this invention. A bar underlies all the beaters, and by means of a lever handle may be turned up edgewise to raise all the beaters evenly when desired. The knives or saws are attached to a few only of the beaters on the discharge side of the machine to cut the flax or hemp, and also to separate the fibre from the woody portion and divide it into fine threads.

Claim.—The employment or use of a series of beaters provided with openings *c*, and operated by pins placed in one or more spiral rows on a cylinder A, in connexion with the slotted bed B, and a suitable spring or springs, all arranged so that the beaters will work consecutively in pairs and perform the operations of beating or breaking, scutching and feeding simultaneously or at one operation, as set forth.

Also, the bar F, when applied to the bed B, and underneath the beaters C, substantially as and for the purpose specified.

Also, the knives or cutters *d* and saws *e*, when applied to or used in combination with the beaters C, substantially as and for the purpose herein set forth.

Also, the opening *e* in the beaters C, made or arranged as shown with a bottom piece or bar so as to raise the flax or hemp from between the bars *e*, and admit of its being fed along by the descent or down stroke of the beaters, as set forth.

No. 45,155.—Samuel Z. Hall, Camden, N. J.—*Churns.*—November 22, 1864.—This invention consists in the employment in a rotary churn of one or more revolving twisted dashers, arranged at such a distance from the axis of revolution as to sweep closely to the inner surface of the churn body.

Claim.—The employment in a churn of one or more revolving twisted dashers, arranged at a distance from the axis of revolution, substantially as herein specified.

No. 45,156.—A. Hemminger, Sandusky, Ohio.—*Improved Grape Mill.*—November 22, 1864.—This invention consists in an apparatus in which the grapes are squeezed and compressed between rolls to extract the greater part of the juice before submitting the pulp to the action of a press; also in a novel and improved means for detaching and separating the stems, and it consists of two oscillating frames which move in close proximity with the bars of the concave at the bottom of the mill, the object being to prevent the stems from getting into the vat with the juice.

Claim.—First, the oscillating separator J J, employed in connexion with the grated concave A *a a′*, for removing the stems and skin from the pulp previously to the latter being submitted to the action of a press, substantially as and for the purpose set forth.

Second, the combined arrangement of the ribbed and grooved rolls C C′ and separator J J, when employed in connexion with the grated concave A *a a′*, substantially in the manner described.

No. 45,157.—Austin D. Hoffman, Wayne, Mich.—*Odometer.*—November 22, 1864.—The invention consists in a compact arrangement of gear wheels for the purpose of operating on the index hands. attained by running loose gears upon a common shaft, there being but two shafts for five gear wheels and four pinions. A spring brake or friction brake is also applied upon a square portion of the driving shaft to keep the gears steady.

Claim.—First, the spring or brake H, employed in the described combination with the worm shaft E of an odometer, to regulate its rotation.

Second, the double dial *d d′* and gearing K L M N, arranged as specified in the described combination with the worm shaft E and sprocket wheel F of an odometer.

No. 45,158.—M. G. Hubbard, Syracuse, N. Y.—*Mowing Machine.*—November 22, 1864.—This invention relates to the construction and manner of applying the track clearer. Said clearer, made in the curved form, and provided at its upper edge with the curved, adjustable grass wing, or rod, as shown by the drawing, is pivoted to a vertical flange on the outer shoe or divider at a point directly over the finger bar, from which point it extends forward and backward; its forward extension being for the purpose of giving it the requisite lateral support against the pressure of the grass upon its rear inwardly curved extension.

Claim.—The combination of a curved track clearer hinged as and at the point described, and extending forward as and for the purposes set forth, in combination with a curved adjustable grass wing attached in the manner described to the upper edge of the clearer board, substantially as and for the purpose specified.

No. 45,159.—M. C. Kilgore and William Eberhard, Washington, Iowa.—*Oscillating Engine.*—November 22, 1864.—The object of this invention is to relieve the piston rod and stuffing box of an oscillating engine.

Its novelty consists in the arrangement of the parts, which consist of the arm placed upon the top of the cylinder, the head attached to the end of the piston rod, and the arc-formed valve seat attached to the under side of the cylinder, with the arc-formed valve in which the seat works. The head which is attached to the piston rod serves as a bearing for the crank pin and also as a guide for the arm which is made fast to the cylinder to work through, the purpose of which is to relieve the piston rod and stuffing box from strain and wear. The arc-formed valve seat is cast upon the cylinder, the arc of the circle being of such a diameter that it works in steam-tight contact throughout the entire movement of the cylinder. The valve is placed directly underneath the centre of the cylinder, concave on its side which is next the cylinder, and of the same diameter of circle as the valve seat. The under side of this seat is flat and comes nearly in contact with the frame of the engine. The proper contact between the valve and its seat is caused by set screws passing through the valve and bearing upon the frame, by which means the valve is raised or lowered at pleasure.

Claim.—The combination of the arm H *b* attached to the cylinder, the guide I attached to the head G of the piston rod, the arc-formed valve seat attached to the under side of the cylinder, and the adjustable arc-formed stationary valve K K, all constructed, arranged, and operating in the manner and for the purposes herein specified.

No. 45,160.—John Lawrence Klein, New York, N. Y.—*Composition for Candles.*—November 22, 1864.—This invention consists of paraffine, purified by repeated washing, steaming, and pressing, combined with cera bonica, or vegetable wax, tallow, and spermaceti, and stearine.

Claim.—A new and improved process for making composition candles as herein described, using for that purpose the aforesaid ingredients or composition of matter, or any other substantially the same, and which will produce the intended effect.

No. 45,161.—John Lawrence Klein, New York, N. Y.—*Manufacture of Paraffine Candles.*—November 22, 1864.—This invention consists in first making a composition of water, chloride of lime, and muriatic acid. The paraffine is then placed in a boiler and heated by dry steam to 160° Fahrenheit, after which a portion of the above mixture is added, and the whole is boiled for five minutes. The steam is then turned off, leaving the mixture thirty minutes to clear. It is then allowed to cool, and is placed in linen bags, and subjected to hydraulic pressure until the oil is expelled. The substance remaining in the bags is heated in a boiler with a portion of the first named mixture, together with aqua ammonia and alum, and is then boiled, allowed to clear, and again cooled. The mixture is then reduced to powder and put in linen bags, and again submitted to pressure. The substance left in the bags is heated and naphtha is added to it, when it is again allowed to settle and cool. It is again reduced to powder, and pressed in woollen bags enclosed in bags made of linen, after which it is melted and stearine and spermaceti added, when the composition is ready to be made into candles.

Claim.—A new and improved process for making paraffine candles, as herein described, using for that purpose the aforesaid ingredients or compositions of matter, or any other substantially the same, and which will produce the intended effect.

No. 45,162.—Henry Last, West Lebanon, Ind.—*Gate Fastening.*—November 22, 1864.—This invention consists in a gate latch or bolt operated by a lever from the top, in combination with a catch formed of two drops, hinged at the outer ends to a frame which has a slight longitudinal movement in an outer or stationary case. The inner ends of these drops are, when at rest, about thirty degrees below the outer ends, and sufficiently far apart to give room to the latch between said inner ends. As the gate closes, the upper edge of the latch impinges against the inclined side of the nearest drop, raises and passes under it, striking against the inner end of the opposite drop, the concussion against which is relieved by the frame to which it is attached moving against a spring or some other elastic substance.

Claim.—The latch E, provided with a lever F, applied to the gate A, substantially as shown, in combination with a drop catch G, arranged with a spring or springs, in such a manner that said catch may, to a certain extent, yield or give to the latch as the latter impinges against the drops as the gate closes, substantially as and for the purpose set forth.

No. 45,163.—John McCombs, Edinburg, Ohio.—*Sap Spout.*—November 22, 1864.—This invention consists of a cylindrical spout made conical at its inner end and having a bore of varying diameter, the larger diameter being at the outer end.

Claim.—A sap spout, consisting of the cylinder A, cone B, and bore C D, the whole being constructed as and for the purpose herein specified.

No. 45,164.—F. Moreau and F. Roberts, New York, N. Y.—*Apparatus for Marbling Soap.*—November 22, 1864.—The soap is divided into two portions, one of which is converted into blue soap, by means of fluocyanide of aluminum, or other pigments. The blue soap is then placed in a lower pan and the white soap in an upper pan. The soap in the upper pan is then forced down through tubes, by means of a plunger. or piston plate, and at the same time the soap in the lower pan is forced through holes, by means of a plunger plate. The plungers are moved by means of handles. By this operation the blue and white soap is uniformly mixed, as they fall from the bottom of the lower pan. The openings are closed or opened by means of a slide.

Claim.—The use of two pans A B, with holes *a b* in their bottoms, and connected by pipes *c*, in combination with plates C E, constructed and operating substantially as and for the purpose set forth.

No. 45,165.—E. W. Morse, Chicago, Ill.—*Locking Door for Railroad Cars.*—November 22, 1864.—In this invention the lock is applied to the bottom of the car door, in such a position that the bolt of said lock is protected by the jaws of one of the guides attached to the door, and which embrace both sides of the narrow rail or bar upon which it slides, a notch in said rail forming the catch for the bolt when the door is shut.

Claim.—First, a locking device in a car or other structure with sliding doors, constructed and operated substantially as above described.

Second, protecting the bolt of the lock by means of the guides which hold the door to the rail on which it slides, substantially as and for the purpose set forth.

No. 45,166.—F. Moreau and F. Roberts, New York, N. Y.—*Manufacture of Soap.*—November 22, 1864.—This invention consists in making soap in shallow pans, with constant agitation of the material during the process of saponification, so as to oxidize the oil or fat.

Claim.—The within described process of manufacturing soap by mixing lye with fat or oil oxidized, either previous to or during the saponification, substantially in the manner herein set forth.

Also, the use in the manufacture of soap of an apparatus, substantially such as herein described, consisting of a flat pan A, supported by a frame C, in a steam jacket B, as set forth.

No. 45,167.—**S. A. Mort**, Dayton, Ohio.—*Washing Machine.*—November 22, 1864.—This invention relates to that class of washing machines in which a concave of rollers is used in connexion with a fluted cylinder, and consists of a series of devices designated in the claim.

Claim.—First, the fitting of the journals of the rollers F of the concave in segments G, connected at their lower parts by a hinge or joints *d*, provided with springs H, and attached to slides I, which have springs *e* attached to them in combination with the fluted cylinder C, placed in an adjustable frame B, all being arranged to operate in the manner substantially as and for the purpose herein set forth.

Second, in combination with the above, the partitions J J, placed within the suds-box and arranged relatively with the concave E, substantially as and for the purpose herein set forth.

No. 45,168.—**G. M. Mowbray**, Titusville, Penn.—*Air Pump.*—November 22, 1864.—The object of this invention is to compress air, vapor, and gaseous bodies to a high degree without the difficulty heretofore experienced of abrasion of the pump piston from excessive heat induced by compression of air, &c. Its novelty consists in a combination and arrangement of chambers with a cylinder, reservoir, water-gauge, water-discharge cocks, and the arrangement of the inlet or check valves, whereby, with the air or gas to be compressed, the admission of water to the piston is allowed, and it thereby kept in good working order.

Claim.—First, compressing and forcing air in and through a pump by means of water or other comparatively incompressible liquid, so that the air is acted on directly by the water, and does not come in contact with the piston, under a mode of operation and by a combination and arrangement of chambers D D′ and cylinder A, substantially as above set forth.

Second, arranging the inlet or check valves so that while air is supplied through their seats to the chambers D D′, a small portion of water or other liquid may also be passed into the chambers to compensate for the waste of the supply in the pump, substantially as described.

Third, the combination of the air reservoir J with the water gauge L and water-discharge cock M, substantially as described.

Fourth, balancing or partially balancing the inlet or check valves by means of the compensating water supply, under a mode of construction and operation substantially as described.

No. 45,169.—**F. W. Newbert**. Pittsburg, Penn.—*Artificial Leg.*—November 22, 1864.—This invention consists in the employment of a cushioned check in front of the knee joint, arranged between the upper and lower portions of the leg, so as to prevent a jar when the leg is straightened.

Claim.—The arrangement of the stop *f* and cushioned shoulder *g* in front of the knee joint, in combination with the elastic cord *e e′* and cord *d′ d*, arranged and operating substantially as herein described and for the purpose set forth.

No. 45,170.—**Augustus J. Ohmer**, Hamilton, Ohio.—*Portable Refreshment Fountain.*—November 22, 1864.—This invention consists of a reservoir provided with a handle and ears. It is also provided with an injecting and discharge tube, and is charged from a soda fountain by means of a flexible tube.

Claim.—First, the portable refreshment fountain hereinbefore described, consisting of the reservoir A, ears C C, injecting and discharging tube D, throttle E, and nozzle G, or their equivalents, constructed, arranged, and employed substantially as and for the purposes specified.

Second, in combination with a portable refreshment fountain, the flexible tube H and mouth-piece I J K, constructed and employed in the manner and for the purposes described.

No. 45,171.—**Samuel W. Packard** and **Chas. A. Meekins**, Rockland, Mass.—*Vegetable Cutter.*—November 22, 1864.—This invention consists of a hollow, conical, rotary cutter-head, with a series of knives, having their cutting edges inside, in combination with a hopper, which extends down into the cutter-head, and which has two of its sides partially cut away, so that the vegetables which are placed in the hopper are exposed at the proper point to the action of the knife.

Claim.—The arrangement of the rotary conical cutter-head A with a series of knives D, in combination with the hopper E, constructed and operating as and for the purpose set forth.

No. 45,172.—**Albert Philipp**, Appleton, Wis.—*Washing Machine.*—November 22, 1864.—This invention consists of a fluted cylinder and pressure rollers, an endless apron, and a yielding bed, also two yielding rollers, whereby clothes may be washed with great facility.

Claim.—The endless apron E, in connexion with the fluted cylinder G, rollers H H, yielding bed D, and the yielding rollers C C, all arranged in a suds-box A, to operate in the manner substantially as and for the purpose specified.

No. 45,173.—**Chas. P. Phillips**, Syracuse, N. Y.—*Carriage Spring.*—November 22, 1864.—This invention consists in forming outside guides or lugs near the extremities of one of the leaves of the spring, for the purpose of holding all the leaves in place, by which means the ordinary guides are dispensed with.

Claim.—The outside guide lugs *a* and *b*, so arranged as to operate in conjunction with the centre bolts of leaf springs, for the purposes and in the manner specified.

No. 45,174.—**W. W. Potts**, Rushville, Ill.—*Device for Marking Ground for Planting.*—November 22, 1864.—This invention consists in having two axletrees connected by hounds. One axle is made longer than the other. Upon the extremity of each axle are placed wheels with bevelled edges, which press into the ground, thus making a suitable furrow for the grain. The length of the axles is so proportioned as to bring the tracks of the wheels at equal distances from each other.

Claim.—The long and short axles A A, in combination with the wheels F, provided with bevelled rims *b*, all arranged substantially as and for the purpose described.

Also, the connecting of the axles A A by means of the two parallel reaches B B, extending beyond the front axle A, to form hounds to receive the draught pole C, in connexion with the brace rods D D, all arranged as shown, to form a simple, economical, and durable framing for a device for the purpose set forth.

No. 45,175.—**P. M. Randall**, San Francisco, Cal.—*Grinding Plate.*—November 22, 1864.—This invention consists in making grinding plate of two materials of different hardness, so that the softest material is nearest the centre of the plate, the object being to equalize the wear over the entire grinding face of the plate. A combination of cast-iron, of different hardness, or steel, is suggested as a proper material for forming the plate.

Claim.—A grinding plate B, the grinding surface of which is composed of two or more materials of different hardness, the softest material being placed nearest to the centre or axis of rotation, and the hardest nearest to the periphery, or farthest from the axis of rotation, substantially as and for the purpose herein shown and described.

No. 45,176.—**Henry Reynolds**, Springfield, Mass.—*Cartridge Extractor for Fire-arms.*—November 22, 1864.—A short lever is pivoted to the stock or frame of a revolving fire-arm just in rear of the cylinder, and is provided with a curved wedge, which is adjusted to enter an opening in the cylinder at the breech of the chamber and to pass behind the base of the cartridge shell, and thus start it forward on the forward movement of the lever; the instrument being applicable only to chambers loading in front.

Claim.—The ejector, consisting of a lever C and attached wedge *h*, applied to the exterior of the frame of a fire-arm, and in combination with its chamber or chambers, and operating substantially as herein specified.

No. 45,177.—**J. J. Rider**, Wilton Junction, Iowa.—*Cultivators.*—November 22, 1864.—This invention consists of two beams, which are pivoted to the front of the frame, and extend a little to the rear of the axle. At a point nearly under the axle, two short beams are bolted on, carrying the cultivator teeth. Directly under the axle, two chains are fastened to two small treadle levers at one end, and at the other to a roller above and parallel to the axle. By this means the depth of the furrow is adjusted, and, if necessary, the plough raised entirely from the ground. A rope passes before the driver and over pulleys at the sides for the purpose of connecting in front with an angular lever spring bolt and a small arc-shaped cross-beam. By pulling this rope the tongue is unfastened at the rear and carried to any required distance right or left, and fastens itself automatically on the spring the moment the rope is dropped.

Claim.—The treadle levers M M, the adjustable roller K, and the chains or cords L L, when so combined with each other and with the frame of a cultivator plough as to sustain the weight of the plough and plough beams, and enable them to be quickly and readily elevated from the ground by the driver, substantially in the manner and for the purposes herein set forth.

Also, the cord *p*, pulleys *o o o o*, angular lever W, spring bolt *l*, arc-shaped cross-beam S, and sockets *m m*, when combined with each other and with the frame of a cultivator plough, for the purpose of enabling the driver to adjust the direction of the draught, substantially in the manner herein set forth.

No. 45,178.—Jean Eustache Augustine Rillot, San José, Cal.—*Mould for Taking Impressions of Feet.*—November 22, 1864.—This invention consists, first, of a flask, divided in two parts, and hinged together, each having on its contiguous face a parting plate of sheet metal, cut out the general shape of the longitudinal vertical section of the foot from the ankle down, so that by adjusting the foot in said plates when the flask is closed and the plaster poured therein and set, the mould will readily part from the foot when the flask is opened; second, in the application of a toe-piece to the foot before inserting it in the flask; and, third, in a supplementary flask, added only when the cast is intended to extend up the ankle.

Claim.—First, the separate gauges B in combination with the mould A, constructed and operating in the manner and for the purpose substantially as herein shown and described.

Second, the adjustable toe gauge D applied in combination with the mould A, substantially as and for the purpose set forth.

Third, the extension E in combination with the mould A and separating gauges B, constructed and operating in the manner and for the purpose substantially as specified.

No. 45,179.—William F. Rossman, Hudson, N. Y.—*Soldering Fire Pot.*—November 22, 1864.—This invention consists in making the furnace of an outer and inner cylinder, a perforated bottom in the latter supporting the coals. The top of said cylinder being closed, the draught which enters it at the bottom is deflected through apertures in the side of said cylinder, and passes between it and the outer cylinder to and out of a chimney at the top. The fuel is fed in at the top of the inner cylinder, the cover of which is removable for that purpose. The doorway for the insertion of the soldering tools is through the sides of both cylinders and on a level with the fireplace.

Claim.—A double cylinder soldering fire-pot, or its equivalent, having a draught space D or flues between the outer and inner cylinder, in combination with the draught holes or perforations F F F, &c., through the inner one, level or nearly level with the top of the mouth E, connecting the fire chamber C with the space D, substantially in the manner and for the purpose herein set forth

No. 45,180.—John H. Schenck, St. Louis, Mo.—*Concentrated Food.*—November 22, 1864; antedated July 15, 1863.—The ingredients of this concentrated food are Indian corn, oats, and barley reduced to the condition of meal, which are mixed in proper proportions and then moistened with cold water. The water is then gradually evaporated by a sufficient degree of heat to soften the particles of the mass and render them adhesive. The composition is then spread upon metal pans and subjected to heat, after which it is placed in heavy moulds in the form of cakes, each of about the size of an army ration,.and subjected to pressure.

Claim.—The mode of preparing concentrated food for man and beast in the manner herein fully set forth and described.

No. 45,181.—Joseph Schmedinghoff, Cincinnati, Ohio.—*Summer Stoves.*—November 22, 1864.—This invention consists of a shell, made of sheet-iron or any convenient metal, in form of an inverted conic frustum; at sides and in front, at the bottom, are draught inlets; an annular plate or ring rests upon the shell, and supports the notched rim of a pendent basket-shaped grate. The notches afford passages for the air, which, having been heated in its passage up the annular space between the grate and shell, aids to burn the smoke, &c. It is designed for a summer stove.

Claim.—The combination of the annular plate or ring C, the shaking handle G, and the removable basket grate E, formed with crenated rim D *d*, permitting the passage of air around the margin of the grate, while supporting it within the shell A.

No. 45,182.—Obadiah Seely, Syracuse, N. Y.—*Churns.*—November 22, 1864.—This invention consists in the arrangement of an upper and lower series of revolving dashers, with a series of vertical partitions set radially in the churn, by means of which the rotation of the dashers causes the milk to flow in a circuitous course around the sides of the churn until it comes in contact with the sides of the partitions.

Claim.—The combination of the vertical adjustable partitions with the lower revolving dashers *f* and the upper revolving dashers *g*, substantially as and for the purposes above described.

Also, the vertical adjustable partition *b*, suspended within a churn through its cover, and held against the sides of the churn, substantially as described.

No. 45,183.—Daniel Sexton, San Gabriel, Cal.—*Apparatus for Transferring Liquids from Casks.*—November 22, 1864.—The object of this invention is to draw the bung, and permit the flow of the liquid from one vessel to another. A circular flange is fixed to the vessel around the bung, the interior of said flange having a screw thread upon it. A cylinder screwed into this flange has a longitudinal bore as wide as the bung. At a convenient distance from the cask a plug stands vertically in the cylinder, of such size that the bore of the cylinder is continuous through it when in line. A short distance further on, a descending pipe is connected with the cylinder, having a transverse revolving plug, at any desired point. At the end of the cylinder remote from the cask a cap is screwed on the cylinder, having an opening smaller than the interior of the cylinder. There are three rods or bits to be operated through this cylinder by means of a suitable fixed handle, and also by means of a screw nut or collar, with arms thereon, between the handle and the cylinder.

Claim.—First, the faucet B B′, employed in connexion with the rod D, spigot G, and pipe H, substantially in the manner and for the purpose herein set forth.

Second, the nut I, in combination with the rod D, when employed in removing a bung, substantially as described.

Third, the employment of the rod E E′, operating in combination with the nut I, substantially as described.

Fourth, the use, in connexion with the faucet B, of the boring device F, when operated as set forth.

Fifth, the annular socket C, when used to admit of the application of the faucet to the cask A and its detachment therefrom, as described.

No. 45,184.—F. L. Sexton, Wellington, Ohio.—*Field Fence.*—November 22, 1861.—The invention in this case consists in a combination and arrangement of the panels, posts, braces, and connecting pins, which, when arranged as described, form the completed fence.

Claim.—The special arrangement of rectangular bars *a*, stiles *b′*, posts *b*, in combination with the braces *g g* and *m m*, and pins *p* and *h*, when constructed as and for the purpose set forth.

No. 45,185.—Wm. T. Shaw and John Manz, Wilmington, Del.—*Raking Attachment to Harvesters.*—November 22, 1864.—This invention relates to the arrangement of the extensible tumbling shaft, which drives the rotating rakes and reel arms relatively to said rakes and to the main driving shaft or axle; to the arrangement of the friction roller, which initiates the elevation of the rake and reel arms for passing over the main frame, in connexion with the inclined guide ring; and to the construcion of the frame, which supports said guide ring and roller.

Claim.—First, the extensive tumbling shaft I I, attached directly to the main driving shaft *a*, in combination with the gearing G H and independently hinged rakes K K, arranged and operating as and for the purposes herein specified.

Second, the revolving head H H′, made in two disconnected parts, adapted to be coupled and uncoupled by means of the key *h*1, and recess *h*2, so as to cause the rakes to operate when the machine is moving forward, and to remain at rest during the backward movement thereof.

Third, the frame or casing F, formed with the guide *f f′*, for controlling the movement of the rakes, and as described.

Fourth, in combination with the aforesaid guide *f f′*, the roller L, arranged and operating substantially as described, to initiate and assist in the elevation of the rake and reel arms, as and for the objects specified.

No. 45,186.—Jonathan B. Smith, Winfield, N. Y.—*Harvesting Machines.*—November 22, 1864.—This invention relates to the means employed for rendering a jointed finger bar rigid, when it is desired to raise the same bodily off the ground. It will be understood from the claim and engraving.

Claim.—First, the cam lever *a*, when constructed and arranged to operate in combination with the rods C and finger-bar B, in the manner and for the purpose set forth.

Second, the stop *i*, applied to the cam lever *a*, substantially as and for the purpose set forth.

No. 45,187.—Edward Spaulding, Worcester, Mass.—*Forge Hammer.*—November 22, 1864.—In this invention the height of the block is adjusted by means of two wedge-shaped pieces, one above the other, on the top one of which rests the block, all held in a suitable frame. By means of pinions and corresponding racks attached to and in a recess in each of the lower pieces, the latter are made to slide one upon the other, and raise or lower the block.

Claim.—The blocks I I, with their inclined adjacent faces, when arranged in respect to each other, to the anvil H, and to the hammer E, to which a reciprocating movement, unvarying in extent, is imparted, and when operated substantially as and for the purpose specified.

No. 45,188.—Robert Spencer, New York, N. Y.—*Mode of Extracting Gold and Silver from Ores by Means of the Vapor of Mercury.*—November 22, 1864.—The ore, finely pulverized, is placed in a vessel with a small amount of mercury, and the vessel then strongly closed. Heat is then applied, so as to vaporize the mercury. After this treatment, the ore is placed in any suitable amalgamating vessel, and washed and treated in the usual way.

Claim.—First, subjecting ores, while under pressure and in a disintegrated state, to the action of the fumes or vapors of mercury, substantially as and for the purpose herein described.

Second, desulphurating and also exposing ores to the action of the fumes of mercury in single chamber, substantially as described.

No. 45,189.—**Stephen G. Spicer**, Philadelphia, Penn.—*Weather Strip.*—November 22, 1864.—This invention consists in attaching a flat or straight spring to the bottom of a door or window, at one end of the same, under the weather strip, for the purpose of raising said strip when the door or window is opened; also, in the arrangement of the strip, whereby it is made to strike against the rabbet of the door, and is brought close against the door sill when the door is closed.

Claim.—The combination of the three strips g h i, hinges j, and flat spring s, the latter applied to the outer end of the weather strip g, and all arranged in the manner herein shown and described, to operate in combination with a recess T in the rabbet of the door frame.

No. 45,190.—**C. E. Steller**. McGregor, Iowa.—*Feed Manger.*—November 22, 1864.—This invention consists of an adjustable valve to regulate the supply of feed to the manger.

Claim.—In combination with the hopper or feed receptacle B and manger A, a valve C, or its equivalent, for the purpose of regulating a supply of food to the manger, as set forth.

No. 45,191.—**Amos Stewart**, Mount Lebanon, N. Y.—*Water-wheel.*—November 22, 1864.—This invention consists in the combination of the serpentine buckets, having a concave surface at their outer ends and a convex surface from the concave portion to the hub of the wheel, with the two water discharge passages at the opposite sides of the scroll, and the gates connected by a bar, which is controlled by the governor.

Claim.—The serpentine buckets b, having a concave surface e at their outer ends and a convex portion e' from the concave surfaces e to the hub of the wheel, in combination with the two water discharge passages E E, placed at opposite sides of the box A, and the gate F, connected by the bar I, which is to be controlled by the governor.

No. 45,192.—**Volcott D. Stoddard**, Muscatine, Iowa.—*Corn Planter.*—November 22, 1864.—This machine is constructed of a frame and mounted on runners. Upon each side projects a shaft or axle, upon which is a hub, from which radiates a sufficient number of spokes to mark the space for the hills. As the spoke revolves, tappets are placed upon the spokes that come in contact with an elbow lever that is connected to a slide valve that is placed in the bottom of the hopper for the purpose of regulating the flow of seed.

Claim.—The armed wheel C, in combination with the runners B, elbow lever D, lever F, movable pin e, and seed slide F, all constructed and operating in the manner and for the purpose herein shown and described.

No. 45,193.—**Harriet H. Thompson**, Washington, D. C.—*Abdominal Supporter.*—November 22, 1864.—This invention consists in a combination of a back stay, waist strap, abdominal pad or cushion, for vaginal support.

Claim.—The back brace A, abdominal supporter H, cushion K, with their adjustable and yielding straps C E and J, when constructed, arranged, and combined as herein described, and for the purposes set forth.

No. 45,194.—**Howard Tilden**, Philadelphia, Penn.—*Churn Dasher.*—November 22, 1864.—This invention consists in a churn dash having perforations in it, together with a perforated disk placed above and over it. The object of the disk is to check the air, and, by means of the holes or openings, to give it a forcible horizontal direction, and at the same time distribute it equally throughout the bottom of the churn. The arrangement of this disk is such that each of the openings comes directly on a radius passing through the centre of the large perforations in the dash bottom. A further object of the disk is to prevent the flat or bottom part of the disk from striking upon the bottom of the churn to crush the granules of the butter. In combination with the above-mentioned arrangement are two dasher wings for the purpose of gathering the butter; by turning the dash around horizontally in one direction the butter is gathered in around the shaft, and by turning the dash in the other direction the opposite result is produced.

Claim.—The combination and arrangement of the perforated disk B with the perforated dash bottom A, substantially as described and for the purposes set forth.

Also, the arrangement of the wings C C in the manner and to act as set forth.

No. 45,195.—**Chauncy Walton**, Washington, D. C.—*Paper-ruling Machines.*—November 22, 1864.—This invention is designed as a general improvement in different parts of the ruling machines in use, consisting of a mode of adjusting the pens, which are made with two or more points, and the pen bars, so that any desired portion may be raised or lowered at certain times.

Claim.—First, the springs or bar L, operating as herein set forth, to gradually elevate the fountain as the same is depleted, so as to maintain an unvarying level of the ink.

Second, the adjustable weight D2, or its equivalent, employed in combination with the shaft D D D D′, operating to balance the fountain and equalize the power applied to hold the pens in working position, substantially as described.

Third, the combination of the arm K and adjustable support k, fitted to turn on a vertical pivot, to serve as a pen-rest, or retain the clamp C″ in any desired position.

Fourth, the siphon cloths I I′, tapering or converging from their central portion toward their respective ends, in the manner and for the purpose herein shown and described.

Fifth, the pen N N n n, constructed substantially in the manner and for the purpose herein set forth.

Sixth, in combination with the pens N N′ n n, the rods or wires m m' $m2$, arranged and operating substantially as described.

Seventh, a ruling pen constructed with two, three, or more points, set at any distance asunder by a screw $n3$.

Eighth, the treble pen, substantially as represented, with a right and left screw for adjusting the outer points simultaneously and equally.

Ninth, the bar m', applied and operating as described, as an additional support for the pens.

Tenth, the bar M, employed to depress or raise any desired number of the pens at will, as explained.

Eleventh, a ruling pen, constructed with an extensible point, substantially as described.

Twelfth, the sponge S, employed in the manner described, as an ink holder and filter.

No. 45,196.—**George F. Walters**, Waterville, Me.—*Pruning Shears.*—November 22, 1864.—This invention consists in the employment of a fixed chisel-shaped cutter, in connexion with a knife of curved form, arranged and applied in such a manner as to operate with a curved drawing cut, thereby performing the work with greater facility than the ordinary pruning shears in use.

Claim.—A pair of pruning shears, composed of a fixed chisel-shaped cutter C and a curved knife D, applied to the plate of the cutter C, constructed substantially as shown, so as to operate with a curved drawing cut, as described.

No. 45,197.—**George V. Watson**, **George Milsom**, and **Henry Spendelow**, Buffalo, N. Y.—*Grain Shovel.*—November 22, 1864.—This invention relates to constructing and operating two, three, or more scrapers within the hold of a vessel containing grain, which scrapers move back and forth upon the grain and scrape it along to the elevator leg, as distinguished from the construction and operation of scoops or buckets, which take up the grain and carry it forward to the elevator. The scrapers are made with a jointed or hinged entering piece. Two or more scrapers may be operated on one chain or line, a short vibratory motion being imparted to them, so that one scraper will deliver its load to the one next in advance of it, and so on till the end scraper delivers it to the elevator. Two or more scrapers are arranged in line, so as to leave a clear space between them, in order that the grain may flow in upon the track of the scrapers. The scrapers thus arranged are connected by stiff bars on each side, jointed and hinged to the scrapers, so as to allow of a free movement upon the joints, and also to keep the scrapers an equal distance apart, and so that if power is applied only to the forward scraper it will be communicated through these stiff bars to each scraper in the line. The scrapers may be operated in the four quarters of the vessel simultaneously, so that the vessel may be unloaded evenly without "listing" or "careening."

Claim.—First, making a scraper or shovel having a jointed or hinged entering piece, for the purpose and substantially as described.

Second, placing and operating two, three, or more scrapers on one chain or line, and imparting to said scraper a short vibrating motion, so that one scraper will deliver its load to the one next in advance of it, and so on until the end scraper delivers it to the elevating leg, substantially as described.

Third, arranging two or more scrapers in line, so as to have a clear space between them, so as to allow the grain to flow in between them and into their track, as set forth.

Fourth, connecting these scrapers, thus arranged, by stiff bars D on each side, jointed and hinged to the scrapers, so as to allow of a free movement upon the joints and yet keep the scrapers an equal distance apart, and so that if power is applied to the forward scrapers only it will be communicated through these stiff bars to each scraper in the line.

Fifth, arranging and operating the scrapers in the four quarters of the vessel simultaneously, for the purpose and substantially as described.

Sixth, imparting to the scrapers a vibratory motion, whereby the scrapers shall be caused to scrape the grain to the elevating leg, for the purposes and substantially as herein described.

No. 45,198.—**Herman Wendt** and **Henry Seymour**, Elizabeth, N. J.—*Sheep Shears.*—November 22, 1864.—In the construction of these shears the bow, shanks, and back of the blades are made of one piece of sheet-iron. A blank of the proper form is first cut out, and is then struck up in dies which bend the shanks into a semi-cylindrical form. Besides the blade backing formed by the end of the shank, there is interposed between it and the steel another plate or backing of iron, in order to insure to the blades a proper degree of strength; and to impart to the bow the necessary elasticity, it is beaten out with a hammer.

Claim.—As a new article of manufacture the sheep shears herein before described, consisting of the backs A and blanks B B swaged in one piece, the iron blade plates C C, straps a a, and steel blade plates D D, all constructed and combined in the manner and for the purposes specified.

No. 45,199.—S. Lloyd Wiegand, Philadelphia, Penn.—*Steam Engines.*—November 22, 1864: antedated November 9, 1864.—This invention consists in suspending the cylinder upon gimball rings and in the valve motion, which consists of a cam placed upon the main shaft of the engine, so that in revolving with it it comes in contact with the arms of each shaft, with which rods are attached, the opposite ends of which are secured to the semi-rotary valves for the induction of steam to the cylinder. The object of this peculiar arrangement is to move the valves a greater or less distance, according to the position of the cam upon the shaft and its relation to the arms of each shaft. The exhaust valves are so arranged that they will be moved with great velocity at the central part of their range of motion, and with diminished speed at and near the termination of their range of motion. This difference of motion is acquired by means of an eccentric, which is secured upon the main shaft in the usual manner, and which operates a rock shaft, having three arms attached to it, and its fulcrum upon the frame of the engine. The arms upon this shaft are arranged in such a manner that the different angles they assume with reference to their axis of rotation produce the above-named results.

Claim.—First, closing the induction valves by a positive movement of a cam, which, while it is adjusted and controlled in position by a centrifugal regulator, is locked or secured during the closing movement of the valve, so as to prevent the resistance of the valve gearing from reacting upon the governor, substantially in the manner set forth and described.

Second, combining a centrifugal regulator, whose plane of motion is coincident with or parallel to the plane of motion of the adjustable cam, with the said cam used for operating the induction valves, substantially in the manner set forth and described.

Third, the arrangement of rock shaft in combination with the mechanism for imparting motion thereto. substantially as herein before set forth and described. for operating the valves of steam or pneumatic engines.

Fourth, suspending the oscillating cylinder upon a universal joint, substantially as set forth and described,

Fifth, combining the centrifugal regulator with the fly-wheel, in the manner set forth and described.

No. 45,200.—Thomas Wilkins, Greenville, Ill.—*Ambulance Carriage.*—November 22, 1864.—The claim is sufficiently descriptive of the invention.

Claim.—First, an ambulance carriage having its front and rear axles A B connected by an elastic bottom board C, with a frame E resting on a cross-bar D, attached to C with springs F F′, steel or wood, interposed between them, the front part of the bottom board being hollowed out to admit of the cramping of the front wheels, and all arranged substantially as herein set forth.

Second, the litters L composed of frames M, with cloth *k* attached, substantially as and for the purpose herein set forth.

No. 45,201.—A. Wyckoff, Elmira, N. Y.—*Pipe for Gas, Water, &c.*—November 22, 1864.—This invention consists in coating wooden pipes on the inside and outside with a mixture of hard boiled tar and sawdust.

Claim.—The combination of a composition of hard-boiled tar and sawdust with wooden pipes applied in the manner and for the purpose set forth.

No. 45,202.—A. J. Bergen and D. Williamson, assignors to the Moore's Patent Fire-arms Company, Brooklyn, N. Y.—*Breech-loading Fire-arms.*—November 22, 1864.—This invention is designed as a slight modification of or improvement upon the patent of Daniel Moore of December 3, 1861. The breech-plug is withdrawn in line with the barrel by the action of the trigger-guard lever, and spring jaws on its side for retracting the cartridge serve also as guides for the said breech-plug, by resting in grooves in the frame or stock; while two lower ribs on the insides of said frame serve to guide the cartridge into place, at the same time allowing the operating lever to pass between them.

Claim.—First, the spring catches 7 7, in combination with the sliding breech-block *d* and grooved housing *b*, substantially as specified, whereby the said springs both guide the breech-block and draw out the cartridge case as set forth.

Second, the shoulders 4 4, within the housing *b*, extending below the sliding breech-block *d*, from the rear end of the barrel to the forward end of the vertically sliding block *e*, for the purposes and as set forth.

Third, forming the tumbler of the hammer with a notch taking against the stop pin 9 at the extreme movement of the hammer in both directions, as set forth, in combination with the removable block *g*, whereby opportunity is afforded for the introduction of both the tumbler and stop pin, as set forth.

No. 45,203.—John D. Hall, assignor to himself and Osborn Conrad, Philadelphia, Penn.—*Water Alarm Gauge.*—November 22, 1864.—This invention consists in attaching a float to a valve which operates a steam whistle, the fulcrum of the lever being set in the rear of the valve and the lever extending beyond and to the rear of the same.

Claim.—The arrangement of the float G, the lever D, the valve C and steam whistle A. substantially in the manner and for the purpose specified.

No. 45,204.—Seth Ham, Philadelphia, Penn., assignor to himself and William H. McCafferty, Alexandria, Va.—*Locomotive Smoke Stacks.*—November 22, 1864.—This invention consists in the combination and arrangement of the deflecting plate and inner casing, so arranged with respect to the inner pipe and outer casing of a locomotive stack that the steam and products of combustion from the inner pipe will be directed first to the lower part of the stack and then to the top of the latter, a uniform blast being thereby produced. It further consists in the arrangement of the inner casing and plate, with its flange, in respect to each other, and the inner pipe and outer covering.

Claim.—First, the curved deflecting plate E, and inner journal shaped casing D, arranged in respect to the inside pipe A and outer casing B, substantially as and for the purpose specified.

Second, the plate E, inner casing D and plate C, with its flange *a*, arranged in respect to each other, and the inner pipe and outer casing. substantially as set forth, for the purposes described.

No. 45,205.—Hugh L. McAvoy, assignor to himself and Elias S. Hutchinson, Baltimore, Md.—*Automatic Air-holder for Gas Apparatus.*—November 22, 1864.—This invention consists of a vessel and an air-holder with a vertical extension, to contain the air discharge tube, which extends into a tube that acts as a guide and retains the holder in a vertical position. The said vessel is supplied automatically with water by a pipe, cock, and arm, to which is attached a float. When the vessel is filled with water and the air-holder in the proper position, the pipe G is automatically closed, and the pipe E is opened by means of a cock and arm, which is operated by means of projections. When the water is discharged the float drops and opens a pipe, and another supply of water is allowed to enter the vessel.

Claim.—First, an air-holder automatically charged and discharged by an eduction siphon and an induction pipe, operated substantially as herein described.

Second, the siphon E, having a valve E1, which is operated by the arm E2 and projections *b*1 *b*2, for the purpose of opening and closing the siphon, substantially in the manner and for the purpose herein set forth.

Third, the pipe or tube F, adapted to be opened to the external air by the withdrawal of the water by the siphon E, and to supply air to the holder B, as explained.

Fourth, the induction pipe G and valve G1, the latter being provided with an arm G2, which is moved by the float G3, so as to open and close the valve G1, substantially as and for the purpose specified.

No. 45,206.—Hugh L McAvoy, assignor to himself and Elias S. Hutchinson, Baltimore, Md.—*Apparatus for Carburetting Air.*—November 22, 1864.—This invention consists in discharging the air under a bell, which is partly immersed in the carburetting liquid.

Claim.—The combination of the inverted bowl or open-mouthed chamber E, with the air discharging pipe B beneath it, substantially as and for the purpose described.

No. 45,207.—Bernard Schaffer, Buckau, Magdeburg, Prussia, assignor to himself and Christian Budenberg, New York, N. Y.—*Low Water Detector for Steam Boilers.*—November 22, 1864.—This invention is designed as an improvement in that class of low water alarms used in connexion with steam boilers which sound a whistle to call the attention of the person in charge whenever the water in the boiler falls below its proper level. The novelty consists in the combination of an adjustable float, with a spherical valve and a whistle, in such a manner that the float can be adjusted to accommodate the different heights of water that it may be thought best to carry in the boiler, and at the same time the valve can accommodate itself to the motions of the float caused by any undulations of the water therein. The float is made adjustable upon the valve stem by having a sleeve attached to it, in which is placed a set screw which holds it in any desired position upon it.

Claim.—First, the employment or use of the ball-shaped valve C, in combination with the adjustable float D and whistle A, as described, leaving the valve free to accommodate itself to the motions of the float, and preventing the valve from sticking by the motions of the float.

Second, the arrangement of the tube *r* and set screws *s s*, in combination with the float D and valve stem C′, as specified, whereby the float can be adjusted to the desired position, and a free communication between the interior of the float and the steam space of the boiler is effected.

No. 45,208.—Phineas L. Slayton, assignor to Almet Reed, New York, N. Y.—*Looms for Weaving Hats, &c.*—November 22, 1864.—The first part of this invention is designed as an improvement upon Patent No. 41,466, and is intended to give the oval form to the top of the crown and to the brim; the devices embracing a long pinion having an endwise motion towards the centre by means of a cam on its inner end; the return motion being given by the pressure of the revolving work.

The upper clamping plate for pressing the inside of the top of the crown whilst the sides are being woven, is attached to its central sleeve by a universal joint, so that the plate may have a yielding pressure opposite the point where the weaving is being performed, thus insuring better work, and diminishing the liability of breaking the warp threads.

Claim.—Giving the weft pressing devices of a circular or rotary loom a movement toward and from the centre of the loom during each of the revolutions of the loom, substantially as and for the purpose herein specified.

Also, the attachment of the plate R to the sleeve or its equivalent, by means of a ball and socket, or other flexible joint of similar character, substantially as and for the purpose herein specified.

No. 45,209.—Phineas L. Slayton, assignor to Almet Reed, New York, N.Y.—*Horse-hair Woven Garments.*—November 22, 1864.—To weave a hat or other garment, the warp of horse hair radiates from a given centre, and the filling of fibrous material is woven in enlarging rings around this centre, new strings of hair being introduced as the circle widens, or the warp is diminished where the narrowing shape of the garment requires it.

Claim.—As an improved article of manufacture, a garment composed wholly or in part of horse hair, woven in one piece, substantially as herein set forth and described.

No. 45,210.—Charles E. Sneider, assignor to himself and Thos. Poultney, Baltimore, Md.—*Priming Metallic Cartridges.*—November 22, 1864.—A pin passing transversely through a metallic cartridge case is soldered or otherwise secured thereto at the side through which it projects, the cartridge case having at its opposite side a circular opening sufficiently large to allow a percussion cap to be placed on the pin. A thimble slotted to pass the projecting end of the pin is slipped over the end of the cartridge, so as to cover and secure the percussion cap in place.

Claim.—First, a cartridge consisting of a casing A, a transverse pin B fixed in the said casing, and an aperture a^2 in the casing opposite the end of the pin B, for the application of a percussion cap C to the end of the pin through the side of the casing, as herein explained.

Second, the movable cap or cover D, employed in combination with the aforesaid casing A, to close the aperture a^2 and check the escape of gas.

No. 45,211.—Cancelled.

No. 45,212.—Frederick Newton Gisborne, London, England.—*Composition for Coating Ships' Bottoms.*—November 22, 1864; patented in England October 30, 1863.—This composition consists of mercury, red lead, litharge, powdered flint, glass or asphaltum, vermillion or Chinese red, made into a paste with boiled linseed oil.

Claim.—The invention of the composition substantially as herein described.

No. 45,213.—C. H. Griffin, Chelsea, Mass.—*Centrifugal Crushing Mills.*—November 22, 1864.—This invention relates to the construction of a centrifugal crushing mill, and the improvement consists in combining with the rotary arms or projectors a servated or toothed wheel, rotating in the opposite direction to the arms; also, in the employment, in connexion with the pipe which conducts the pulverized material into a receiver, of another pipe leading from said receiver into the pulverizer.

Claim.—Combining with the projectors or impelling arms of a centrifugal crushing or pulverizing machine a series of rotating teeth or percussion surfaces, rotating in the opposite direction, substantially as set forth.

Also, the employment of the pipe Z, in combination with the receiver and pulverizer, substantially as described.

No. 45,214.—Henry M. Adams, New York, N. Y.—*Apparatus for Amalgamating Gold and Silver.*—November 29, 1864.—This apparatus is composed of a hopper provided with a plug, and rests upon a standard. In the lower part of the hopper is an opening through which one end of a revolving tube passes, the other end communicating with a vessel which is provided with drags. The drags and tube are put in motion at the same time by a pulley connected with suitable gearing. The tube passes through the side of the hopper, and into the upper end of another tube, and is also connected to a retort containing the mercury which is vaporized, and the vapor mingles with the ore as it passes down.

Claim.—First, amalgamating gold and silver contained in pulverized ores, tailings, or other metalliferous material, by means of quicksilver brought in contact therewith in the condition of vapor, under a mode of operation substantially such as above set forth.

Second, the discharge of the distilled vapor of quicksilver from a still, and auriferous or argentiferous quantity or substances containing gold or silver in a pulverized state, from a hopper into a rotary or oscillating and inclined cylinder or chamber, which is fed in a continuous stream with the said quartz or material from the said hopper by means of the rotating or oscillating motion of the said cylinder or chamber, substantially in the manner and for the purpose set forth.

Third, the combination of the apparatus for supplying the retort with quicksilver, with the retort, substantially in the manner and for the purpose specified.

Fourth, the combination and connexion of the retort and the revolving or oscillating cylinder and chamber by means of the worm R, through which the distilled vapor of mercury is discharged from the retort, with the said revolving cylinder or chamber, in the manner and for the purpose herein named.

Fifth, the stationary hopper O, in combination with the rotating or oscillating cylinder or chamber L, substantially in the manner and for the purpose mentioned.

Sixth, the partition of said hopper O, with its aperture and plug Q, in combination with said hopper, in the manner and for the purpose described.

Seventh, the stuffing-box N, in combination with the feeding end of the rotating or oscillating cylinder or chamber through which it passes and in which it works, substantially in the manner and for the purposes set forth.

Eighth, the surrounding jacket pipe *a*, in combination with that part of the worm which passes through the hopper, in the method and for the object designated.

Ninth, the mode of sealing the upper or feeding end of the rotating or oscillating cylinder or chamber by plunging it directly into the pulverized quartz or gold or silver bearing substance contained in the hopper, and allowing it to revolve out matter, substantially in the manner and for the object specified.

Tenth, the revolving or oscillating motion of the cylinder or chamber, the feeding end of which moves in the pulverized matter to be supplied to it for agitating and drawing the said pulverized substance into and through the said cylinder or chamber in a continuous and equable stream, in the manner and for the purpose mentioned.

Eleventh, the widening and projecting outwardly of the feeding end of the rotating or oscillating chamber by means of arms, or their equivalents, to describe a larger circle than the said cylinder or chamber in its revolution or oscillation in the pulverized ore contained in the hopper, to stir up and throw into the said cylinder or chamber the said pulverized auriferous or argentiferous substance, substantially in the manner described.

Twelfth, the combination of the receiving elutriating pan with the discharging cylinder or chamber, or its equivalent, whether moving or stationary, when the said cylinder or chamber, either revolving or stationary, is discharging into said pan gold or silver bearing quartz or ore in a pulverized state, which has been treated or amalgamated with the distilled vapor of quicksilver, and when at the same time the pan is supplied with the grinding and mashing drags K, or any equivalent crushing device, by which apparatus the said pan becomes substantially an arastra, and shown substantially in Fig. 1, in combination with any auriferous or argentiferous pulverized ore discharged from an amalgamator, in which it has been amalgamated with the distilled vapor of quicksilver to grind and mash and work over the said mass and separate from it the fine dewy particles of quicksilver condensed through it, and collect them into a liquid state to be used over again, all substantially in the manner and for the purposes herein before set forth.

Thirteenth, the use of the drags K to grind the amalgamated mass and work out of it the fine particles of quicksilver disseminated through it when the said fine particles result from the condensation of the distilled vapor of that metal.

Fourteenth, the use of the shaft and cog-wheels, or any equivalent device, by which the rotating shaft when attached by a belt or its equivalent to the driving power shall move both the rotating cylinder or chamber and the drags K, or their equivalent, substantially in the manner and for the purposes specified.

Fifteenth, the use of a rotating or oscillating conveyor for turning over and exposing the ore to the vaporized quicksilver during its passage through it, substantially as above set forth.

Sixteenth, connecting the discharging end of the conveyor L at or near the bottom of the arastra, so that the water may reach up therein and around it in the jacket pipe J, and act on the descending vapor of the quicksilver as a condenser in the revolving or oscillating conveyor, substantially as and for the purpose above described.

Seventeenth, making the joint which connects the conveyor with the arastra, and sustaining the lower end of the conveyor by means of a pipe J extending from the arastra, which permits the rotation of the conveyor in water and prevents the escape of the vapor of quicksilver from its lower end, substantially as described.

No. 45,215.—Louis Auguste, New York, N. Y.—*Cigar-holder.*—November 29, 1864.—This invention consists of a cylindrical smoke chamber, on the top of which is a perforated pointed tube communicating with the interior of the said chamber; on one end of the chamber is a movable mouth-piece projecting inside the chamber, where it is slightly enlarged and made to form a sponge cup for collecting the oil. Beneath the said chamber is a ring by which the holder is handled. The cigar is to be placed on top of the pointed tube.

Claim.—The application to a smoking tube A of a tubular socket *f*, with perforated partition *g* and cap *h*, and applied to the mouth-piece *e*, the whole constructed and arranged substantially as herein set forth.

No. 45,216.—Cortland Ball, Augusta, Mich.—*Grubbing Machine.*—November 29, 1864.—This invention is intended for use in grubbing or clearing land from tree-roots, stumps, stones, &c.

Claim.—The combination of the axle A, wheels B B, nuts *a a b b*, toothed rings *c c*, lever D, suspended pawl E, side braces G G, the eye bolts F F, (on the peripheries of the wheels B B,) and the chain H, all constructed, arranged, and connected as herein shown and described.

No. 45,217.—George A. Banta, New York N. Y.—*Refrigerator.*—November 29, 1864; antedated November 16, 1864.—This invention consists in an arrangement of air chambers between the inner and the outer casings, the inner casings being made of slate, which is kept clean much easier than zinc.

Claim.—First, the arrangement of the side chambers *h* and *n* and back chamber *m* with the openings 4, 7, and 5, as set forth, whereby the air, after passing over the ice, descends through the chambers *h*, rises through the refrigerator, thence passes to the back chamber *m*, and from that through the back chambers *n*, and exit openings 5, as specified.

Second, the division *k*, formed of slate, with air chambers between the wooden case and slate divisions, so that said slate has a circulation of air on both sides, as and for the purposes specified

No. 45,218.—Alexander Beckers, New York, N. Y.—*Device for Making Curvatures in Flexible Tubes.*—November 29, 1864.—This invention consists of a wire helix, which surrounds the pipe at the part where a bend is to be made; the uniformity of the curve being maintained by a hook which extends from one end of the helix to the other.

Claim.—A helical curvature to surround the flexible pipe at the angle or bend, for the purposes and as specified.

Also, a connexion extending from one end to the other of said helical curvature, to retain the same at any desired distance apart, and preserve the bend or angle in the pipe, as set forth.

No. 45,219.—Abijah E. and Josiah B. Blood, Lynn, Mass.—*Tobacco Cutter.*—November 29, 1864.—This invention consists of a slotted knife bar, in combination with a knife lever and movable gauge plate, so arranged as to admit of a regulation in width of the material to be cut. In the downward motion of the handle a lengthwise or forward motion of the edge of the knife is produced, thus dividing it with greater facility than by a simple downward pressure alone. At the same time the action of the guide pin in the curved slot secures the parallelism of the knife throughout its motion, causing all parts to descend alike.

Claim.—First, the arrangement and combination of the slotted knife bar D D, the lever E, the guide pin *d*, and the side frames or cheeks A B, all constructed and operating substantially in the manner and for the purpose specified.

Second, so arranging the gauge plate *h h* and its set screw *j* with reference to the upright part of the frame A B that said screws shall stand so far forward of the opening under the knife that it cannot interfere with the material placed under the knife to be cut or divided, as herein set forth.

No. 45,220.—N. H. Borgfeldt, New York, N. Y.—*Air Pump.*—November 29, 1864.—This invention consists of an air pump provided with one or more movable parts, which, when moving in one direction, work against the pressure of the air previously compressed by the action of the pump, and at the same time create a vacuum to be occupied by the external air, and which, when moving in the opposite direction, are partially or wholly propelled by the action of the air previously compressed, and the expulsion of the fresh air which entered to fill the vacuum is facilitated.

Claim.—First, a centrifugal air pump, the working or pumping part of which acts under water or other liquid.

Second, the disk A, revolving under water or other liquid, and provided with a central supply pipe *b* and one or more radial discharge channels *d*, in combination with the spring valves *e* and wings C, constructed and operating substantially as and for the purpose set forth.

Third, the application of a cam groove *g*, in combination with the wing or wings C and revolving disk A, constructed and operating substantially as and for the purpose specified.

No. 45,221.—David Brooks, Philadelphia, Penn.—*Insulator for Telegraph Wires.*—November 29, 1864.—This invention consists in the employment of a hollow cylinder of paper, or its equivalent, in connecting the glass block to the casing by means of sulphur. The interior of the space above the glass block, and also the edge of the casing, and the sulphur near the same, together with the stem of the wire holder, are coated with paraffine.

Claim.—First, the use, in the manner described, of a hollow cylinder *h* of paper, or its equivalent, in connecting the glass block B to the casing A by means of sulphur.

Second, coating the interior of the space above the glass block, as well as the edge of the casing, and of the sulphur near the same, also the stem of the wire holder, with paraffine, in the manner and for the purpose described.

No. 45,222.—Andrew Buchanan, Brooklyn, N. Y.—*Quartz Crusher.*—November 29, 1864; antedated November 26, 1864.—This invention consists in so constructing wheels or crushing rollers with a series of cogs and intervening cavities similar to cog-wheels, by which means the crushing operation is performed by the revolution of the wheels without the use of gear wheels, the crushing cogs performing that office.

Claim.—First, as an improvement in quartz crushing machines, the crushing wheels A A′ provided with cogs *a a′* and intervening cavities *b b′*, and arranged in relation to each other like cog-wheels, substantially as and for the purpose herein shown and described.

Second, the application of the side flanges D D′ to the crushing wheels A A′, substantially as and for the purpose set forth.

No. 45,223.—W. H. Burridge, Cleveland, Ohio.—*Car Sash Fastening,*—November 29, 1864.—This device consists of a thin square case made in two parts, one of which has a series of teeth upon its edge which fit into corresponding indentations in the edge of the other, and which has also a series of teeth projecting outward, which latter penetrate the wood of the sash, and serve, in conjunction with one screw, to secure the fastening in place. The bolt passes through the case, and is forced outward, so that its end will enter the mortise in the jamb by means of a spring; its other end, having the form of a hook, is pulled upon by the finger, in order to withdraw it from the mortise.

Claim.—The special construction and arrangement of the plate B with points *b* and projections *f*, in combination with the cap C, notches *c*, and bolt D, as a new and useful article of manufacture.

No. 45,224.—A. F. Burson, Mt. Blanchard, Ohio.—*Process for Engraving Copper.*—November 29, 1864.—The invention consists in iodizing the surface of a copper plate, and then polishing it, after which it is submitted to the action of bromine and exposed to the action of light in a camera or under a negative photograph. In this state the plate is exposed to the vapors of mercury, modified by the sulphate of zinc or copper, &c. By electro-metallurgy a deposit of copper is made on the lights, which gives sufficient elevation to form a printing surface. The claim sets forth the nature and object of the invention.

Claim.—First, as a new mode of producing an iodo-polished surface on a copper plate, as set forth, the polishing being done after the plate is iodized, modifies its chemical relations and produces a surface after it has been exposed to bromine, to light, and to the modified vapors of mercury that resists the deposits of copper whilst in the decomposition cell of an electrotyping apparatus, the plate, after polishing, containing a trace of iodine.

Second, as my invention, the modification of the vapors of mercury by the use of the sulphate of zinc or copper, or the sulphuret of antimony, (the sulphate of zinc is best,) or their equivalents, by placing one or more in solution in mercurial bath, and then drying it, which modifies the mercurial vapors, causing it to be well defined on the lights of the image that has been produced on the plate by means of light.

Third, also, as my invention, the method of iodizing polished copper plate, once modifying the vapors of mercury, which, when manipulated as described, will produce a sharp and well defined picture, (which I designate a photope,) and on the lights of this image, produced in this manner, copper can, by means of electro-metallurgy, be deposited, whilst the coating on the shades, produced in the manner set forth, will remain clear of the cupreous deposit, (which I designate a photo-electrotype,) thus giving elevation to lights and depression to shades. Ink may be applied and prints obtained therefrom by means of a press, or the engraving may be used after applying silver or gold to elevated lights as a durable portrait, &c., or the image may be etched in in place of depositing copper thereon in the usual manner. Let it here be understood that the copper coating, to be a protection from the deposit of copper in electrotype cell, must be exposed to modified mercurial vapor, and have also been exposed to light and shade of an image.

Fourth, in the foregoing, to have made a new discovery of a principle—a discovery of an art, an art as broad in its relations to the family of arts as the daguerreotype itself—light and electricity producing an image in solid metal as durable as bronze.

No. 45,225.—J. W. Carhart, Cohoes, N. Y.—*Oscillating Valve.*—November 29, 1864.—This invention consists in the use of a plug or valve with one circular and one semicircular end, the two ends being connected by a flat abutment in such a manner that when the plug is fitted into a corresponding socket its circular end closes the socket all around, but its semicircular end closes the socket only half way, giving access to the steam to that compartment of the socket below the abutment, and by imparting to this plug an oscillating motion the steam can be changed, throwing the ports alternately in communication with the steam induction and eduction pipes.

Claim.—A valve with a circular end *a*, semicircular end *b*, and abutment *c*, of such form as to effect a cut-off, and fitted into a socket B, to operate substantially as and for the purpose herein shown and described.

No. 45,226.—Charles F. Chambers, Hutsonville, Ill.—*Machine for Making Sheet Metal Pans.*—November 29, 1864.—This invention consists in a block or mould on which the sheet to be worked is laid with a sufficient portion projecting in front to form the side of the pan. A lever hinged at one end, and forming a clamp, is then brought down and secured to hold the sheet in place, the mould forced forward by a cam in the rear, whilst a roller in a sliding gate or frame is brought down closely in front of and presses the sheet against the nearly vertical side of the mould, forming one side of the pan, the other side being formed by a similar operation. In forming the ends provision is to be made to accommodate the block to the flanges already formed, and this is accomplished by cutting it in transverse sections at an angle to suit, and of such sizes that a certain number will fit the space between such flanges, and correspond in size and shape to a cross section of the pan. All the pieces constituting the mould are secured in a movable bed with movable filling pieces at the ends, and are held together by two studs attached to the lower side of the lever or clamp when in operation.

Claim.—First, in the described combination, the form H, clamp L, and the upsetting roller E, guided and operated substantially as set forth.

Second, in the described combination with the clamps 6 and 6′ and the clamp L *l l* M, or their equivalents, the sectional or compound form *h* 1 2 3 4 5 1′ 2′ 3′ 4′ 5′, substantially as set forth.

Third, the arrangement of self-retracting form H and regulating cam K, substantially as set forth.

Fourth, the clamp L *l l*′, performing the double office of closing the blocks and holding down the work.

No. 45,227.—J. M. Connel, Newark, Ohio.—*Scraping Disk or Wad for Ordnance Cartridges.*—November 29, 1864.—This invention consists in combining a scraper, or its equivalent, with an ordnance powder bag of India-rubber applied within the same. The scraper is constructed with an annular chamber of V-form, and with flanges at the inner edges.

Claim.—First, the combination of the scraper as described, or its equivalent, with an India-rubber ordnance powder bag applied within the same, substantially as described.

Second, the construction of the scraper with an annular chamber *e* and flanges *g*, substantially as described.

No. 45,228.—John Curtis, Hackettstown, N. J.—*Harvester.*—November 29, 1864; antedated November 21, 1864.—This invention consists in the application of a platform to a reaper, of a reclining frame, furnished with two or more endless carrying bands stretched over suitable rollers or pulleys, in combination with curved guide bars, and with an adjustable rake, in such a manner that the grain on being cut is delivered in an upright or slightly declining position to the carrying bands, and thence passed on to the curved guide bars, which deposit the same in a swath on the ground in a position parallel with the rake head, or transversely to the direction in which the machine moves, and that by the action of the rake the grain can be readily gathered in heaps or bundles suitable for sheaves.

Claim.—The reclining platform A*, with endless carrying bands C, in combination with the curved guide bars D and hinged rake E.

No. 45,229.—Edwin Dayton, Meriden, Conn.—*Flasks for Drain Pipes.*—November 29, 1864.—This invention consists of a case so constructed that the parts may be united in any position in which they may be set together; also in rings forming the two ends of the case, combined with the body of the case; in the combination of a case and base, so that the pipe may be longer than the pipe to be formed therein, thus forming a cylindrical core constructed in three parts, and a pit combined with a core, case, and base.

Claim.—First, a case constructed substantially as described, so that the parts may be united in any position in which they may be set together, for the purposes specified.

Second, the rings forming the two ends of the case in combination with the body of the case, when constructed so as to protect the edges of the case, substantially as described.

Third, the combination of a case and base when constructed so that the case may be longer than the pipe to be formed therein, substantially as and for the purpose specified.

Fourth, the herein described core, constructed substantially as and for the purpose specified.

Fifth, the pit described in combination with a core, case, and base, forming a flask for the manufacture of pipe, substantially as and for the purposes specified.

No. 45,230.—Alexander Dean, Penn Yan, N. Y.—*Changing Rotary into Reciprocating Motion.*—November 29, 1864; antedated November 25, 1864.—This invention consists in placing cam rings of varying eccentricity upon a drum which revolves, combined with standards which can be moved laterally, so as to be operated upon by a large or small cam, thus regulating the stroke.

Claim.—The drum C provided with the rims *d d d* and the cam rings *f f*, having cams *g g* of varying eccentricity fitting thereon, in combination with the reciprocating gate D provided with standards or bearings K K, adjusting laterally to correspond with the position of the cams in such a manner that a long or short stroke of said gate may be produced, substantially as herein set forth.

No. 45,231.—John Doak, Keithburg, Ill.—*Cultivator Plough.*—November 29, 1864.—This invention consists in a method of imparting to the inner ploughs a lateral motion entirely independently of the outer ones. The inner plough frame has uprights attached to a cross-bar just above the draught pole. This cross-beam is moved by means of stirrups at each end of a lever parallel to it.

Claim.—Connecting together the beams G M by means of flexible connexions or hinges G′, for the purpose of allowing the beams M to receive a lateral movement from the stirrups *c* independently, of the beams G, while both the beams G M may be moved vertically simultaneously by means of the arm S, substantially as set forth.

No. 45,232.—George C. Fanckboner, Schoolcraft, Mich.—*Hand Seed Sower.*—November 29, 1864.—This invention consists in a seeding box to be suspended from the shoulders, a rope passing over pulleys being made to carry the seed through the openings. This rope is moved backwards and forwards by a short lever. The space over which the end of the lever moves is varied by adjustable pins.

Claim.—The cord B, pulleys C and lever F, in combination with the gauge pins H H and E and the hopper or box A, substantially as and for the purpose set forth.

No. 45,233.—Abijah Fessenden, East Boston, Mass.—*Tobacco Pipe.*—November 29, 1864.—The bowl is divided by concentric partitions into three or more chambers, communicating with each other and the stem; the smoke from the inner chamber passes at the bottom through holes in the non-conducting lining up through a second chamber, and near its top flows into the outer chamber and down into the stem. The two inner plates connect at the top, and can be taken out when necessary to clean the oil from the bottom of the second chamber; this is done by removing the cap, which fits closely to it.

Claim.—Dividing the bowl of the pipe into three or more concentric chambers, connected and arranged together substantially as herein described and for the purposes specified.

No. 45,234.—Cancelled.

No. 45,235.—J. M. Flautt, Reedsburg, Wis.—*Riding Saddle.*—November 29, 1864.—This invention consists in the application to an ordinary saddle of a pommel which is composed of two distinct parts and connected to the saddle-tree in such a manner that the saddle-tree can be changed readily from an ordinary to a side saddle, and that one and the same saddle serves the double purpose of an ordinary and of a side saddle.

Claim.—The application to an ordinary saddle of a pommel which is composed of two distinct parts and connected to the saddle-tree, substantially in the manner herein specified, so that the saddle can be readily changed from an ordinary to a side saddle.

No. 45,236.—John G. Folsom, Winchendon, Mass.—*Sewing Machine.*—November 29, 1864.—The looper shaft, which is supported in adjustable bearings to allow of lateral adjustment when desired, has also a collar secured thereon between these bearings, and by means of which the lengthwise adjustment is effected as follows: This collar is slotted in a direction at right angles to its axis to receive a pin loosely fitting in it, which pin is secured to a shipping lever pivoted to the bed-plate, and susceptible, by means of a clamping screw passing through a transverse slot in the lever, of being shifted in position and firmly held to such position. When so shifted it slides the shaft by means of the pin in the slotted collar.

Claim.—First, adjusting the looper or lower needle of a sewing machine to suit the different sizes of needles by an endwise motion of its shaft, whether it be a vibrating or revolving looper, substantially in the manner and for the purpose above described.

Second, locking the looper in its proper position by sinking its eye and shank in the end of its shaft, substantially as above described

No. 45,237.—George F. Foote, Cincinnati, Ohio.—*Safety Ship and Car heating Stove.*—November 29, 1864.—This invention consists of a stove with a horizontal plate over the fire, or a grate inclined from top to end, over the smoke aperture. The plate and grate may be used singly or jointly. The door is securely fastened. The object of this invention is to prevent coal or brands from falling out in case the stove is upset.

Claim.—First, a safety car and ship heating stove made of wrought or sheet iron, arranged with a horizontal plate A, or perforated plate or grating B, when the above is combined with the draught openings K, substantially as and for the purposes set forth.

Second, in combination with a stove constructed and arranged as specified in the foregoing clause, the safety door fastening F, as described.

No. 45,238.—Maltby Fowler, Northford, Conn.—*Machine for Separating Hooks and Eyes.*—November 29, 1864.—This invention consists of a box or case in which a rapidly rotating cylinder, having on its periphery a number of arms, strikes the articles to be separated from each other as they are fed in through a hopper on the top of the box over the said cylinder, and then are permitted to fall into a reservoir containing water at the bottom of the box.

Claim.—The combination, as above described, in a machine for separating hooks and eyes and similar metallic articles, consisting of a hopper C, a cylinder B, with beaters *a* rotating in a case A, with a discharging hopper and a box containing water in which the articles are received.

No. 45,239.—Samuel Gardiner, Jr., New York, N. Y.—*Lighting Gas by Electricity.*—November 29, 1864.—The invention consists in the manner of dividing the current of the galvanic battery so as to light the greatest number of burners at once. Instead of dividing the current so as to send a wire to every burner, or from having one continuous current from burner to burner, the whole number of burners is divided into sections, and the current is divided into as many parts as there are sections, a continuous current being introduced in each section—that is, a current from burner to burner in each section.

Claim.—Dividing the current of electricity generated by a galvanic battery into several circuits, as herein specified, for the purpose of lighting a large number of gas-burners by electricity.

No. 45,240.—Samuel Gardiner, Jr., New York, N. Y.—*Lighting Gas by Electricity.*—November 29, 1864.—This invention consists of a hollow case of metal, which is placed over the chandelier, and within this case is a frictional electric machine, the case serving for the prime conductor. The machine is driven by a chain belt, which is concealed within the ceiling and operated by a crank, in imitation of a common bell. The working of this crank lets on the gas and works the machine.

Claim.—First, the turning on and off illuminating gas, generating and discharging the electricity through a series of gas-burners to be lighted by means of an ordinary bell crank, arranged as specified.

Second, one or more disks *e*, arranged and employed substantially as described, in an apparatus for lighting gas by electricity.

Third, the arrangement of the receiver of the electricity, or its equivalent, as specified.

Fourth, discharging the electricity from the receiver by the combined action of the star wheel F, pin *u*, lever G, and adjusting spring *t*.

Fifth, the combination of the receiver A, stop-cock B, disks *e*, forks *i*, and discharging apparatus F G *n m*, arranged and operating substantially as herein set forth.

No. 45,241.—Samuel Gardiner, Jr., New York, N. Y.—*Lighting Gas by Electricity.*—November 29, 1864.—A difficulty has hitherto been experienced in keeping the platinum wires or points perfectly insulated from the gas-burners, as the wires were liable to be bent and pressed against the burners. This is entirely remedied by making the tips of the gas-burners of lava or other non-conducting material.

Claim.—Broadly, a tip of lava or other non-conducting material in the described combination, with an apparatus for lighting gas by electricity.

No. 45,242.—T. E. Gordon, Cleveland, Ohio.—*Crutches.*—November 29, 1864.—The head of this crutch rests upon springs, which are placed over the ends of the side pieces. The ends of the head piece also rest upon springs enclosed in brass tubes in which the side pieces, which are each in two parts, are enclosed, allowing the distance of the head-rest from the head to be shortened or lengthened. Near the lower part of the crutch, between the side pieces, is a rod pointed at its end, which, by an arrangement of spring rods and sockets, can be made to project a slight distance from the bottom of the crutch and fixed in this position when desired.

Claim.—First, the arrangement of the springs S S, ferrules G G, in combination with the head C and sectional side rods A A and B B, as and for the purpose set forth.

Second, the springs F F, ferrules D D, and washers *d d*, in combination with the head piece E and sectional side rods A A and B B, as and for the purpose described.

Third, the springs *n n*, catches *m m*, in combination with the cross-piece H, rod H′, and sections B B, as and for the purpose set forth.

No. 45,243.—George G. Griswold, Chester, Conn.—*Artificial Grindstone.*—November 29, 1864.—This invention consists of a mixture of sand, hydraulic cement, and water, which is placed in a mould of proper form, and subjected to pressure.

Claim.—Combining sand with hydraulic cement, to form a substitute for the common grindstone, when the same shall be combined substantially as herein described.

No. 45,244.—Edwin J. Hardy, Buffalo, N. Y.—*Warming and Ventilating Churches and Public Halls.*—November 29, 1864.—This invention is explained by the claim.

Claim.—Making the floors of church buildings and other public halls with open joints or perforations, which open joints or perforations are provided with movable stops D, for regulating the passage of the air through the openings, in connexion with a basement or lower room, having suitable stoves or furnaces for producing the requisite amount of heat, so that the heat from this lower room may be conducted directly through the floor into the pews or slips, substantially as described.

No. 45,245.—N. D. Hinman, Pleasant Vale, Conn.—*Elevator.*—November 29, 1864.—This invention relates to that class of elevators which are connected with a car, placed on elevated ways, and arranged in such a manner that the load when elevated may be drawn over the spot where it is desired to have it deposited, and then dumped. The invention is chiefly designed for elevating and moving hay and grain in barns, but is applicable to other purposes, and it consists in a construction and arrangement of parts pertaining to the car, whereby the same is held stationary, while the load is being elevated, and liberated automatically, and allowed, when the load is elevated, to travel on the ways, over the spot where the load is to be dumped; the car is allowed to move back to its original position by its own gravity; the ways being inclined for that purpose.

Claim.—The bars J J L L pivoted in the car A, as shown, and the bars J J connected at one end by a cross-piece K, in combination with the button G on the chain F, and the pin *e* on the inclined ways M, all arranged substantially as and for the purpose herein set forth.

Also, the bent pawl H, with the sliding rod O, or its equivalent, with or without the spring Q, arranged to operate in connexion with the chain F and pulley D, substantially as and for the purpose herein set forth.

No. 45,246.—M. G. Hubbard, Syracuse, N. Y.—*Mowing Machines.*—November 29, 1864 —The driving wheel, which is loose on its axle, is provided with a central ratchet ring, cast with the wheel, and furnished with internally arranged teeth; this ring embraces a hub, which is firmly keyed to the axle, and provided with a spring dog-holder; the spring dogs are so arranged with respect to each other, and to the ratchet teeth, as that, while one of the dogs is fully in place, the second dog will be only one-third in, and the third dog will be two-thirds in, so that the wheel will only have to travel one-third the length of a ratchet tooth backward to cause another of said dogs to engage therewith.

Claim.—The combination and arrangement of the ratchet ring and dogs in the driving wheel of a mowing machine, substantially as and for the purpose set forth.

No. 45,247.—John Vivian Jepson, New York, N. Y.—*Steam Pressure Gauges.*—November 29, 1864; patented in Canada November 5, 1863.—The invention consists in the employment of a spring, which is fixed to the case of the instrument, and is so arranged as to rest upon the top of the rod which is connected to the piston, by which the pressure is conveyed to the spring; and also in a slide working in a slot made through the water, and sliding upon the spring in such manner that by changing its position on the spring, the same gauge, by changing the dial plate, may be made to indicate a greater or less range of pressure.

Claim.—The combination in a pressure gauge of the piston, flexible diaphragm, spring, index and dial, substantially as set forth.

Also, the combination of the piston and spring with the toothed sector, pinion and index, through the intervention of a slide, substantially as set forth.

No. 45,248.—John Jochum, Brooklyn, N. Y.—*Self-acting Pulley Brake.*—November 29, 1864.—In this invention a ball is placed under the sheave of the block; to this ball is attached a chain spring which arrests the motion of the sheave in one direction, in its rotation.

Claim.—As a new article of manufacture, a nautical self-acting brake pulley, to be suspended by a rope B, and consisting of the body A, shaft C, sheave D, ball E, and spring F, all constructed, arranged, and operating as and for the purposes herein specified.

No. 45,249.—John Johnson, Mount Washington, Ohio.—*Earth Pulverizer.*—November 29, 1864.—This invention consists in a rectangular frame with suitable gears, driven by the carrying wheels, putting in motion rotary cutters which are made in the form of curved staples, with narrow cutting edges.

Claim.—In the construction of the implement herein described, the combination and arrangement of the frame A, pulverizer C, furnished with open teeth *b*, curved in the manner described, traction wheels B, gearing *c d e f*, and adjustable caster wheel D, substantially as and for the purposes herein specified.

No. 45,250.—S. and W. H. Jordan, Roxbury, Mass.—*Trusses for Inguinal Hernia.*—November 29, 1864.—This invention consists in the use of a broad pad or support on the ruptured side, and a similar one to the side opposite, so as to give general support and prevent additional hernia. These pads, one of which holds a rupture pad or block, are fastened above to a waist or body belt, and below to straps passing between the thighs and up the back to the body belt.

Claim.—The improved inguinal truss, consisting of the extra part or brace B, the pad A, the body belt C, and the two brace straps E F, arranged and combined together, substantially in the manner as herein before specified.

No. 45,251.—Charles Kirchhof, Newark, N. J.—*Fire-alarm Telegraph.*—November 29, 1864.—This invention consists in actuating, by the rotation of the magneto-electric motor, an automatic mechanism, whereby any desired number of signals may be communicated, the operator having previously moved an index to a point indicating this number. The details by which this result is attained cannot be briefly described, and reference must be had to the specifications and drawings.

Claim.—First, the combination with a magneto machine of the automatic operating mechanism, to take the place of an operator, and so constructed as to convey any required number of signals at uniform or varying intervals, without any other manipulation than properly setting the indexes before starting the machine.

Second, the traveller *l*, constructed and operating substantially as described.

Third, regulating the number of signals or impulses by means of the sliding rod D and plate *t*″, operated by the attendant, substantially as specified.

Fourth, the oscillating wheel A, when constructed and operating substantially as and for the purpose set forth.

Fifth, the key *f*, provided with the spring *e*3, when constructed and operating in the manner and for the purposes set forth.

Sixth, the key *f*, constructed as described, in combination with the cam *e*2, operating in the manner and for the purposes set forth.

Seventh, so constructing and arranging the automatic operators A and *l* that they can be thrown in and out of connexion with the actuating mechanism at pleasure.

No. 45,252.—A. E. KLINE, Goodville, Penn.—*Converting Motion.*—November 29, 1864; antedated December 20, 1863.—This invention consists of a disk, provided with an elliptical groove, in connexion with two other grooves arranged at right angles with each other, and used in combination with a roller attached to a bar, to which a reciprocating motion is imparted.

Claim.—The combination of the elliptical groove D and roller E, with the cross grooves *b c* and disk A, in the manner and for the purpose herein shown and described.

No. 45,253.—CHARLES S. LUCAS, Poughkeepsie, N. Y.—*Apparatus for Pasting Photographs on Cards.*—November 29, 1864.—This apparatus is so arranged that the photograph can be pasted on its way to a platen, where a card is placed automatically, where the descent finishes the operation.

Claim.—First, the combination and arrangement of the platen F, handle W, spring I, fingers or dog G, and stop piece H, or their equivalent, for the purpose heretofore set forth and described.

Second, the combination and arrangement of the paste box K, frame L, roller M, and springs N. or their equivalent, for the purpose heretofore set forth and described.

Third, the combination and arrangement of the movable bed O, fingers or dogs P, stop pieces Q and X, or their equivalents, for the purposes heretofore described and set forth.

Fourth, the slide joint Z, connecting the bed O and slide E, for the purpose heretofore set forth and described.

No. 45,254.—JOHN MARIE, New York, N. Y.—*Car Replacer.*—November 29, 1864.—This invention relates to an apparatus for placing railroad cars upon the track, in case of the former running off, while travelling. The object of the invention is to obtain a simple and economical device for the purpose, which may be carried on the tender, so as to be always on hand, and which may be readily applied to the rails.

Claim.—The blocks A A provided with flanges E F, and with hooked lips C, and either with or without the plates B, all arranged substantially for the purpose herein set forth.

No. 45,255.—ALEXANDER MACKEY, New York, N. Y.—*Sugar Mould Carriage.*—November 29, 1864.—Portions of a sugar mould carriage are made adjustable in such manner that it is enabled to receive moulds of different sizes at the same time, and thus rendered capable of receiving a greater number of small moulds than large ones, so that there shall be no waste of room such as has heretofore attended the use of small moulds in a carriage which has been adjustable for different sizes, such carriage having been made to contain only a certain number of moulds, whether large or small. The weight of the front part of the carriage which usually comes on the top of the spindle of the caster wheel is supported in this case by a standard of inverted V-form of wrought iron, which is better able to bear the strain than the hollow cast-iron post before employed.

Claim.—First, the construction of the adjustable upper portion of the carriage of a system of separate pivoted bars H H, arranged to operate substantially as and for the purpose herein specified.

Second, the standard J, applied in combination with the upright spindle of the caster or guide wheel, and with the bottom frame A and standard F, substantially as and for the purpose herein specified.

No. 45,256.—A. S. MARKHAM, Bushnell, Ill.—*Cooking Stove.*—November 29, 1864.—This invention consists of a cooking stove provided with two grates, one for wood and the other for coal; the grates can be lowered and raised at pleasure by means of a perpendicular shaft attached to the bottom of the lower wood grate, and connecting with a horizontal lever under the stove; this shaft works in a tube which extends from the bottom of the stove to the bottom of the lower grate, and keeps the cinders from fouling the working of the shaft; small metal troughs or grooves are secured to the sides of the fire chamber, and arms or journals in the upper or coal grate work up and down in these grooves, when the grates are raised and lowered.

Claim.—First, the wood grate J and its rod *g*, in combination with the tube *h*, lever C, and slotted foot *c*, constructed and operated substantially as and for the purpose above described.

Second, the coal grate, with its journals *p* bent down as described, in combination with the tubes *i*, the troughs *t*, and the sliding rods *a*, connecting rod *b*, and lever *c*, substantially as and for the purpose above described.

No. 45,257.—JAMES M. MAXWELL, Cape Elizabeth, Me.—*Seed Planter.*—November 29, 1864; antedated December 13, 1862.—This invention consists in combining with a plough, and arranging within the heel of the same, a seed-dropping apparatus, with its furrow openers and closers. The seed-dropping apparatus is operated by means of a lever and latch in connexion with a gate attached to one of the plough handles. The furrow openers and closers are enabled to pass any resisting obstacle by means of a flexible conductor and a yielding supporting arm applied to the hopper and the plough.

Claim.—The combination as well as the arrangement of the seed-dropping apparatus, and its furrow opener and closers, with the plough and the wheel arranged in the heel of the latter.

Also, the combination of the gate D and its operative mechanism, viz., the lever E, and latch *m*, with the seed-dropping apparatus and the plough.

Also, the combination of the wheels *s s*′ and their operative mechanism, viz., the arms *t u*, bar *v*, and lever *w*, with the plough and the third wheel B arranged within or at the heel of the plough, as specified.

Also, the improvement by which the furrow-opener and its closers are enabled to pass a stone or obstacle, the same consisting in the flexible conductor and the yielding supporting arm, the same being applied to the hopper and the plough, in manner and so as to operate substantially as specified.

No. 45,258.—GUSTAVUS E. MATILE, Washington, D. C.—*Pocket Pipe Cleaner.*—November 29, 1864.—This invention consists of a picker, a shaft with a disk-shaped head, and a spade-shaped scraper; the first to clear the stem, the second to press the tobacco, the third to clear the bowl. They are of nearly equal lengths, and attached at their ends by a pivot in a spring handle.

Claim.—The arrangement of the various parts of a pocket pipe cleaner, in the manner and for the purpose specified, substantially as described.

No. 45,259.—WILLIAM C. MCBRIDE, Raritan, N. J.—*Machine for Scutching Tangled Flax.*—November 29, 1864.—The scutching blades are made to yield laterally in order that they may adapt themselves to varying thicknesses of the mass of material presented to them by the feed roller. The feed roller revolves in bearings on adjustable weighted levers.

Claim.—First, attaching the scutching blade arms G to the disk or head C, by means of bolts *d*, provided with springs *e*, arranged as shown, or in any equivalent way, to admit of the yielding of the scutching blades, substantially as and for the purpose herein set forth.

Second, the feeding of the flax to the scutching blades by means of the roller J and concave I, arranged in the manner substantially as herein described.

Third, the adjusting of the scutching blades H nearer to or farther from the edge of the concave I, by means of the shaft B, having the collar E, and screw F, adjustable upon it, as set forth.

Fourth, the screen or riddle W, when used in connexion with the rotary scutching blades, feed roller, and concave, substantially as set forth.

No. 45,260.—GEORGE F. MCCLEANE, Pittsburg, Penn.—*Apparatus for Reversing the Motion of Rolls.*—November 29, 1864.—This invention is designed for producing the instantaneous stoppage or reversal of the iron rolls used for rolling sheets of metal, without interfering with the motion of the main or driving shaft, from which motion is communicated to the machinery. The ordinary mode of rolling sheet metal or bars is to pass them between the rolls, always in one direction, the rolls having a continuous motion, which prevents the sheet of metal from being passed back between them. It is then raised to the top of the upper roll, which causes it to be returned to the front of the machine, when it is again passed between the rolls. In this operation there is a great loss of time, as it takes as long to pass the sheet of metal over the rolls as between them, the raising of the metal to the top of the rolls being very laborious work. But the difficulty is greatly enhanced where the metal to be rolled consists of heavy plates of iron, as they are too heavy to be easily raised up, to ride over the top roll from the rear of the machine to the front.

Claim.—The special arrangement and combination of the mechanism herein before described, for reversing the motion of rolls, consisting of two shafts, *a* and *b*, placed in the same axial line, one of which is connected with the rolls and each carrying a mitre wheel, which wheels, *f* and *h*, both gear into a mitre wheel *g*, placed at right angles to and between them, one of the mitre wheels, *f*, being attached to its shaft *a*, and the other, *h*, to a loose sleeve *e* on the shaft *b*, with a crab *k* placed on one of the shafts *b*, with which it revolves, between the mitre wheels, so that by sliding the crab to one side or the other the roll shaft *b* is geared either directly with the driving shaft *a*, which moves in one direction, or with the mitre wheel *h*, and loose sleeve *e*, which move in the opposite direction, substantially as described.

No. 45,261.—William Hartley Miller, Philadelphia, Penn.—*Fibrous Packing for Steam Engines.*—November 29, 1864; antedated April 3, 1863.—Any one of the usual forms of packing yarn is saturated with a mixture of pulverized charcoal, molasses, and tallow, in such proportions as will form a paste suitable for saturation, for the purpose of preventing leakage of steam or water through the joints in which it is used. Around the yarn thus prepared is placed a covering of canvas or other fabric.

Claim.—First, the application to the packing yarn of a substance which will make it more efficient, using for that purpose the aforesaid chemical compound, or any other substantially the same, and which will produce the intended effect.

Second, the application to the packing yarn of a cloth or canvas, or other fibrous covering, prepared as herein described, or any other substantially the same, and which will produce the intended effect.

Third, the application of either of the above separately, and without reference to each other, as herein described, and any other substantially the same, and which will produce the intended effect.

No. 45,262.—William Morganstern, Philadelphia, Penn.—*Breech-loading Fire-arms.*—November 29, 1864.—A longitudinally sliding breech plug is provided with a pendent arm, engaging a lever connected with the hammer, so as to cock the same on the withdrawal of the breech; and on the closing of the breech a catch connected therewith serves to lock the said lever and the hammer, until it is laterally disengaged by the rotation of a portion of the breech plug, on securing or locking the said breech in its closed position. There are one or two slight peculiarities of construction in the cartridge contractor connected with the breech, and in its relation to the hammer. All the above mentioned parts are covered up within the stock.

Claim.—First, a breech-piece arranged to slide to and from the open end of the barrel of a fire-arm, in combination with the slotted arm J, or its equivalent, and an inclined lever E, the whole being so constructed and arranged and so connected with the hammer that the latter shall be cocked by and during one movement of the breech from, and one movement to the rear of, the barrel.

Second, a slot or recess *u*, so formed in the breech, and so arranged in relation to the recessed projection 4, that a portion of the head of the metallic cartridge shall be accessible to a hammer hung beneath the breech.

Third, a hammer F, with a pin or pins *k*, or their equivalents, the spring G, or their appropriate spring, the lever E, the pin I, and trigger H, or other analogous devices for retaining and releasing the said lever, the whole being arranged on a fire-arm, and operating substantially as set forth.

Fourth, the pendent arm J, so connected to the sliding breech, or to the pin L, that it can move longitudinally, but not turn laterally, with the said breech, in combination with the inclined arm of the lever E.

Fifth, the arm K, attached to or forming a part of, and arranged to move laterally and longitudinally with, the sliding breech, in combination with the lever E, when the latter and the said arm K are so constructed and so arranged in respect to each other that the said lever F is held stationary until the said breech is locked to the frame.

Sixth, the pin I, arranged to slide in the projections *n* and n' of the frame D, the spring *p*, and trigger H, the whole being constructed and arranged in respect to the lever E, and operating substantially as set forth, for the purpose specified.

Seventh, the lever P and bar 15, or their equivalents, arranged in respect to the lever E, and operating substantially as and for the purpose set forth.

No. 45,263.—Lewis Morse, North Attleboro', Mass.—*Eye Protectors.*—December 29, 1864.—The base or rim plate to which the wire gauze is secured is struck out of one piece of metal, with a groove entirely around it. The edge of the gauze is inserted in the groove, and the rim closed tightly upon it, making a firm connexion, and with greater expedition than the mode usually practiced for soldering the gauze to the rim.

Claim.—The improved manufacture of eye protector, as made with its base frame, and eyes stamped and grooved or channelled from a single plate of metal and applied to the wire gauze cover, in manner substantially as described.

No. 45,264.—James D. Osborn, Goshen, Ind.—*Cultivator.*—November 29, 1864.—In this invention the axletree is made in two sections, which are secured in the middle by a collar. Each section is operated by independent levers, so that either wheel can be raised or depressed in relation to the main frame at pleasure, so as to accommodate the ploughs to inequalities in the ground. By the action of one of the levers the whole frame which supports the ploughs can be elevated or depressed so as to lift the ploughs entirely from the ground.

Claim.—First, the two-part axle E E', as employed in combination with the levers G G', racks F F2, and wheels D D', the whole being constructed and arranged in the manner and for the purpose specified.

Second, the tongue K, in combination with the beam B, roller I', arm I, rod H, lever G, and caster wheel L, all arranged and operating in the manner described, to convert the implement from a stiff to a loose-tongued machine.

Third, in combination with a cultivator, constructed as herein described, the slide Q, arranged and employed substantially as and for the purpose specified.

No. 45,265.—R. W. Parker, Woburn, Mass.—*Carriage Springs.*—November 29, 1864.—This invention consists in constructing the springs either of metal or wood, and bent or curved in bow shape with parallel or nearly parallel sides: said springs being attached to the front and rear bolsters of the vehicle, with their sides underneath the sides of the body of the latter.

Claim.—The springs C C, constructed with lowered ends, and parallel or nearly parallel sides, attached at their ends to the front and rear bolsters of a carriage, and supporting the seat or body upon their sides between said bolsters, all substantially as herein shown and described.

No. 45,266.—R. B. Parkinson and J. M. Marvis, Philadelphia, Penn.—*Medicine Chest.*—November 29, 1864.—This invention consists of a leather case containing an oblong wooden case, the interior of which is divided into four compartments by means of partitions; three of these compartments contain flasks for medicine, and the fourth contains a glass bottle, over the top of which is a medicine glass, graduated. The case is provided with straps which pass over the shoulders of the person carrying it, and it is also provided with pockets in which various articles may be carried.

Claim.—First, a medicine chest composed of the exterior case or cover A of leather or other like material, and the interior box C, with spaces arranged between the two, substantially as and for the purpose herein set forth.

Second, the combination of the said case with the pouches B B at the end of the same, for the purpose specified.

No. 45,267.—George F. Parsons, Baltimore, Md.—*Horse Collars.*—November 29, 1864.—This invention consists in the use, for the purpose of uniting the different layers of the leather or other material, of metallic rivets; in making the holes through the leather or other fabric for the putting in the rivets; using a washer, and clinching or securing the rivets in any known way.

Claim.—The improved article of manufacture—the collar for horses, mules, &c.—constructed of leather alone, of leather and other materials of fabrics named, or of any suitable material, the different layers of the leather or other material being secured to each other by metallic rivets, as herein recited.

No. 45,268.—James Paton, Newburg, Ohio.—*Machine for Making Nuts.*—November 29, 1864.—This invention consists mainly in the method of constructing the several parts of the machine and the manner in which they are combined and arranged, but which cannot be intelligibly described separately from the drawings.

Claim.—First, the above described machine, when arranged, constructed, and operated substantially as set forth.

Second, the cross-bar L and springs L', in combination with the die K, substantially in the manner and for the purposes specified.

Third, the lever Q, sliding frame C, arm R', and cam *e*, in combination with the punch M, dies K and D4, and matrix, when arranged and operating conjointly, substantially as and for the purpose set forth.

No. 45,269.—J. Paton, T. Campbell, and R. Paton, Newburg, Ohio.—*Machine for Making Bolts and Rivets.*—November 29, 1864.—This improvement consists in cutting off a piece from a heated bar of iron, and swaging the end of the same into a head, so as to form a rivet or bolt by one continuous automatic operation.

Claim.—First, the above described machine, when constructed, arranged, and operated substantially as set forth.

Second, the use of the hooks *p p*, in combination with the vibrating jaw E, and cam G, substantially as and for the purpose set forth.

Third, the special arrangement of the reciprocating head H, arms H' H', followers K, in combination with the plunger J, vibrating lever K', and cams I I', when constructed and operating conjointly, substantially as and for the purpose set forth.

No. 45,270.—John Pfaff, Philadelphia, Penn.—*Fifes.*—November 29, 1864.—This invention consists of ridges or bands attached to the fife in such a manner as to guide the lips without effort to a convenient position in playing.

Claim.—The ridges *b*, arranged in respect to the mouth opening *a* of a fife or other like instrument, as and for the purpose specified.

No. 45,271.—William Pollyblank, Cleveland, Ohio.—*Washing Machine.*—November 29, 1864.—This invention consists in constructing a corrugated revolving cylinder, having fluted or corrugated balls inside so that in whatever way the cylinder is turned or operated, the corrugations of the balls will fit in the corrugations of the cylinder; there are circular frames around the inside of the cylinder to keep the balls in their proper track.

Claim.—The special arrangement of the weighted corrugated balls, in combination with the rotating corrugated cylinder B, circular frames *h*, and tub A, when operating conjointly as and for the purpose set forth.

No. 45,272.—JOHN REIST, Philadelphia, Penn.—*Wash Kettle.*—November 29, 1864.—In the middle of a false bottom of a sheet metal wash boiler is an upright tube, on the top of which is a metallic cap; the boiling water and steam, forced through the tube, cause the cap to revolve, and sprinkle the water on the clothes and other articles being boiled.

Claim.—The described improvement in wash kettles, consisting in the application thereto of a false bottom B, upright tube D, and revolving cap piece E, the whole operating substantially in the manner and for the purpose specified.

No. 45,273.—GEORGE H. REISTER, Washington, Iowa.—*Wind Wheels.*—November 29, 1864.—The object of this invention is to so operate movable guides by a vane, and its immediate combined devices, as to concentrate and direct the wind to the wind wheel, and regulate its ingress, whereby a uniform motion, or nearly so, may be obtained with the aid of combined adjustable shutters for concentrating and directing wind currents to the wheel. The novelty consists of a vane, movable guides with their pivots, a band with its connexions combined with the vane, together with adjustable shutters and fixed guides.

Claim.—First, operating the movable guides by the vane *u* and the other means or devices as herein recited, the several parts being arranged in relation to each other substantially as described.

Second, in combination with the guides, the adjustable shutters for concentrating and directing the wind to the inlets, as set forth.

No. 45,274.—THOMAS D. ROBERTS, Middletown, N. Y.—*Frames for Saws.*—November 29, 1864.—This invention consists in making the frame of a saw in two pieces, in combination with a number of well-known devices.

Claim.—The combination of the frame A B, consisting of two pieces connected by a pin at *a*, the cross-bar E, the saw blade C, and the screw bolt *b*, attached to the end of the saw blade, and receiving a thumb nut D, bearing upon the handle A, all as herein shown and described.

No. 45,275.—ALFRED ROBINSON, New York, N. Y.—*Paint for Bituminous Roofing Fabrics.*—November 29, 1864.—This invention consists in mixing Spanish brown, Venetian red, and other desirable colors, with naphtha, benzine, &c., and applying it to the roofing material while sufficiently warm to enable the naphtha to partially dissolve and unite with the bitumen.

Claim.—A bituminous roofing fabric, having its surface made of any suitable color, substantially as herein described.

No. 45,276.—FREDERICK RUDOLPH and WILLIAM KASEFANG, Jersey City, N. J.—*Brush Handle.*—November 29, 1864.—In this invention a handle of wood is provided with a ferrule, the mouth of which is flaring. Longitudinally through the handle passes a rod having a hook or ring on the end within the mouth of the ferrule, and a screw nut on the other, and back of the ring hinged to said rod the arms of two half-cylindrical jaws, which project out beyond the ferrule. The wire is passed through the hook or ring, double forward, and clasped between the jaws, which are tightened thereon by being drawn sufficiently far within the flaring mouth of the ferrule by means of the screw nut on the hook rod.

Claim.—A hoop or loop C projecting from a shank B, in combination with the hinged jaws E E and handle A, constructed and operating substantially as and for the purpose set forth.

No. 45,277.—HENRY SOGGS, Columbus, Penn.—*Churns.*—November 29, 1864.—This invention consists in connecting the dashers of a suspended and swinging churn tub to a rigidly projecting cross-beam of the frame, in which the churn tub is suspended, so that the swing of the churn tub will operate the dashers without the use of gearing.

Claim.—The suspended dashers D E hinged to the rigid cross-beam F, in combination with the swinging pyramidal tub B, for the purposes and substantially as described.

No. 45,278.—GREENLEAF STACKPOLE, Jr., Ellsworth, Me.—*Sewing Machine.*—November 29, 1864; antedated September 17, 1863.—The nature and object of this invention are explained by the claim.

Claim.—The combination of a sewing machine for making, in cloth or other material, with two threads, one straight row of stitches or line of sewing, with auxiliary machinery for simultaneously making with other two threads another and parallel separate and distinct straight row of stitches of sewing in the said cloth or material, the whole being substantially as above described.

Also, the combination, or its equivalent, of the said auxiliary sewing machinery with the said sewing machine, in such manner and by such means as to enable the two shuttles and two needles, and their accompanying parts, to be simultaneously adjusted relatively to one another so as to cause them to make the two lines of sewing either nearer to or further apart from one another, as circumstances may require, the whole being substantially as described.

Also, the combination and the fastening of one end of the cloth bridge and needle guide 13 to the main machine, or to the platform *e*2 of the auxiliary machinery, leaving the unfastened end free, so that the unfastened end will move easily in the main machine, or the platform *e*2 moves easily under the bridge when one end of the bridge is fastened to the main machine, substantially as above described.

Also, the running of two shuttles simultaneously in separate race ways, face to face, and parallel to each other, which are adjustable any distance apart, in conjunction with the needles, substantially as herein described.

Also, the simultaneous running of two separate distinct parallel curved lines of sewing any distance apart, disconnected from each other when using to form the same, two shuttles running face to face.

No. 45,279.—WILLIAM STECHSCHULT, Glandorf, Ottawa Post Office, Ohio.—*Carriage Axle Box.*—November 29, 1864.—This invention consists of an axle box which is cast solid, with a cap which closes the same in front, and is perforated with a small oil hole that is closed, when not used, by a screw plug, in such a manner that no part of the oil poured in the axle box, and scraped off, and pushed back therein by the action of the spreading noses, is allowed to waste.

Claim.—An axle box A, cast solid throughout, enclosing the projections of the linchpins and the end of the spindle, and applied in combination with the screw plug *d*, annular groove *e*, and linchpins *f f*, constructed and operating in the manner and for the purpose herein shown and described.

No. 45,280.—ALEXANDER STEPHENS, Washington, Iowa.—*Churn.*—November 29, 1864.—This invention consists in a churn having two upright dashers placed side by side in the body of the same. In connexion therewith there are two pulleys, placed in a similar manner upon a horizontal shaft, connected by bands, for producing a rotary motion to the dashers, and operated by a crank.

Claim.—The combination and arrangement of the wheels, pulleys, and upright cylinders, the same being constructed and operated as herein set forth.

No. 45,281.—JOHN STEPHENSON, New York, N. Y.—*Street Railway Car.*—November 29, 1864.—This invention consists in a means employed for bracing the bodies of horse cars, by which their original form is maintained and their durability promoted. The bodies of these cars, being supported on two axles, necessarily near the centre thereof, the tendency of the hanging ends is to droop, thereby distorting the form and diminishing the strength of the structure.

Claim.—First, the employment or use of the iron or other metal abutments B applied to the car and constructed in such a manner that the ends of the truss rods may pass through them and be firmly secured therein, substantially as set forth.

Second, the passing of the truss rods C through the sills *a* of the car below their under sides, substantially as described.

Third, the combination of the truss rods with the abutments and studs, all arranged and applied as and for the purpose set forth.

No. 45,282.—THOMAS H. STORMS and JOHN C. POFFENBERGER, Jacksonville, Ill.—*Corn Harvester.*—November 29, 1864.—The cut stalks are caught by a rest, from which they are taken and placed within semicircular bars fastened to an annular frame, which rises and falls in an upright frame, being moved by a windlass fixed in the upper part of the upright frame. When the front ends of the semicircular bars are drawn together two jaws are pulled down, which seize the upper part of the shock and hold it while the platform upon which it stands is forced back, and the shock is lowered to the ground by means of the windlass. This platform is in two parts, each hinged to a bar at the side, so that they may be turned up and the machine drawn forward without interfering with the shock just left on the ground.

Claim.—First, the adjustable or pivoted semicircular bars Q Q in connexion with the jaws S S and annular frame P, all constructed as shown, to operate substantially in the manner and for the purpose set forth.

Second, the windlass N when used in combination with the annular frame P and its attached parts, substantially as and for the purpose specified.

Third, the sliding and adjustable platforms I I arranged in connexion with the bars H H K, so as to admit of holding the stalks until they are grasped by the jaws *s s*, and then admit of being shoved back and turned upward to allow of the shock being discharged, as described.

Fourth, the rest V in combination with the reel R, cutting device D, movable or pivoted bars Q Q, jaws *s s*, annular frame P, slides O O, and windlass N, arranged on a mounted frame, substantially as and for the purpose specified.

No. 45,283.—FREDERICK C. WALKER, New York, N. Y.—*Washing Machine.*—November 29, 1864; antedated November 16, 1864.—This invention consists in the combination of a rubber, made concave on the under side, with a series of corrugated or ribbed circular slats, the corrugations of which alternate with those of the adjoining slats.

Claim.—Constructing a washing machine with a series of corrugated slats alternating with each other, in combination with a semi-cylindrical rubber formed with a cavity *f*, for the purposes and as specified.

No. 45,284.—**Orson and Charles Waste**, Cameron, Ill.—*Constructing Bales of Hay.*—November 29, 1864.—This invention consists in first preparing the hay in thin sheets, by passing it between rollers and cutting to the proper length. A sufficient number of these sheets are placed in the press to form the bale, and again pressed and bound in the usual manner. By having the stems first crushed a much more compact bale can be formed.
Claim.—The constructing and arranging a bale of hay with sheets of hay which have been pressed or crushed and cut, in the manner described.

No. 45,285.—**Orson and Charles Waste**, Cameron, Ill.—*Machine for Preparing Hay for Pressing into Bales.*—November 29, 1864.—This invention consists of two rollers of equal diameters, and having a circumference equal to the length of a bale of hay, and a length equal to the width of a bale of hay. The rollers are hung in a strong frame an inch or more apart, and connected by gears outside of the frame, so as to cause them to rotate in concert. Each roller is provided with a sharp cutting knife, and these act in concert to cut the hay into sheets of a given length as the hay is compressed in its passage between the rollers.
Claim.—The rollers C C and knives D D, when constructed and arranged as and for the purpose specified.

No. 45,286.—**Theos. Weaver**, Harrisburg, Penn.—*Adjustable School Desk and Seat.*—November 29, 1864.—This invention consists in the combination of a desk and seat, so arranged that either may be adjusted to different heights, and contain shelves for books and graduated foot-rests.
Claim.—First, the standards A A, the foot-rest B, which penetrates them at various heights from the floor, the book-case P P P, combined and arranged substantially as and for the purposes herein described.
Second, the combination and arrangement of the adjustable folding leaf L M, the ledge N, its slots T T, the notched braces C C, their axes D D, operating substantially in the manner as and for the purposes herein set forth.
Third, the combination and arrangement of the adjustable rods G and H, the diverted rod F, the sliding back E, the seat K, the ratchets I I, the automatic spring O, supported by its coils around F, and its insertion into the back E, operating substantially in the manner as and for the purposes herein shown and described.

No. 45,287.—**Theos. Weaver**, Harrisburg, Penn.—*School Table and Seat.*—November 29, 1864.—This invention consists in the combination of a table and seat so arranged that either may be adjusted to different heights, with shelves for books and hooks for hats.
Claim.—First, the standards R R, with their slots and rods K K at different heights, the burrs L L L L, to clamp and unclamp them when adjusted, and the hat racks formed by the hooked extremities of the burrs, combined, arranged, and operated as herein shown and described.
Second, the combination and arrangement of the compound adjustable leaf A C D, hinged together underneath the sections; section D hinged to the plank F′, the guide J, the slides M and N, the mode of inserting them into the plank F′, the staple U, the adjustable ledge B, with its slots, the button E, operating substantially in the manner as and for the purpose herein set forth.
Third, the combination and arrangement of the haunch rod W, the toggle joint O, the curved arm X, the slots Q Q in seat and back, the notched brace or rubber A′, the hinges Z, substantially as and for the purposes herein set forth.
Fourth, the combination of the adjustable ledge B with sections D and A, for the purpose herein described.

No. 45,288.—**Edwin F. Wells**, New York, N. Y.—*Car Coupling.*—November 29, 1864.—This invention relates to that class of coupling commonly called automatic, and it consists in the employment of a drop pin or curved segmental slide, in connexion with an ordinary link or shackle, all arranged in such a manner that when the drop pin is raised the link or shackle will be released, and the pin retained in an elevated state by the segment slide, the latter being forced back when the link or shackle of the drawhead of an adjoining car comes in contact with it, so as to allow the pin to descend through the link or shackle and form a connexion. The segmental slide, when a disconnected link or shackle is in the drawhead, holds it in a horizontal position, so that it may enter the drawhead of an adjoining car.
Claim.—The drop pin B, in combination with the segment slide G, fitted in a curved opening F at the rear of the opening D, which receives the link E, all being arranged within the drawhead A, and with a link or shackle E, to operate in the manner substantially as and for the purpose herein set forth.

No. 45,289.—**Zenas Wheeler**, San Francisco, Cal.—*Amalgamator.*—November 29, 1864.—The pan has a steam space in the bottom to keep the mercury hot; also a false bottom or diaphragm to shield the mercury beneath it. On the side of the pan are fastened curved wings or guides. Two curved stirrers agitate and draw the mercury to the centre of the pan.
Claim.—The pan O O, with a double bottom or diaphragm, in combination with the stirrer A A and guides E E, substantially as described.

No. 45,290.—**Rollin White**, Lowell, Mass.—*Revolving Fire-arm.*—November 29, 1864.—This invention consists in placing the trigger under the barrel in front of the frame and lower part of the cylinder, which is partly grasped by the hand. The fulminate teat of the cartridge has an anvil bearing on a cylindrical rim or projection turned upon the recoil or breech-plate.
Claim.—Arranging the trigger in the frame in which the many-chambered cylinder revolves, and in front of the chambers of the cylinder which happen to be below the fixed barrel as described, so that the hand in grasping the handle of the pistol and the lower part of the chambered cylinder will have the fore finger bearing conveniently against the trigger.
Also, the stationary rest or anvil on which the fulminate of the cartridge is fixed, in combination with the many-chambered revolving cylinder.

No. 45,291.—**Frank Wicks**, Kansas, Ill.—*Horse Power.*—November 29, 1864.—This invention consists of a wheel elevator, the hub of which is in sections, but interlocked, so as to turn together when the wheel, drum, or barrel is winding up the rope or chain, and so that when the upper section is raised up or detached from the lower section, the wheel or drum and rope may run down without moving the horse backwards, or even halting him.
Claim.—In combination with a divided or sectional hub in a hoisting apparatus a sweep, or its equivalent, on one of the sections, and a rope wheel, or its equivalent, on the other section, and a cam interposed, so that when the sweep rides up on the cam, the sections of the hub will be disconnected, and the rope allowed to run independent of the motion of the horse or team, substantially as described.

No. 45,292.—**William H. Wills**, Boston, Mass.—*Metallic Cartridge.*—November 29, 1864.—A plain cylindrical metallic cartridge, provided at its base with a central nipple for receiving a percussion cap, has fitted to it a screw cap covering the base of the cartridge, but leaving the percussion cap exposed through a central opening.
Claim.—Covering the heel of the cartridge case A, by a metallic screw cap B, substantially in the manner and for the purpose set forth.

No. 45,293.—**Peter Wixcel**, Lafayette, Ill.—*Tool for Cutting Rivets.*—November 29, 1864.—This tool consists of a hand lever having a cutting bit projecting upward from one end and having this end connected by a stirrup to another hand lever at a point a little back from its end. Intermediate between these two levers is a third and shorter lever hinged at one end to the first named lever at a point about its middle, and having upon its opposite end a cutting bit corresponding with that in the said lever, while another stirrup or joint connects the cutter ends of the second lever to the projecting end of the lever C. By this arrangement of the levers, the further the cutters penetrate the metal which is being cut, the slower will be the movement of the cutters, or, in other words, the greater will be the cutting force in proportion to the power applied.
Claim.—Connecting the movable jaw B to the cam lever by means of the joint *e*, or its equivalent, substantially as described.

No. 45,294.—**Joseph R. Brown**, assignor to himself and **Lucien Sharpe**, Providence, R. I.—*Cutter for Cutting Gear Wheels.*—November 29, 1864.—This invention consists of a circular cutter, the teeth of which, formed out of the solid disk, are segment shaped, and the peripheries of which are eccentric to that of the disk, so as to give the back part of the tooth sufficient clearance.
Claim.—A cutter for cutting the teeth of gears composed of a series of cutting blades or teeth, constructed substantially as described.

No. 45,295.—**E. M. Caulkins**, Worcester, Mass., assignor to himself and **John J. Powers**, Grafton, Mass.—*Railroad Frog.*—November 29, 1864.—This invention consists in the combination of a cast-iron railroad frog, with two spring rails, in such a manner that a continuous rail is obtained on either side of the frog. The cast-iron frog is so constructed that parts most liable to wear are made in separate pieces of steel or wrought iron, so that they can be replaced when worn down without renewing the entire frog.
Claim.—The combination of a cast-iron frog A with two spring rails G, working independently of each other and forming a continuous rail on each side of the frog, when constructed and operated substantially as and for the purposes described.

No. 45,296.—**Lavinia H. Foy**, assignor to **James H. Foy**, Worcester, Mass.—*Corset Skirt Supporter.*—November 29, 1864.—The corset has elastic shoulder straps made adjustable by buckles in front. It has also a laced opening centrally in the back, extending half-way, or nearly to the flaring part thereof, at discretion. It has also laced openings at the right and left of the centre in front, extending nearly to the lower edge of the corset, from a point as high as expansion may be desired The precise invention is defined in the claim.

Claim.—First, the combination of the straps J J, body A and extensor or skirt supporter M, or the equivalent thereof, substantially as described.

Second, the combination with the shoulder straps J J, body A and extensor or skirt supporter M, of a laced opening K, or the equivalent thereof, extending down the back, substantially as and for the purposes set forth.

No. 45,297.—**William Hamilton**, assignor to himself and **Josiah B. Fuller**, Chicopee, Mass.—*Tool Elevator for Lathes.*—November 29, 1864 —In this invention the standard or post is surrounded by a short cylinder, the lower end of which is ratchet-toothed, gearing into a corresponding surface on the broad base ring on which it rests, and which also surrounds the standard. The upper end of said cylinder is shaped into two inclined or spiral planes, on which rests the corresponding lower surface of another upper cylinder, in a transverse slot or groove in the top of which rests the cutter. Surrounding these two cylinders, and clamping the lower one tightly, but being sufficiently large to move freely around the upper one, is a broad ring with a milled surface, which by turning causes the inclined surface of the lower cylinder to raise or lower the upper one, so as to give the cutter the proper vertical adjustment.

Claim.—First, the combination of the pieces A B and C, or their equivalents, when constructed and used substantially in the manner and for the purpose described.

Second, the ratchet formed by the notches O O O′ O′ on the pieces A and B, when used in combination with the pieces B and C, substantially in the manner and for the purpose described.

No. 45,298.—**H. B. Myers**, assignor to himself and **James A. Ostrom** and **H. Crawford**, Schoolcraft, Mich.—*Fence.*—November 29, 1864.—This invention consists in the employment of pickets, provided with an oblique kerf at or near their top ends, and with dowel-pins or tenons projecting from their bottom ends, to be used in combination with a wire stretched from one post to the other, and with a longitudinal foundation rail, in such a manner that, by causing the oblique kerfs to catch over the wire, and inserting the dowel-pins in appropriate sockets in the foundation rail, the pickets are steadied on top and bottom, and a light, durable, and cheap fence is produced. To prevent the pickets from moving on the wire in a longitudinal direction, said wire is slightly bent on both sides of each picket, and by these means the pickets are firmly confined in their places.

Claim.—The oblique kerfs *a*, at or near the top end of the pickets E, and the dowel-pins *b* in their bottom ends, to operate, in combination with the wire D and foundation rail C, in the manner and for the purpose substantially as set forth.

Also, the bends C in the wire D, to operate in combination with the oblique kerfs *a* in the pickets, substantially as and for the purpose described.

No. 45,299.—**Charles H. Palmer**, assignor to **George Edwards**, Newark, N. J.—*Harness Snap.*—November 29, 1864; antedated November 16, 1864.—This invention consists of a tongue clasping outside of the stem. To the back side of the snap a spring, projecting downwards, is affixed, which is moved backward by pressing upon the tongue, the latter having two points of bearing for the spring.

Claim.—The tongue, constructed as described, and the combination of the spring therewith, in the manner and for the purpose set forth.

No. 45,300.—**Blaney E. Sampson**, Boston, Mass., assignor to himself and **George N. Towbridge**, Rollinsford, N. H.—*Bearing for Flyers of Spinning Machines.*—November 29, 1864.—The object of this invention is to provide a simple and efficient mode of introducing within the collar a green or raw hide bearing for the flyer neck, this material acting as a partial lubricant, and economizing wear.

Claim.—The application of the green hide collar, or its equivalent, to the flyer neck bearing, in the manner, or by the mode, substantially as herein before specified.

Also, the improved flyer neck bearing, as made with the annular chamber *c*, for reception of the raw hide collar *d* and with the opening or passage *e*, leading laterally out of the said chamber, in manner as specified.

No. 45,301.—**Richard Shepard**, Brooklyn, N. Y., assignor to **Fitch, Estee & Co.**, New York, N. Y.—*Paper Envelope.*—November 29, 1864.—This invention consists in the insertion of strips, of any required width, around the edges of the envelope, for the purpose of increasing its capacity.

Claim.—The strips A A A and B, substantially as and for the purpose set forth.

No. 45,302.—**Abraham Strawbridge**, assignor to himself and **Michael Lehman**, Covington, Ky.—*Rockers for Furniture.*—November 29, 1864.—This invention consists in applying elastic soles to rockers of chairs and cradles by dovetailing the rocker, and securing the India-rubber to the same.

Claim.—The combination of the dovetailed grooves B, rubber strips C, bosses D D, and screws *b b*, all constructed, arranged, and employed in the manner and for the purpose specified.

No. 45,303.—**Alonzo Temple**, assignor to himself and **J. L. Fitch**, Bridgeport, Conn.—*Composition for Preventing Incrustation in Steam Boilers.*—November 29, 1864.—This invention consists of a composition formed by boiling together, over a slow fire, a mixture of terra japonica, nut-galls, and cocoa-nut oil until it attains the proper consistency.

Claim.—The within described composition for preventing or removing incrustation of steam boilers.

No. 45,304.—**Thomas Webber**, assignor to himself and **Volney Rusco**, Chicago, Ill.—*Device for Packing Dry Goods Boxes.*—November 29, 1864; antedated November 25, 1864.—This invention consists in the employment of a windlass, to each end of which is attached chains and claw rods, which claws are fastened under the box, while the windlass is placed upon the top of the box, and turned by a lever, when the chains are wound on the windlass, and the lid of the box forced down and kept to its place until fastened.

Claim.—In combination with the foundation A and windlass B, the chains *h h* and claw-rods *i i*, or their equivalents, arranged and operating substantially as and for the purpose set forth.

No. 45,305.—**James White**, assignor to himself, **W. F. Hoskins**, and **G. H. Russell**, Cleveland, Ohio.—*Water-wheel.*—November 29, 1864.—The object of this invention is to so arrange the wheels and chutes with the gates that the water sluice be let on in its greatest volume at the periphery of the wheel, in combination with a regulating apparatus, whereby to economize the use of the water and to maintain a uniformity of motion of the wheel and millstone, and to adjust the bed-stone in combination with the adjustability of the other parts. Its novelty consists in the combination of the stone with a hoop, a rim, and tram screws, the arrangement of levers, a circular piece, arms, rods, and gates.

Claim.—First, the combination of the stone with the hoop *b*, supported by a rim *a* and the tram screws *c*, for the purpose of adjusting the position of the bed-stone with reference to the shaft, substantially as shown and described.

Second, the arrangement of the levers *p*, extending from the circular piece *p′*, the arms *n*, rods *n′*, the gates *m′*, which when moved cause the openings through which the water passes to the wheel to be larger at the periphery than at the inner portion of said gates, whereby to use the water with economy, and regulate the power to suit the work to be done by the stones, as herein shown and described.

No. 45,306.—**Enos G. Allen**, Boston, Mass.—*Bullet for Small-arms.*—December 6, 1864.—The bullet is of an elongated cylindrical form, rounded at its ends, and provided with a narrow projecting belt about the middle of the ball, whose extension is about equal to the thickness of the metallic cartridge case and the depths of the rifle grooves of the fire-arm.

Claim.—The elongated, cylindrical projectile, having a projecting band at or near its centre of gravity, as se forth.

No. 45,307.—**Albert Ball**, Worcester, Mass.—*Magazine Fire-arms.*—December 6, 1864.—This invention, which relates to the magazine or cartridge receptacle of self-loading fire-arms, consists in a particular arrangement of sliding rod alongside of the tubular magazine, for retracting the feeding spring; and also in a particular arrangement of spring lever catch for holding the feeding spring in its contracted condition when it is desired to supply the tubular magazine with cartridges.

Claim.—The arrangement and combination of the spring contractor E with the barrel and the magazine provided with a spring and follower, as specified.

Also, the spring contractor, made substantially as described.

Also, the combination of the lever latch F, or its mechanical equivalent, with the magazine, the spring and follower thereof, and the spring contractor.

Also, the combination and arrangement of the tip band G with the barrel, the magazine, the lever latch, and the spring contractor, substantially as set forth.

No. 45,308.—**Clara A. Bartelet**, Ferndale, Cal.—*Side Saddle.*—December 6, 1864.—This invention consists in providing a side saddle with an adjustable horn, so as to make the saddle adjustable to suit either small or large-sized persons; in the employment of a rest for the right foot of the rider; in the use of a support extending along the right side and back of the saddle; and in having the right side of the saddle skirt provided with pockets.

Claim.—First, a side saddle provided with horns, arranged and applied substantially as shown, to admit of being adjusted in a longitudinal direction to vary the size of the saddle to suit the rider, as set forth.

Second, the foot rest G applied to the plate F, and the latter attached to the saddle, substantially as and for the purpose specified.

Third, the support D, composed of the rail *e* and standards *g*, provided with the knob E and applied to the saddle, substantially as and for the purpose set forth.

Fourth, the pockets I I, applied to the right skirt H of a side saddle, substantially as described.

No. 45,309.—J. W. Bliss, Hartford, Conn.—*Egg-beater or Agitator.*—December 6, 1864; antedated November 20, 1864.—This invention consists of a jar, made of glass, with numerous projections on the inner side, for the purpose of breaking or agitating the substance placed within, when rapidly shaking the jar.

Claim.—As a new, improved article of manufacture, a vessel made of glass, the inside surface of which is provided with protuberances or projections for agitating substances, fluids, &c., substantially as described.

No. 45,310.—Harris Boardman, Lancaster, Penn.—*Machine for Slicing Cork Wood.*—December 6, 1864.—This invention has for its object the slicing of cork wood, preparatory to cutting the slices into corks, and consists in a rotary cutter of sufficient diameter, the edge of which runs between two feed rollers, and upon the ends of which, and next the cutter, is a raised bevelled edge, operating to separate the cork wood and prevent any pinching on the cork.

Claim.—The carrying rollers B1 B2, when constructed as described, in combination with the circular vertical knife blade A, arranged and operating substantially in the manner and for the purpose specified.

No. 45,311.—Alonzo T. Boon, assignor to himself and Charles L. Stevens, Galesburg, Ill.—*Flour Bolts.*—December 6, 1864.—This invention consists in the employment of a series of tubes for the purpose of giving direction to the air against the bolt, for the purpose of cooling the flour, at the same time that it keeps the meshes of the bolting cloth open, thereby becoming not only a substitute for what are known in milling as the hopper bag and cooling chest, but acting an important part in freeing the bolting cloth from obstructions to which it is necessarily liable from the accumulation of the flour in the meshes of the cloth.

Claim.—First, the use of a blast of air of the ordinary temperature of the atmosphere, or below it, applied to the exterior of a bolting cloth, or similar apparatus, for cooling and drying the flour or other powdered material therein, and for the clearing or cleaning the meshes of the bolting cloth.

Second, the conical pipe, with its lines of orifices and stop-cock *e*, as shown in Figs. 1 3 and 4, or the cylindrical pipe with its orifices and diaphragms, as shown in Figs. 5 6 and 7, for applying a blast of air in jets to the outer surface of a bolting cloth for cooling and drying the flour or other powder therein, and for cleaning or clearing the meshes of the bolting cloth, substantially as described.

No. 45,312.—John Bowser, Basil, Ohio.—*Coring and Cutting Apples.*—December 6, 1864; antedated November 23, 1864.—This invention consists of a tube which is forced through the apple whilst it is held against a disk, and on the tube are four knives which cut the apple into quarters, the whole being operated by suitable levers and cranks.

Claim.—The tube B, with the knives fastened thereon, in combination with tube H and knives *g g g g*: the moving and setting of the disk A, by means of a screw or otherwise, so that the core is always cut in the centre of the apple; also, the motion of plug *m*, to open and close the hole in disk A for tube B to pass in for coring small apples, substantially as specified.

No. 45,313.—John F. Brickley, Huntsville, Ind.—*Railroad Switches.*—December 6, 1864.—This invention relates to a means employed for throwing automically, by the movement of the switch, an obstruction or "scotch" across the rails of a turnout to prevent the cars switched off on said turnout from passing back on the track, which means was patented by Jacob Beachler, on the 19th day of July, 1859. The improvement consists in connecting the "scotch" with the switch by two cross-rods and a T-shaped lever, arranged in such a manner as to enable the obstruction to be moved or adjusted with less friction than usual.

Claim.—The operating of the "scotch" H automatically from the switch C, through the medium of the cross-rods G G and T-shaped lever E connected with the switch, substantially as and for the purpose set forth.

No. 45,314.—Samuel D. Burlock, Philadelphia, Penn.—*Machine for Cutting the Front Edge of Photographic Albums.*—December 6, 1864.—This invention consists in the employment of a rotary cutter, moved by means of a screw shaft, so as to cut the front edge in a curve.

Claim.—The combination and arrangement of the revolving cutter Q with the clamps B B and carriage T, by means of the screw shaft U, the intermediate shaft W, and driving shaft V, the whole being arranged for joint operation, substantially in the manner and for the purpose above set forth.

No. 45,315.—Wm. S. Carr, New York, N. Y.—*Urinal.*—December 6, 1864.—A spout, continuous from the bottom of the basin, descends into the water held in a depressed part of the receptacle. The flow of water into the upper part of the basin is regulated by a valve controlled by a cam movement. The drip from this flow, falling upon the top of this receptacle, is conducted by flanges to a descending tube, which is turned upward within the receptacle, so as to form an inverted siphon, and thus deliver its water into the receptacle without permitting the gas to ascend.

Claim.—First, the combination with a basin or water closet, hopper of the pipe *i*, extending below the surface of water in a receptacle below said basin or hopper, as and for the purposes specified.

Second, the valve *s*, actuated by the cam-shaped end of the plug *m* that is moved by swinging the urinal or basin, as set forth.

Third, the cover *k*, with raised edges, in combination with the pipe *l*, for the purposes and as specified.

No. 45,316.—Thomas Castor, Philadelphia, Penn.—*Railway Car.*—December 6, 1864.—This invention consists in the employment of dogs, so constructed and hung to a railway car in respect to the wheels that they will remove objects from the track, and prevent them from being acted on by the wheels. In combination with said dogs are bars attached to the axle, so that the dogs will always be maintained at the same distance above the track.

Claim.—First, a dog F, so constructed and so hung to a railway car in respect to the wheel that it will operate on obstructions on the right, as set forth.

Second, the combination of the said dog F with a bar attached to the axle boxes, substantially as set forth.

Third, the arm D, dog F, and bar C, combined and arranged in respect to a railway car, substantially as specified.

No. 45,317.—N. B. Clabaugh, Frederick, Md.—*Washing Machine.*—December 6, 1864.—This invention consists of a rotating slotted rubber, combined with an inclined washboard, so as to operate intermittently upon the articles placed in the tub, and not only rub them, but also allow them to open and absorb water after each squeezing and rubbing operation.

Claim.—First, the rubber and squeezer, constructed with openings *d d* between the rubbing and squeezing devices, substantially as and for the purposes set forth.

Second, the combination of a polygonal rotating rubber B with a washboard C and slotted bed *f*, substantially as described.

No. 45,318.—George W. Coffee, Aurora, Nevada Territory.—*Casting Stamps and Dies for Crushing Quartz.*—December 6, 1864.—This invention consists in casting in an iron mould or chill a case or shell of cast-iron around a core or mandrel of chilled cast-iron, the two together forming the stamp head or die.

Claim.—A stamp for crushing quartz constructed by casting in a chilled mould an outer case or shell of cast-iron around a mandrel or core of chilled cast-iron, substantially as herein described.

No. 45,319.—James M. Cooper, Pittsburg, Penn.—*Cartridge for Revolving Fire-arms.*—December 6, 1864.—The nature and object of this invention are explained by the claim.

Claim.—First, a metallic cartridge case, having a perforated metallic cone (for percussion caps) projecting from its rear end, and having no flange or other projection of greater diameter than that of the charge chamber in which the cartridge is to be inserted, and having a neck at or near the rear end of the case to fit a cavity in the chamber, or equivalent construction, for holding the cartridge in place, so as to resist the impact of the hammer in firing, substantially as herein before described

Second, making metallic cartridge cases with or without a nipple, and having a short neck at the rear end, of less diameter than the main body of the cartridge, fitting closely into a corresponding cavity or perforation at the rear end of the cylinder, so as to hold and centre the cartridge in the chamber of the breech or cylinder, and at the same time sustain the recoil of the cartridge, substantially as described.

No. 45,320.—Thomas Cowden, Norristown, Penn.—*Weather-strip.*—December 6, 1864.—This invention consists in a method of constructing a weather-strip, composed of two pieces hinged together, the upper piece being secured to the door, and the lower piece being depressed at the lower edge by contact with a projection on the door frame when the door is closed.

Claim.—The piece D, with its sockets *d*, and the lips *e*, forming part of said socket, in combination with the piece E, its sockets *h* and weights *i* within the said sockets, the whole being constructed and applied to a door and door frame, as set forth.

No. 45,321.—John W. Dixon, Philadelphia, Penn.—*Manufacture of Paper Pulp.*—December 6, 1864.—This invention consists in heating wood with a strong solution of caustic alkali, and then using the residual liquor for treating straw for the manufacture of paper pulp, and using the residual liquor of the last operation for the manufacture of an inferior quality of paper pulp from straw.

Claim.—First, the process of manufacturing pulp from wood and from straw, or the equivalent of straw, as above described, in conjunction, by making use of the waste liquor of the wood pulping process to pulp the straw, or its equivalent, as above described.

Second, the process of manufacturing two grades of pulp from straw, or its equivalent, as above described, in conjunction, by using the waste liquor of the straw pulp, or its equivalent, first obtained, to manufacture coarse pulp from straw, or its equivalent, for binders' boards, wrapping paper, &c.

Third, the process of pulping wood by caustic soda, and then using the residual liquor to treat straw, or its equivalent, and again using the second residual liquor to form an inferior grade of pulp from straw, or its equivalent, as above described.

No. 45,322.—George and Elihu Dodds, Alleghany, Penn.—*Variable Valve Gear.*—December 6, 1864.—This invention consists in the arrangement of two cams in a vertical position upon the same shaft in such a manner that the lower one is fixed in its position upon the shaft; and is the opening cam, while the other one is made variable in its position by means of a sleeve which rises and falls upon the shaft, and upon the periphery of which spiral projections are raised that work in corresponding grooves in the interior of the hub of the cam. The shaft upon which the cams are placed is hollow, and in it is inserted another shaft. to which the sleeve above referred to is fastened in such a way that as the balls of the governor expand the sleeve is raised, and the position of the cam is changed with reference to the shaft, and the point of cut-off is raised to suit the conditions under which the engine is laboring.

Claim.—The combination and arrangement of the opening cam *k* and cut-off cam *h*, cam yoke *g g*, and the spiral cylinder *q*, as a cut-off apparatus, constructed substantially as described, with the governor and cut-off valve of a steam engine, for the purpose of so regulating the closing of the cut-off valve as that the point of cut-off shall change, with the increased or diminished force of steam, in proportion to the rapidity of stroke of the engine, thus forming a variable cut-off.

No. 45,323.—Thomas Hanvey, Elma, N. Y.—*Machine for Cutting Staves.*—December 6, 1864.—The object of this invention is to slice the staves from a bolt by means of the reciprocating knife, cutting at right angles with the grain of the wood; and it consists of a rectangular box, in which the bolt is placed and held by a circular spring, while the box reciprocates to the knife attached to an adjustable table, so as to cut staves of different thickness.

Claim.—The combination of the movable box B, stationary table C, cutter D, and adjustable table E, for the purposes and substantially as described.

Also, in a machine for cutting staves, substantially as herein described, a spring J, attached to the movable box B, so that it will bear against the wood block to be cut, and press it against the side of the box or strip G therein, to prevent the wood block from sliding sidewise while the process of cutting is going on, substantially as set forth.

No. 45,324.—Porter Hill, Millport, N. Y.—*Horse Hay-fork.*—December 6, 1864.—This invention relates to the arrangement and combination of certain parts designated in the claim, from which, and the engraving, it will be readily understood.

Claim.—A horse hay-fork, the tines of which are connected by a toggle to which the hoisting rope B is attached, in combination with the rope C, provided with the hook D, and the ring F on the hoisting rope, all arranged substantially as described.

No. 45,325.—Wm. W. Huse, Brooklyn. N. Y.—*Cigar Tip Machine.*—December 6, 1864.—This invention consists in forming the tip end of a cigar by means of two horizontal disks, with concave surfaces, each turning independent of the other on its axis at right angles with the axis of the cigar. The body of the cigar is rolled with ordinary rollers.

Claim.—The combination of two or more disks or rollers whose faces are formed, substantially as specified, to present between them a space of the form of the section of the tip or pointed end of a cigar, and each mounted to turn on an axis at or nearly at right angles with the axis of the cigar, and turning independently of the other or others, to make pressure successively on every portion of the circumference of the tip of a cigar by rolling thereon, substantially as and for the purpose set forth.

No. 45,326.—Wm. W. Huse, Brooklyn, N. Y.—*Machine for Making Cigars.*—December 6, 1864.—This invention consists in combining with the rollers for forming the body of the cigar, disks with their faces curved, so that the space between their faces will be of the form of a section of the pointed and curved head of a cigar, and each turning on a separate axis at or nearly at right angles with the axis of the rollers, so as to make pressure in succession on every part of the circumference of the tip or head of the cigar by rolling thereon, and thereby give the required shape. A device is employed for cutting the wrapper that encloses the small end of the cigar.

Claim.—In combination with a series of rotating rollers arranged about a common centre, substantially as described, the rotating head, with pins that enter the bunch of tobacco, substantially as described.

Also, in combination with a series of rotating rollers arranged about a common centre, substantially as described, the rolling disks, turning on axes at right angles with the axes of the rollers for forming the head of the cigar, substantially as described.

Also, in combination with a series of rollers for forming the body of the cigar, and with the disks for forming the head of the cigar, the cutter for cutting the end of the wrapper at the right place for finishing the head of the cigar, substantially as described.

No. 45,327.—Richard B. Irwin, New York, N. Y.—*Letter and Music File.*—December 6, 1864.—The invention consists of a metallic plate having pins of sufficient length to project through the cover, to mark or pierce the paper laid on the inside at regular intervals, so that cords may be passed through the sheets and retain them in place.

Claim.—Combining two or more sharp pins with one leaf or cover of a letter file in such a manner as that the papers may be pierced thereby at uniform intervals for the reception of binding cords, to unite said leaves or covers and secure said papers, substantially in the manner herein set forth.

No. 45,328.—Robert M. Knapp, Jerseyville, Ill.—*Shoal-water Indicator.*—December 6, 1864; antedated December 1, 1864.—The object of this invention is to provide an automatic and self-indicating sounding apparatus, by which, when in operation and within a certain depth of water, the sounding or depth may be constantly indicated to the eye of the pilot.

Claim.—First, the combination of the bar B, shaft C, arm E, connecting rod F. gearing H I, and index shaft J, arranged and operating substantially as shown and described.

Second, the combination of the lever L, with its catch O, cord or chain N and arm G, with the bar B and shaft C, whereby the said bar may be stowed compactly away when not in use.

No. 45,329.—Edward Lindner, New York, N. Y.—*Spring.*—December 6, 1864.—The object of this invention is to provide a metallic spring not liable to break, under whatever force of compression within the limits of resistance, however suddenly it be applied, and it consists in a metallic spring surrounded with a fluid or elastic substance and provided with a suitable packing, under such an arrangement that an elastic æriform fluid shall be confined therein, receiving a uniform pressure upon all sides without absorption or loss of elasticity.

Claim.—The construction and arrangement of a spring mechanism, substantially as described, consisting essentially of a plunger capable of a sliding motion within a vessel containing compressible fluid surrounded by a non-compressible fluid, (and whether combined or not with metallic springs,) under the arrangement and for operation as herein set forth.

No. 45,330.—Daniel Lynahan, Buffalo, N. Y.—*Mechanical Motion.*—December 6, 1864.—This invention has for its object the conversion of reciprocating into rotary motion, and the acceleration thereof over that of a crank motion, by increasing the number of revolutions in relation to the movements of the power employed. It consists in the employment of a reciprocating bar or frame formed of a double series of inclined planes or grooves, to which a reciprocating motion is imparted, which acts upon a reciprocating gate that is connected, by means of a working beam or other suitable lever and pitman and crank with a fly-wheel. It also consists in the employment of an adjustable weight on the working beam, for the purpose of maintaining an equilibrium, and in attachments for operating the valves of the engine which drives the reciprocating frame.

Claim.—The reciprocating bar B, provided with a series of double inclined planes, or their equivalent, in combination with the vertically reciprocating gate C, working beam or lever D, and fly-wheel E, arranged and operating substantially as set forth.

Also, in combination with the reciprocating bar B, provided with a series of double inclined planes, the reciprocating shaft or pitman H, or its equivalent, when said combination has for its object the conversion of a reciprocating into rotary motion independent of the power which operates said shaft, substantially as set forth.

Also, the balance weight *l* and screw rod *m*, in combination with the gate C and bar B, constructed substantially as and for the purposes herein specified.

Also, the extension of the cross-heads *f f*, provided with the adjustable stop rods *r r*, in connexion with the rock lever K and valve rod *t*, constructed, arranged, and operating substantially as and for the purposes described.

No. 45,331.—E. McKinley and W. Wilkie, Mayville, Wis.—*Washing Machine.*—December 6, 1864.—This invention consists in the use of two sets of swinging plungers operated by a crank shaft, which have the cranks placed alternately in opposite directions and fitted in oblong vertical slots in the plunger bars, the latter being suspended on a shaft, and the bearing of which are at the upper ends of springs.

Claim.—The combination of the yielding shaft D, plunger F, at the lower ends of the bars E, which are suspended on the shaft D, the crank-shaft G, with the cranks *j*, fitted in the oblong slots *i*, in the bars E and the suds-box A, all arranged to operate substantially as and for the purpose herein set forth.

No. 45,332.—Nehemiah Merritt, De Ruyter, N. Y.—*Stocks for Holding Sheep, &c.*—December 6, 1864.—For the purpose of securing small animals, a frame or stock is provided with four holes, at suitable distances for the insertion of the legs. The holes are a little larger than is necessary or the legs, so that the hoof can easily pass through. After the legs are inserted a pin or small rod passes through the holes close to the legs, which prevents the withdrawal of the feet.

Claim.—The above-described frame or stocks for holding the legs of sheep while shearing or slaughtering, and the legs of calves, pigs, or other animals while doctoring or slaughtering, substantially as described.

No. 45,333.—Charles M. Miles, Vineland, N. J.—*Adjustable Sight for Fire-arms.*—December 6, 1864.—The sight is formed of an elastic strip of metal, arranged to slide longitudinally under a suitable confining plate, and having one end turned or sprung upward by a guide slot in said confining plate, so that the elevation of the end of the elastic strip which contains the sighting notch is determined by the longitudinal movement of said strip.

Claim.—The spring H, containing the sight-notch or opening *f*, sliding longitudinally through the base piece A, substantially as and for the purpose herein specified.

No. 45,334.—D. M. Moore, Windsor, Vt.—*Wrench.*—December 6, 1864.—In this invention the ratchet is furnished with and can be operated in either direction by two lever pawls. one on each side, and which are thrown out or in gear by means of a thumb lever, the forked inner end of which embraces the outer arms or ends, and controls the movements and position of the pawls.

Claim.—The combination in a wrench of the ratchet wheel B, containing the socket for seizing the work with the detents *b b* and lever *g*, so constructed as to lock the ratchet against rotation in any direction and also to lock it at will. so that the implement may be worked as a right hand or left hand wrench without removing it from the work, substantially as described.

No. 45,335.—William H. Nauman, Dayton, Ohio.—*Seed Drill.*—December 6, 1864.—This invention relates to the forming of the slide valves and a feed roller, the latter consisting of a shaft having flanges with wings inserted in said flanges, and extending toward another flange about half way. The shaft runs longitudinally through the hopper, and over the orifice for the discharge of seed. The slides are arranged in a manner so as to enlarge or diminish the orifice for the flow of grain.

Claim.—First, the feeder A, having flanges *b b*, with rings *c c c* projecting towards either flange and leaving a space between the flange and wing on either side, said feeder running over and in combination with an aperture in the bottom of the hopper.

Second, the slide D placed next to the hopper bottom in combination with the adjustable slide E′, cut-off F, and slides G G, when arranged and operating as and for the purposes set forth.

No. 45,336.—A. B. Nimbs, Buffalo, N. Y.—*Grain Elevator.*—December 6, 1861.—This invention consists in suspending the elevator leg between grooved jaws or frames, which are hung at the ends of swinging suspension arms hinged to the front posts of the main frame work raised on the vessel on a floating elevator, or of a tower in a stationary elevator, by which a compound movement of the elevator leg is obtained, viz: a movement outward by the lowering of the suspended arms, which brings the leg into position to enter the hatch of the vessel to be unloaded at the proper angle, and a vertical movement between the jaws, which allows the leg to pass through the hatch of the vessel into the hold. An "extension foot" is adapted to the elevator leg, by which the foot pulley may be moved in a direction to tighten the bucket belt and prevent it from slipping.

Claim.—First, the combination of the suspension arms C with the grooved jaws B B and the elevator leg A, constructed and operated in the manner and for the purposes substantially herein set forth.

Second, the extension foot *a*2, constructed and operating substantially as and for the purpose set forth.

Third, controlling the inclination of the jaws B B and leg A by means of the rack I, pinion J, and connecting rod K, substantially as and for the purpose set forth.

No. 45,337.—A. B. Nimbs, Buffalo, N. Y.—*Grain Elevator.*—December 6, 1864.—This invention consists in suspending the elevating leg in a movable framework or carriage by means of which it may be moved horizontally outward to such distance as will enable it to enter the hatch of the vessel which is to be unloaded at such an angle as will cause the elevating buckets to work most effectually. In connexion with the above is a rack and pinion for the purpose of raising and lowering the leg. The inclination of the elevating leg is controlled by the action of a pinion upon a gear segment connected to or framed upon one end of the guiding jaws upon which it moves.

Claim.—First, suspending the elevator leg in a movable carriage C C1 C2. by means of which it may be moved outward, horizontally, or returned inward, substantially as and for the purposes set forth.

Second, raising and lowering the elevator leg by means of a rack E and pinion E′, substantially as described.

Third, controlling the inclination of the elevator leg by means of the pinion I and gear segments 13, the gear segment being formed on or bolted to the end of one of the jaws B, substantially as and for the purposes described.

No. 45,338.—Samuel Nowlan, New York, N. Y.—*Cooking Stove.*—December 6, 1864; antedated November 16, 1864.—This invention has for its object the utilization of waste heat of cooking stoves, and it consists in combining with an ordinary cooking stove a drum through which the products of combustion pass. This drum contains a chamber in which steam is generated by a small stream of water falling on a series of perforated plates or wire gauze partitions exposed to high heat.

Claim.—The apparatus herein described for generating steam, the same consisting of a generator composed of two or more wire gauze plates arranged in a chamber as shown, the said chamber being enclosed in a drum of a cooking stove so that the heated gases may surround the same, substantially as and for the purposes set forth.

No. 45,339.—William Painter, Afton, Iowa.—*Water Elevator.*—December 6, 1864.—The bucket has an ascending continuation on two sides, and when it rises a tilting rod falls between these continuations, such rod being in line with the windlass, and bent at angles at the side of the curb, which it traverses toward the trough or receptacle in front, where it is pivoted laterally in the curb. A bail-shaped wire is hinged to the front of the cover, which cover is hinged in the rear, its ends being hinged to the tilting rod close to their angles at the centre of the curb. The front bar of the cover to which this is hinged slides at its ends in slots, and when pressed under the cover by the hand of the operator, it holds the cover down upon the spool of the windlass, and this prevents the descent of the bucket. A counterpoise adjusted to the proper tilting height is suspended by a cord which passes around a pulley on the main shaft, and is attached to the tilting rod at one side of the curb.

Claim.—The cover B, placed on the curb A as shown, in connexion with the latch or fastening, composed of the bar C and lips or projections *m m*, and connected with the bucket tripping device I, and the latter connected with the windlass shaft, substantially as and for the purpose herein set forth.

No. 45,340.—J. M. Perkins and Mark W. House, Cleveland, Ohio.—*Safety Oil Can.*—December 6, 1864.—This invention consists in making a part of the spout of an oil can of a piece of metal perforated in its length with numerous holes of such length and diameter that a flame of ignited gas cannot pass through.

Claim.—The can, substantially as described and for the purpose set forth.

No. 45,341.—Eli B. Prater, Washoe county, Nevada Territory.—*Machine for Collecting and Amalgamating Gold and Silver.*—December 6, 1864.—This invention consists of a frame supporting the amalgamating pan, which has a convex bottom with openings near the centre surrounded by the rim. The pan is provided with a groove at its outer edge, and also with legs on opposite sides, which work in sockets connecting the rods. Over this pan is suspended by the rods a hood inclining downwards towards its outer edge. This hood has a hopper near its centre in which the pulp is allowed to flow, and from thence over the hood into the amalgamating pan.

Claim.—In combination with the convex-shaped bottoms of pan B, the outlets C near the centre of the pan for the passage of earthy matter, the rim *x*, and the circumferential gutter *g* for the collection of the amalgam, when used with or without the inner rim *e* as and for the purposes described.

No. 45,342.—J. B. Rand, Fisherville, N. H.—*Manufacture of Soap.*—December 6, 1864.—This invention consists in combining fine porcelain clay with soap. The clay is first treated with caustic lye; also the soap grease. The two compounds are then combined. Rosin may be used instead of a part of the grease, and alcohol and ammonia may be added.

Claim.—First, the combination and saponification of caustic soda, lye, and grease, fat, or oil, by the process and in the proportions stated.

Second, the combination and saponification of caustic soda, lye, grease, fat, or oil, and rosin, by the process and in the proportions stated.

Third, the combination of the white clay as herein described with a saponified grease, fat, or oil, as above set forth.

Fourth, the mode of saponifying the white clay with alkali before adding it to the saponified grease, fat, or oil, and rosin, as set forth in the specification.

Fifth, the combination of the saponified clay and the saponified grease, fat, or oil and rosin in their saponified condition, as set forth in the specification.

No. 45,343.—Jacob Reese, Pittsburg, Penn.—*Application of Hot Blast to Puddling Furnaces.*—December 6, 1864.—This invention consists of a puddling furnace of ordinary construction, from the chimney of which extends a pipe to the fan case, the whole being made of sheet-iron and lined with fire-clay. Through the pipe, between the fan and the chimney, a steam pipe is inserted, the aperture of which is turned towards the fan. The pipe is provided also with an aperture for the admission of air, and is made longer where it connects with the fan case. The fan is connected with the fireplace of the furnace by means of a pipe and a channel. The arms of the fan are made hollow, and a stream of water is allowed to flow constantly through them when the furnace is in operation.

Claim.—First, creating a hot blast for supplying the fire-chamber of puddling, boiling, and heating furnaces, by drawing the hot waste air, gases, and smoke, after they have passed over the iron in the puddling chamber, from the furnace stack to a chimney by means of a fan or similar device, and forcing such hot blast, previously recharged with oxygen in the shape of atmospheric air or steam, into and through the fire, whereby it is again deprived of its oxygen and receives an accession of caloric, &c., and is thus fitted for use in the puddling chamber, thus keeping up a constant circulation through the furnace.

Second, the application to the working chamber of puddling, boiling, and heating furnaces of a hot blast, consisting of the waste heated air, gases, and smoke drawn from the stack or chimney of the furnaces, and, previously to entering the working chambers, deoxidized by a highly heated passage through the body of the fire in the furnace, substantially in the manner herein before described.

Third, constructing a fan for hot blast with hollow axle arms and wings, or any of them, for preventing the injurious action of the intense heat by passing a current of cold water through the fan, substantially as herein described.

No. 45,344.—JOHN W. RICHARDS, Newark, N. J.—*Seeding Machine.*—December 6, 1864.—This invention consists in the employment of two cranks connected with the axle of the draught wheel, which are connected by arms to a rock shaft. The rock shaft, with its two arms, gives a forward and backward motion to the slides in the seed box. Brushes arranged at each end of the hopper force the seed through the opening of the slides. Seed is deposited through tubes at each forward as well as backward motion of the slides.

Claim.—First, the combination with one conductor of two slides E E′, working side by side, and two cranks, G G′, set at right angles to each other on the axle I, substantially as and for the purpose herein specified.

Second, the slots or openings *a a*, and the brushes J J, arranged both at the front and at the back of the hopper, so that the slides will receive and deposit the seed both in their backward and forward movements.

No. 45,345.—G. W. RICHARDSON, Grayville, Ill.—*Harvester.*—December 6, 1864.—This invention consists in the manner of attaching the finger-bar to the main frame of the machine, as explained by the claim.

Claim.—The combination of the brace rods H H′, and draw bar I, when attached or applied to the machine and to the shoe G of the finger-bar F, to operate in the manner as and for the purpose herein set forth.

No. 45,346.—IRA ROBBINS and JAMES OLD, Pittsburg, Penn.—*Horse Rake.*—December 6, 1864.—This invention consists in placing the teeth bar in front of the axle, and hinging it thereto. Also, in the combination of several parts identified by the claim, which combination will be readily understood from the claim and drawing.

Claim.—Placing the bar to which the teeth are attached in front of the axle of the machine, and hinging it thereto, so that the weight of the teeth bar and teeth shall bear directly upon the axle and be nearly balanced thereon.

Also, in combination with the teeth bar *g*, placed in front of the axle as described, the arms *k k*, and short arm *l′* of the lever *l*, attached at one end to the teeth bar in front of and hinged to the axle, so that on depressing the teeth bar by a forward motion of the lever *l*, the points of the teeth are raised from the ground while the teeth still rest upon the axle, which serves as their fulcrum or turning point, thus dispensing with the use of a separate cross piece to sustain them in an elevated position, substantially as described.

No. 45,347.—CHARLES ROBINSON, New York, N. Y.—*Electro-magnetic Machinery for Ringing Bells.*—December 6, 1864.—In this invention a series of pins is arranged concentrically on the face of a wheel which is rotated by means of clock-work. The pins are thus made to come in contact in turn with one end of the striking lever, so as to operate it. The "directing wheel" is placed upon one end of a shaft, geared to the main wheel, and is provided with notches in its periphery corresponding in number with the pins on the pin wheel. Into these notches fit the hook-shaped aids of a double armed lever connected to the armature of an electro-magnet, the lever and notches being so arranged that the opening and closing of the circuit is made to release the wheel sufficiently to allow the pin wheel to operate the striking lever. The use of the stop wheel, which is so geared to the main wheel that it rotates at a higher rate, and which the other arm of the lever interlocks with, is to prevent the machinery from operating unless the circuit is both closed and opened once. The motion is regulated by an angle pawl interlocking with a toothed wheel connected by gearing to the main wheel.

Claim.—The directing wheel, stop lever, and stop wheel, in combination with the armature of an electro-magnet and pin wheel of a striking apparatus, substantially in the manner and for the purposes herein before described.

Also, in combination with the stop mechanism, the regulator of the speed of the machine, substantially as described.

No. 45,348.—ARTEMUS RUSH, Fairfield, Iowa.—*Depthing Tools.*—December 6, 1864.—This device is designed for determining the correct position or depth of the lever in relation to the balance of watches. The improvement consists in the employment of a U-shaped bar on one of the centres provided with a suitable centre to take in the outer or loose end of the staff of the lever in such a manner that the entire mechanism can be set in motion precisely as if it were in the watch. Also, in the employment of a stud upon one of the centres, to take in the arbor of the escapement wheel, in such a manner that the loose end of the hair-spring can be conveniently held and all the parts of the mechanism adjusted in the depthing tool in the same relation toward each other as in the watch.

Claim.—First, the U-shaped bar *g*, in combination with the centres $i\ i^{*}\ i'^{*}$ of a depthing tool, constructed and operating in the manner and for the purpose substantially as herein shown and described.

Second, the adjustable spring *n*, with the projections or pins on the ends to serve in place of the banking pins, and applied in combination with the U-shaped bar *g*, substantially as and for the purpose specified.

Third, the adjustable hair-spring stud *l*, in combination with the centre *i* of the depthing tool, constructed and operating in the manner and for the purpose substantially as set forth.

No. 45,349.—ICHABOD SEARING, Morristown, N. J.—*Corpse-preserving Cases.*—December 6, 1864.—This invention consists in an arrangement of air spaces, or channels, connected with an ice chamber above the coffin in such manner that the cold air from the ice chamber descends through the channel nearest the body chamber, and ascends through the surrounding channel, whence it escapes into the atmosphere. The ice chamber is provided with an opening to admit external air to maintain the circulation.

Claim.—First, not broadly the use of an ice-box, constructed and arranged so as to form a refrigerating top for the body chamber C, but the combination of such box, top or cover with the body chamber C, when the whole are so constructed that the air entering the ice-box will be conducted down the sides of the body chamber, and allowed to escape through the outer wall thereof, substantially as described.

Second, providing the double wall chamber C, or the spaces between the walls thereof, with divisions *c c*, and communications with the ice chamber, and also with the external air, substantially as herein described.

No. 45,350.—THOMAS SHORT, Fairmount, Ill.—*Combined Grain Drill and Corn Planter.*—December 6, 1864.—This invention relates to a machine in which the seed cylinders are so arranged that two alone may be called into requisition for the purpose of dropping, or the entire series may be employed for dropping seed. In connexion with these cylinders is employed a method of using shares or runners for making furrows, and a roller for covering the seed after it has been deposited.

Claim.—The swivelled furrowing shares F and the seeding arrangement B D E, in combination with the covering roller G, whose angular projections follow in the track of the follower, the whole arranged substantially as shown and described.

No. 45,351.—WILLARD E. SIBLEY, Weston, Mass.—*Dovetailing Machine.*—December 6, 1864.—This invention consists in so arranging the cutters, supports, belt-tighteners, and the devices for holding them in place, the carriers that feed the stuff to the cutters, their gauges, holders, and gear in a dovetailing machine, as that stuff of different thickness and width can be worked by the same set of revolving cutter tools which form the tenons and mortises.

Claim.—The above described improved dovetailing machine, or arrangement of the mandrel carrying the cutter tools or adjustable supports, the belt-tighteners, and the devices for holding them in place, the carriers, with their gauges and stops, and the shafts and gear that operate the rising and falling of the stuff-carriers, when constructed and operating substantially as described.

No. 45,352.—CHARLES W. SMITH, New York, N. Y.—*Machine for Making Screw Blanks.*—December 6, 1864; antedated February 7, 1864.—This invention will be understood from the claim.

Claim.—First, forming screw blanks, rivets, nails, pins, and other analogous articles, by means of a series of rotary swages, arranged with their heads and points alternating, and operating substantially as herein described.

Second, forming the niches in the head of screw blanks, substantially as herein set forth.

No. 45,353.—JOHN JOSEPH CHARLES SMITH, Philadelphia, Penn.—*Making Printers' Type.*—December 6, 1864; antedated November 30, 1864.—This invention consists in forming the body of printers' type of rolled metal drawn to a uniform thickness and width, and in soldering a row of electrotype heads to one edge, and then cutting the strip into single type.

Claim.—The manufacturing of printing type by forming the bodies thereof out of a strip of rolled metal drawn to a uniform thickness and of the proper width, and soldering to one edge of the strip a row of electrotyped type heads, and then cutting the said strip into single type, in the manner substantially as above described.

No. 45,354.—A. S. SOLOMONS, Washington, D. C —*Manifold Writing Book.*—December 6, 1864.—This invention consists in arranging under one cover a case for containing carbonized paper, with a sliding cover, stylus, and lead pencil, &c., for the use of field officers and others.

Claim.—First, combining with one cover of a manifold writing book a suitable case for containing carbonized paper, substantially in the manner herein set forth.

Second, when a case having a removable sliding top C is combined with one cover of a manifold writing book, as is herein described, lining one side of said sliding top C with carbonized paper, in the manner and for the purpose herein set forth.

Third, the united stylus and lead-pencil D, when combined with a manifold writing book, substantially in the manner and for the purpose herein set forth.

No. 45,355.—CHARLES L. SPENCER, Providence, R. I.—*Raisin Seeder.*—December 6, 1864.—This invention consists of a handle or stock, with a recess or chamber at one end for the collection of the seeds of the raisins. This chamber has a cover, and upon one side of the same is a projecting grating, the surface being made of flexible wires, against which the raisins are pressed, causing the seeds to fall into the chamber.

Claim.—The improved instrument for seeding raisins described, when constructed to operate in the manner substantially as specified.

No. 45,356.—EDWARD STABLER, Montgomery, Md.—*Cartridge Retractor for Magazine Fire-arm.*—December 6, 1864 —This invention is designed as an improvement on a cartridge retractor, patented to C. M. Spencer July 22, 1862, and reissued April 12, 1864, and consists in applying a spring to the pivoted dog or retracting lever, in such manner as to facilitate its return to the proper position to admit of ready loading by hand, if desired.

Claim.—In combination with the retractor A, the spring *b*, substantially as and for the purpose set forth.

No. 45,357.—E. H. STRONG, Janesville, Wis.—*Ventilator.*—December 6, 1864.—This invention consists of a series of air tubes in form nearly that of a flattened cone, with a series of injecting or ejecting surfaces, of which the upper frustum forms one section of the cone, and terminating in a certain proportional distance inside of the discharge pipe. They are cut at their apex by a plane passing through them at a specific angle with the upper one of the series of ejecting surfaces so arranged as to prevent spiral currents of air, and to secure an upward or a downward current of air.

Claim.—The combination of a series of tapering curvilinear air tubes of a form nearly corresponding with a flattened cone, with a series of ejecting or injecting surfaces, of which the upper frustum B forms one section of the cone, and terminating a certain proportionate distance inside of the discharge pipe, and cut at their apex by a plane passing through them at a specific angle with the upper one of a series of ejecting surfaces, so arranged and disposed as to prevent spiral currents of air, and secure an upward or, by reversion of parts, a downward current, regardless of the force or angle of impingement of the wind upon it, substantially as shown and described.

No. 45,358.—HENRY STUMP, Adel, Iowa.—*Beehives.*—December 6, 1864.—This invention relates to the formation and relative arrangement of the entrance and connecting passages of a double-chambered hive provided with honey boxes, by which the creation and condition of the bees may be observed, and admitting of their being separated into new families. Swarming may also be readily controlled and prevented, and the spare honey be conveniently removed.

Claim.—The arrangement and construction of the entrance and connecting passage in the double hive as described, consisting of the guarded entrances, the connecting passage, consisting of a slot, and a series of holes in the adjacent sides respectively, and closed by a slide, together with the auxiliary entrances *f′* and the passages *f*, from the brood chambers to the honey boxes, the whole forming a means of communication from the outside, and from one part to another, to be used as circumstances require, substantially as described and represented.

No. 45,359.—JOSEPH SUTTER, New York, N. Y.—*Chuck for Lathe.*—December 6, 1864; antedated November 23, 1864.—This invention will be understood by reference to the engraving and claim.

Claim.—The hub *h*, arms *g*, and links *f*, in combination with the screw *k* and sliding clamps *c*, substantially as and for the purposes specified.

No. 45,360.—A. W. TODD, Chicago, Ill.—*Pumps for Locomotive Tenders.*—December 6, 1864.—This invention consists in the combination of a series of devices designated in the claim and which do not admit of a limited description.

Claim.—The combination and arrangement of the well A, cylinders K, frames G G G, wedges M M, hoops G G G G, pipe L, valves O and J, hoop N, rope and weight P, rod Q, transverse bar H, orifice V, windlass and rope I, stanchions or posts D, pulley C, with ship and unship arrangement pulleys F F′, ropes T T, hooks S′ S, lever E, and fulcrum E, sills B, substantially upon the principle and in the manner herein set forth.

No. 45,361.—LOUIS TRIPLETT, Columbia, Ky.—*Magazine or Self-loading Fire-arm.*—December 6, 1864.—In this device the cartridge case is gradually but fully discharged, and the retractor gradually returned to a position for removing another cartridge case during the downward circular movement of the barrel. The retractor is also retained in position for withdrawing another cartridge case, and in position for admitting the introduction of a loaded cartridge by hand, during the upward circular movement of the barrel, at any desired point. The barrel is locked in a position for discharging the load by means of a latch applied to a pivot pin and a tubular socket. The gun stock is constructed with a looped extension beyond the but, whether the same be tubular or solid.

Claim.—First, gradually but fully discharging the cartridge case, and gradually returning the retractor to a position for removing another cartridge case, by the means substantially as described, or the equivalent thereof, during the downward circular movement of the barrel, substantially as set forth.

Second, retaining the retractor in position for withdrawing another cartridge case, and in position for admitting the full introduction of a loaded cartridge by hand, by the means substantially as described, or the equivalent thereof, during the upward circular movement of the barrel and at any desired point, substantially as set forth.

Third, in combination with a barrel that is hinged or pivoted to the breech piece D the V-slot *e*, straight or return slot *e′*, switch *f*, and cartridge retractor *b*, or the equivalents thereof, substantially as described.

Fourth, the application of a latch to the pivot pin C and tubular socket D, for locking the barrel in a position for discharging the load, substantially as described.

Fifth, so constructing the tubular magazine for containing the cartridges, and automatically feeding them into the barrel, that it constitutes the sole stock of the gun, substantially as described.

Sixth, a gun stock constructed with a looped extension beyond the but, whether the same be made tubular or solid, substantially as and for the purposes described.

No. 45,362.—JAMES TRIPPE, Orange, N. J.—*Paint Composition.*—December 6, 1864.—This composition is made of white clay, such as may be found in the State of New Jersey, mixed with white oxide of zinc and linseed oil; other paint oil may be substituted, and white lead may take the place of the zinc, while all the usual pigments may be added as desired.

Claim.—First, the within described composition for a white pigment, made of ingredients specified and mixed together, substantially as set forth.

Second, also the use of a deposit of silica and alumina, or white clay, in the manufacture of white paint, substantially as described.

No. 45,363.—HERBERT W. C. TWEDDLE, Pittsburg, Penn.—*Mode of Utilizing the Waste Gas from Petroleum Distilleries.*—December 6, 1864.—This invention consists in using the incondensible gases evolved during the process of distilling and refining petroleum to heat the still.

Claim.—The mode, hereinbefore described, of heating the furnaces of stills for distilling petroleum or carbon oil, by means of the permanent gas evolved from the petroleum in the stills during the process of distillation, substantially as and for the purposes hereinbefore described.

No. 45,364.—A. B. UNDERHILL, Meadville, Penn.—*Chuck.*—December 6, 1864.—This device consists of a face plate fastened to the base of a hollow conical hub mounted on a mandrel attached to the lathe. This face plate has a number of radial grooves, in each of which is a sliding standard or dog, all of which are of equal length, and whose outer ends are made to support the cylinder by being thrust outward by a hollow conical wedge sliding on the mandrel. The essential improvement consists in the hollow conical hub projecting from the face plate for the reception of a hollow wedge.

Claim.—The formation of the cavity in the hub, to which the circle plate *c* is attached, and around the mandrel, for the purpose of using a longer cone than could otherwise be used to move the jaws of a chuck if there were no such cavity formed in the plate.

Also, in combination with the said circle plate *c*, made as described, the use of the conical wedge G and mandrel A, for the purpose of operating the jaws of a chuck, substantially as described.

No. 45,365.—WILLIAM VAN ANDEN, Poughkeepsie, N. Y.—*Lubricator.*—December 6, 1864.—The nature of this invention consists in constructing a crank pin frame having an oil reservoir or chamber, so as to admit the oil to the journal of the pin.

Claim.—First, an oil chamber in a crank pin frame, for the purpose as described.

Second, an oil hole or passage running from the chamber E to the journal C, substantially in the manner and for the purpose as described.

Third, the crank pin, in combination with a frame having a chamber, for the purpose substantially as described.

No. 45,366 —JOSSER A. VRYDAGH, Cincinnati, Ohio.—*Window Shutter.*—December 6, 1864.—This invention relates to that class of shutters composed of a number of vertical slats flexibly connected together and capable of being slid or run back; and this invention consists chiefly in provisions for the abrupt flexure of such shutters along a variety of horizontal curved or serpentine tracks.

Claim.—First, the reversely flexible shutter, composed of slats A *a a′*, jointed together by tongue and groove of circular transverse section, and connected by secret hinges, in the manner set forth.

Second, a reversely flexible shutter, composed of vertical slats A *a a″*, jointed and hinged as above, and guided in a serpentine or other horizontal path by rollers *d*, bearing wheels E and V R, and bearing and guiding lateral tracks I J, substantially as set forth.

Third, the doubly flexible shutter, Figs. 1, 2, and 3, composed of wide vertical slats shod with coved mountings *b b*, and having vertical bearing wheels journalled below the body of said mountings and lateral friction rollers, for the purposes set forth.

Fourth, the doubly flexible shutter (Figs. 8 to 14 inclusive) composed of wide vertical slats, of which every third slat is without friction roller and is provided with a large bearing wheel, the whole being arranged and operating substantially as set forth.

Fifth, in the described connexion with the reversely flexible shutter the serpentine track I, Figs. 2 and 11, and the convoluted track, Fig. 10, substantially as described.

Sixth, the serpentine track I, Fig. 8, occupying a coved party wall *o*, and enabling the housing of a reversely flexible shutter so as to afford an entirely unobstructed window or doorway, as herein explained.

Seventh, the hollow pier, Fig. 9, having the two reversely curved tracks I I, for the housing of as many independent shutters, as represented.

Eighth, connecting the slats of a reversely flexible shutter by a ligature V of a gum webbing or like fabric.

Ninth, the provision of the folding track I‴, adapted and applied to a doorway, in the manner explained.

Tenth, in this connexion the removable track R S T, as herein described.

Eleventh, the mode of screening the lower track by means of the hinged folding sign plate K, Fig. 12, and carpet strip K′, Fig. 3.

No. 45,367.—**J. Theodore Wood** and **Edward Cone Smith**, Pittsburg, Penn.—*Machine for Making Carriage Bolts.*—December 6, 1864.—This invention is set forth in the claim.

Claim.—The use of feed rolls so grooved as to form the round shank and square shoulder of carriage bolts on the rod continuously, before the blank is severed from the rod or the head formed thereon, in combination with suitable dies for pressing the shank and shoulder, and severing the bolt from the rod, and a heading tool for forming the head, constructed and arranged substantially as described.

No. 45,368.—**Louis Desens**, Paris, France.—*Bathing Machine.*—December 6, 1864; patented in France September 24, 1862.—An open frame is constructed having a canvas bottom, the whole being kept sufficiently afloat by a network containing India-rubber air vessels. The apparatus may be moved about by hand, propellers, or sails, and steered with a rudder guided by the feet.

Claim.—An apparatus which, while supporting a person on the surface of the water by means of air-tight balls, cork wood, or any equivalent substance lighter than water, allows the water to freely pass through said apparatus, in the manner above described.

No. 45,369.—**Charles Maitland**, Alloa, Scotland.—*Mashing Apparatus.*—December 6, 1864.—This invention consists in an apparatus for mashing, whereby the mash, grain, or grist, in descending to the mash tun, is met by a series of transverse and of vertical jets of water or spurge forced in by liquid pressure, or by any other suitable power, and by these means the agglomeration of the mash water or spurge is caused to penetrate each single grain.

Claim.—An apparatus for mashing, substantially such as herein described, whereby the mash, grain, or grist, in descending to the mash tun, is met by a series of transverse and of vertical jets of water or spurge forced in by liquid pressure, or by any other competent power, and by these means the agglomeration of the mash, grist, or grain is effectually prevented, and the mash water or spurge is caused to penetrate each single grain.

No. 45,370.—**Edward Sonstadt**, Loughborough, England.—*Manufacture of Magnesium.*—December 6, 1864; patented in England November 8, 1862.—This invention consists in mixing a solution of chloride of sodium, freed from any sulphuric acid it may contain, by means of a solution of chloride of barium, with a solution of chloride of magnesium in the proportion of equal atoms of the two salts. The solution is then evaporated to dryness, after which it is heated to redness in a platinum crucible. The compound thus obtained is reduced by means of sodium in an iron crucible.

Claim.—The manufacture of the metal magnesium by acting by means of sodium on a material obtained by evaporating to dryness and then heating to redness a mixture in solution of chloride of magnesium with chloride of sodium, substantially as described, and combined therewith the employment of an iron crucible or vessel for conducting the aforesaid process, substantially as described.

No. 45,371.—**Cullen Whipple**, Providence, R. I.—*Machine for Preparing Cotton and other Fibrous Material.*—December 6, 1864; patented in England July 1, 1863.—The claim sufficiently defines the nature of this invention.

Claim.—First, the mode of operation by means of which the fibrous material is transferred from each cylinder to the next in succession, such mode of operation consisting in causing the rows of combing teeth to be sheathed below the surface of the cylinder, and thereby be withdrawn from the material at the points and for the length of time in the revolution of the cylinder that will allow the teeth of the next cylinder to take off the sliver, substantially as herein described.

Second, causing the material to be combed to travel throughout the series of combing cylinders alternately over and under each in a wave line of regular curves for the purpose of drawing out the stock without breaking the fibre, substantially as described.

No. 45,372.—**William H. Bangs, Jr.**, assignor to **Nathaniel L. Bradley** and **Walter Hubbard**, West Meriden, Conn.—*Spring Tape Measure.*—December 6, 1864.—The invention consists in making the click, click spring, and stock in one piece, instead of three separate pieces, as heretofore.

Claim.—The combination of the case of a spring tape measure with a spring click, constructed in such manner that the click is an extension of the spring, substantially as set forth.

Also, the combination of the case of a spring tape measure with a compound spring click stock, substantially as set forth.

No. 45,373.—**Josiah Beard** and **Moses Fairbanks**, Boston, Mass., assignors to **Automatic Bottle Closing Company**, New Haven, Conn.—*Bottling Still Liquids.*—December 6, 1864.—The neck of the bottle is formed so that the ball cannot be forced through the neck by pressure against its body, and also so that the ball will be held in place by the wedge form of a portion of the neck. The ball or stopper is drawn into its seat by means of an instrument adapted to the purpose.

Claim.—The method of bottling still liquids—*i. e.*, liquids not charged with gases—or stopping bottles containing such liquids, by the employment, in combination with a bottle of suitable form, and a ball made of vulcanized Indin-rubber lighter than the liquid to be bottled, of an instrument substantially as herein described, whereby the ball may be seized in the bottle and brought up into the neck thereof, and which, on being withdrawn from the bottle, will leave behind the ball, which shall remain tightly wedged in the neck without the aid of internal pressure.

No. 45,374.—**Alonzo Hicks**, Factoryville, N. Y, assignor to **Lionel Jacobs**, New York, N. Y.—*Curtain Fixture.*—December 6, 1864.—This invention consists in a crank applied to the curtain roller, combined with a pendent rod, by means of which the curtain roller can be rotated to wind up or lower the curtain.

Claim.—The crank pin and pendent rod in combination with the curtain roller, substantially as specified.

No. 45,375.—**John G. Leffingwell**, Newark, N. J., assignor to **Wilmot & Kissam Manufacturing Company**, Brooklyn, N. Y.—*Coal Oil Burner.*—December 6, 1864.—This invention consists of a piece of metal bent in the shape of a part of a circle attached to the cone of the burner, and running through the lower part thereof, so as at once to form a hinge and prevent the chimney from falling too far over.

Claim.—First, attaching the upper and lower parts of a burner with one piece of metal for the purpose of forming a hinge or guide, so that the cone or gallery can be turned over, for the purpose described.

Second, forming a hinge as shown in the drawing and marked *a*, for the purpose described, whether made of one or two pieces of metal, as described.

No. 45,376.—**Nelson Lezat**, assignor to himself and **Egbert M. Palmer**, New Baltimore, N. Y.—*Straw Cutter.*—December 6, 1864.—The novelty of this invention consists in a two-edged knife, actuated by a peculiar arrangement of cranks and connecting rods, in combination with stationary bars or shears above and below the opening through which the straw passes, so that the straw is cut upward as well as downward.

Claim.—The reciprocating two-edged knife, actuated by the cranks in the manner specified in combination with the feeding rollers *h* and *i* and with the bars or standing shears above and below the opening through which the straw or similar material is protruded, as and for the purposes set forth.

No. 45,377.—**Wm. H. Paige**, assignor to himself and **Elisha Child, Jr.**, Springfield, Mass.—*Brick Machine.*—December 6, 1864.—This invention consists in so constructing the device that it will make, with slight alterations, both kinds of bricks, common and pressed.

Claim.—First, the combination of the box W, having suitable openings in its bottom, with the bed S, presses D and E operated by the eccentrics B and C or their equivalents, substantially as described.

Second, the combination of the cam F, arms $l^{*}\ l^{*}$, connexions C and K, pawl g, ratchet h, rolls P P′, and band R, when used in the manner and for the purpose described.

Third, the combination of the cam F, connexion c, levers $l\ l'\ l''$, shafts $d\ d'$, cams $f\ f'\ f'\ f''$, and bed S, when used for the purpose described.

No. 45,378.—JAMES E. POWELL, assignor to SAMUEL C. GLENNEY and WM. E. WEEKS, Troy, N. Y.—*Soap for Cleaning Harness, &c.*—December 6, 1864.—This soap is composed of Babbitt's chemical soap, rosin, beeswax, palm oil, soda, Chinese vermilion, and water.

Claim.—The composition made of the ingredients and in the manner substantially as above described.

No. 45,379.—DAVID AHL, Newville, Penn.—*Composition for Coating Oil Barrels.*—December 6, 1864.—This invention consists in use of shellac and other ingredients.

Claim.—The composition as herein specified, for the purposes herein set forth.

No. 45,380.—L. K. BOWEN, Baltimore, Md.—*Tobacco Pipe.*—December 6, 1864.—This invention consists of a double-tubed tobacco pipe with a cup or receptacle of metal, as a new article of manufacture.

Claim.—The new article of manufacture above described, viz., a tobacco pipe, with a cup or receptacle constructed of metal.

No. 45,381.—GEORGE WRIGHT, Washington, D. C.—*Time Fuze for Explosive Shells* —December 6, 1864.—The fuze is placed within an annular groove or recess in the shell, surrounding the ordinary filling hole; one end of the said fuze communicating with the interior explosive charge of the shell. The fuze, being properly graduated, is punctured at the desired point when ready for use, as in the well-known Bormann fuze.

Claim.—Making the fuze case annular, and fitting or pressing it into a groove or channel around the charge-hole, and connecting it with the cavity of the shell by an inlet distinct from that through which the bursting charge is introduced, substantially as and for the purpose specified.

Also, such a construction and arrangement of a fuze and shell as admits of the bursting charge being introduced or withdrawn from the shell either before or after and independently of the insertion of the fuze, substantially in the manner and for the purpose set forth.

No. 45,382.—WILLIAM BALL, Peru, Mass.—*Potato Masher.*—December 13, 1864.—This apparatus is composed of a standard terminating at its upper end in a horizontal arm, which supports the follower by means of a rack and pinion, and is swivelled at its lower end in a ring supporter, so as to admit of its being turned horizontally to one side. In connexion with the above is a cylinder or shell provided at its lower edge with lugs, in combination with slots and the supporting ring.

Claim.—First, the standard b terminating at its upper end in a horizontal arm m for supporting the follower by means of its rack and pinion, and swivelled at its lower end in the ring supporter f, so as to be capable of being turned horizontally to one side, in combination with the said ring supporter f and standard a, as herein described.

Second, the cylinder or shell e provided at its lower edge with lugs c, in combination with the slots n and supporting ring f, in the manner and for the purpose specified.

No. 45,383.—JOHN BARNES, Rockford, Ill.—*Harvesters.*—December 13, 1864.—This invention relates to a method of constructing the machine whereby it is adapted to be used as a portable horse-power. The flanged gear frame or bed-plate is cast in one piece, and has the driving wheel and gearing arranged thereon in such manner that they may be used for either purpose; the seat of the driver, the lifting mechanism, and the cutting apparatus being so connected to the said gear frame as to be readily removed, allowing the frame to be turned down upon its side when it is to be used as a horse-power; the tongue also is so constructed and connected with the machine that it may be readily removed and differently applied, so as to become the sweep of the horse-power.

Claim.—First, the combination of the frame, the driving wheel, the gearing, and the tongue, substantially in the manner described.

Second, the bed-plate or gear frame A, when constructed and arranged to operate as described.

Third, the combination of the driving wheel and gearing with the bed-plate, when arranged for joint operation, as set forth.

Fourth, the combination of the stationary toothed ring D with the planetary gear, as described, for the purpose of driving the crank shaft through the tubular axle of the driving wheel, as set forth.

Fifth, the combination of the foot-lever C, the toothed ring D, and the flange b', substantially in the manner described, for the purpose of throwing the mechanism into and out of gear, as set forth.

Sixth, the tongue, constructed substantially as described, for the purpose of allowing it to be changed from a tongue for a harvester to a sweep for a horse-power, or vice versa, as specified.

No. 45,384.—THOMAS BINGHAM, Newburg, N. Y.—*Lamp Wicks.*—December 13, 1864; antedated January 31, 1864.—This invention consists in the use of wool as a substitute for wicks in lamps for burning fluids, such as camphene, kerosene, and similar oils.

Claim.—The substitution of wool, in whole or in part, for wicks in lamps for burning fluids, camphene, kerosene, carbon and other oils, and for all illuminating purposes requiring a wick or conductor, substantially as set forth and described in the foregoing.

No. 45,385.—C. D. and W. S. BREWER, Lewisburg, Penn.—*Hay and Straw Cutters.*—December 13, 1864.—The novelty of this invention consists in the arrangement and combination of devices designated in the claim.

Claim.—First, the press board B, shaft k, arm R, connecting rod Y, and treadle L, when arranged and operating as and for the purpose specified.

Second, the rake F, when attached to the press board B, operating as and for the purpose set forth.

No. 45,386.—GEORGE F. BROCKWAY, Washington, D. C.—*Stitching Horse.*—December 13, 1864.—This invention, relating to stitching horses used by saddlers, consists in an articulated device for the purpose specified, which admits, when not in use, of being compactly folded, and of having its parts, when required for use, readily distended and secured in working position.

Claim.—A stiching horse provided with folding legs, a reach, and clamps, all arranged sub stantially as herein shown and described.

Also, the toggle, spring strap, and treadle, arranged and applied substantially as herein set forth.

No. 45,387.—A. W. CASE, South Manchester, Conn.—*Machine for Husking Corn.*—December 13, 1864.—This invention consists in a rectangular frame, with a concave of rollers, in connexion with a drum with boxes or cells within its periphery. At the end is a cutting wheel, for the purpose of cutting off the but of the ear, after which the ear is fed into the machine and carried through, completing the operation.

Claim.—The revolving hopper B, composed of a series of boxes a, at the periphery of a wheel, in combination with the concave of fluted rollers C, all arranged to operate in the manner substantially as and for the purpose herein set forth.

Also, the cutter wheel f, when used in connexion with the revolving hopper B and concave of fluted rollers C, for the purpose specified.

Also, having the boxes a of the hopper B placed in an oblique position, so that the ears of corn will be prevented from lodging or catching between the rollers, as herein described.

No. 45,388.—GEORGE CHAMBERS, Ithaca, N. Y.—*Coal Scuttle.*—December 13, 1864.—This scuttle is particularly adapted for the use of stoves known as "base burners," or those which are filled at the top, and the invention consists in making in an ordinary scuttle a hole in the bottom and closing it by a movable slide, the bottom being made to slope down to this hole, and thus all the coal can be emptied into the stove without the trouble of tilting and shaking the scuttle.

Claim.—The aperture g, the slide c, with its handle, and the false inclined bottom b, when used in connexion as described, and its equivalents thereunto, for the purposes set forth.

No. 45,389.—THOMAS S. CLOGSTON, Boston, Mass.—*Heating Apparatus.*—December 13 1864.—This invention consists of an apparatus composed of tubes for containing steam, the said tubes being formed plain on the inside and with corrugations on the outside, of any desired shape, for the better radiation of heat. It is made of cast metal, and is provided with faucets to let out the air before the steam is admitted.

Claim.—So constructing and arranging a heating apparatus in the manner described.

No. 45,390.—CHARLES M. CRESSON, Philadelphia, Penn.—*Gas Regulating Valves.*—December 13, 1864; antedated December 3, 1864.—This invention consists in attaching to a disk, which rests upon a metallic seat, a stem of suitable size, the surface of which presents, successively, openings of varying increase of area, as the valve moves upward from its seat. Thus, when the valve is closed by the disk resting on its seat, no gas or other fluid can pass it, but upon its being started therefrom, the fluid passes under the disk, and down through the small apertures in the stem, and out through the conducting pipe to any desired point. The openings which are made at the top gradually increase in size toward the bottom, so that as the disk recedes from its seat, a constantly increasing area of opening is being presented for the passage of the fluid, until the full capacity of the valve is reached.

Claim.—A valve having a stem or tail, in which are two or more excavations or depressions of different lengths, arranged substantially as and for the purpose described.

No. 45,391.—DAVID CUMMING, Jr., New York, N. Y.—*Inkstand.*—December 13, 1864.—This inkstand consists of a box attached to a base board in such a manner that the ordinary ink-bottle of commerce can be enclosed and the cork attached to the case or box by a string, thus forming a very cheap inkstand.

Claim.—The case A, with a movable bottom B, substantially as described and for the purpose set forth.

No. 45,392.—THEODORE D. DAY, New York, N. Y.—*Hoop Skirts.*—December 13, 1864.—The hoops are so jointed in front that the wearer in sitting can prevent the forward protrusion of the skirt by pressing it back.

Claim.—Forming the joints in the front portion of skeleton skirts, in the manner specified, in order that the skirt may be folded or compressed when the person is seated, as set forth.

No. 45,393.—A. DIETZ, New Orleans, La.—*Wardrobe Bedstead.*—December 13, 1864.—This invention consists in the combination of a bed bottom hinged to a wardrobe, with a frame or platform for supporting and spreading a mosquito bar, all in such a manner that the several parts can be folded and closed up in the wardrobe. The mosquito frame, when raised, is fastened by double spring catches, which can be released by a simple motion of the hand.

Claim.—First, the hinged bottom C and platform F, with bars *m o*, to sustain the mosquito net, in combination with the wardrobe A, constructed as herein shown and described.

Second, the slide *i*, links *j*, and spring bolts *k*, in combination with the catches *g*, platform F and wardrobe A, constructed and operating in the manner and for the purpose substantially as set forth.

No. 45,394.—LEOPOLD DE LACEE, Newark, N. J.—*Machines for Loading Hay.*—December 13, 1864.—This invention relates to the arrangement and combination of a series of endless rakes, carriers and frames, as designated by the claim.

Claim.—First, the supplemental endless carrier M, when arranged in the manner substantially as shown and described, so as to be capable of adjusting itself either wholly or partially by its own gravity, to operate in connexion with the main carrier, as and for the purpose set forth.

Second, the endless rakes A*, in combination with the pulleys X, bearings *q* and bars A′, all arranged substantially as shown, for the purpose of raking up the hay or grain, and depositing it upon the carrier E, as described.

Third, the arrangement of the frames A F and carrier driving gear I J, substantially as herein shown and described, for the purpose of rendering the carriers operative and inoperative when desired.

Fourth, the combination of the endless carrier E M, endless rakes A mounted on wheels, and all constructed and arranged to operate when attached to a cart or wagon, substantially as and for the purpose herein set forth.

No. 45,395.—JOHN DOAK, Keithsburg, Ill.—*Corn Planter.*—December 13, 1864.—In this invention pivoted arms moved by a lever and a cam operate a valve in the dropping tube, which allows the seed to fall in the sight of the driver. The seed is covered by a roller having a concave rim.

Claim.—First, the adjustably-pivoted frame E, when provided with the shovels F, conducting tubes F′, grain boxes or hoppers H and covering wheels I, and adapted to be operated by the lever J, in the manner and for the purpose set forth.

Second, operating the dropping valves K, by means of pivoted arms or bars F2, actuated respectively by an angular groove *l* in the seed slide L, substantially as set forth.

No. 45,396.—JACOB DOERKSEN, Derry Church, Penn.—*Affixing Knives to Straw Cutters.*—December 13, 1864.—This invention consists in the form and method of attaching the knife to the boxes of the machine, said knife having a fulcrum pin with a screw thread on the end thereof, passing through the boxes; this pin has also a nut, for the purpose of adjusting the knife to the mouth-piece of the machine. In connexion with the knife there are plates attached to the under side of the boxes; the top plate having a longitudinal slot therein with screws passing through the same, each one having a nut upon it, for the purpose of adjusting said boxes.

Claim.—The construction of the knife A, with its handle *a* and fulcrum shaft or pin E, screw and nut F, with the attached ellipsoidal cutting blade constituting Fig. 3, in combination with the compound or double boxes B′ B″, with its slot *c* and screw bolts between them, resting on the base plate *b*, attached by its brace D to the machine as shown, substantially in the manner and for the purpose specified.

No. 45,397.—JAMES B. DUFF, Patchogue, N. Y.—*Gumming and Feeding Envelope Blanks.*—December 13, 1864.—A gum box is made to rise and fall over a receptacle containing blanks of the proper form; as it strikes the blank, valves are opened in the proper places, and the gum is deposited on the blank. A movable table supplies a fresh blank at each motion of the plunging gum box.

Claim.—First, the manner of constructing and fixing by a latch and catch the movable bed A, so that it can be turned under the gumming box and fixed in its place and turned back out of the action of the gum box, without the necessity of stopping the machine.

Second, the arrangement of the parts consisting of the plate *e*, the rod *f* and the spring, and combining them as described, so as to make the plate *e* adjustable, and at the same time to keep and carry pressure upon the edges of the blanks.

Third, the application of the India-rubber cloth or other similar material having a rough but not a rigid surface upon the upright finger *k*, for the purpose of holding down the blanks by frictional action and elastic or yielding contact as described, and at the same time allow the top blank to be carried away from the pile by the gum box above.

Fourth, the form and construction of the gum box B, for holding and distributing the gum.

Fifth, the combination of the valves, stems, and rods, with said box, so that by the vertical motion of the box the valves will be made to open and close, in the manner and for the purpose described.

Sixth, the combination of the plate 13, and the rods and springs with said box, so that by the vertical motion of said box the plate will descend and disengage the envelope blank, as described.

Seventh, the coverings of the valve aperture with cloth to prevent the glue spreading or flowing in excess, as described.

No. 45,398.—ALFRED DUVALL, Baltimore, Md.—*Pump.*—December 13, 1864.—The object of this invention is to so divide the water chambers proper, from the pump chamber, as to form a packing of water between the chambers, by which to avoid the liability of derangement by use, and to so arrange other parts of the pump, that there shall be less resistance to the centrifugal force, and a greater flow of water from a given amount of power than is usually obtained. Its novelty consists in arranging a series of water ways by dividing up the face of the pump disk between the main arms, and of forming the ribs upon the face of a disk, of the shape of the frustum of a flat cone, and the arrangement of a projection upon a shield, together with a flanged ring, whereby to form a water packing, and make the water ways of nearly the same area throughout.

Claim.—First, dividing up the face of the pump disk between the main arms *c* into a series of water ways, arranged as and for the purpose described.

Second, the forming of the face, or of the vanes or ribs upon the face of the disk, of the shape of a frustum of a flat cone, for the purpose of enlarging the areas of the water ways near the centre of the disk and making them of the same or nearly the same areas of that of the discharge issues, substantially as described.

Also, the arrangement of the projection *g*, upon the shield I and the flanged ring *h*, for the purpose of forming a water packing and a continuous water way between the inlet and the pump chambers, substantially as described.

No. 45,399.—AUGUSTUS J. EDDY, Winneshiek county, Iowa, and JOHN B. WILBER, Howard county, Iowa.—*Animal Trap.*—December 13, 1864.—The piece intervening between the spring carrying the loop or yoke, and the trigger or bait hook, has two bearings—one being fixed, the other forming the upper end of the trigger.

Claim.—The combination of the spring C, wire G, lever H and trigger F, constructed and operated as described.

No. 45,400.—PHILIP W. GENGENBRE, Boston, Mass.—*Buttons.*—December 13, 1864.—The shank of the button passes from the inside of the cloth, where it has an expanded head. Between the cloth and the back of the button the shank is of reduced size, and carries a cylindrical spring. The back of the button has a small central hole, a larger lateral hole, and a slit connecting the two. This end of the shank is slightly enlarged, and the larger hole passes over it, when, by pressure upon the back spring, the slit is brought down to the narrow part of the shank, which is slipped into the central hole. The face disk is then put on and its periphery turned over the back.

Claim.—The improved locking mechanism, constructed substantially in manner and so as to operate as described.

No. 45,401.—PHILIP W. GENGENBRE, Boston, Mass.—*Buttons.*—December 13, 1864.—In this invention the shank passes from within the cloth, when a disk retains its end, a cross head at its other end entering a slit in the back of the button, against the resistance of a spring, and being turned ninety degrees, takes its seat in bearings.

Claim.—The arrangement of the spring *f* within the button body and with the jaws *c′ c′* and the opening *c* thereof, or the equivalent or equivalents therefor, substantially as described.

No. 45,402.—PHILIP W. GENGENBRE, Boston, Mass.—*Buttons.*—December 13, 1864.—The shank of the button has a disk within the garment and an oblong foot to enter the button which is turned over upon it, when the foot is placed in a groove transverse to the slit, where it is held by an elastic or spring collar surrounding the shank between the garment and the button.

Claim.—The improved button or button body, as made with the opening or slot *f*, and the cross groove or jaws arranged together substantially as and for the purpose of aiding and fixing the button body to a catch, as described.

No. 45,403.—A. L. GESERICK, St. Louis, Mo.—*Chimney Top.*—December 13, 1864.—This invention consists of a top wider than the flue, that sets into a chimney. The upper part has two passages formed by a vertical partition and an opening through the top, and so arranged that while the draught is increased rain cannot fall into the chimney. The top can be opened on a hinge at the centre.

Claim.—A chimney top or cap composed of a main portion A and an upper portion C, the latter being provided with an opening *b* and a partition *a*, arranged to form the passages D D, which communicate with the opening *b*, the main part A, and the external air, substantially as and for the purpose herein set forth.

No. 45,404.—CLAUDIUS B. HALL, Racine, Wis.—*Heat Radiator.*—December 13, 1864.—This invention consists of a heat radiator divided in the interior by three lateral plates into segmental divisions communicating with each other, in combination with a horizontal damper, from which a segment has been cut. The damper is made to rotate, so that products of combustion can pass directly through the radiator, or successively through the several divisions. A stove-pipe fits into collars in caps at the top and bottom.

Claim.—The radiator, consisting of its shell *a*, its frame *m*, its damper *h*, and its collars *b* and *d*, constructed and operating substantially as above described.

No. 45,405.—JAMES T. HALL and ISAAC PIERCE, Holland Patent, N. Y.—*Hay-loading Machine.*—December 13, 1864.—This invention relates to certain details of construction and arrangement of several of the parts of the machine designated in the claim.

Claim.—First, the spring arms *e e* on collar J, constructed and applied in the manner and for the purposes as shown and described.

Second, the combination with tire bar U of the rod *a*, arm Y, and rod Z, substantially as shown and described.

Third, in combination with the tracks W X S S S S, the rollers *i i* and T T, as shown and described.

Fourth, the combination of the standard *h*, lever *g*, and bar *f*, or their equivalents, substantially as shown and described.

Fifth, the gathering boards *c c* and dividing rods *d d*, in combination with the frame A and the elevating apparatus herein described, substantially as and for the purpose set forth.

No. 45,406.—ADOLPH HAMMER, New York, N. Y.—*Apparatus for Fermenting Malt Liquors, &c.*—December 13, 1864.—This apparatus consists of a hollow or solid body suspended in such a manner that it can be lowered into the liquid contained in the fermenting tun, and cause the froth or yeast rising to the surface of the liquid to flow over the edge of the tun, and thus be separated from the liquid by simply adjusting the position of the immersed body. The immersed body may be made hollow, so that it can be filled with cold water or ice, in order to regulate the temperature of the liquid contained in the tun.

Claim.—First, the employment or use of a body B, either solid or hollow, in combination with a fermenting tub, substantially as set forth, so that by raising or lowering said body the height of the fermenting liquid in the tub can be regulated, and the liquid is cleansed without additional labor.

Second, the tub A, with guide strips *c* and trough C, in combination with the body B, either solid or hollow, constructed and operating substantially as and for the purpose described.

No. 45,407.—JAMES HANLEY, New York, N. Y.—*Passenger Support for City Cars.*—December 13, 1864.—In city railroad cars, attached to the roof, hang straps of leather, for standing passengers to take hold of for support, especially when the car starts or stops. To be out of the way, these straps are hung so that their lower ends are above the heads of the passengers, so that while holding the strap the hand is raised so high that fatigue is the consequence and great opportunity afforded to pickpockets to ply their vocation. To remedy these defects is the object of this invention, which consists of a support for the hand suspended from the roof of the car by an elastic cord, capable of sustaining the hand at the level of the breast and of drawing the support above the heads of the passengers when not in use.

Claim.—Making straps or hanging supports of passenger cars to extend and contract, substantially in the manner and for the purpose herein described and set forth.

No. 45,408.—A. HARTUPEE and H. P. GENGEMBRE, Pittsburg, Penn.—*Condenser.*—December 13, 1864.—This invention consists in the arrangement, in the interior of a condenser, of two or more conical pipes, placed one over the other so as to leave an annular space between them, and applied in combination with a steam or compressed air pipe, in such a manner that, if by the action of the steam or compressed air a current of water is impelled through the conical pipes, the annular space left open at the lower end of the second tube allows the air in the condenser to be carried up with the water, and the atmospheric air contained therein is readily expelled without the use of an air pump.

Claim.—First, the use of the expeller E E′, arranged in combination with a condenser A, and operating in place of the ordinary air pump, in the manner and for the purpose substantially as described.

Second, the float *d*, applied in combination with the steam or compressed air pipe F, expeller E E′, and condenser A, in the manner and for the purpose set forth.

No. 45,409.—G. W. HILDRETH, Lockport, N. Y.—*Bread Slicer.*—December 13, 1864.—This invention consists of a table upon a standard, to which is attached a swinging lever; at the lower end a knife is pivoted, so as to operate with a drawing cut. The handle end of the knife bears against a guide, in which is a slot. To the guide is attached a rod, the bent end of which moves in the slot, above which is a cam that can be graduated to the thickness of the slice to be cut. The lower end of the rod operates a ratchet and pawl and an endless apron, which moves the loaf of bread up to the knife.

Claim.—First, the vibrating knife E, with one end hung to a pendant *g* swinging from a standard *f*, in combination with the eccentric J, connecting rod *i*, link *k*, dog *o*, grooved wheel *d*, substantially as and for the purpose specified.

Second, the combination of the vibrating knife, connecting rod, and endless apron, for producing an automatic feed motion, for the purpose specified.

Third, the eccentric J, in combination with the connecting rod and knife, to govern the thickness of the slice to be cut, as specified.

No. 45,410.—WM. HORNER, Washington, D. C.—*Medical Compound.*—December 13, 1864.—This invention consists of a composition of Madeira wine, aloes, and senna.

Claim.—The within described medical composition.

No. 45,411.—JOSEPH CHARLES HOWELLS, New York, N. Y.—*Hook and Eye.*—December 13, 1864.—The eye has a projection at right angles to it, which projection passes through the loop between the two-fold wire of the hook, and thus the parts can be unhooked only by turning the hook to the same angle as that of the projection.

Claim.—The construction of hooks and eyes for wearing apparel and other uses, substantially as shown and described.

No. 45,412.—JACOB B. HYZER, Janesville, Wis.—*Metallic Guard for Water Buckets.*—December 13, 1864.—A bucket, with an interior valve at the bottom, is let into a cage of vertical rods, which are held by a head at each end. A cross-piece at the bottom holds a valve-lifting pin at the centre, which lifts the valve when the pin comes in contact with the bottom of the well or the bottom of the trough. A removable bail is adjusted to the head of the cage over the bucket.

Claim.—First, enclosing a water bucket in a metallic guard, substantially as described.

Second, constructing a metallic guard for water buckets so as to admit of the removal of the bucket B from the guard by taking off the bail thimble A, as herein described and set forth.

Third, constructing a metallic guard for a water bucket and adapting it to the bucket so as to admit of the attachment of the trip bolt *e* to the guard instead of to the bucket proper, substantially as herein described and set forth.

No. 45,413.—HUBERT L. JUDD, New Britain, Conn.—*Curtain Fixture.*—December 13, 1864.—This invention consists in forming the bracket in such a manner as to receive and sustain a straight spring, without rivets, screws, or perforations, and the roller of the curtain is kept in position by said spring.

Claim.—Securing the spring *f* by the recesses *i i*, in the manner and for the purposes specified.

No. 45,414.—OLIVER S. JUDD, New Britain, Conn.—*Snap Hook.*—December 13, 1864.—This invention consists in a semi-elliptic spring, to hold the latch in a proper position. The said spring is made of wire, and of a spiral form; its outer ends being made to bear against the recess of the hook and latch.

Claim.—The employment of the spirally formed spring E, in combination with the hook A and latch C, when fitted into a properly formed recess inside of said hook and latch, in the manner and for the purpose substantially as described.

No. 45,415.—ADAM S. KENNEDY, St. Louis, Mo.—*Smoke House.*—December 13, 1864.—This invention consists of a shield running on a tram-way in a smoke house, to be interposed at any desired point between the fire and article being smoked, so as to catch the dripping grease.

Claim.—A movable shield A, of any form, to be interposed between the fire in a smoke house and the meat suspended above the fire, for the purpose of preventing the grease from becoming ignited, substantially as set forth.

No. 45,416.—L. G. KNIFFEN, Worcester, Mass.—*Mowing Machine.*—December 13, 1864.—This invention relates to the construction of the main frame, which is of a tubular form, loosely embracing the main axle, and provided with pendants, which support the gearing, and an auxiliary frame, also tubular, to the lower end of which the finger bar is secured. A cogged segment is secured upon the periphery of the auxiliary tube or frame in such a manner as to gear with a pendent rack attached to the draught pole, when said auxiliary frame is raised, thereby giving a partial rotation to said frame, and causing a more rapid elevation of the outer than of the inner end of the cutter. The shoe is cast in one piece with said auxiliary tube, and supports the elbow lever, by means of which, and a pitman playing lengthwise of the tube, motion is imparted to the cutters.

Claim.—First, the tube B, placed loosely on the part A, and provided with pendants *a a′ a″* and a groove *e* to receive the slide *d* of clutch *c*, all arranged and combined as herein shown and described.

Second, the toothed segment Q and pendent rack R, attached respectively to the tube M and draught pole or the bar S thereof, and arranged substantially as shown, to operate in connexion with the lever U and chain *v*, or their equivalents, for the purposes specified.

Third, the manner of connecting the tube M to the tube B of the axle, as described, to wit, by having a plate L attached to the pendants *a′ a″* of the tube B, and flanges *f f* secured to the plate L, which flanges project over a rim *a* at the inner end of the tube M, whereby a firm connexion of the tube with the axle is obtained, and the tube at the same time allowed to turn freely.

Fourth. the arrangement of the connecting rod G, bent lever I, and link J to the cutter bar K, in combination with the tube M and shoe N, cast in one piece, as and for the purposes specified.

No. 45,417.—SPENCER LEWIS, Tiffin, Ohio.—*Bedstead Fastening.*—December 13, 1864.—This invention consists in fastening the parts of a bedstead together by means of wedge and slats and expansible divided dovetails.

Claim.—First, the divided expansible dovetail fastening, in combination with a bedstead, substantially as and for the purpose described.

Second, the wedge head or foot slat for extending and locking the fastening, substantially as set forth.

Third, the ledges or supporting devices A A, serving for sustaining the slats and as the main portion of the fastening, substantially as described.

Fourth, the combination of the several devices specified, for the purpose described.

No. 45,418.—P. W. MACKENZIE, Jersey City, N. J.—*Range for Cooking and Heating.*—December 13, 1864.—This invention consists of an inclined hopper-shaped reservoir, narrowed at its approach to the point of combustion to the required thickness of the fuel bed. The lower part of the hopper can be added to the grate by taking away a movable plate in the bottom. The dumping grate is in the form of a section of a hollow cylinder, and has a shield on its rear edge, which, when the grate is horizontal, extends down towards the ash pit. and, when turned to dump the cinders, rises and prevents the forward flow of the fuel. The grate is moved by a rod with a handle in front of the range. The fuel is supplied by an opening in the top of the range. A hood at any convenient height, projecting over the cooking vessels and fire chamber, carries off the coal gas and fumes evolved in cooking.

Claim.—First, the combination in a cooking or heating range of the reservoir A with the inclined grate B B′, substantially as described.

Second, the combination of the shield or dumping grate C with the grate B, substantially as and for the purpose set forth.

Third, the combination of the apron or plate I with the inclined grate B, for increasing or diminishing the size of the fire, substantially as described.

Fourth, the combination with the inclined grate B B′ and cooking and heating range of the fire-pot T, constructed as described, whereby the heat is radiated from all parts of said pot, both above and below the plane of the grate, substantially as described.

Fifth, the offence bonnet N, constructed substantially as described and for the purpose set forth.

Sixth, the neutralizing cover, in combination with the reservoir A, substantially as and for the purpose set forth.

No. 45,419.—GEORGE A. MARINER and JAMES FISH, Chicago, Ill.—*Baking Powder.*—December 13, 1864.—This invention consists in the use of gum arabic, dextrine, or other soluble gums or mucilaginous substances as ingredients in the composition of baking powders, in addition to the acid and alkaline or other gas-producing ingredients used in such preparations.

Claim.—The preparation as herein described of a baking powder, by the combination of gum arabic, dextrine, or other soluble gums or mucilaginous substances with the alkaline bicarbonates and the acids or acid substances, or with any other of the gas-generating preparations in common use for such purposes.

No. 45,420.—EDWARD MAYNARD, Washington, D. C.—*Priming Metallic Cartridges.*—December 13, 1864.—The cartridge shell is a plain or unflanged cylinder, and the priming or fulminate is contained within a small tube passing through the side of the cartridge at its base and through an annular wad fitted in the bottom of said cartridge shell.

Claim.—The combination of a wad B, of any suitable material, with the interior of a cartridge A, so as to form a firm support for the inner end of a priming tube D passing out through the side of said cartridge, substantially in the manner herein set forth.

No. 45,421.—JAMES MCGEARY, Salem, Mass.—*Mode of Extracting Tanning Properties from Bark.*—December 13, 1864.—The bark without grinding is placed in a tank or boiler, and subjected to the action of steam under pressure, or hot water above the ordinary boiling point.

Claim.—First, the extraction of tanning properties of barks or other substances by means of steam under pressure.

Second, the extraction of tanning properties of barks in sheets or large pieces without previous grinding or other reduction, substantially as and for the purpose set forth.

Third, the extraction of tanning properties of barks or other substances by means of boiling under pressure in a tight vessel, in the manner substantially as shown and described.

Fourth, saving the tanning properties contained in the steam which may escape from the boiler or other vessel, by the means described.

No. 45,422.—GORDON MCKAY, Boston, Mass., and LYMAN R. BLAKE, Quincy, Mass.—*Sewing Machine.*—December 13, 1864.—The nature and object of this invention are explained by the claim.

Claim.—In combination with a mechanism for reciprocating the needle and with the presser foot, means for altering the ratio of the needle stroke to those variations in the position of the presser foot which are caused by changes in the thickness of the stock.

Also, the means described for leaving the pressure free to move downward from the lowest positions in which it is left by positive movement of its actuating mechanism.

Also, in connexion with a mechanism for reciprocating the needle, an adjustable device for producing any desired degree of retardation, substantially for the purpose described.

Also, the construction of the shaft driving the wheel within the horn, with an expansion joint, for the purpose specified.

No. 45,423.– DANIEL MCSHERRY, Indianapolis, Ind.—*Seeding Machine.*—December 13, 1864.—In this invention a spiral threaded cylinder is used in the bottom of the seed box for the purpose of conveying the seed into the drill tooth. It was found from practice that in the sharp angle, formed by the spiral thread against the side of the box, the seeds were liable to be crushed. The novelty consists in the introduction of a disk at the end of the spiral thread to prevent the crushing of the seed.

Claim.—The head or disk B in combination with the feed wheel C, having spiral threads E, the several parts being constructed as specified and arranged in relation to the seed hopper, as and for the purpose set forth.

No. 45,424.—DANIEL E. MCSHERRY, Dayton, Ohio —*Seeding Machine.*—December 13, 1864.—This invention relates to devices for raising the cultivator teeth from the ground simultaneously. It consists in an iron rod furnished with staples and hooks, to which the chains of the teeth are attached, suspended from the frame of the machine, and when the machine is at work this rod hangs pendent, but when the teeth are raised the rod describes a semi circle, and rests against a support in its elevated position.

Claim.—First, the lift bar A, when constructed as described with loops C and hooks C C, the same being attached to the frame of the machine by means of the suspended arms E E, and held in its elevated position by means of the support B, as herein set forth.

Second, the projection D on the arm E, when used in connexion with the lifting rod A, as and for the purpose specified.

No. 45,425.—WILLIAM P. MERRILL, Milwaukee, Wis.—*Heat-radiating Attachment for Flues.*—December 13, 1864.—This invention consists in the attachment of a tin or metal radiator with a damper within the flue, by which the waste heat may be directed to pass through the radiator, and thus warm an upper room or allow it to escape up the chimney.

Claim.—The attachment of a radiator to a chimney flue combined with a damper, for the purpose of directing the waste heat through the radiator or allowing it to pass directly up the chimney, substantially as described and represented.

No. 45,426.—JOHN M. MERRYMAN, Indianapolis, Ind.—*Pigment and Vehicle for Mixing Paints.*—December 13, 1864.—This invention consists in saturating pulverized kaolin with a solution of bichromate of potash. At the end of six hours sulphuric acid, sufficient to neutralize any alkali in the mixture, is added, and the whole is allowed to settle, and the solution is then drawn off. The substance remaining forms a pigment, which may be made to take any color by mixing with it the chemical materials necessary to produce the color desired. The solution remaining after heating the clay with bichromate of potash is used as a vehicle for mixing colors, and may be used with colors in oil to any desired extent.

Claim.—The white clay paint pigment, and the solution of bichromate of potash in water, prepared and used in the manner and for the purpose as above described.

No. 45,427.—LEANDER MILLER and HERMANN KALLER, Camp Point, Ill.—*Plough.*—December 13, 1864; antedated January 10, 1863.—The object of this invention is to obtain a plough of simple construction, which will be free from side draught, capable of being adjusted so as to regulate the pitch of the share as may be desired, and also to elevate it entirely above the surface of the ground when necessary, and also capable of having the wheels on which the frame is mounted adjustable, so that the implement may be kept in a proper horizontal position when at work, with one wheel in the furrow and the other on the unploughed land, or when both wheels are moving over level or unbroken ground

Claim.—First, the axle C, provided with the cranks D D, having the wheels E E attached, in connexion with the lever F and stop bar G, all arranged as and for the purpose herein set forth.

Second, the bar I attached to the bar *a* of the frame A, as shown, and secured at the desired height by the catch *j* and notched segment bar J, in connexion with the adjustable plough beam K attached to the bar I, substantially as and for the purpose herein set forth.

Third, the combination of the adjustable beam K, bar I, and adjustable axle C, all arranged as and for the purpose specified.

No. 45,428.—JOSEPH S. NEEDHAM, South Danvers, Mass.—*Instrument for Destroying Caterpillar Nests.*—December 13, 1864.—This invention consists in a block of wood, made in a tapering form from the centre towards one end, covered with leather, having wire teeth inserted therein, and secured to the block by nails or other proper means.

Claim.—The implement made substantially as and for the purpose hereinbefore explained.

No. 45,429.—WILLIAM NOYES, New York, N. Y.—*Damper Regulator.*—December 13, 1864; antedated December 3, 1864.—This invention relates to a combination and arrangement of parts, which consist of a cylinder, lined with some anti-corrosive metal; a semi-spherical piston, with a plate of the same shape; between which and the piston a flexible packing is inserted in such a way that, as the steam is admitted to the under side of the piston, the packing is forced out against the cylinder. A steam pipe enters through the lid plate on which the cylinder rests, and forms a communication between the cylinder and boiler. In the top of the piston a tapering socket is formed, which receives the correspondingly shaped end of the piston rod; the latter passes up through the cylinder cover, and enters the V-shaped recess in the weighted lever to which the rod is attached, which manipulates the damper in the flue or up-tube of the furnace. The fixed end of the working lever rests against a knife-edged support fastened to the cylinder cover, so as to work with as little friction as possible. To the bed plate is secured a stud, having a slot, through which passes the working lever. In the top of the stud is a set screw, so arranged that it can be adjusted to rest upon the lever in any point of its range, and thus control its upward movement. Upon the admission of steam to the cylinder, the piston is forced upward. carrying with it the working lever, to the outer end of which a rod is attached, which is also secured to the arm of the damper shaft, regulating the action thereof.

Claim.—First, the combination and arrangement of the semi-spherical piston H, the piston ring I, the piston rests T T T, the tapering hole in the top of the piston H, combined with the anti-friction, anti-corrosive metallic cylinder lining B, the elastic packing ring G, and the fulcrum pin J, or their equivalents, for the purposes set forth and therein described.

Second, the combination and arrangement of the angular notches U U in the cylinder ears O O, the points or ears on the fulcrum pin J, combined with the lever pin N, the deep angular notch in the fulcrum K, and the set screw L, or the equivalents, for the purposes set forth and herein described.

No. 45,430.—E. F. OLDS, South Lyon, Mich.—*Fruit Ladder.*—December 13, 1864.—This invention relates to the manner of adjusting and supporting the table upon which the person stands while picking fruit, and also to extending the ladder and bracing the same, to give it the requisite steadiness.

Claim.—First, the adjustable table D, with cleats E F, in combination with the ladder and braces G, as and for the purpose set forth substantially.

Second, the special arrangement of the adjustable braces T, and jointed together in combination with the jointed sections A B, when constructed and operating conjointly as and for the purpose set forth substantially.

No. 45,431.—J. W. PARKER, St. Charles, Ill.—*Washing Machine.*—December 13, 1864.—This invention consists in the employment of arms attached radially to a rotary shaft, which passes vertically through the lid of the suds box or tub, said arms having vertical fluted rollers at their ends.

Claim.—The radial arms *b* attached to the vertical shaft C, and provided with the vertical fluted rollers H, all arranged with the suds box or tub A, substantially as and for the purpose herein set forth.

No. 45,432.—MOSES POND, Boston, Mass.—*Cooking Stove.*—December 13, 1864.—This invention consists of a cooking stove, with ends and sides lined with fire-brick, channelled horizontally; into the front channel air is admitted through small holes, which are covered with plates, occupying nearly the whole of the point, between which and the stove air circulates up from the bottom, through the holes, into the channels and around the fire-pot, into and through the oven, by small apertures in front and back, and thence passes out by an exit flue.

Claim.—The improved stove, as made with the air-heating chamber, arranged around the front, the rear, and the ends of the fire-pot or fireplace, and in the fire-proof lining thereof, such chamber opening into the atmosphere and the oven, substantially in manner as described.

Also, the combination and arrangement of the slanting arched plate *k* with the flue plates H and *g*, arranged with the oven and bottom plate of the stove, substantially as specified.

No. 45,433.—D. J. POWERS, Madison, Wis.—*Sorghum-juice Evaporator.*—December 13, 1864; antedated November 30, 1864.—This apparatus consists of a tank for heating the raw juice placed around a chimney. The evaporating pan is divided longitudinally by a partition. The juice enters the apartment A, and, as it is concentrated and desiccated, it is moved forward by movable cross-partitions, so that the more concentrated juice does not mix with the fresh juice. As many of these cross-partitions as desirable may be added. The relative amount of heat under the two parts of the pan is regulated by the dampers.

Claim.—The arrangement of a series of movable close partitions E F in an elongated pan or division A B thereof, acting also as scrapers to move the sirup forward, whereby the evaporation is conducted to any desired extent and with any degree of rapidity, the process being under perfect control, substantially as herein specified.

Also, in combination with the movable close partitions E F, arranged in double pans or divisions A B, the arrangement of the dampers *i j*, minutely adjustable to different positions to regulate the flues respectively under the said pans or divisions, so as to hasten or retard the evaporation at the earlier or advanced stages with the utmost exactness, substantially as herein specified.

No. 45,434.—E. L. PRATT, Boston, Mass.—*Sad-iron.*—December 13, 1864.—This invention consists in the attachment to a sad-iron of an arm piece, extending to the rear of the iron, in such a manner as to afford a support to the arm, and to bring the muscles of the arm and wrist more equally into play in operating the iron.

Claim.—The application of an arming or rest piece to the handle of a sad-iron, to operate substantially as described.

Also, so applying the handle that the extent of its rocking movement can be regulated and adjusted, substantially as set forth.

No. 45,435.—F. H. PURRINGTON, Willimantic, Conn.—*Drawer or Till Alarm.*—December 13, 1864.—This invention consists in the employment of a vertically sliding bolt in connexion with a series of notched tumblers, together with springs and catches, and with a catch rod and plate, all so arranged that when the drawer or till is opened a bell will be struck and an alarm sounded.

Claim.—First, the vertically sliding bolt Q, in combination with a series of tumblers L, arranged with springs and catches, in the manner substantially as shown, to operate in connexion with a bell-alarm and stop I, for the purpose specified.

Second, the pendant J, provided with the two inclined flanges *f f*, in combination with the lateral projection *n* on the bolt *q*, substantially as and for the purpose set forth.

Third, the notches *m k l* in the tumblers L, in connexion with the catch rod *t*, and the plate R, all arranged as and for the purpose specified.

No. 45,436.—ALBERT RAKESTRAW and WILLIAM COLWELL, Chillicothe, Ill.—*Machine for Registering Measured Grain.*—December 13, 1864.—This invention consists of a series of given measures in a large rotary tub or box, made to pass successively under the discharge pipe, and, by means of a tappet wheel connected with the centre shaft, to give motion to a series of index gears for registering.

Claim.—The revolving box B, placed on or attached to the shaft A, in combination with the tappet E, and wheels or registers F G H, all arranged substantially as and for the purpose herein set forth.

No. 45,437.—CHARLES B. RICHARDS, Hartford, Conn.—*Steam Trap.*—December 13, 1864.—The object of this invention is to improve the trap designed for relieving steam pipes used in warming buildings. Its novelty consists in the employment, as a float, in connexion with the discharge valve of a steam trap, of a mass of metal, the specific gravity of which is greater than that of the water in which it floats. In the present case, the float and the counter weight are each composed of a solid mass of metal attached to the opposite end of a lever, which is pivoted to the side of the box which encloses it in such a manner that, as the water accumulates, the float rises in consequence of its own buoyancy and the aid of the counter weight, and raises the outlet valve which is attached to that portion of the lever to which the float and weight are secured, which is between the fulcrum and the float, and the water is allowed to escape from the enclosing vessel until it reaches a point on a level with the top of the outlet pipe, when, through the action of the float and weight, the valve is closed, and any waste of steam prevented.

Claim.—The employment, in combination with the discharge valve of a steam trap and the float by which it is actuated, of a counterpoising weight, or an equivalent therefor, so connected with the said float as to render it more buoyant, substantially in the manner herein before clearly set forth.

No. 45,438.—Francis P. Rogers.—Philadelphia, Penn.—*Rain Spout.*—December 13, 1864.—This invention consists in the employment of a supplementary rain spout affixed to the main spout, so as to come between the latter and the wall of the building, so that, in case the main spout bursts, whatever water passes through the fissures is caught in the supplementary spout. The latter extends a short distance above the gutter of the roof and down along the rear of the main spout.

Claim.—The supplementary spout B, in combination with the main spout A, the same being constructed and applied so as to operate together, substantially in the manner described, for the purpose specified.

No. 45,439.—Edgar D. Rundell, Hudson, N. Y.—*Horse Hay-fork.*—December 13, 1864.—This invention consists of a rest of suitable material, attached to the handle or elsewhere, as a support to a jointed brace, thereby preventing the joint of the brace from falling below a straight line.

Claim.—Employing in hay elevators a rest, or its equivalent, with the load-discharging rope, lever, or other device, substantially as and for the purpose set forth.

No. 45,440.—Rebecca Sherwood, Fort Edward, N. Y.—*Reducing Straw and other Fibrous Substances for the Manufacture of Paper Pulp.*—December 13, 1864.—This invention consists in adding grease or saponifiable fats to the alkaline liquor in which straw is treated for the manufacture of paper pulp. A part of the wash liquor of one boiling is treated with lime or other purifying agent and added to the liquor for the next boiling.

Claim.—First, the use or uses of the soapy solution, prepared as herein described, in combination with any ingredient or ingredients which will combine with either in a heated state in a solution, and reduce straw or any other fibrous substance to a pulp for the purpose of being converted into colored or colorless paper, commonly known as white paper.

Second, in the use or uses of the above-named different and described soapy solutions for reducing straw or other fibrous substances to a pulp previous, and for the purpose of being used or manufactured into colored or white paper.

Third, the use of combining a portion of the residue or waste liquid drawn off from a previous boiling (treated or not as previously described) with a sufficient portion of a new soapy solution, as previously described, for a new boiling of straw or other fibrous substance.

No. 45,441.—Lysias Smith, Gorsuch's Mills, Md.—*Composition for Preserving Fruit Trees.*—December 13, 1864.—This invention consists in a composition of sulphur, quicksilver, and black antimony, which is applied to the roots of the trees.

Claim.—The use of the within described composition for preventing the ravages of insects upon fruit or other trees, as described.

Also, the application of the composition above named to the roots of trees by or through the intervention of a cloth or wrapping around the roots of the trees, and at or near the surface of the surrounding soil. substantially as and for the purpose herein described.

No. 45,442.—John Stevenson, New York, N. Y.—*Latch for Railroad Car Doors.*—December 13, 1864.—This latch is so constructed that when applied to a sliding door, simply drawing upon a handle on either side thereof in the direction to open said door causes the hooked latch to rise in and retain its hold in the catch in the jam of the door.

Claim.—As a new article of manufacture, the door fastening hereinbefore described, consisting of the hooked latch B and two handles D D, rigidly secured upon and connected by the arbor C, the casing A, spring E, and catch F, all constructed and employed as specified.

No. 45,443.—Cornelius St. John, Boston, Mass.—*Lamp Burner.*—December 13, 1864.—This invention consists in the employment of a clasp surrounding the cone, and composed of curved bars in connexion with curved guiding rolls, the clasp being self-adjusting.

Claim.—The combination of the self-adjusting clasp, composed of the curved bars d d and the curved guiding rolls c, with the cone B and burner A, in the manner herein shown and described.

No. 45,444.—La Cortes Tanney, Olmstead, Ohio.—*Cheese Press.*—December 13, 1864.—This invention consists in constructing a machine for pressing cheese that is self-pressing or automatic in its operation, and by which a degree of pressure can be brought to bear upon the cheese proportionate to its weight.

Claim.—The arrangement of the arms C and D, sheaves c and d, in combination with cords h p and p' and levers H and P, when operating conjointly as and for the purpose set forth.

No. 45,445.—Seth Turner, Onarga, Ill.—*Derrick.*—December 13, 1864.—This invention consists in constructing a derrick in such a manner that it may revolve. It is provided with a fork tackle, spring, and guide, whereby the hay or grain may be elevated to any desired height and then swung around over the stack, rick, cart, or mow. and discharged, and the empty fork be lowered to be again loaded, elevated, and discharged.

Claim.—The rotating shaft B, provided with the oblique arm G, and fitted in the framing A, as shown, in combination with the adjustable arm J and the rod or catch D, and the notched ferrule C, or their equivalents, for securing the shaft B, all arranged and used in connexion with a horse hay fork and tackle, substantially as and for the purpose set forth.

No. 45,446.—Lewis Weckesser, New Haven, Conn.—*Nut-making Machine.*—December 13, 1864.—The important features of this machine and its mode of operation may be thus stated: There is, first, a lever, which compresses that portion of the heated bar which is to constitute the blank, reduces it to a proper width, and holds it thus confined while the bar is being severed. The blank is then pushed forward by a sliding rod through a twisted or spiral groove which gradually turns it upon edge and between two parallel plates, where it is punched. It is then punched still further, and forced upon one of a series of mandrels which radiate from a disk, to which is imparted intermittingly rotary motion. These mandrels are made to elevate and turn the blank upon an anvil so as to present every part of its edge to the action of a hammer. A movement of the disk then carries the blank around to a device which grasps it, pulls it from the mandrel, and conveys it to an inclined way which leads the blank to another anvil, where it is beaten by a second hammer upon its broad surface.

Claim.—First, the lever K, arranged relatively with the cutter H, and to operate in connexion therewith, substantially as shown, for the purpose of rendering the blanks uniform in size, as set forth.

Second, the securing of the rod or shover G in its slide E by means of the spring c and pin b, substantially as shown, to admit of the rod or shover, in case of the latter meeting with any resistance in its work, becoming disengaged from the slide, as herein described.,

Third, the spiral passages j j^{*} for the purpose of turning the nuts respectively from a flatwise to an edgewise position, and *vice versa*, as described.

Fourth, the adjustable bar m forming the bottom of the chamber l, and of less width than the same, to admit of the escape of scales, dirt, &c., therefrom, as set forth.

Fifth, the combination of the punch L and box r, to insure the central punching of the blank, as specified.

Sixth, the horizontal intermittingly rotating wheels S, provided with a series of radial arbors R to receive the blanks and turn the same so that its several sides will be consecutively acted upon by the hammer A', substantially as set forth.

Seventh, the plates h^{*} at the end of the slide C', for the purpose of drawing the forged blanks from the arbors R, as set forth.

Eighth, the wheels z z', provided respectively with the teeth f^{*} and projections g^{*} in connexion with the spur wheels or wipers u and the collars v in the arbors R, for the purpose of raising and rotating the arbors to admit of the sides of the blanks being forged consecutively, as described.

No. 45,447.—W. E. Wilcox, assignor to himself and Bernard F. Myers, St. Louis, Mo.—*Fan Power.*—December 13, 1864.—The object of this invention is to regulate the speed of fans, which are caused to rotate by springs or weights, so that a person at will may cause the increase or diminution of air currents agreeably to their comfort or requirements, and be susceptible of being changed into an instrument to exert force of small capacity for impelling machinery. Its novelty consists in the combination and arrangement of a friction brake to operate through a spring, a friction wheel, adjusting screw, with a balance wheel and fan.

Claim.—First, the application of a friction brake to a balance wheel, which is keyed to a spindle receiving its motion from a train of wheel work, substantially as and for the purposes described.

Second, the combination of a spring F, friction wheel g, and an adjusting screw p, with a balance wheel E and fan D, substantially as described.

No. 45,448.—J. B. Winchell, Chicago, Ill.—*Washing Machine.*—December 13, 1864.—This invention consists in the combination of an oscillating bed of rollers, with a rotating cylinder and rolling drum, so that the clothes are both rubbed and squeezed in the operation of washing.

Claim.—First, the application of an oscillating bed of rubbers g to a cylinder E, substantially as described.

Second, the rolling drum H, applied and operating in conjunction with the oscillating bed of rollers and cylinder E, substantially as described.

Third, the arrangement of means, substantially as described, for reciprocating a series of yielding rollers or rubbers, and turning a cylinder, as set forth.

No. 45,449.—William Callcott, London, England.—*Apparatus for Producing Scenic Effect.*—December 13, 1864.—The object of this invention is to produce the effect of several views at the same time, as though one was seen through the other. It is accomplished by painting on gauze and glass, &c., behind; the effect intended being produced by the change in position and color of the light.

No. 45,438.—Francis P. Rogers.—Philadelphia, Penn.—*Rain Spout.*—December 13, 1864.—This invention consists in the employment of a supplementary rain spout affixed to the main spout, so as to come between the latter and the wall of the building, so that, in case the main spout bursts, whatever water passes through the fissures is caught in the supplementary spout. The latter extends a short distance above the gutter of the roof and down along the rear of the main spout.

Claim.—The supplementary spout B, in combination with the main spout A, the same being constructed and applied so as to operate together, substantially in the manner described, for the purpose specified.

No. 45,439.—Edgar D. Rundell, Hudson, N. Y.—*Horse Hay-fork.*—December 13, 1864.—This invention consists of a rest of suitable material, attached to the handle or elsewhere, as a support to a jointed brace, thereby preventing the joint of the brace from falling below a straight line.

Claim.—Employing in hay elevators a rest, or its equivalent, with the load-discharging rope, lever, or other device, substantially as and for the purpose set forth.

No. 45,440.—Rebecca Sherwood, Fort Edward, N. Y.—*Reducing Straw and other Fibrous Substances for the Manufacture of Paper Pulp.*—December 13, 1864.—This invention consists in adding grease or saponifiable fats to the alkaline liquor in which straw is treated for the manufacture of paper pulp. A part of the wash liquor of one boiling is treated with lime or other purifying agent and added to the liquor for the next boiling.

Claim.—First, the use or uses of the soapy solution, prepared as herein described, in combination with any ingredient or ingredients which will combine with either in a heated state in a solution, and reduce straw or any other fibrous substance to a pulp for the purpose of being converted into colored or colorless paper, commonly known as white paper.

Second, in the use or uses of the above-named different and described soapy solutions for reducing straw or other fibrous substances to a pulp previous, and for the purpose of being used or manufactured into colored or white paper.

Third, the use of combining a portion of the residue or waste liquid drawn off from a previous boiling (treated or not as previously described) with a sufficient portion of a new soapy solution, as previously described, for a new boiling of straw or other fibrous substance.

No. 45,441.—Lysias Smith, Gorsuch's Mills, Md.—*Composition for Preserving Fruit Trees.*—December 13, 1864.—This invention consists in a composition of sulphur, quicksilver, and black antimony, which is applied to the roots of the trees.

Claim.—The use of the within described composition for preventing the ravages of insects upon fruit or other trees, as described.

Also, the application of the composition above named to the roots of trees by or through the intervention of a cloth or wrapping around the roots of the trees, and at or near the surface of the surrounding soil. substantially as and for the purpose herein described.

No. 45,442.—John Stevenson, New York, N. Y.—*Latch for Railroad Car Doors.*—December 13, 1864.—This latch is so constructed that when applied to a sliding door, simply drawing upon a handle on either side thereof in the direction to open said door causes the hooked latch to rise in and retain its hold in the catch in the jam of the door.

Claim.—As a new article of manufacture, the door fastening hereinbefore described, consisting of the hooked latch B and two handles D D, rigidly secured upon and connected by the arbor C, the casing A, spring E, and catch F, all constructed and employed as specified.

No. 45,443.—Cornelius St. John, Boston, Mass.—*Lamp Burner.*—December 13, 1864.—This invention consists in the employment of a clasp surrounding the cone, and composed of curved bars in connexion with curved guiding rolls, the clasp being self-adjusting.

Claim.—The combination of the self-adjusting clasp, composed of the curved bars d d and the curved guiding rolls c, with the cone B and burner A, in the manner herein shown and described.

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Claim.—The arrangement of the arms C and D, sheaves c and d, in combination with cords h p and p' and levers H and P, when operating conjointly as and for the purpose set forth.

No. 45,445.—Seth Turner, Onarga, Ill.—*Derrick.*—December 13, 1864.—This invention consists in constructing a derrick in such a manner that it may revolve. It is provided with a fork tackle, spring, and guide, whereby the hay or grain may be elevated to any desired height and then swung around over the stack, rick, cart, or mow. and discharged, and the empty fork be lowered to be again loaded, elevated, and discharged.

Claim.—The rotating shaft B, provided with the oblique arm G, and fitted in the framing A, as shown, in combination with the adjustable arm J and the rod or catch D, and the notched ferrule C, or their equivalents, for securing the shaft B, all arranged and used in connexion with a horse hay fork and tackle, substantially as and for the purpose set forth.

No. 45,446.—Lewis Weckesser, New Haven, Conn.—*Nut-making Machine.*—December 13, 1864.—The important features of this machine and its mode of operation may be thus stated: There is, first, a lever, which compresses that portion of the heated bar which is to constitute the blank, reduces it to a proper width, and holds it thus confined while the bar is being severed. The blank is then pushed forward by a sliding rod through a twisted or spiral groove which gradually turns it upon edge and between two parallel plates, where it is punched. It is then punched still further, and forced upon one of a series of mandrels which radiate from a disk, to which is imparted intermittingly rotary motion. These mandrels are made to elevate and turn the blank upon an anvil so as to present every part of its edge to the action of a hammer. A movement of the disk then carries the blank around to a device which grasps it, pulls it from the mandrel, and conveys it to an inclined way which leads the blank to another anvil, where it is beaten by a second hammer upon its broad surface.

Claim.—First, the lever K, arranged relatively with the cutter H, and to operate in connexion therewith, substantially as shown, for the purpose of rendering the blanks uniform in size, as set forth.

Second, the securing of the rod or shover G in its slide E by means of the spring c and pin b, substantially as shown, to admit of the rod or shover, in case of the latter meeting with any resistance in its work, becoming disengaged from the slide, as herein described.

Third, the spiral passages j j^* for the purpose of turning the nuts respectively from a flatwise to an edgewise position, and *vice versa*, as described.

Fourth, the adjustable bar m forming the bottom of the chamber l, and of less width than the same, to admit of the escape of scales, dirt, &c., therefrom, as set forth.

Fifth, the combination of the punch L and box r, to insure the central punching of the blank, as specified.

Sixth, the horizontal intermittingly rotating wheels S, provided with a series of radial arbors R to receive the blanks and turn the same so that its several sides will be consecutively acted upon by the hammer A′, substantially as set forth.

Seventh, the plates h^* at the end of the slide C′, for the purpose of drawing the forged blanks from the arbors R, as set forth.

Eighth, the wheels z z', provided respectively with the teeth f^* and projections g^* in connexion with the spur wheels or wipers u and the collars v in the arbors R, for the purpose of raising and rotating the arbors to admit of the sides of the blanks being forged consecutively, as described.

No. 45,447.—W. E. Wilcox, assignor to himself and Bernard F. Myers, St. Louis, Mo.—*Fan Power.*—December 13, 1864.—The object of this invention is to regulate the speed of fans, which are caused to rotate by springs or weights, so that a person at will may cause the increase or diminution of air currents agreeably to their comfort or requirements, and be susceptible of being changed into an instrument to exert force of small capacity for impelling machinery. Its novelty consists in the combination and arrangement of a friction brake to operate through a spring, a friction wheel, adjusting screw, with a balance wheel and fan.

Claim.—First, the application of a friction brake to a balance wheel, which is keyed to a spindle receiving its motion from a train of wheel work, substantially as and for the purposes described.

Second, the combination of a spring F, friction wheel g, and an adjusting screw p, with a balance wheel E and fan D, substantially as described.

No. 45,448.—J. B. Winchell, Chicago, Ill.—*Washing Machine.*—December 13, 1864.—This invention consists in the combination of an oscillating bed of rollers, with a rotating cylinder and rolling drum, so that the clothes are both rubbed and squeezed in the operation of washing.

Claim.—First, the application of an oscillating bed of rubbers g to a cylinder E, substantially as described.

Second, the rolling drum H, applied and operating in conjunction with the oscillating bed of rollers and cylinder E, substantially as described.

Third, the arrangement of means, substantially as described, for reciprocating a series of yielding rollers or rubbers, and turning a cylinder, as set forth.

No. 45,449.—William Callcott, London, England.—*Apparatus for Producing Scenic Effect.*—December 13, 1864.—The object of this invention is to produce the effect of several views at the same time, as though one was seen through the other. It is accomplished by painting on gauze and glass, &c., behind; the effect intended being produced by the change in position and color of the light.

Claim.—The combination of a sheet or sheets of glass, painted in transparent colors, covered in front with painted network, and having a light backing, as herein before described.

No. 45,450.—PHILIP WM. PHILLIPS, Bristol, England.—*Car Propeller.*—December 13, 1864.—This invention consists in substituting for, or adding to, the traction of the driving wheels of a locomotive engine or other carriage the traction and reciprocating motion of what may be termed "travellers." These travellers are made to grip alternately a central rail, or the ordinary rails of a railway track, and by a combined chain or chains of levers, or by other suitable arrangement of machinery, are made alternately to advance and grip the rail, and thus propel the vehicles attached.

Claim.—The combination of the "travellers" with a rail or rails, applied and operating substantially as and for the purpose set forth.

Also, the chain of levers attached to, or acted upon by, any motive power, in combination with the travellers, constructed and operating substantially as and for the purpose described.

No. 45,451.—RICHARD SMITH, Sherbrooke, Canada.—*Self-feeding Tobacco Cutter.*—December 13, 1864.—This invention consists in the application of an automatic feeding device to a tobacco cutter, whereby the device may be operated by hand, and the tobacco in the plug or fig cut of a uniform degree of fineness throughout.

Claim.—The applying to a hand-cutting tobacco machine of a feed mechanism constructed or composed of a toothed plate G, operated from the knife gate E, which is moved through the medium of the cam C, all arranged in the manner substantially as set forth.

No. 45,452.—F. WATKINS, London Works, Birmingham, England.—***Machine for Tapping Bolts.***—December 13, 1864.—In this machine the power is communicated by means of a belt to one of two pulleys arranged to run loosely upon a stationary shaft; the two pulleys being connected respectively each with a bevelled gear wheel, the two latter, in turn, meshing with a third gear wheel upon the end of the tap arbor, which is placed at right angles to the pulley shaft. Between the two pulleys just named is a third pulley, upon which the belt runs when the machine is not in action, and a belt-shifter is so arranged that when the thread upon the bolt shall have been cut to a previously determined length, a trigger is displaced by the approaching bolt-carrier, which permits a weight, attached to the crank-shaped end of the shifting lever, to fall, and by that means force the belt over on the opposite pulley, and thus reverse the direction of rotation of the tap. In the interior of the hollow tap-arbor is a yielding and adjustable cutting device for dressing the end of the bolt as the latter is drawn inward by the action of the tap upon it, and the device for grasping the head of the bolt, while the same is being threaded, is constructed and arranged so as to be adjusted to heads of different sizes.

Claim.—First, the arrangement of the levers, weights, and pedals, substantially as herein described, for the purpose of reversing the motion of the machine.

Second, the griping device, constructed as herein described and shown, for holding round-headed bolts and stud ends.

Third, the hollow stationary axle, in combination with the fast-pulley, connected firmly to the hubs of the bevel wheels and with the loose pulley running loosely on said axle, substantially as and for the purpose specified.

Fourth, the yielding cutting device, arranged substantially as herein set forth, for the purpose of cutting or chamfering the ends of the bolts during the process of threading.

No. 45,453.—B. P. LAMASON, assignor to himself and SIDNEY D. KING, Alexandria, Va.—*Signal Tower.*—December 13, 1864.—This invention consists of a signal tower, designed especially for the use of the army, and adapted to be readily conveyed any distance upon a wagon, and by means of a very simple apparatus, borne upon the latter, to be extended into the air to a height of one hundred feet, more or less, in order that its top may serve for a suitable point for observation and signalling. It may be folded down or contracted until it assumes such a compact form that it may be transported with facility.

Claim.—First, the extensible and contracting frames C *c*, employed in combination with the connecting platforms D and movable sills E, the whole being constructed and arranged to operate in the manner herein set forth.

Second, in combination with the above, the right and left screw F and crank H, together with the shaft I and gears J J, when arranged to operate in the manner and for the purpose herein described.

No. 45,454.—JOSIAH KILMER, assignor to himself and AUGUSTUS KILMER, Cobleskill, N. Y.—*Device for Ploughing in Stubble.*—December 13, 1864.—This invention consists in attaching a chair to an ordinary plough from the beams near the standard, and extending forward to the double-tree, and of sufficient length to form a loop that drags upon the ground, for drawing rubbish into the furrow, for the purpose of causing the same to be ploughed under.

Claim.—The application to a plough beam B and double-tree G of a drag chain A, substantially in the manner and for the purpose set forth.

No. 45,455.—CHARLES W. DICKINSON, assignor to himself and GEORGE ROWDEN, Newark, N. J.—*Engine Turning Lathe.*—December 13, 1864.—Reference to the specification and drawings will be necessary for a proper understanding of this invention.

Claim.—First, the combination of the sliding cams *n*, adjustable frame *e*, and tool plate 10, substantially as and for the purpose set forth.

Second, the combination of the eccentric Q, the adjustable frame *e*, and the shaft O, substantially as herein above set forth.

Third, the combination of the eccentric Q, one or more of the cams *n*, or their equivalent, and the vibrating frame *e* and connecting parts, or equivalent device, for combining the motions by the eccentric and the cams, and transmitting the same to the engraving tool.

Fourth, the combination of the engraving tool 5, the gauge 7, the bell crank 29, or its equivalent, and the eccentric Q, substantially as and for the purpose herein before stated.

Fifth, the combination of the engraving tool 5, the gauge 7, the bell crank 29, or its equivalent, and one or more of the cams *n*, connected as described, or in manner equivalent, substantially as and for the purpose set forth.

Sixth, the combination of the cams *n*, or any two or more of them, the adjustable stops or touches *l*, or any two or more of them, and the slide *k*, and the latter is connected to the engraving tool, substantially as described, to the effect herein above stated.

Seventh, the arrangement with the connecting shafts H and I, or equivalent, and with the engraving tool and the face-plate, or its equivalent, on which the work is to be mounted, of the doubling clutch 21 22 and 23, substantially as and for the purpose described.

Eighth, the arrangement in the engraving tool 5, platform 4, eccentric Q, and cams *n*, or equivalent device, the parts being connected substantially as and to the effect stated above.

Ninth, the combination of the frame *e*, platform 4, one or more of the adjustable bearings *e* and *f*, and one or more of the vibrating arms *b* and *g*, or equivalent, for modifying the motions to be imparted to the engraving tool, substantially as set forth.

Tenth, so constructing the adjustable bearings *e* or *f*, and either of them, and so combining therewith the frame *e* and the armed shafts *a* and *h*, or either of them, that the motion given to one of the said shafts may be neutralized upon the frame *e*, substantially as set forth.

No. 45,456.—HUGH L. MCAVOY, assignor to himself and ELIAS S. HUTCHINSON, Baltimore, Md.—*Apparatus for Carburetting Air.*—December 13, 1864.—This invention consists of a cylindrical vessel, within which is mounted a wheel having a series of winding passages, each of which terminates at the centre of the wheel, where, by means of orifices, they communicate with a vessel E. A central hollow shaft, carrying a pulley, may be connected with any suitable mechanism for producing rotation of said wheel. One of the journals upon which the said wheel rotates is the shaft, and the other a tube, which has a sleeve-like bearing, somewhat larger than the said tube, in order to leave a space between them. The said tube or journal communicates at the centre of the wheel with spaces. The tube and hollow shaft lead into the chamber E, from which the gas is carried off for use by means of a pipe.

Claim.—First, carburetting air by means of a revolving volute wheel B B′, operating within a vessel or reservoir A, substantially as described.

Second, the use of the journal D, made smaller than its bearing D′, to permit the oil to be returned from the gas chambers E to the vessel A, as herein set forth.

Third, the employment, in connexion with the vessel A and wheel B, of a valve H, adapted automatically open when the apparatus is in operation, for the purpose of supplying air to be carburetted, and to close when the operation is suspended, in order to prevent the oil from evaporating, as explained.

Fourth, the hollow shaft C, having perforations *c*, and communicating with the gas chamber E and vessel A, so as to constitute a medium for returning the oil from the chamber E to the vessel A.

Fifth, as means for returning the oil from the chamber E to vessel A. and to be especially available when such oil is in excess, the pipe F, arranged and employed in the manner described.

No. 45,457.—JAMES N. RAY, assignor to himself and JOHN M. WHEATLY, Indianapolis, Ind.—*Improvement in Wood-bending Machines.*—December 13, 1864.—This invention consists in a flexible metal strap upon which are fastened segments, so formed as that they make the groove in which the wood to be bent is placed, allowing the strap to bend freely. At the bottom of this groove lies the bending strap, one end of which terminates in a nib, the other rises up at the rear of a frame, the sides of which on the bottom edge are circular in form, and as the operator turns the frame forward by a lever in the process of bending the wood, (which is held in place by a follower and key,) travels or turns upon the segments or flexible strap, bending the wood to the shape corresponding with the side of the frame, and when bent is held in place by a clamp surrounding the wood and strap A key driven between the clamp and wood sets the nib into the wood and prevents its slipping, while the other end of the strap having holes, is secured by a rod with a hook fitting in the holes, and the other end over the end of the wood.

Claim.—First, in a wood-bending machine the flexible groove formed by fixing upon the face of a plain strap of flexible metal two rows of segments of any suitable material, so shaped as to form the walls of the groove, while the strap itself forms the bottom thereof, substantially as herein set forth.

Second, the combined use of the bending strap and back strap, substantially as herein set forth.

Third, the combined use of the clip, the perforated back strap, the rod G, the clamp and the wedge, as a means of holding the bent handle until it is cool and firmly set, substantially as herein set forth.

Fourth, the forms E, when attached to the head F and used to tread upon the segments or upon the strap outside the segments, substantially as herein set forth.

Fifth, the wrists I I, in combination with the forms E, when used to make said forms move horizontally and to prevent them from rising from the bench in the act of bending, substantially as herein set forth.

Sixth, the combined uses of the head F, the forms E, and the follower D, substantially as herein set forth.

No. 45,458.—H. W. Sargeant, Jr., assignor to himself and G. Brayton Johnson, Boston, Mass.—*Clothes' Pin.*—December 13, 1864.—The claim fully describes this invention.

Claim.—Constructing a clothes' pin with two rigid outside prongs *b b* and a flexible tongue C between them, substantially as set forth and for the purpose described.

No. 45,459.—James Smith, assignor to himself and Major Smith, New Haven, Conn.—*Screw Plate.*—December 13, 1864.—This invention consists in making the slots in which the dies are held of a form tapering from the back to the front of the plate, in order to afford a good hold to the dies, which are inserted from, and whose surfaces are flush with, the front of said plate. Two bars or latches, one on each side of the slot, are so hinged at the end on the face of the plate that they, by being swung inwards and secured by screws, bind upon the end of the dies and secure them firmly within the slot.

Claim.—The herein described screw plate, constructed and operating substantially as and for the purpose specified.

No. 45,460.—J. W. Smith, assignor to himself and Jonas Green, Washington, D. C.—*Manufacture of Coal Gas for Illumination.*—December 13, 1864; antedated October 17, 1863.—This invention is explained by the claim.

Claim.—Making coal gas by charging the retort with coal and heating in the usual way for two hours, and at the end of this time supplying the gas tar thus far made in the operation through reservoir B, substantially in the manner and for the purpose set forth.

No. 45,461.—Franklin L. Bailey, Boston, Mass.—*Printing Press.*—December 13, 1864.—This invention consists in a mode of distributing the ink in a lateral direction on the cylinder to render the surface more equal, and in the mechanical arrangements, to make the press compact and efficient.

Claim.—First, the application of one or more movable slides or tables to the cylinder C, for the purpose described, when these movable tables constitute a part of the distributing surface over which the rollers *r r* roll and spread ink.

Second, the means of effecting the movement of the tables I I, the same being the gear 4 and gear 5, connexion 6 and forked lever 7, substantially as described.

Third, the combination of the dogs D D with the cylinder, when such dogs are made to close with the cylinder by the same means that raises or uncloses them, for the purpose described.

Fourth, the combination of the connexions *c c* and joints *w′ w′* with the swivels E E, when these swivels are made to vibrate on their axes *e′ e′* and fold the connexions *c c* down on to them, for the purpose above set forth.

Fifth, the herein described method of vibrating the swivels E E by means of the sub-connexions *c′ c′* and their shaft *g*.

No. 45,462.—J. L. Henry, Kentucky.—*Sub-calibre Rifled Projectile.*—December 13, 1864.—A centring sabot, with a base nearly equal in diameter to the bore of the gun, has on its front end longitudinal projections concentric with the main bolt or projectile, forming a cradle. The sabot is held in place, attached to the projectile by a destructible or combustible nut, thus releasing the sabot in conjunction with a spring, after or upon discharge, independent of the atmospheric resistance, and it falls behind the projectile which goes forward.. This sabot has a soft metallic ring on its outer rear end and flush therewith, which is expanded by the discharge, cutting off windage and causing rotation to the projectile in a rifled gun.

Claim.—First, so combining with a projectile a metallic sabot so as to cause it to fly off on leaving the gun by a force other than the action of the atmosphere alone, substantially as described.

Second, securing the sabot to the shot by a device which shall be broken or destroyed on firing, thereby leaving the sabot free to drop from the projectile after leaving the gun, substantially as described.

Third, the combination of a ring H with the disk of a sabot or base of a projectile, for the purposes and substantially as set forth.

No. 45,463.—J. D. Angier and Frederick Crocker, Titusville, Penn.—*Ejector for Oil Wells.*—December 13, 1864.—The object of this invention is to raise oil or other liquids from deep wells with facility. Its novelty consists in the deflector in combination with the two tubes and annular projection.

Claim.—The employment of the deflector in combination with the two tubes and annular projection, substantially as described for the purpose set forth.

No. 45,464.—George M. Mowbray, assignor to J. G. Angier and F. Crocker, Titusville, Penn.—*Ejector for Oil Wells.*—December 13, 1864.—The object of this invention is to so arrange its mechanism that an adjustment of its parts can be effected with facility, whereby the annular space through which the blast escapes from the deflector may be varied to suit the variable conditions of different wells, with the combination of the blast tube and deflector of an adjustable bulb placed nearer to or further from the mouth of the deflector. Its novelty consists in the employment of a blast tube and deflector in connexion with an adjustable bulb.

Claim.—The employment, in combination with the blast tube and deflector, of an adjustable bulb, or its equivalent, substantially as described and for the purpose set forth.

No. 45,465.—Emory Andrews and William Tucker, Springfield, Mass.—*Machine for Making Match Splints.*—December 20, 1864.—The object of this invention is to cut match splints from thin blanks or cards, and after being separated from each other are fed and placed into the proper rack ready for dipping. It also consists of a machine having a series of hoppers, into which the cards are placed, and from which they are fed to the separating knives on revolving cylinders, which separate the sticks, and then, by mechanical means, are all adjusted in the dipping racks ready for the operation of dipping.

Claim.—First, the combination of the series of hoppers, the sectional knife cylinder E, and the guides *f*, on the table B, arranged, constructed, and operating substantially as described.

Second, the rack G, to which an intermittent rectilinear motion is imparted by suitable mechanism in combination with the guides *f*, knives *e*, feed plate D, and hoppers C, constructed and operating substantially as and for the purpose set forth.

Third, the combination of the elastic bands with the stationary lower slat and the upper movable slat in the vertically moving rack, by which the match sticks are received and held, at the intervals between the sections or tiers, as they pass from the table under the pressure of the succeeding set.

Fourth, the arrangement, substantially as described, consisting of the stationary and movable combs and their operating mechanism, by which the alternate match splints within the embrace of the clamp *g* are slipped out so as to detach their points for dipping.

Fifth, arranging the match splints in the clamps in the manner described, as effected by the combs *r r′*, so that they may project alternately on each side of the clamp for dipping, and so that the tiers of matches being removed from the frame may be laid upon each other chequer-board fashion, with the blank ends separating the charged ends, preventing the friction of the composition on adjoining matches.

No. 45,466.—John F. Appleby, Mazomanie, Wis.—*Magazine or Self-loading Fire-arm.*—December 20, 1864.—This arm belongs to the class provided with a magazine of cartridges, which are automatically fed to the chamber by the movement of the guard lever. The reciprocating breech piece is attached to a serrated rod running back into the stock, each serration holding a cartridge and moving one forward at each closing of the breech. A spring carrier or cartridge lifter brings the forward cartridge up in line with the chamber at each opening of the said breech.

Claim.—The combination of the cartridge ratchet rod G with the breech piece C, substantially in the manner and for the purpose herein shown and described.

Also, the combination of the spring cartridge lifter I with the breech piece C and ratchet rod G, substantially in the manner and for the purpose herein shown and described.

No. 45,467.—John Bean, Hudson, Mich.—*Pump.*—December 20, 1864.—The piston rod carries two pistons, operating reciprocally from different ends of the cylinder, the discharge port being at the centre thereof, a disk valve having a seat above and below this port. The ingress of water is through holes in the direction of the length of each piston, there being a disk valve on the inside.

Claim.—The combination of the plungers M and L with the centre valve *g* and the two valves *n*, the whole constructed and operated substantially as and for the purpose herein described.

No. 45,468.—John M. Beath, San Francisco, Cal.—*Ore Amalgamator.*—December 20, 1864.—This device consists of a horizontal cylinder, having its bearings in the sides of the tank which contains it. The ends of the cylinder are left open, and it also has openings in its periphery, through which the pulp is driven during the operation. Around the cylinder are arranged a number of "dies," over which the pulp is thrown, and which serve to agitate the liquid.

Claim.—First, a cylinder so constructed as to take the pulp in at its ends and discharge it through openings in its periphery, using for that purpose the cylinder above described, or any other that is substantially the same and will have the intended effect.

Second, the described method of arranging the dies on the periphery of the cylinder so as to produce a free circulation of pulp in the tank around the dies and cylinder.

Third, the described method of hanging the dies so that the wear and pressure increases from the front to the back part, the whole being for the purposes set forth.

No. 45,469.—Erastus Blakeslee, Plymouth, Conn.—*Cartridge Box.*—December 20, 1864.—This box contains one or more removable tubes filled with fixed ammunition, by which a magazine arm like Spencer's can be replenished, or the cartridges can be gotten out singly. A side pouch is attached for other ammunition.

Claim—The combination of one or more movable metal tubes, each containing two or more cartridges, with a spring top cartridge box and side pouch, as herein described and for the purposes set forth.

No. 45,470.—Stephen Bowerman, Battle Creek, Mich.—*Evaporating Apparatus.*—December 20, 1864.—A series of pans placed in a rectangular framework, like a cabinet or bureau, a pan being inserted first from the front and then from the rear alternately. The furnace is placed in the lower part of the chamber, and the flue is carried up in a zigzag form, so as to pass under and over each pan, and finally leaves by the smoke pipe.

Claim.—First, the arrangement of the evaporating pans E and central zigzag flue C within a closed furnace A, in such manner that the top and bottom surfaces of said pans will be subjected to the heat radiated from said flue, substantially as described.

Second, A flue C, which is conducted in its upward course through the furnace in such a manner as to form an upper and a lower heating surface for each one of a series of removable pans, arranged substantially as described.

Third, supporting the flue C and also the pans E, when they are arranged substantially as described upon the frames F and rods *a a*, substantially as set forth.

Fourth, the application of overflow pipes *g* to removable or stationary evaporating pans, which are arranged one above the other within a closed furnace, substantially as described.

No. 45,471.—Jonathan S. Buell and Samuel A. W. Marsh, Buffalo, N. Y.—*Grain Dryer.*—December 20, 1864.—In this invention the products of combustion from a steam boiler furnace or other fireplace are forced through a re-heating space, by a fan-blower, into a grain dryer, in which are pipes of graduated lengths, or a pipe with graduated openings In a pipe between the boiler furnace and re-heating space are suitable dampers to regulate or cut off the flow of the product of combustion; also a slide to admit cold air.

Claim.—First, the combination with a grain dryer and with a furnace for steam boilers or other fireplace of a re-heating furnace and a fan-blower, when the latter is so arranged in a pipe or pipes leading from the primary fireplace into the grain dryer, substantially as and for the purpose set forth.

Second, the combination and arrangement of the damper J and the pipes D C and I, with the furnace A, and the rotary fan R, substantially as and for the purpose set forth.

Third, the combination of the pipe Q, or its equivalent, with graduated openings with the rotary fan R, for blowing either a hot or cold blast, substantially as and for the purpose set forth.

Fourth, the combination of the damper V with the pipe C, for the purpose of regulating the draft of the boiler furnace, substantially as and for the purpose set forth.

No. 45,472.—Jason R. Cadwell, Dexter, Mich.—*Horse Hay Fork.*—December 20, 1864.—This invention consists in the construction and combination of the several parts mentioned in the claim. A toothed handle is pivoted to the catch-plate, which is fastened to the head. This handle has a catch affixed to it by which, in connexion with the catch-plate, the handle may be fixed at any desired angle.

Claim.—First, the combination of the hinged toothed handle C, locking-plate B, and forked head A, in such manner that the fork can be used either for elevating hay or as a common dung fork at pleasure, substantially as described.

Second, pivoting the handle of a hay fork to a catch-plate B, which is affixed to the fork head, and applying a catch to said handle for fixing it at any desired angle to the tines of the fork, substantially as described.

No. 45,473.—R. E. Campbell, New York, N. Y.—*Stern-bearing for Propellor Shafts.*—December 20, 1864.—This invention consists in the application of a wedge acted upon by a key, in combination with the lower box of a stern-bearing, in such a manner that by the action of the key and wedge said box can be readily adjusted as it wears, and when it is completely worn out, it can be easily removed and replaced by a new one, without disturbing the bracket.

Claim.—The combination of the box C, wedge D, and one or more keys E F, arranged and operating as described.

No. 45,474.—John F. Clew, New York, N. Y.—*Case Shot.*—December 20, 1864.—This invention consists in arranging a series of elongated and pointed projectiles, compactly fitted together by suitable sabots and disks within a canister or case, so as closely to fill the same, which is in the form of an ordinary elongated projectile for ordnance.

Claim.—The arrangement of elongated projectiles in a grape or case shot in one or more series with surrounding and interposed disks, substantially as herein specified.

No. 44,475.—John F. Clew, New York, N. Y.—*Submarine Port Hole.*—December 20, 1864.—The port-holes consist of circular openings, with elastic inner surfaces; the cannon is made tapering to fit the port-hole, the gun thus acting as a port-hole stopper. There is also a sliding shutter provided for the port-hole, and a water-pipe to lead off the water which might enter the cavity into which the bottom of the gate enters when it is dropped down.

Claim.—First, an elastic embrasure constructed substantially as shown, for the purpose of forming a water-tight joint with the muzzle and sides of ordnance, substantially as above described.

Second, the ring J, constructed and operated substantially as above described for tightening the joints of the port shutter.

Third, the pipe *s* when applied as shown to the seat of the shutter A, for the purpose of freeing it of water.

Fourth, the combination of a sliding shutter with an embrasure whose sides are elastic, substantially as above described, for the purpose of firing ordnance under water.

Fifth, an elastic embrasure with double conical sides as shown in combination with a tapering muzzle or tapering sides of the ordnance to be used therewith, substantially as above described.

No. 45,476.—James P. Collins, Troy, N. Y.—*Shaft Coupling.*—December 20, 1864.—This invention consists in the employment of a divided collar provided with one or more screws or screw threads, and conical surfaces on its exterior, in connexion with nuts and female cones or thimbles, having conical interiors to work on the conical surfaces of the divided collar, all being arranged in such a manner that the shafting may be securely connected with the greatest facility, and also secured together in line, one shaft with another, thereby avoiding much trouble hitherto experienced in putting up the shafting of machinery.

Claim.—A divided collar provided with one or more screw threads, and two conical surfaces in its exterior, in connexion with nuts and female cones; all arranged to form a new and improved coupling for shafting, substantially as set forth.

No. 45,477.—Leander T. Conant, New Lisbon, Ohio.—*Basting Gauge for Sewing Machines.*—December 20, 1864.—This invention is explained by the claim and engraving.

Claim.—First, the base-plate B, with its guide-pins T T T, diagonal ridges I I I, deflected edges and slot S, the whole constructed as described and combined with the upper and middle plates, as and for the purpose set forth.

Second, the vertically movable upper plate O, with its deflected edges, its sockets J J J, as seen in Fig. 4, for fitting on the studs or guide-pins T T T, as seen in Fig. 1, with its diagonal ridges I I I, as seen in Fig. 4, for the purpose of automatically inclining the cloth against the guide-pins in its passage to the needles of the machine, substantially as described and for the purposes herein set forth.

Third, the smooth vertically movable middle plate D, as seen in Fig. 3, with its sockets J J J, for fitting on the studs or guide-pins T T T, as seen in Fig. 1, substantially as described and for the purposes hereinbefore set forth.

Fourth, the spring M, or its equivalent, so fastened that its bearing rests on or over the middle ridge, as seen in Fig. 1, for the holding of plates D and O in their places, and giving a gentle and even pressure from guide-pins to point on all materials passing through the basting gauge, substantially as described and for the purposes herein set forth.

No. 45,478.—David B. Cox, Troy, N. Y.—*Stove.*—December 20, 1864.—This invention consists of a horizontally corrugated lining to the fire-pot, enclosing an air space between it and the outer casing; the said air space communicates with the interior of the stove by means of numerous perforations in the corrugated lining, and thus the combustion is aided by atmospheric air.

Claim.—A horizontally corrugated fire-pot, or plate or plates, forming part or the whole of a fire pot, the apertures C C C, when placed in that part of the corrugation inclining from the centre or fire to the outside, at such point as will leave the extreme inner projections of corrugation projecting over said apertures. forming a cover or guard for them for the purposes described.

Also, in combination with said corrugations and apertures, the air chamber B B B B, for the purposes described.

No 45,479.—William Dann, Cincinnati, Ohio.—*Field Hospital Cot and Stretcher.*—December 20, 1864.—This invention consists of a cot formed by arranging and fastening together a number of bars of wood in such a manner as to form a substantial frame for the support of a canvass bed sacking, but which can be readily taken apart when desired and packed in a small compass for transportation.

Claim.—The combination of the poles A A, posts C, bar E, with the sockets or braces B B, the latter being constructed in the manner herein described, and employed to admit of the parts being readily put together or taken apart as explained.

No. 45,480.—JOHN W. DIXON, Philadelphia, Penn.—*Manufac'ure of Paper Pulp from Wood.*—December 20, 1864.—This invention consists in heating wood with a solution of caustic soda, of a strength of 18° Baumé, at from 212° to 290° Fahr. The liquor is then drawn off, and the pulp submitted to the action of chlorine, and the waste liquor with the addition of a certain preparation of caustic soda is used for a fresh supply of wood.

Claim.—First, the manufacture of pulp from wood by treating the wood with a solution of caustic soda at 18° Baumé or higher, and at near or about 212° Fahr., and below 290° Fahr.

Second, the successive reuse of the waste liquor from the first wood pulping process in a second or third wood pulping process by the addition of reduced percentages of fresh caustic soda, substantially as above described,

No. 45,481.—THOMAS H. DODGE, Worcester, Mass.—*Horse Rake.*—December 20, 1864.—In this device the head is eccentrically hinged to the axle, so that its weight is thrown forward of the fulcrum, and acts as a counterpoise; to the rake head a segmental spur gear is secured, which is in gear with a spur pinion keyed to a shaft in front, supported by lugs upon the main frame; this shaft is provided with hand and foot levers for operating the rake; a cord attached to the lower end of the spur pinion, and passing around a pulley in front, backward to the seat, may also be used to operate the rake; a catch lever is attached to the axle in front, the catch of which passes over a pin in the rake head, where the head is forced forward, thus holding the rake in an elevated position as long as desired.

Claim.—The employment, in connexion with the rake head eccentrically as described, of the gears H I, shaft *b*, and hand lever K, all arranged substantially as and for the purposes described.

Also, the combination with the rake head, hinged as described, of the pin *g* and spring catch lever M, substantially in the manner and for the purposes set forth.

Also, the arrangement in combination with the rake head G, gears H I, and shaft *d*, provided with hand and foot levers K *d e* of the elevating and lowering rope L, substantially as and for the purposes described.

No. 45,482.—JOHN DOLBEER, San Francisco, Cal.—*Machine for Counting.*—December 20, 1864.—A cylindrical case, the top of which is a dial plate, furnished with concentric rows of figures representing units, hundreds and thousands, contains a train similar to a clock train, the whole being driven by an arm or crank, which is moved over the dial to make the count. The registering is indicated by three index pointings, which are so geared as to move in the proper time for the units, hundreds, and thousands.

Claim.—Arranging the three indexes C C′ C″ to move around a common centre, substantially as described, in combination with the counting arm B, pawl S, and dial plate A, for the purposes set forth.

No. 45,483.—AUGUSTUS ELIAERS, Boston, Mass.—*Boring Tools.*—December 20, 1864.—The object of this invention is to produce a tool that will cut an aperture at the bottom of the bore of a greater diameter than at the top, and it consists of a lever cutter attached to the shaft of the tool through a slot, and operated upon by a nut working on a screw thread cut upon the shaft, so that when the nut is turned up it expands the cutting lever, or causes it to project from the shaft, and by turning the nut in the opposite direction the lever will contract to the size of the bore.

Claim.—A lever cutter attached to or working within a screw shaft, and so operated upon by a nut and spring, or their equivalents, that the length of its radius from the centre of said screw shaft can be increased or diminished at pleasure while being revolved, for the purpose of forming undercuts, substantially as described.

No. 45,484.—L. A. FISHER, Chicago, Ill.—*Chain-pump.*—December 20, 1864.—The pump cylinder is designed to occupy an oblique position; two sprocket wheels are fixed upon a transverse shaft on top, at each end of the cylinder; an endless chain passes from end to end of the cylinder over the sprocket wheels on each side, the lower portion of the side chain being within the pump cylinder; the buckets are arranged transversely from chain to chain, to move with the chains, but in such manner as to enter the water, and ascend from it edgewise; this is effected by the manner in which each bucket is attached to the chains.

Claim.—The combination of the movable buckets with the mechanism for changing the position of the same, substantially as set forth.

No. 45,485.—GEORGE FOWLER, Macon, Ill.—*Car-replacer.*—December 20, 1864.—The object of this invention is to obtain a device of simple construction, which may be readily applied to the rail of a railroad track, in order to place a car thereon.

Claim.—The clamps C C′, in combination with the rails B′ B″, and bar D, all constructed and arranged substantially as and for the purpose herein set forth.

No. 45,486.—G. H. GARDNER, Philadelphia, Penn.—*Cow-milker.*—December 20, 1864.—This invention consists in the employment of three way cocks and their branches, in combination with a cow-milker, and so arranged in relation to the teat cups that the operation of the instrument on one or more of the teats may be discontinued while it is continued on the remaining teats.

Claim.—First, stop-cocks so combined with a cow-milker, so constructed and so arranged in respect to the teat cups of the same, that the operation of the instrument on one or more of the teats may be discontinued while it is continued on the remaining teats.

Second, the three way-cocks E, with their branches *e* and *e′*, and the several openings herein described, in combination with the four branches D D′ D″ and D‴.

No. 45,487.—JAMES E. GILLESPIE, Trenton, N. J.—*Spring Bed Bottom.*—December 20, 1864.—This invention consists in the employment of a peculiarly constructed spring at the ends of the slats or strips that form the bottom of the bedstead, and in combination therewith a connecting plate or link, for attaching the bottom to the rails of the bedstead.

Claim.—The combination of the spring B and link F with the slat D and the rail A, the whole being constructed and arranged to operate substantially as specified.

No. 45,488.—J. R. GRAHAM, New York, N. Y.—*Veneer Cutting Machine.*—December 20, 1864.—This invention consists in the employment of a stay plate, which is made adjustable and used in combination with the cutting knife in cutting the veneers.

Claim.—The stay plate F, when made adjustable as specified, and for the purpose set forth, in combination with the cutting knife, substantially as described.

No. 45,489.—PETER N. GREER, New York, N. Y.—*Preparation of fine-cut Tobacco.*—December 20, 1864.—This invention consists in utilizing fine-cut tobacco dust or shorts, by moistening the tobacco with a solution of sugar-house sirup, putting it up in papers and tin foil, and pressing it in dies, when it is ready for use.

Claim.—A plug tobacco formed from the shorts, prepared and put up as herein above described, by pressing, substantially as described and for the purpose set forth.

No. 45,490.—GEORGE GROSS, Buffalo, N. N.—*Portable Picket Fence.*—December 20, 1864.—This invention relates to the mode of locking and bracing together the different lengths or sections of the fence; each alternate section has its rails nearer together; the ends of the rails of one length are inserted several inches between the rails of the next, after which a picket is screwed upon the outer side, holding together the two portions; at the place of joining it is placed upon a small platform or base that is furnished with a stake at each end for driving into the ground; a brace is secured by a wire to the outer edge of this platform, and its upper end locks together the two ends of the upper rails; a V-shaped block on the lower outer rail supports the next length, and aids in elevating the length on uneven ground.

Claim.—The arrangement and combination of the devices for locking, adjusting, bracing and supporting the portable picket fence, as herein described.

No. 45,491.—WM. B. GUY, Boston, Mass., assignor to E. H. AUSTEN, Madbury, N. H.—*Gas and Water Pipe.*—December 20, 1864.—This invention consists in placing in the inside of a pipe of any suitable material, a tube of glass slightly smaller in diameter than the outside tube, so as to leave a space between them, which is to be filled with plastic material, or other suitable packing.

Claim.—First, the inner tube of glass separated from the pipe, in the manner and for the purpose set forth.

Second, any elastic or plastic substance placed between the pipe and inner tube or lining, substantially as and for the purpose described.

No. 45,492.—EMERY E. HARDY, New York, N. Y.—*Saddle Tree.*—December 20, 1864.—This invention consists in a new form given to the turret plate of a saddle tree; in the combination of the turret plate and saddle tree with socket, crupper loop, and pin, and in lining a metal saddle seat with wood or leather.

Claim.—First, the turret plate of a saddle tree, constructed and arranged as described.

Second, in combination with the turret plate and saddle tree, the socket N, the crupper loop F, and pin K, attached to the seat as described and set forth.

Third, lining a metal saddle seat with wood or leather, so that the covering of the seat or a welt may be tacked to it.

No. 45,493.—JOHN O. HARRIS, Reading, Penn.—*Lamp Burner.*—December 20, 1864.—This invention consists in the employment, in connexion with a lamp burner, of two jackets, one within the other, one or more horizontal slots extending through both jackets, either with or without the end draught passages; for burning coal oil, and similar hydro-carbons which require a large amount of oxygen to support combustion.

Claim.—The employment or use, in connexion with a lamp burner, of two jackets E E′, placed one within the other, and provided with one or more horizontal slots *e* extending through both jackets, and either with or without the end draught passages *d d*, substantially as and for the purpose herein set forth.

No. 45,494.—CHARLES HAWTHORN, Pittsburg, Penn.—*Tubular Boiler.*—December 20, 1864.—This invention is set forth in the claim.

Claim.—Making the holes in the heads of tubular boilers for the insertion of the flues, with a gutter in the wall or sides of the flue hole, and forcing the sides of that part of the flue which passes through the hole down into the gutter, so as to make the flue conform to the shape of the hole, substantially as and for the purposes herein before described.

No. 45,495.—HIRAM W. HAYDEN, Waterbury, Conn.—*Breech-loading Fire-arm.*—December 20, 1864.—In this arm the breech block has a chamber passing entirely through it, and is fitted upon trunnions, below which are two pendent jaws, operated by a lever in such a manner that the breech block is made first to slide back and be partially rotated, the operation being reversed in closing the breech. Combined with the chambered breech is a sliding breech pin, which acts to close the rear end of the chamber in the breech when the same is on a line with the barrel; the breech pin is secured at the rear end of the chamber in the swing breech by means of a wedge and forks.

Claim.—First, a breech block, having a chamber passing entirely through it, and fitted upon trunnions in combination with the pendent jaws k and lever h, substantially as specified, whereby the said lever first slides the breech block back and then partially rotates it, and the reverse in closing the breech, as set forth.

Second, the shear 7, in combination with the swinging breech block e, having the chamber f passing entirely through said block, and the projections 9, taking the ribs 8 for keeping the rear portion of the breech block to the shear, as set forth.

Third, a sliding breech pin l, in combination with a chambered breech swinging on trunnions, and acting to close the rear end of the chamber in said breech when on line with the barrel, as set forth.

Fourth, the wedge m, and forks o o, in combination with the sliding breech pins l, and swinging breech e, having a chamber passing through it, whereby the breech pin l is secured at the rear end of the chamber in the swing breech, as set forth.

Fifth, the screw r, and spring in the slot of the breech pin, for the purpose and as specified.

Sixth, the combination of the lever h, breech e, breech pin l, and wedge m, whereby said lever effects the movement of all the parts in harmony with each other, as specified.

No. 45,496.—HENRY HERBERT, Cincinnati, Ohio.—*Pipe Tongs.*—December 20, 1864.—This invention consists mainly in the arrangement of parts for the purpose of facilitating the adjustment to one of the jaws of any one of a series of sliding bits, so as to adapt the tool cut-off, tap, or screw together pipes of different diameters.

Claim.—As a new article of manufacture, the adjustable pipe tongs, herein before described, provided with the slot J, pivot I, nut M, corrugated washer K k, corrugations b'', and dovetail sockets a b b', all as specified.

No. 45,497.—GEORGE HILLS, Plainville, Conn.—*Clock Dial Sash.*—December 20, 1864.—The object of this invention is to dispense with the use of putty, mastic, or any similar substance to secure the glass of clock dial sashes. Around the inside of the sash ring are placed, at suitable distances apart, a number of projections, under which the edge of the glass is placed, and then secured in that position by a ring placed inside the sash and provided with recesses to enable it to pass over the projections.

Claim.—The combination of the ring or rim c, dogs h, with the sash, glass, and dial c d a, substantially as and for the purpose described.

No. 45,498.—PHILIP K. HOLBROOK, Malden, Mass.—*Inkstand.*—December 20, 1864.—This invention consists of a flexible tube attached to the bottom of a reservoir, so that it can be turned up and used as a funnel in filling the reservoir, or used as a dipping cup.

Claim.—The reservoir B, with its flexible tube C and dipping cup D, arranged in the stand or base A, and operating substantially as set forth.

No. 45,499.—BYRON C. HOWELL, Ithaca, N. Y., A. B. THOMPSON and E. D. SNYDER, Owego, N. Y.—*Shifting Blind.*—December 20, 1864.—This invention consists in so constructing the slat rod of a shutter that it can be readily disconnected from one side and applied, by merely turning the slats half-way round, to the other side of the shutter, and also in so constructing those parts of the hinge attached to the shutter that, without removing them therefrom, the shutter can be applied to either side of the window.

Claim.—First, constructing and arranging a blind that it may be lifted or reversed, and worn first one side out and then the other, without removing the hinges thereof.

Second, the constructing and arranging the blind, hinges, and rod in the manner herein described and for the purposes specified.

No. 45,500.—FERDINAND IMHORST, New York, N. Y.—*Lamp Chimney Cleaner.*—December 20, 1864.—This invention consists in the application of two pads to the ends of two levers of unequal lengths, connected together like shears, so that when closed the pads can readily be inserted into a lamp chimney, the long lever cleaning the upper end and the short one the bulb of the chimney.

Claim.—A lamp chimney cleaner with two pads A B applied to the ends of two levers A′ B′ of unequal lengths, and hinged together substantially in the manner herein shown and described.

No. 45,501.—G. JENSEN, Brooklyn, N. Y.—*Knitting Machine.*—December 20, 1864.—This invention is designed as an improvement on the circular machines in which the needle ring has remained stationary, while the bobbin, feeding burr, and barb closer travelled outside the ring, in unison with the cloth presser and burrs that travelled within the ring, as in Dalton's patent of May 7, 1861. The devices herein claimed, while allowing these motions, also permit the converse, viz., a revolution of the needle ring, while the bobbin and gears or burrs are held stationary, thus adapting the machine to factories where the goods are rotated as they are made. Different sizes of needle rings may be used, the other parts being made adjustable thereto

Claim.—First, the screw-formed gear n and gears m and r, in combination with the shafts k and q, for rotating the bobbin gears and wheels inside and outside the stationary cylinder of needles, as specified.

Second, the changeable ring of needles, fitted substantially as specified, in combination with the adjustable standards c f' and d' of the gear e', wheel f, and bobbin d, as specified.

Third, the take-up wheels r r', in combination with the belt 13 and wheels or pulleys y z and z', arranged and acting substantially as specified.

No. 45,502.—GEORGE KIMBALL, Springfield, Vt.—*Horse Rake.*—December 20, 1864.—This invention consists in attaching the rake to the thills in front of the wheels, and having hand and foot levers arranged and applied in such a manner that the driver, while on his seat, and when the rake is at work, will have perfect control over the latter, so as to keep it in proper working position, and allow it to yield or give, to conform to the inequalities of surface over which it may pass, and also readily raise it in order that it may discharge its load.

Claim.—The two lever frames I′ I′ attached to the rake head G, as shown, in combination with the lever J attached to the axle A, and connected to the frame I′ by the rod K, when said parts are used with a rake attached to the thills C C in front of the wheels B B, and all arranged to operate substantially as and for the purpose set forth.

No. 45,503.—A. KINYON, Amboy, Ill.—*Corn Cultivator.*—December 20, 1864.—Upon the rear ends of the forked draught pole is placed a tubular shaft, in which a rod plays that moves the plough laterally, through the medium of a pulley and treadle. Plough beams are fastened by straps over two pulleys upon the shaft, and are adjusted vertically by a hand lever. Plough standards are fastened to the beams by eyes, to admit of adjustment both laterally and vertically. The plough beams are also connected to the draught pole by swinging bent bars, connected by a draught equalizer of rods and links.

Claim.—First, the tubular shaft G, having the plough beam I I attached to it by straps T, in connexion with rod R fitted loosely in said shaft, and connected by pendants H with the beams I I, and connected by a strap or cord q with a pulley V, all arranged substantially as shown, to admit of the adjustment of the ploughs, as set forth.

Second, the attaching of the front ends of the plough beams I I to the parts b b of the draught pole through the medium of the swinging bent bars O O, connected by a draught equalizer composed of the rods Q Q, chains j j, rod l, and pulley or pins k, all arranged substantially as and for the purpose set forth.

Third, the securing of the standards J to the beams I by means of the eyes d, screw rods e, and nuts f, to admit of the adjusting of the ploughs L, as set forth.

Fourth, constructing the draught pole of two parts b b arranged in V-form and attached to the axle A, as shown, when said pole, thus constructed, is used in connexion with the plough beams I I, arranged with the mechanism described for adjusting them vertically or laterally, as specified.

No. 45,504.—THOMAS LARTER, Cleveland, Ohio.—*Combined Caster and Cooler for Soda Fountains.*—December 20, 1864.—This invention consists of an ice chamber, surrounded by another chamber, which is kept constantly supplied with soda water from the fountain by means of a pipe. The soda water is drawn off from this chamber through a pipe. Around the front and ends of the cooler are arranged casters, secured at their lower ends in the partition, and at their tops by a guard. The sirup is drawn from the casters by means of proper tubes.

Claim.—First, the separate glass cruets H, provided with the tube h and faucet h', when arranged and operating in the manner and for the purpose set forth.

Second, the ice chamber B, in combination with the chamber D and cruets H, when the whole are arranged as herein set forth.

No. 45,505.—ANSON LEE, New York, N. Y.—*Washstand, Bureau, Desk, and Wardrobe.*—December 20, 1864.—This invention consists in the combination of a washstand, a bureau, a desk, and a wardrobe, all in one piece of furniture, designed more particularly for persons living in cities, where the saving of space is desirable.

Claim.—A combined washstand, bureau, writing desk, and wardrobe, constructed as herein set forth, as a new article of manufacture.

No. 45,506.—James Lee, Stevens's Point, Wis.—*Uterine Supporter.*—December 20, 1864.—This invention consists in using a hollow stem of India-rubber. in connexion with a common annular pessary. in such a manner that the stem. being inserted through the opening in the pessary, passes into the uterus the distance of about two inches, the lower end of the stem having an enlarged base acting as a stop to keep it in place. In certain cases a solid rod is passed into the hollow stem to give greater support.

Claim.—First, producing an enlargement of the stem A, in the manner and for the purpose above set forth.

Second, in combination with the flexible stem A, the rigid stem C, when arranged and operating as described.

Third, the combination of the pessary D with the supporting stem A, as herein described.

No. 45,507.—Sylvester Lewis, Rochester, N. Y.—*Metallic Head for Barrels.*—December 20, 1864.—This invention consists of a circular sheet of metal half an inch or more in thickness, and of a diameter suited to the barrel. The outer side of this sheet is hollowed out, so as to leave the sheet in the shape of a shallow pan; on the rim thus formed are made projections about one-eighth of an inch in width at the base, which are designed to fit in corresponding creases in the inside of the barrel.

Claim.—The application to a metallic barrel or cask head of two or more bevelled projections upon the outer rim thereof, as above described, and the application of gum shellac or other similar substance to the same, as herein set forth.

Also, the circular elevation around and adjoining said space A A for the protection of the staves as aforesaid.

No. 45,508.—John Liming, Philadelphia, Penn.—*Damper for Flues.*—December 20, 1864.—This invention consists of an opening in a stovepipe covered by a sliding damper; near the lower part of the opening is a deflecting plate extending a little distance obliquely into the smoke-pipe; by means of a thumb-screw the damper can be fixed in any required position.

Claim.—The application to a stovepipe, or other external escape flue of a heater, of an opening B, adjustable by means of a damper, constructed so as to operate substantially in the manner described and set forth for the purpose specified.

No. 45,509.—B. F. Marsden, Galena, Ill.—*Car Coupling.*—December 20, 1864; antedated December 9, 1864.—This invention consists in having each draw head of a car provided with two openings, one of which has a link permanently secured to it, and the other provided with a jointed pin to catch and hold the permanent link of the draw head of the adjoining car.

Claim.—The two openings *a a′* in the draw heads A A in combination with the two links B B and the removable or rising and falling jointed pins C C, all arranged substantially as and for the purpose herein set forth.

No. 45,510.—Harrison B. Meech, Fort Edward, N. Y.—*Process for Preparing Sawdust for Paper Pulp.*—December 20, 1864.—This invention consists in first soaking the sawdust in a solution of alkali and grease, after which it is boiled in a similar solution for a sufficient length of time. The surplus liquor is then discharged and used to soak a new batch of sawdust, and the boiled sawdust, after being washed with clean water, is subjected to pressure, in order to dry it, when it is ready for the beating engines.

Claim.—The peculiar process by me above described for treating sawdust preparatory to converting it into a suitable material for the manufacture of paper, substantially in the manner and for the purposes above described.

No. 45,511.—Anton Mennel, New York, N. Y.—*Artificial Limbs.*—December 20, 1864.—This invention consists in a mode of constructing artificial limbs of strips of wood so arranged and cemented together as to form a limb of proper shape. The shell consists of three layers, the outer and inner layers being formed of straight strips properly cemented together, and the middle layer of a band of wood being wound spirally around the inner shell.

Claim.—The construction of artificial limbs by means of the strips *a b* and *c* in combination, cemented compactly together, the shells *d e* and *f* forming one shell, substantially as above described.

No. 45,512.—Charles S. Mosely, Waltham, Mass.—*Tool for Closing or Contracting the Barrels of Watches.*—December 20, 1864.—This improvement consists of a vertical G-shaped frame, the upper end of which supports a guide for a sliding mandrel, which carries on its lower end a bowl-shaped chuck with the mouth downward, and the axis of which is in line with that of a circular anvil supported by the lower part of the frame. On this anvil the barrel is placed, the mouth of the chuck forced down upon it and embracing the rim thereof, when a blow of a hammer upon the top of the mandrel completes the operation.

Claim.—The above described tool, consisting essentially of the anvil B and the conical die C suitably guided in a frame or stock, and operating substantially as described for the purpose specified.

No. 45,513.—Walter P. Newhall, Peekskill, N. Y., assignor to Geo. P. Ganster, New York, N. Y.—*Night Burner.*—December 20, 1864.—This invention consists in the application of a rod and hinge, by means of which a cap which is used to convert an ordinary lamp into a night lamp, with small flame, may be operated from the outside of the chimney holder.

Claim.—The device C applied to common coal-oil burners, constructed of the cap *e*, plate *d*, and rod *f*, and for the purpose of being operated from the outside of the chimney holder, as herein shown and described.

No. 45,514.—John Nichols, Fond du Lac, Wis.—*Belt Tightening.*—December 20, 1864.—This invention consists in tightening a belt running around two wheels, pulleys, &c., by forcing the axles of said wheels further apart by means of a screw mounted in an unyielding frame, and bearing against the axle to be moved by means of an intermediate bar.

Claim.—First, the combination of the rod or shaft N, guided by the cross bar Q, with the screw M and pulley shaft B, when constructed and arranged substantially as set forth.

Second, the movable box P in combination with the screw Y, for levelling the shaft B, substantially in the manner described.

No. 45,515.—John Nichols, Fond du Lac, Wis.—*Grain Elevator.*—December 20, 1864.—This invention consists of a combination of devices whereby the operator of a grain elevator, standing at the lower part of the machine, can cause the grain elevated to be delivered at any point on the circumference of a circular table with perfect accuracy, although the point of delivery is out of his sight and at any required height.

Claim.—First, the arrangement and combination of the index wheel H with the revolving spout E, operated by pulleys and band, substantially in the manner and for the purposes set forth.

Second, the use of the circular table L attached to the elevator pipe A, substantially as described.

Third, the combination of the table L with the elevator frame and the revolving spout, substantially as specified.

Fourth, the use of the pulleys I in combination with the vertical pulley H and horizontal pulley F and band G, substantially as specified.

No. 45,516.—John C. and J. L. Nutt, Jefferson, Ohio.—*Saw-mill.*—December 20, 1864.—The object of this invention is to so construct a saw-mill as that timber can be sawed therein to any curve or angle desired, and it consists in a saw frame that can be vibrated by hanging it upon pivots, half-way around which are sectional circles working in corresponding grooves. To a block in a frame made adjustable by a screw is pivoted a lever, one end of which is attached to the upper cross-head of the saw, and to the lower end of the saw another parallel lever is attached and pivoted to the lower girt of saw frame; the outer ends of these levers are connected by a tension rod. To the main driving shaft is connected a system of pulleys and shafts that operate a feed roller in front of the saw, so that the timber is regularly fed to the saw.

Claim.—First, the adjustable block *a*, screw *f*, or its equivalent, in combination with the parallel rods *d d′* and tension rod *h*, as and for the purpose set forth.

Second, the arrangement of the sectional circles *c c* in combination with the vibrating sash frame B, operating conjointly as and for the purpose described.

Third, the arrangement of the sliding frame *n*, spring *g*, in combination with the arms *i j*, pulley *p*, and vibrating frame, operating as and for the purpose described.

No. 45,517.—E. C. Patterson, Chicago, Ill.—*Grain Separator.*—December 20, 1864.—This invention consists of a series of course sieves arranged in tiers with the edges just overlapping each other. Under the sieves is a like series of fine wire screens. The course sieves retain the oats which pass off through channels at the sides. The wheat and small grass seeds are caught upon the fine screen and the smaller seeds sifted through, while the wheat passes on to its proper receptacle.

Claim.—The combination and arrangement of the series C D E, the channels F F′ F″, and the screens *c d*, substantially as and for the purposes herein delineated and set forth.

No. 45,518.—Isaac N. Peirce, Boston, Mass.—*Composition for Crayons.*—December 20, 1864.—This invention consists in a combination of kaolin, calcined plaster of Paris, water, and white glue.

Claim.—The combination of the kaolin with the several ingredients specified, substantially in the proportions and for the purpose set forth.

No. 45,519.—Timothy Pendergast, New Haven, Conn.—*Coupling for Carriage Shafts.*—December 20, 1864.—This invention consists of an iron arm curved downward, at the end of which are two horizontal pivots on which the thill plays, the thills being placed in grooves in the inside of ears secured by a clip to the axle, as usual. The grooves curve backward and upward, and are open behind on the upper side of the ears, so that the thills are readily attached by entering the pivots into the groove at the open end. A V-shaped spring is inserted between the ears and behind the pivots in order to prevent the pivots from slipping out of the grooves.

Claim.—A key, constructed and described, in combination with an eccentrically-formed connexion E and coupling *c*, when arranged to operate in the manner and for the purposes specified.

No. 45,520.—JABISH PIERCE, Wyanet, Ill.—*Wheel Plough.*—December 20, 1864.—This invention relates chiefly to the means employed for attaching the ploughs to the frame of the machine, in conjunction with the devices for raising the ploughs from the ground. The operator rides upon a seat attached to the axletree, and manipulates the plough by means of handles which extend up to the driver's seat in a convenient position.

Claim.—The rod O, links T and R, in combination with beams L, link N, hounds B, standard H, lever *c*, when constructed and arranged as herein described.

No. 45,521.—WILLIAM PRICE, Cincinnati, Ohio.—*Clothes Drying Machine.*—December 20. 1864.—This invention consists in the construction and arrangement of a series of radiating frames, which are so formed as to admit of the clothes being easily attached to them upon and around the surface through a door or opening in a cylinder which surrounds the frames. Within the frames is a rotary fan-blower, operating by clock-work or any other power, so that the clothes are dried by a current of dry or heated air.

Claim.—First, the construction and arrangement of a cylindrical apparatus, the same having a series of ventilators with sliding covers to admit and regulate the circulation of dry or heated air for the purpose of drying clothes, as herein described.

Second, a series of radiating frames, they being constructed with double yielding rods or bars, so as to admit the clothes being easily attached to them. for the purposes herein set forth.

Third, a rotary clothes frame in combination with a fan-blower, so that a current of dry or heated air is distributed through and among the clothes, substantially as and for the purposes herein specified.

No. 45,522.—J. T. RICH, Rahway, N. J.—*Governor.*—December 20, 1864; antedated December 14, 1864.—The object of this invention is to produce a governor of its class that will work in any position from the horizontal to the vertical one. Its novelty consists in the combination upon one shaft of a propeller screw and a spring, so arranged that any increase of motion given to the shaft, will, through the action of the screw working in the fluid contained in the vessel in which it works and through which the shaft passes, tend to give a motion to the shaft in the direction of the axis, which motion will be resisted by the spring, and this resistance will increase as the motion of the shaft increases. To the outer end of this shaft a rod or other suitable device is to be attached for operating the governor valve, and thus as the speed of the motion is increased, the tendency of the screw will be to move the shaft in the direction of the spring, which will, to a certain extent, check the speed by closing the governor valve; and when this has been accomplished, the reaction of the spring tends to return the whole to their normal position.

Claim.—The combination of the screw D, spindle C, and spring G, all arranged and operating as and for the purposes specified.

No. 45,523.—D. F. ROBERTSON, Middletown, Conn.—*Catamenial Bandage.*—December 20, 1864.—This invention consists in the use of an elastic bandage around the margin of the catamenial sack.

Claim.—The elastic tape around the border of the sack for controlling the adaptation and fit of the sack, as herein set forth.

No. 45,524.—D. M. ROBERTSON, Manchester, N. H.—*Screw Gripe.*—December 20, 1864; antedated December 9, 1864.—In this device the blank is held between the ends of two parallel levers hinged together in the usual manner, the fulcrum or hinge being near one end thereof. Near the other extremity of these levers are two arms hinged together, the free ends of which serve as supports or fulcra for a pair of auxiliary levers, which are so adjusted that by pressing their long and divergent arms towards each other (which is done by means of a sliding ring enclosing them both) the opposite ends will force apart the extremities of the grasping levers, and thus tighten the jaws upon the blank. The fulcra of the auxiliary levers may be adjusted, as to their distance apart, by a wedge under the control of the thumb screw.

Claim.—The levers G G, in combination with the jaws E and traversing collar I, for the purpose of griping the article placed in the jaws.

Also, providing the levers G G with an adjustable fulcrum, for the purposes specified.

No. 45,525.—T. M. SCHLEIER, Nashville, Tenn.—*Rail for Street Railways.*—December 20, 1864.—This invention consists in constructing the rails with indentations in their edges, so as to form a series of short inclined planes at both sides of each rail, to enable the wheels

of common vehicles to release themselves from the track, or pass over the rails when approaching them obliquely.

Claim.—The constructing of rails for railroads with oblique angular notches, presented in opposite directions, substantially as and for the purpose herein set forth.

No. 45,526.—THEODORE SCHWARTZ, New York, N. Y.—*Caloric Engine.*—December 20, 1864; antedated December 7, 1864.—The object of this invention is to produce an air engine to work upon the recuperative system, and thus to use the same air over and over. Its novelty consists, first, in the generator, which is composed of a strong flat-sided vessel, with rounded neck at the top, which is suspended over the fire in the furnace. From the bottom of this generator protrude downwards several bottle-shaped tubes which are open towards the inside space of the generator. This generator is filled with a liquid whose boiling point is very high, say from 500° to 700°. The air heated in the generator passes through a pipe to the cylinder, which constitutes the second novel feature of the engine, and is composed of three distinct parts, the central one of which is the working cylinder, the end ones being filled with small tubes, into which rods are fastened to the piston neck for the purpose of agitating the entire body of air during the process of expansion. The third feature of novelty consists in passing the gas, after it has expended its force upon the piston, through the generator, which is constructed rectangularly and has a dividing plate in its centre. This vessel is filled with horizontal tubes which are closed at both ends, and are partially filled with a fluid which is designed to extract the heat from the air or gas as it passes from the engine, and transmits it to the air which is passing to the opposite side of the piston.

Claim.—First, the combination of devices, herein above described, for maintaining constant temperature in compression and expansion.

Second, the use of an exhaust pump for developing partial vacuum action through combination of rarification by piston with condensation by cooling, as stated.

Third, a generator containing liquid for transmitting heat, through external action, to the working cylinder, substantially as described.

Fourth, applying the waste heat of the escaping fire current upon a portion of the cold compressed air to be heated, as described.

Fifth, feeding the fire with hot air heated through auxiliary regenerator, substantially as described.

Sixth, the use of an exhaustible receptacle, as stated, in working the same air over and over again.

Seventh, the use of the tubes enclosing liquid for regeneration of heat, as shown and described.

Eighth, the bottle-shaped heaters, with or without the loose tube inside, as applied under the bottom of the generator.

No. 45,527.—SAMUEL J. SEELY, New York, N. Y.—*Tunnel.*—December 20, 1864.—This invention consists in constructing the surrounding enclosure of a tunnel of iron sections with angular edges, which are lined with similar sections, space being allowed between them for cement; all the fastenings being within the structure, and the whole serving as a sustaining wall in itself, or as a shield to an interior lining wall of masonry.

Claim.—A wall of concrete enclosed between iron plates with flanged edges, the flanges upon the outer plates serving as ties to prevent their sides from spreading apart by their connexion with the other, and the inner serving as stays to the flanges of the other part and to confine the concrete in its place, substantially as described.

No. 45,528.—DEWITT C. SMITH, Cincinnati, Ohio.—*Sewing Machine.*—December 20, 1864.—This invention will be understood from the claim and engraving.

Claim.—The combination of the eccentric F and its collar *a* and lugs *b c* with the mechanism, substantially as described, for connecting them with the several moving parts of a sewing machine, for the purpose of operating and timing the motions of the needles, shuttle, and feed, as herein described and represented.

No. 45,529.—R. D. O. SMITH, Washington, D. C.—*Calipers.*—December 20, 1864.—The calipers are made with curved legs, terminating in sharp points, and as these legs continue beyond the joint they expand into triangular shaped plates, which are both graduated upon their circumferential edges, the readings being both ways, so as to be used for inside and outside measurements. The legs are of thin metal, and have sufficient spring to allow them to pass by each other, thus making calipers for inside measurements.

Claim.—First, calipers having only one pair of legs, and provided with two scales, so that the same pair of legs may be used for either inside or outside measurements, and the diameters measured be determined by said scales without the aid of rule or detached scale, substantially as described.

Second, a double scale for caliper, with a single pair of legs, when one half of such scale is upon one blade and the other half of each scale is upon the other blade of the calipers, substantially as described.

No. 45,530.—Robert L. Smith, Stockport, N. Y.—*Wind-wheel.*—December 20, 1864.—This invention consists in combining with a wind-wheel a power-retaining mechanism, provided with a weight, in such a manner that the wind-wheel, when not employed, will elevate the weight and accumulate power, which may be employed during the absence of wind or when the wind-wheel is inoperative. The weight or power-retaining mechanism is operated from the wind-wheel through a system of gearing in connexion with ratchets and pawls, and the connexion between the wind-wheel and weight is automatically cut off by means of a lever with a notched bar. A governor is also used in connexion with the wings or sails, composed of racks, springs, and balls, operating through a system of gearing and segments.

Claim.—First, the combination of a wind-wheel and power-retaining mechanism, provided with a weight, and all arranged substantially as herein shown and described, so that the wind-wheel, when unemployed, will raise the weight and accumulate power which may be employed during the absence of wind, or when the wind-wheel is inoperative.

Second, the arranging of the gearing a^* a^* b^* b^* p' o', drum O, and the ratchets R n^*, with the pawls r' r' and J, for the purpose of operating the weight or power-retaining mechanism from the wind-wheel, as set forth.

Third, the lever R, in connexion with the notched bar S, arranged in connexion with the weight Q and cord S', for automatically cutting off the connexion between the wind-wheel and the weight mechanism, as set forth.

Fourth, the wind-wheel governor, composed of the racks h h, springs j, and balls i i, and connected with the wings or sails a through the medium of the gearing g f and segments e, all arranged substantially as herein shown and described.

No. 45,531.—J. H. Snyder, Kill Buck, Ill.—*Frame for Harvesting and Seeding Machines.*—December 20, 1864.—This invention relates to the particular construction of the frame of a "thrust" machine, by which said frame is adapted to be used with either a harvesting or seeding attachment, and is made so as to be readily connected with, or disconnected from, such attachment, as the wants of the farmer may require.

Claim.—First, hinging or jointing the frame A and A' together at a, as and for the purpose set forth.

Second, the quadrant levers H' H', casters H H, and cords g' g', in combination with the adjustable frame A, as and for the purpose set forth.

Third, the combination of the compound levers d c, rod d', and lever d'', when arranged as and for the purpose set forth.

Fourth, hinging or connecting the shaft c to the shaft B', so that the bearing C'' and the connexion of the brace c'' to the shaft B' will allow the shaft c to rotate in its bearings, and and at the same time be self-adjustable to any desired position of the frames, as and for the purpose set forth.

Fifth, the caster wheel F, rudder wheel F', spring guide f', and windlass G, in combination with the adjustable jointed frames A' A, when arranged as and for the purpose set forth.

Sixth, the fastenings J J' and arms A'' A'', in combination with the adjustable frame A', as and for the purpose set forth.

No. 45,532.—E. T. Starr, New York, N. Y.—*Safety Device for Locks of Fire-arms.*—December 20, 1864.—A pivoted lock lever is attached to the head of the hammer, which can be moved by the thumb when applied thereto. A spring tends to keep this lever inside of the line of the hammer. By pulling this latter back, or raising it a little, so that its nose does not touch the cap on the nipple, the thumb can at the same time draw back the top of the lever, thus throwing forward its lower part so as to take in a notch in the back of the frame, relieving the cap from any pressure, and preventing its being struck or ignited by an accidental fall of the arm.

Claim.—The combination with the hammer D of a lever lock E, when the said lock is so made and arranged as to be operated by the act of raising or letting down the hammer, substantially as herein shown and described.

No. 45,533.—Julius M. Stebbins, Appleton, Wis.—*Seeding Machine.*—December 20, 1864.—At the bottom of each seed box in this machine is a double extension or division cap, with two orifices. The sides are moved laterally to increase the orifices by means of a small lever outside the box. These caps are over a revolving cylinder for gauging the discharge of grain. A bevelled flange is used at the bottom of the second tube.

Claim.—First, the use of two series of cylinders A A', revolved upon a single shaft J, with sliding rings C C', operating as and for the purpose set forth.

Second, the double extension or dividing cap B, with two orifices O and O', substantially as described; also its use in combination with revolving cylinders for gauging the discharge of two or more kinds of seed at the same time.

Third, the use of a bevelled flange H H when used substantially as and for the purpose set forth; also its use in combination with a funnel or cylinder, substantially as described.

No. 45,534.—W. F. Stewart, Austin, Nevada Territory.—*Process for Amalgamating Ores.*—December 20, 1864.—This invention consists in first crushing the ore in the ordinary manner. It is then saturated with hot water or steam, and common salt added to reduce the silver to a chloride. Metallic iron is then added, after which sufficient quicksilver to amalgamate is added to the pulp. To the gray sulphuret ore carbonate of potash is added, and also metallic copper and protoxide of tin, after which dilute nitric acid is added, and the mixture stirred. Then lime water is added, after which the pulp is washed with clean water, and mercury added to amalgamate the silver.

Claim.—A new and improved mode of working silver ores and saving amalgam and quicksilver, as above described.

No. 45,535.—Henry Taylor, United States navy.—*Angle Protractors.*—December 20, 1864.—This invention consists in the application of a longitudinally sliding revolving circle, indicated as a compass or marked with a scale of degrees, and moving on a graduated scale in combination with a radius arm provided with a suitable scale, and made to swing on the centre of the compass circle, and with ordinary parallel rulers, in such a manner that an instrument is obtained which it is claimed combines the advantages of an ordinary parallel ruler, of a protractor, and of an ordinary rule, and which can be used to advantage on board of a vessel as well as on shore in all draughting or plotting operations.

Claim.—The radius arm E provided with a suitable scale, and operating in combination with the revolving compass circle D, which is adjustable on the graduated scale B, and with the parallel rulers A, substantially in the manner and for the purpose herein shown and described.

No. 45,536.—W. R. Terwilliger and Daniel Fitzgerald, New York, N. Y.—*Safe.*—December 20, 1864; antedated April 26, 1864.—The object of this invention is to construct a safe in such a manner as to render it proof against the operation of burglars, and it consists in casting hard iron over a core prepared by punching three sides of the holes and turning out the tongues, which are of a dovetail form, to hold the iron cast upon it.

Claim.—First, making a safe, or the walls of a safe, proof against burglar tools by casting hard iron over a core prepared by punching three sides of the holes and turning out the metal, in the manner described.

Second, making the tongues B, which are turned out by punching of a dovetail form, so that they will hold the iron when cast upon it in the manner described.

Third, turning out the dovetail tongues on the opposite sides, for the more perfect holding the metal, in the manner described.

No. 45,537.—Horace Thayer, Warsaw, N. Y.—*Treating Wood for the Manufacture of Boxes, Cases, &c.*—December 20, 1864.—The object of this invention is to prepare the boards or veneers to be used instead of tin plate or sheet metal in the manufacture of blacking and other boxes.

Claim.—The within described method of manufacture of ends or heads for boxes and analogous structures, the wood being steamed, sliced, seasoned, cut in shape, coated, or filled with an insoluble varnish, and dried, smoothed, and finished in the order and by the means substantially as herein set forth.

No. 45,538.—Horace Thayer, Warsaw, N. Y.—*Ends or Heads for Boxes, Cases, &c.*—December 20, 1864.—This invention consists of heads or ends for blacking boxes, and the like, made of wood, treated and described as in a patent of even date with this to the same invention.

Claim.—As a new article of manufacture and commerce, the ends or heads described, for boxes and analogous structure, the same being formed of wood or analogous porous material, coated or filled with an insoluble varnish, so as to combine the qualities of cheapness, elasticity, stiffness, and impenetrability, as herein set forth.

No. 45,539.—George S. Tiffany, Palmyra, Mich.—*Sewer Pipes.*—December 20, 1864.—This invention consists in making tubular the shaft of the grinding mill, in combination with a central shaft, having a casting and core pin thereon, and a funnel forming the pipe.

Claim.—Making the shaft D of the grinding mill tubular, in combination with the central shaft K, having casting P and core pin R thereon, and funnel G, arranged to operate substantially as and for the purpose herein set forth.

No. 45,540.—A. W. Tooker, Chemung, Ill.—*Horse Power.*—December 20, 1864.—This invention relates to an arrangement of devices whereby the power which is applied to a horizontal master wheel is transferred to a single driving shaft, thus preventing lateral strain and undue friction in consequence thereof.

Claim.—Communicating a rotary motion to the driving shaft D from the master wheel B by means of converging shafts C C', carrying spirally flanged drums G G', which are acted upon by means of friction rollers applied to the master wheel, substantially as and for the purposes described.

No. 45,541.—Sylvanus Walker, Tremont, N. Y.—*Stove-cover Lifter.*—December 20, 1864.—This invention consists in a stove-cover lifter having its ends all made of cast metal bars screwed into a wooden handle, one end having at the side claws of various lengths with which to lift stove covers, heated dishes, &c., and on the under side a hook for lifting pots, &c.; the other end is somewhat curved, and can be used for lifting covers, the edge of the tip a V-shaped notch, so that it can be used for pulling tacks, &c.

Claim.—As a new article of manufacture, a stove-cover lifter, tack drawer, plate and dish lifter, pot and kettle lifter combined, consisting of handle A, lifter B, tack drawer *e*, lifter C, with claws F G H I, and hook E, when combined and arranged as described, for the purpose set forth.

No. 45,542.—JACOB WALKLEY, Monroe, Wis.—*Camp Kit.*—December 20, 1864.—This invention consists in the arrangement of two plates forming a case, in which the cooking and eating utensils for a soldier or traveller may be conveniently packed and carried.

Claim.—First, constructing a packing case by the union of the plates A and B, substantially as and for the purpose set forth.

Second, forming a handle for the frying pan C by means of the spoon *a*, substantially as set forth.

Third, in combination with the packing case, constructed as shown, the coffee pot, cups, boxes, and other articles, substantially as shown and described.

No. 45,543.—CHARLES R. M. WALL, Brooklyn, N. Y.—*Process of Brewing Malt Liquors.*—December 20, 1864.—This invention consists in increasing the specific gravity of the mash by the addition of sugar or molasses in due proportions. The malt is to be heated to about 150° Fahrenheit previous to grinding.

Claim.—First, increasing the specific gravity of the mash by the addition of sugar or molasses in about the proportion specified, for the purposes herein set forth

Second, boiling the wort or extract of malt under pressure higher than that of the ordinary atmosphere, substantially as and for the purpose described.

No. 45,544.—C. H. WARREN and A. C. BALDWIN, Tiffian, Ohio.—*Churns.*—December 20, 1864.—This invention relates chiefly to the attachment of the crank to the driving wheel, and also to the position of the beaters upon the shaft, and to a deflecting board placed between the cover and the dashers.

Claim.—First, attaching the crank C to the wheel *g* by means of a tenon *h*, formed on this wheel, and a socket formed in the crank, in combination with the screw fastening *i*, substantially as described.

Second, applying the dashers D D to the shaft B, in oblique planes to the axis of this shaft, substantially as shown in Fig. 3.

Third, the removable inclined deflecting board G arranged within the chamber, substantially as described.

Fourth, the construction of the chamber A, with a secondary bottom or shelf A2, substantially as described.

No. 45,545.—LEWIS WATSON, South Plymouth, Mich.—*Brake for Railroad Cars.*—December 20, 1864.—This invention consists of an automatic brake-applying apparatus for railroad cars worked by the action of the locomotive in such manner that when the engine is put in motion, and while it is kept in motion, the brakes are withdrawn from the wheels, but when a halt is made, or when in any manner the engine is disconnected from the train, the brakes are immediately and automatically applied.

Claim.—First, the construction and operation of the apparatus herein described, consisting of the combination of the friction plate A and friction wheel B with the car wheel to which it is attached, the chain C and ring D, pawl and spring E, screw F. and burr G.

Second, the combination of the weight H, friction collar I, and collar K, chain L, and chain M, and shaft N, when constructed and operating substantially as and for the purposes herein shown and described.

No. 45,546.—WILLIAM WELLS, Middletown, Mass.—*Machine for Making Shovel Handles.*—December 20, 1864.—The object of this invention is to finish the D-part or heads of shovel handles, and it consists in operating the two cutters that form the opening in the handle by means of levers attached at one end to the cutter shafts, and the other to a revolving cam wheel, and so constructed as that the cutters shall work alternately; and it also consists in a swinging bed piece upon which the handle is clamped and operated by the same cam wheel, and a cutter so arranged as that when the bed piece swings, carrying with it the handle, it forms the upper end or outside of the head of the shovel handle all at the same operation.

Claim.—First, clamping the shovel handle both at its head and along its shank by means of the clamp O and bar H, with its forks *h h*, during the operations above described, substantially as above set forth.

Second, completing the D-opening in the head of the shovel handle by means of the suspended vertical die-cutters *e e* of different sizes, operated in succession and brought vertically over the shovel head, substantially as described.

Third, the swinging bed piece and its cutter *u*, for forming the end of the shovel head, constructed and arranged substantially as above described.

No. 45,547.—FREDERICK C. WERNER, Beacon Falls, Conn.—*Spinning Jack.*—December 20, 1864.—An adjustable tappet on the carriage in running in and in running out bears against one of the inclines on each end of a horizontal bar, and forces it aside against a spring, causing it to rock on its centres, and by means of an attached arm ships the belt to or from the loose pulley, as the case may be. The spinner is thus enabled, when a stretch of yarn is made, to break the speed of the spindles and turn them backwards more easily and rapidly than usual; but just as the yarn begins to wind up the tappet will cause the bar to move the belt to the fast pulley just far enough to do the winding, and keep it in this position until the tappet passes the bar, when the belt passing to the loose pulley allows the machine to be stopped if desired.

Claim.—The movable bar *f* applied in combination with the belt shipper J, carriage A, and tappet *g*, in the manner and for the purpose substantially as set forth.

No. 45,548.—M. F. WICKERSHAM. Springfield, Ill.—*Street Sweeping Machine.*—December 20, 1864; antedated December 25, 1862.—This invention consists of an obliquely arranged frame, on which is a band or chain carrying a series of elevating buckets, and made to overhang the main frame, the rear end of which latter extends outward, so as to counterbalance the bucket frame and chain wheel, and serves as a purchase to raise and lower the bucket-bearing frame. A vibrating brush frame is combined with the elevating buckets and driving wheel in such a manner as to admit of its being moved up or down without ungearing, and at the same time throw the dirt in the buckets while it follows the uneven surface of the ground.

Claim.—First, the combination of the main frame D with the overhanging frame E and elevating buckets H, when the rear end of the said main frame is made to extend so as to counterbalance the frame E with its buckets H and chain wheel F, and furnish a purchase by which said overhanging frame may be raised or lowered.

Second, the combination of the vibrating brush frame J with the elevating buckets H and driving wheel M, so that the brush can move up or down without ungearing, and at the same time throw the dirt in the buckets as set forth, while it follows the uneven surface of the ground

No. 45,549.—DANIEL WILDE, Washington, Iowa.—*Corn Cultivator.*—December 20, 1864.—This machine embraces such a combination of parts that the shares can be readily set at any desired angle to throw the earth or soil either to or from the plants, and also giving the inner shovels a sidewise motion in order to avoid the growing plants.

Claim.—First, the levers *u*, resting on the front bar of the frame, and supported near the middle by the notched plates *w*, secured to the uprights *x*, and operating as and for the purposes herein recited.

Second, the arrangement of the rocking bar *g*, elevated bar *m*, in relation to the handles and the shovel stakes, for the purpose herein set forth.

Third, in connexion with the arrangement of the rocking bar *g*, bar *nt*, and the shovel stakes, the stirrups *q*, for the purpose herein named.

Fourth, the plate *j* with its inclined and horizontal faces *k* and *l*, for the purpose herein set forth.

No. 45,550.—JOHN S. WILLIAMS, Chicago, Ill.—*Harvester.*—December 20, 1864.—This invention relates to the manner of stiffening the horizontal metal plate which constitutes the main frame, and to the particular arrangement of devices for adjusting the cutting apparatus.

Claim.—First, the plate F provided with the rod *q*, substantially as herein set forth.

Second, the combination and arrangement of the pitman rod, the jointed lever *o*, and the fulcrum *p*, when operating substantially as described.

Third, the combination and arrangement of the lever *v*, the connecting rod *x*, the lever *y*, the fulcrum *s*, and the arm *r*, when operating substantially as and for the purpose described.

Fourth, the combination and arrangement of the axle N, the frame W, and the platform I, when constructed substantially as herein specified.

No. 45,551.—FRANCIS G. WYNKOOP, Corning, N. Y.—*Pump.*—December 20, 1864; antedated April 29, 1863.—This invention consists in the use of an annular piece of rubber fitting the inclined or conical face of the piston, in combination with a metallic disk or valve plate, whereby the rubber, by the weight of the superincumbent water, is expanded and caused to fill the space between the piston and chamber during the ascent of the former, and is retracted or restored to its original shape by its resiliency, and that of the gaskets, aided by the force of the water passing through the valves of the piston during the ascent of the latter, thus entirely relieving the packing or annular pieces of rubber from contact with the chamber, and at the same time allowing it to lubricate and free itself from any sediment or sand which may have been drawn into the chamber by the water passing through the space between it and the chamber.

Claim.—The annular piece of rubber *d*, provided with an inclined inner face *c*, in combination with the piston and loose valve plate *g*, when arranged to operate in the manner substantially as described; also, in combination with the above, the rubber gasket *i*, arranged in the manner and for the purpose specified.

No. 45,552.—Theodore Yates, Milwaukie, Wis.—*Construction of Railways.*—December 20, 1864.—This invention relates to a railway, in which the common T-rails are so applied and secured to sub-rails or longitudinal sleepers resting upon the ties, that the track is rendered more firm and durable and less liable to derangement than when laid in the ordinary manner.

Claim.—The combination of the T-rail A, wooden sub-rails or longitudinal sleepers B, and the clamps or chairs D, or their several equivalents, arranged and employed in the described combination with the longitudinal sub-rails B, substantially in the manner and for the purposes herein set forth.

Also, the clamp D, constructed in one piece, as described, and employed in the described combination with the longitudinal subrails B, to secure the iron rails to their joints and protect the wooden sub-rails beneath said joints, as set forth.

No. 45,553.—Annie Acker, administratrix of the estate of Frederick Acker, deceased, San Francisco, Cal.—*Bung Stave for Barrels.*—December 20, 1864.—A metal stave, or segment of a stave, is set in the water and made water-tight by means of tongues on both sides which fit into grooves in the wooden staves. The bung-hole is made in this metal stave, and a thread cut within it for the reception of a screw plug or bung.

Claim.—The metallic stave or segment of stave A, provided with longitudinal tongues *d d*, and threaded for the reception of a screw plug or bung B, substantially as herein described.

No. 45,554.—Wm. H. Andrews, assignor to Burton Mallory, New Haven, Conn.—*Match Safe.*—December 20, 1864.—This invention consists of a square or oblong match safe of cast-iron, having on its top a small projection which strikes against the back of the box, the back being prolonged upwards for that purpose, and also to hang the box up by, and at the same time prevents its being opened far enough as to remain in that situation.

Claim.—A metallic box, constructed and made self-closing, as and for the purpose described.

No. 45,555.—Charles G. Bloomer, Wickford, R. I., assignor to Eberhard Tabér, New York, N. Y.—*Turning Lathe.*—December 20, 1864.—The object of this invention is to automatically turn articles of regular or irregular form and of variable diameters, and it consists in feeding long strips of stuff to be turned through a revolving mandrel with a square aperture at the end next the forked guide, by which means the stuff is revolved and presented to the forked guide into an aperture with a screw thread which takes hold of the stuff and feeds it regularly along to a roughing knife situated between the two legs of the guide, which cuts the stuff to the proper size to pass through a smooth aperture in the other leg of the guide, after passing which another tool attached to a revolving cam by means of a slide rest governs the shape of the finished work, and is cut off by a tool set in a sliding head on a shaft that is caused to yield by means of a spiral spring whilst the stuff is fed along by the thread of the female screw in the guide.

Claim.—First, the employment or use, for the purpose of feeding the stuff to be turned to the tools, of a screw-thread cut in the guide, substantially in the manner and for the purpose described.

Second, the forked guide E, made in two parts, one of which is hinged and arranged to swing open when desired, the whole being constructed so as to straddle the roughing-out tool, substantially as and for the purpose set forth.

Third, the employment of a rotating cam *h*, applied in combination with the roughing-out tool, in the manner and for the purpose substantially as described.

Fourth, the combination of the yielding head *t* with the cutting-off tool *s*, arranged substantially as and for the purpose specified.

No. 45,556.—Peter Cocker, assignor to himself and John Taylor, Philadelphia, Penn.—*Stove-pipe Drum.*—December 20, 1864.—A drum of sheet-iron is made to surround an ordinary stove pipe. In the pipe near the top of the drum is a damper, just below which is a hole leading into the interior of the drum from the pipe, and above the damper is a similar hole. The interior of the drum is so divided by partitions that when the damper is turned horizontally the products of combustion enter the drum by the lower hole and are made to circulate entirely around and through said drum, and finally to make their escape by means of the upper hole. When the damper is turned perpendicularly the draught will necessarily be direct.

Claim.—Constructing a stove-pipe with a jacket divided into flues connecting with the main pipe or flue, the draught of which being controlled by a damper in the main pipe, as described and for the above purpose.

No. 45,557.—Smith Collins, assignor to himself and Samuel Peck, New Haven, Conn.—*Hoop Skirt.*—December 20, 1864.—This invention consists of a hoop skirt made of concavo-convex wire, either single or duplicated, into corrugations.

Claim.—A hoop skirt when the hoops are formed from corrugated or concavo-convex wire, substantially as and for the purpose specified.

No. 45,558.—John H. Fellows, Lewisport, Ky., assignor to himself and D. Dunn, Louisville, Ky.—*Tobacco Press.*—December 20, 1864.—This invention consists in the application of two pairs of toggle arms, acted upon by a rope and windlass, and of a balance weight suspended from a suitable rope running over pulleys, in combination with the press bar or follower of a press, in such a manner that by the action of the windlass and toggle arms the follower can be depressed with great force, and on releasing the toggle arms the follower is carried back to its original position by the action of the balance weight without the aid of the operator, or with very little exertion on his part.

Claim.—The toggle arms D D′, windlass E, and follower C, in combination with the balance weight *k*, constructed and operating substantially as and for the purpose set forth.

No. 45,559.—John H. Fellows, Lewisport, Ky., assignor to himself and D. Dunn, Louisville, Ky.—*Double-acting Compress.*—December 20, 1864.—This invention consists in combining two pairs of sliding followers with each other, and with an intermediate cross-head and pair of toggle arms, in such a manner that by imparting to the cross-head a longitudinal sliding motion in the proper direction the two pairs of followers situated on either side of the cross-head are caused to close up, and by moving the cross head in an opposite direction the followers are caused to open simultaneously, and by this arrangement two bales of cotton, hay, &c., may be pressed at one and the same time.

Claim.—The followers E E′, connected by rods or other equivalent means to followers F F′, and operating in combination with the cross-head *c* and toggle arms D, in the manner and for the purpose substantially as set forth.

No. 45,560.—Joshua Gray, Medford, Mass., assignor to himself and E. H. Eldridge, S. S. Bucklin, and W. G. Langdon.—*Magazine or Self-loading Fire-arm.*—December 20, 1864.—The breech plug in this arm is depressed and then drawn backward by the action of the trigger-guard lever provided with a toothed segment resting upon and rolling in a pivoted rack bar beneath it, a particular arrangement of cam, link, lever, &c., being provided for removing the spent cartridge and carrying a new one from the magazine beneath the barrel, and also adjusted for closing the end of the magazine by the action upon said cam of a catch pivoted to the trigger-guard lever when it is desired to use the arm as an ordinary breech-loader.

Claim.—First, the rack F, arranged below the sector D, for the purpose described.

Second, moving the cartridge carrier from the magazine to the barrel, and *vice versa*, by passing it through a longitudinal slot in the breech pin and sliding the latter over it.

Third, so constructing the end of the cartridge lifter as to cover the port of the magazine when the rifle is used as a breech-loader.

Fourth, the slot L, to guide the cover or end K of the cartridge carrier, as described.

Fifth, the cartridge extractor M, in combination with the arm N, provided with the knob *e*, or its equivalent, as described.

Sixth, the cam R, in combination with the hooked lever S, or their equivalent, for the purpose of withdrawing the cartridge case without uncovering the magazine, when it is required to use the rifle as a breech-loader.

Seventh, the guide pin H, in combination with the groove I, for stopping and guiding the breech pin, as described.

No. 45,561.—F. W. Goessling, assignor to H. F. Briggs, L. Bradley and himself, Buffalo, N. Y.—*Manufacture of Sugar.*—December 20, 1864.—This invention consists in crystallizing together a mixture of corn or starch sirup with sirup from cane sugar.

Claim.—A new and improved compound sugar made by a combination of cane sugar or cane sirup with corn sirup, substantially as set forth.

No. 45,562.—John D. Hall, assignor to himself and Osborn Conrad, Philadelphia, Penn.—*Method of Removing Harbor Obstructions.*—December 20, 1864.—A strong iron frame is attached to and projects in front of a gunboat, being inclined downward and capable of adjustment so as to strike or pass under an obstruction. In case of chains being stretched across channels, the same are taken up on the inclined frame until they pass into a socket or seat in a heavy and solid block, where being held securely, a cannon is employed to cut the chain. In the case of timber or other similar obstructions, the cannon is also used in like manner, when the object is properly held by the adjustable frame.

Claim.—The employment of a cannon, in connexion with the jaw B and the adjustable inclined plane or spars A and fork *n*, attached to a monitor or other vessel, for the purpose of removing obstructions from harbors, channels, &c., substantially as described.

No. 45,563.—James Hotchkiss, assignor to himself and Ezra Buss, Springfield, Ohio.—*Brick-pressing Machine.*—December 20, 1864.—This invention consists in imparting the pressure to the bricks by means of two stationary pressure wheels, between which the mould wheel passes continuously; in regulating the thickness of the bricks by adjusting bearing blocks of the lower pressure wheel; in hinging the lids to the mould wheel; in combining cam guides with the lids; in arranging cam tracks in combination with followers, and in vertically closing and opening lids with the forms for imprinting on the surfaces thereof.

Claim.—Imparting the pressure to the bricks by means of two stationary pressure wheels P Q, between which the mould wheel passes continuously, substantially in the manner herein specified.

Also, such arrangement of the pressure wheel P Q, that the upper wheel shall simply hold the lids closely and firmly down upon the mould wheel, while the active pressure is produced by the lower wheel lifting the followers, substantially as herein set forth.

Also, regulating the pressure and the thickness of the bricks by adjusting the bearing blocks *r r* of the lower pressure wheel Q, as herein described.

Also, hinging the lids F G H I to the mould wheel, so that they shall swing and shut directly down over the moulds and be raised directly up therefrom, substantially as and for the purpose herein specified.

Also, the arrangement of the cam guides M N, in combination with lids F G H I, substantially as and for the purpose herein specified.

Also, the construction and arrangement of the cam tracks *m n p*, in combination with the followers, substantially as herein set forth.

Also, the combination of the vertically closing and opening lids F G H I, with the forms for imprinting on the lower surfaces thereof, for the purpose herein specified.

No. 45,564.—JOHN M. MERRYMON, Indianapolis, Ind., assignor to himself and WILLIAM GORSUCH, Richmond, Ind., and KILBY FERGUSON, Indianapolis, Ind.—*Raising and Lowering Window Sashes.*—December 20, 1864.—This invention consists in providing a window sash placed in a frame in the ordinary way, with a cord and pulleys so arranged that the sash may be raised and lowered, at pleasure, to any given point, mutually or separately, and at the same time an equal balance may be preserved.

Claim.—The use and application of one continuous cord *c*, in the manner and for the purposes as herein described.

No. 45,565.—CHARLES W. PACKER, assignor to himself and GEORGE BATES, Philadelphia, Penn.—*Machine for Cutting Objects with Straight Sides and Semicircular Ends.*—December 20, 1864.—This machine is intended principally for bandboxes, and it consists of an ellipstograph table, capable of peculiar adjustment, and made to revolve in front of rotary cutters, so as to form the tops and bottom pieces for the boxes.

Claim.—First, a slotted plate with straight paralleled edges and semicircular ends, guided by the pin *h* and strip *p*, in combination with the rotary cutters, or their equivalents.

Second, so constructing the said plate of two pieces I and I′, that it can be elongated or shortened at pleasure.

No. 45,566.—CELIUS E. RICHARDS, North Attleboro', Mass., assignor to WM. H. CONANT, Boston, Mass., and GEORGE A. SHEPHARDSON, Attleboro', Mass.—*Detached Shirt Collar and Bosom.*—December 20, 1864.—A collar is cut out, so that when its ends meet under the chin, extensions from the lower part descend over the breast, lapping one over the other slightly. A knot being fixed upon the convex side of a covered crescent-formed cord, a string from the back of such cord passes through holes in the upper part of the edges of the bosom, and thence down to the lower part of the bosom and out through like holes. when, by drawing the string, the cord is brought close up. and the collar and bosom closed in proper position. A tube at the end of the cord serves to guide it through the holes. Within this tube a needle slides; but half the tube being cut away longitudinally near its extremity, the shirt may be caught by the needle to keep the cord tight, and to hold the lower part of the bosom to its place.

Claim.—First, stamping the collar and bosom in one piece, substantially as set forth.

Second, in combination with such collar and bosom and the cravat bow, made as described, the cord D and fastening C, or its equivalent, the same being substantially as and to operate in manner and for the purpose as explained.

No. 45,567.—C. W. STAFFORD, assignor to AMERICAN PROJECTILE COMPANY, New York, N. Y.—*Sabot for Projectiles for Rifled Ordnance.*—December 20, 1864.—This invention consists in attaching to the rear or base of the projectile a cup-shaped packing disk, provided with an annular flange, and fitting upon a rebate, of a wedge-shape, on the projectile.

Claim.—The cup-shaped packing disk D, provided with an annular flange F, fitting upon a wedge-shaped rebate G, as herein described and for the purpose set forth.

No. 45,568.—LEVI STEVENS, of Fitchburg, Mass., assignor to himself and JOHN D. SARGENT, Boston, Mass.—*Apparatus for Vaporizing and Aerating Volatile Hydro-carbons.*—December 20, 1864.—This invention consists of a case, through which extends a shaft, supporting a motor wheel. The shaft also passes through an air inlet box, which is provided with an aperture and tube, through which air enters into the case. The said shaft is made to revolve by means of suitable machinery, causing the air to be forced into the vaporizer which is contained in the cistern. The vaporizer is provided with a false perforated bottom, and the top is made conical, and is also perforated. Within the vaporizer, and extending through the bottom of the cistern, are two tubes, one within the other, and rising above the upper end, the other tube terminating within the vaporizer. The oil is conducted from the reservoir by one of the tubes, and from thence flows over on the top of the vaporizer, and through the perforations on the cloths. A tube carries the vaporized air to the burners.

Claim.—The combination of a flowage regulator, for the purpose hereinbefore explained, with an apparatus for vaporizing and aerating a volatile hydro-carbon, the said regulator being made to receive the hydro-carbon from a reservoir, and to operate substantially as hereinbefore described.

Also, the flowage regulator, made substantially as hereinbefore explained, and with its inlet air to be either stationary or capable of being adjusted in manner and for the purpose as set forth.

Also, the improved hydro-carbon vaporizer, constructed substantially as described, with the chamber *r*, the foraminous plates *l* and *m*, and the pipes *n o*, arranged and combined together, and with the surrounding case or vessel *z* in which they are placed, substantially as described.

No. 45,569.—JOHN MCCALL, London, England, and BEVAN G. SLOPER, Walthamstow, England, assignors to CHARLES J., WILLIAM J., and CHARLES H. UNDERWOOD, Boston, Mass.—*Method of Preparing and Preserving Food.*—December 20, 1864; patented in England April 9, 1864.—This invention consists of meat, desiccated and reduced to small fibres, or essence of meat, reduced to fine particles, mixed with dried powdered vegetables or condiments, and subjected to strong pressure, and covered with gelatinous or other protective coating.

Claim.—The within-described constructed food tablets, prepared substantially in the manner set forth.

No. 45,570.—R. M. ABERCROMBIE, Rahway, N. J.—*Pamphlet File.*—December 27, 1864.—The case for holding the pamphlets is made in the form of a book, the back opening sideways, and the top edge haying a flap opening upwards, to enable a person to have easy access to the pamphlets without moving the case from its shelf.

Claim.—A case for the filing, marking, and indexing of pamphlets and tracts, constructed substantially in the manner described in the foregoing specification and the annexed drawing.

No. 45,571.—SEYMOUR AINSWORTH, Saratoga Springs, N. Y.—*Ladies' Work Basket.*—December 27, 1864.—This invention consists in forming the foundation or body of the basket of radial splints, which extend across the bottom from side to side, being made very narrow at their intersection at the centre of the bottom of the basket, from which point outward towards the sides of the basket the splints increase in width until they reach to near the sides of the basket, where they are divided, the whole being interwoven with small horizontal splints. Within the basket are small oval baskets attached to the sides for holding small articles.

Claim.—A ladies' work basket, constructed substantially as herein described.

No. 45,572.—JOHN H. ANDREWS, Avon, Conn.—*Safety Fuze.*—December 27, 1864.—In surrounding the powder of a fuze with an inner tube of tough and dense, paper, coated with rubber, or other equivalent material, for the purpose of producing a perfectly waterproof fuze. By this arrangement the rubber coating is removed from the exterior surface of the fuze, and all liability of its being injured by tamping is precluded. Paper or paper parchment may be substituted for cloth or other material in the formation of the exterior surface of the tape fuze, for the purpose of producing a fuze of better quality and at less expense than heretofore.

Claim.—First, the inner tube B, as herein described, and also the coating of the same with rubber, or other equivalent material, for the purpose herein set forth.

Second, the substituting of paper or paper parchment in the place of cloth or other material now used in the manufacture of tape fuzes, substantially as herein described.

No. 45,573.—E. H. ASHCROFT, Lynn, Mass.—*Oil Well Pump.*—December 27, 1864.—This invention consists in the employment of a separate tube extending from the lower part of the pump to which it is attached, for the purpose of allowing the gas to escape, and thus relieve the lower valve box from injurious pressure in the operation of the pump.

Claim.—The tubes $C' C''$, for the escape of gas from the bottom of oil wells. thereby relieving the lower valve box from injurious pressure or opening which prevents the operation of the pump, the same located and operated substantially as described.

No. 45,574.—WM. B. BARNARD, Waterbury, Conn.—*Lamp Trimmer's Shears.*—December 27, 1864.—This invention relates to the method of attaching the blade to the shank of the handle, and consists in making a rebate on the inner end of said shank of the thickness of the blade, through which one or more rivets on the face of the former passes, and secures the blade to the shank flush with the inner surface of the latter.

Claim.—Constructing improved shears or lamp trimmers substantially in the manner herein set forth.

No. 45,575.—EZECHEL BERG, New York, N. Y.—*Apparatus for Filling Cigarettes.*—December 27, 1864.—This invention consists of a box filled with tubes in which the tubes or cylinders for the cigarettes are placed. The box is mounted on a table, and hung in such a manner as to receive an oscillating motion, which sifts the tobacco from a sieve placed above the tubes, and, as the tobacco is received into the tubes, it is shaken down firmly.

Claim.—First, the employment or use of the packer B and hopper D, constructed and arranged so as to operate substantially in the manner and for the purpose herein specified.

Second, the mould or receptacle F, constructed substantially in the manner herein shown and described.

No. 45,576.—THEOPHILUS L. BISHOP and GEORGE K. HALL, Boston, Mass.—*Twine-cutting Ring.*—December 27, 1864.—The object of this invention is to provide a convenient cutting instrument for shopkeepers to cut thread and twine; to accomplish which, a knife-edge is inserted in the edge of a finger ring, having a beak or guard to prevent injury.

Claim.—The new or improved twine-cutting ring, made substantially as described, with the beak and the knife or recessed cutter, arranged and combined with the hoop and head of the ring, substantially as specified.

No. 45,577.—GEORGE T. BOHEN, San Francisco, Cal.—*Cesspool.*—December 27, 1864.—This invention consists in the arrangement of a partition wall, for the purpose of preventing the stench generated in sewers and cesspools from escaping into the open air. The walls of the cesspool are constructed with an outward inclination, so that the sediment which accumulates therein may, to a great extent, be prevented from arising to the surface of any standing water in the cesspool, and escaping therefrom into the main sewer, from which it is more expensive and inconvenient to remove said sediment than it is from a cesspool.

Claim.—The angular or outwardly inclined walls, in combination with the curved or straight partition wall and cast-iron oval plate above, substantially in the manner and for the purpose herein described.

No. 45,578.—ALMANZOR W. BOYNTON, Norwalk, Conn.—*Ladies' Felted Skirt.*—December 27, 1864; antedated December 13, 1864.—The scope of this invention is fully explained by the claim.

Claim.—As a new article of manufacture, a whole skirt for ladies of one piece of felting, substantially as herein described and set forth.

No. 45,579.—LEANDER W. BOYNTON, Hartford, Conn.—*Machine for Moulding Sugar for Table Use, &c.*—December 27, 1864; antedated December 15, 1864.—This invention relates to that class of machines in which a series of moulds is formed in the periphery of a cylinder, with a corresponding series of plungers operated by cams or eccentrics. The novelty consists, first, in making the moulds removable from the main cylinders, so that different sizes and shapes of moulds may be used at pleasure; second, in closing the moulds during the act of pressing, which is effected by an opposing cylinder, with a row of knobs pushing into the moulds. The moulds are washed after the pressed lumps of sugar have been removed. The cam which moves the plungers is made adjustable at the point where the moulds are filled, so as to regulate the depth of the mould at the point where they are filled. Spurred rollers are placed in the bottom of the hopper.

Claim.—First, the main cylinder, with its movable segments containing the cavities or moulds, in combination with the rows or bars of plungers, when the whole is constructed, arranged, and fitted for use substantially as herein described.

Second, the main cylinder and its series of plungers, in combination with the upper cylinder armed with its series of projections, when they are constructed and fitted to produce the result substantially as herein described.

Third, the main cylinder and its series of plungers in combination with the anti-friction rollers and cams, when they are constructed, arranged, and fitted to operate substantially as herein described.

Fourth, the combination of the main cylinder and its appendages with the vat and absorbing roller, when arranged and used substantially as herein described.

Fifth, the adjustable cams *s* and ratchet wheels and cords in combination with the hopper, when so constructed and arranged as to regulate the quantity of sugar in the moulds, substantially as herein described.

Sixth, the hopper, in combination with the spurred rollers *p p*, when those rollers serve to support the superincumbent weight of the sugar in the hopper, so as to prevent unequal pressure on the surface of the main cylinder, as herein described.

No. 45,580.—N. B. BROWN, Antwerp, N. Y.—*Sawing Machine.*—December 27; 1864.—The object of this invention is to improve the machine for sawing wood transversely, and it consists in the arrangement of a saw bar, passing through an adjustable guide and connected with the pitman, working on a crank wheel, with a slip clutch for the purposes of operating a compound lever, that in turn works a ratchet wheel with a pawl which feeds the log to the saw to be cut into blocks of suitable lengths.

Claim.—First, the arrangement of the saw bar D, connecting rod H, crank pulley C, rock shaft G, and lever K, connected with the guide F by the cord *c*, substantially as and for the purpose herein set forth.

Second, the arrangement of the crank *f* on shaft B, clutch M, actuated by the levers N O, rod Q, rock shaft V, arm R, pawl T, ratchet U, and roller S, all substantially as and for the purpose specified.

Third, in combination with the saw bar D and saw E, the double guide ways *a a b b*, gliding gates F J, and roller I, all arranged and employed in the manner and for the purposes specified.

No. 45,581.—FREDERICK W. BROCKSIEPER, New Britain, Conn.—*Flat-iron Holder.*—December 27, 1864; antedated July 10, 1862.—This device consists of a holder made in two parts connected together by a spring hinge so as to keep them open when not in use, and so constructed as to enable them to fit over the handle of a flat-iron, to act as a partial non-conductor of heat when in use.

Claim.—As a new article of manufacture, viz., a handle or holder made longitudinally in two or more parts *a a*, and secured together by spring hinge *d d* or other mechanical equivalents, to act as a partial non-conductor of heat, substantially in the manner as and for the purpose described.

No. 45,582.—JAMES BRODIE, San Francisco, Cal.—*Rock or Ore Crusher.*—December 27, 1864.—This invention consists of an eccentric shaft by which the crushing and grinding motion is given to the machine. A link is connected to the upper end of the movable jaw to produce an oscillation in connexion with the eccentric motion, thereby giving the machine a double crushing and grinding action on the rock or ore being crushed.

Claim.—The eccentric applied directly to the movable jaw when connected with the link C, thereby giving the crusher an oscillating and eccentric motion.

Also, the water chambers between the eccentric and the movable jaw, as described.

No. 45,583.—NAHUM F. BRYANT, Boston, Mass.—*Car Truck.*—December 27, 1864.—This invention relates to the adaptation of car trucks to run on railways of varying gauge. The novelty consists in the method of confining the wheels in position upon the axle to which they are so applied so as to be capable of sliding in such a manner as to increase or diminish their distance apart according to the gauge of the track upon which the car is to be run. Also, in the details of mechanism employed in carrying out the main part of the invention.

Claim.—The combination with a car wheel, and an axle upon which said wheel slides, of flanges or projections *e f* which control the extent of lateral movement ot the slide wheel, and a device or devices placed on one or both sides of the hub for confining the wheel against the flange *e* or *f* and between said flange and the locking device, in the manner and for the purpose substantially as set forth.

Also, the removable cylindrical collar to be placed between the hub and the flange *e* or *f* on either side of the wheel, substantially as described.

Also, the manner of securing the collar in position upon the axle by means of the ring.

Also, the springs which keep the ring from lateral movement.

Also, in combination with a sliding wheel, the spline in the hub thereof, and the groove in the axle, operating together to guide the wheel in its lateral movement, and to prevent its rotation on the axle, substantially as specified.

No. 45,584.—JOHN CHILCOTT, Brooklyn, N. Y.—*Apparatus for making Extracts from Animal and Vegetable Substances.*—December 27, 1864; antedated December 20, 1864.—This invention consists of a steaming chamber or digester, with a series of open shelves or gratings arranged one above another, and a series of baskets or open vessels arranged to fit in and fill up the spaces between the shelves; the object being to obtain a more perfect circulation of steam among the matters to be extracted. This apparatus is applicable in extracting grease, gelatine, and the like from animal substances, and may be used to make extracts from vegetable substances.

Claim.—The combination, within the steaming vessels or digester A, of the series of open perforated or grated shelves B B and the baskets C C for containing the matters to be heated, arranged upon the said shelves, substantially as and for the purpose herein specified.

No. 45,585.—THOMAS and JEHIEL CHURCHILL, Detroit, Mich.—*Machine for Forming Baskets.*—December 27, 1864.—This invention consists in forming a basket over a block which turns upon a horizontal shaft or axle, with a suitable fastening at the bottom, and swinging loops or clamps at the top to hold the ribs of the basket in place while being woven.

Claim.—The form or block placed on a horizontal shaft so as to rotate freely, and provided with any suitable fastening or fastenings for securing the splints and bottom to the form or block, substantially as and for the purpose herein specified.

No. 45,586.—JOHN F. CLEU, New York, N. Y.—*Elastic Breech for Ordnance.*—December 27, 1864; antedated December 22, 1864.—This invention consists in arranging within the breech and breech block of a cannon a sliding piston, together with a packing and a recoil spring. A sliding needle passes through the block and piston, and is constructed with a shoulder faced with India-rubber to act as a gas check.

Claim.—First, the combination of the breech-block A, sliding piston C, packing spring and recoil spring, constructed and operating substantially as and for the purposes set forth.

Second, the sliding needle *j*, constructed with a collar or shoulder *j*, faced with India-rubber, to act as a gas check, as and for the purpose specified.

No. 45,587.—THOMAS J. COGGESHALL, New York, N. Y.—*Apparatus for making White Lead.*—December 27, 1864.—This device consists of two corroding rooms surrounded by double glass sides and containing revolving supports for the lead. Under these rooms are placed vats for the acetic acid, which are connected together by pipes. Under these vats are placed two carbonic acid generators, which are connected with a receiver placed between them, the said receiver being connected by means of pipes with the acid vats and corroding rooms. Steam from a boiler is admitted into the corroding rooms by means of a pipe.

Claim.—First, surrounding the sides and top of the corroding rooms, wherein metallic lead is converted into carbonate of lead by the process above described, with a stratum of air confined between double casements of glass, as herein described, for the purposes specified.

Second, connecting one or more of the vats in which the acetic acid is formed, with one or more of the generators in which the carbonic acid gas is formed, with one or more of the corroding rooms by means of pipes fitted with stop-cocks, as shown, and operated by a pump F, substantially as described for the purposes specified.

Third, providing each of the corroding rooms with a revolving frame upon which the metallic lead is suspended for the purpose of subjecting all portions of the lead to the uniform influence of the decomposing and carbonating agents.

No. 45,588.—SAMUEL G. CONGDON, Mansfield, Mass., and D. C. MOURY, Milford, Mass.—*Machine for Pressing Hats.*—December 27, 1864; antedated September 24, 1864.—By this machine half the hat is pressed at a time; the female metal die is sunken in a steam jacket, the male die being of wood. The hat being adjusted upon the male die, is pressed horizontally into the female die, by the revolution of a wheel at the end of a frame; the shaft carrying the male die having a screw thread upon it and passing through a clamp nut, which nut is opened for a prompt backward movement

Claim.—First, the use, in a machine for pressing hats, of two dies placed edgeways towards each other, substantially in the manner and for the purpose herein shown and described.

Second, the clamp nut G, with toggle arms *d e* and hand lever *f*, applied in combination with the screw spindle E, follower D and die E, in the manner and for the purpose set forth.

Third, the use of a wooden block E, in combination with a steam die B, constructed and operating substantially as and for the purpose specified.

No. 45,589.—BENJAMIN F. COWAN, New York, N. Y.—*Steam Boiler.*—December 27, 1864.—The boiler is made in sections in the usual manner, except that upon the end of each section a flange is turned at right angles to the axis of the boiler which projects inwardly a distance sufficiently great to allow for riveting the sections together upon the inside of the boiler. The flanches are so turned as to present an arc of a circle instead of a right angle at the point of divergence from the line of the body of the boiler, the object being to provide for a yielding at that point, as the boiler expands or contracts. Anchors are placed across the boiler and secured by rivets to these inwardly projecting flanches. The heads in which the flues are inserted are not riveted permanently to the shell of the boiler, but are held in their places by means of a rod running quite through the boiler in the direction of its length, and are made steam tight by means of packing placed between the heads and the flanches on the ends of the boiler.

Claim.—First, combining in sectional steam boilers and other vessels of wrought or malleable metal for sustaining pressure from within, a stay rod D extending through the same, with the following joints *f* and the flanges *h* of the sections, substantially as described.

Second, the sectional joints *f* of the several sections of the boiler made with curved or flaring edges, projecting inwardly, substantially as and for the purpose described.

Third, placing anchors like J, or its equivalent, across the boiler or other vessels in the line of its diameter, substantially as above described.

No. 45,590.—J. R. and A. J. CROSS, Chicago, Ill.—*Apparatus for Graining Pails.*—December 27, 1864.—This invention consists in arranging elastic patterns of the graining desired to represent different kinds of wood, radiating in the form of staves on a flat surface: over these the pail is rolled by means of two handles made so as readily to be attached and detached in a line with the centre of the pail. Paint is applied to the surface of the elastic pattern.

Claim.—First, constructing the bed of elastic material used in graining machines in the form herein shown, substantially as and for the purpose specified.

Second, arranging the elastic material aforesaid, whether curved or rectangular in form, in a series of distinct staves or designs, substantially as and for the purpose herein shown and set forth.

Third, the arrangement of the expansible plate E E and the handle F F, provided with the hinge *h* and spring *s*, as and for the purposes described.

Fourth, in combination with the last foregoing, the employment of the handle C and plates D D, as and for the purposes shown and described.

No. 45,591.—GUSTAVUS CUPPERS, New York, N. Y.—*Stone-cutting Machine.*—December 27, 1864.—In this machine there are various frames: one representing the bed plate which supports the entire machine, a second representing a sliding platform which supports the stone to be cut and moves laterally; a third represents an adjustable frame supported on standards; it can be raised or lowered and supports a vertical hinged frame. The invention consists in pivoting the fourth to the third frame so as to maintain a vertical position, or to receive an inclined one; in the combination of the chisel frame with the third described, and of the frames 1, 2, 3, with the fourth; finally, in the combination of the latter with a spring or recoil chisel.

Claim.—Pivoting the chisel frame H to the main frame E of the stone-cutting machine so as to maintain a vertical position or to adjust the inclination of the chisel for rough hewing and finishing, substantially in the manner and for the purposes described.

Also, the combination of a pivoted adjustable chisel frame with a spring or recoil chisel, when constructed and operated substantially as and for the purposes described.

Also, the combination of the pivoted adjustable chisel frame H with the frames E and S, for the purpose of feeding the chisel in two different directions over the stone, substantially as herein described.

Also, the combination of the frames A B E with the sliding and hinged chisel frame H and spring or recoil chisel K, when constructed and operated substantially as and for the purpose described.

No. 45,592.—E. DRAKE, Gardiner, Mich.—*Shingle Machines.*—December 27, 1864.—The object of this invention is to saw shingles from a bolt with a circular saw so as to produce alternate buts and points; and it consists in attaching a pinion to the shaft of the driving wheel in such way as that it works into a rack which moves the reciprocating carriage, and by a system of levers, cams, and weights regulates the operation of the carriage and the feed movement by a lever working in an oblique slot, which in turn operates another lever that has two pawls that work upon double adjustable ratchet wheels which control the thickness of the shingles to be cut at both but and point.

Claim.—First, the arrangement of the rack D, pinion D′, levers K L G and the loaded lever H, all combined with the plate P, to regulate the feed movement of the frame C, as set forth.

Second, the lever W, provided with the pawls V V′, in connexion with the oblique slat *d′* in the plate X, and with the double adjustable ratchets *u u′*, or with the single ratchets, for the purpose of giving and regulating the lateral feed movement of the bolt, for the purpose specified.

No. 45,593.—EDWARD DUGDALE, New York, N. Y.—*Mode of Attaching Thills to Axles.*—December 27, 1864.—This invention consists in constructing a clip which embraces the axle, and upon which there is a flange over which the hub passes. The thill cannot be detached without taking off the wheel.

Claim.—The thill iron E, provided with the clip F and the flange G, and fitted on the arm B of the axle between the two shoulders C D, with the inner part of the hub projecting over the flange, substantially as and for the purpose herein set forth.

No. 45,594.—TIMOTHY EARLE, Valley Falls, Smithfield, R. I.—*Preserve Jar.*—December 27, 1864.—This invention consists of a jar made with a surrounding flanch, a portion of the neck rising above the top surface of this flanch, upon which is the usual lip for holding the cover in place, the diameter of the cover being the same as the neck. The jar is sealed by slipping a rubber band over the cover so as to embrace the side of the cover and the portion of the neck.

Claim.—The use of a cover A, the external surface of whose sides when the cover is in place shall be coincident with the external surface of the neck of the jar, in combination with an elastic pressure band and a flanch *a* on the neck of the jar, substantially as described for the purposes specified.

No. 45,595.—J. M. FLAUTT, Reedsburgh, Wis.—*Animal Trap.*—December 27, 1864.—This invention consists in arranging in the passage leading from the trap to the cage, and connected with the trap door by a hinged gate, certain mechanism by which the animal, in passing from the trap to the cage, locks itself in and at the same time resets the trap.

Claim.—In combination with the trap door C, upright B, weighted line *d*, wheel *c*, escapement *b*, gate D, levers *h j* and chain *i*, all constructed and operating as specified, the catch *f*, spring *f′* and tappet *g′*, so arranged in connexion with the aforesaid gate D and door C as to lock the gate D shut when the trap door C is open, and release the gate when the door is shut, in the manner and for the purposes explained.

No. 45,596.—Randolph S. Foster, New York, N. Y.—*Rotary Pump.*—December 27, 1864.—The object of this invention is to so arrange a system of mechanical devices that there shall be a continuous ingress to and egress from the pump chamber of water or other fluid, and to produce an increased efficiency in rotary pumps. Its novelty consists in the combination and arrangement of an eccentric cylinder placed within the cylinder A, the pipes B and C, a sliding abutment, or cut-off, with its two plates, provided with packing and a spring.

Claim.—The eccentric cylinder D, placed within the cylinder A, and in relation with the pipes B C, as shown in connexion with the sliding abutments, or cut-off, working in a case G, connected to the cylinder A, all being arranged to operate in the manner substantially as and for the purpose set forth.

Also, the construction of the sliding abutment of two plates F H, one of which, H, has an independent sliding or adjustable movement, and provided with a packing I, and spring J, arranged to operate in the manner substantially as and for the purpose specified.

No. 45,597.—John Fox and John W. Vanhook, Uniontown, D. C.—*Raking Attachment to Harvesters.*—December 27, 1864.—This invention consists in the employment of a spiral rod, arranged around a stationary central platform, the said rod extending from one end of said platform to the other, and rotating about the same, to discharge the cut grain into a box or receptacle at one end of said platform. The grain is discharged from said box by a reciprocating palm, working in guides in the side of the box, and operated by a lever, one end of which works in a cam groove in the side of the main wheel. The platform is elevated above the cutting apparatus, leaving an open space through which short straw, clover heads, &c., may escape.

Claim.—First, a rake for a reaper, constructed and operated substantially as herein set forth, in combination with the interior or central platform, constructed substantially as herein specified.

Second, the arrangement of the means or devices herein recited for delivering the cut grain from the box or receptacle.

Third, the raising of the main platform so that a space exists between it and the cutter bar for the escape of the short grain and for affording the free operation of the rake, as described.

No. 45,598.—A. H. Frank, Buffalo, N. Y.—*Beehives.*—December 27, 1864.—This invention relates to the construction of the entrance regulator, which is made in the form of a quarter segment of a cylinder, and provided with a slide of corresponding shape and with openings at each edge, the size of which are controlled by the slide, the whole being so pivoted to the sides of an opening in the front of the hive as to be capable of being reversed, for the purpose or presenting the different sized openings, or of closing the aperture entirely, as may be desired. It further consists in the employment of removable mitre strips for spacing the comb frames, said strips resting on the top of the main box and within the cover.

Claim.—First, the bee entrance or regulator *c*, constructed and operating in a manner substantially as described.

Second, the removable mitre pieces H, constructed and applied in the manner and for the purposes substantially as described.

No. 45,599.—Robert W. Gardner, Quincy, Ill.—*Steam Engine Governor.*—December 27. 1864.—This invention consists in combining with a governor and governor valve a weighted lever in such a manner that the valve is closed by it when the motion of the governor ceases. It further consists in the application of a releasing hook or catch, in combination with the governor and other valve, in such a manner that by the action of said catch the valve is held open, and in position for starting the engine, until the engine has reached its proper speed, when the hook is released automatically, and the governor performs its functions as usual. It further consists in an adjusting screw and an elastic seat for regulating the partial closing of the valve, and adjusting the same for such as may be requisite.

Claim.—First, in combination with the valve *e i*, constructed substantially as described, and a governor adapted to close it by centrifugal action, the weighted lever C, employed to close the said valve when the governor stops.

Second, the self-releasing hook, stop, or catch E, applied in combination with the governor A and valve *e*, substantially in the manner and for the purpose herein shown and described.

Third, the adjusting screw *l* and elastic seat *m*, in combination with the valve *e* and governor A, constructed and operating in the manner and for the purpose substantially as herein specified.

No. 45,600.—James S. Gray, New York, N. Y.—*Vapor Burner.*—December 27, 1864.—An ordinary vapor burner composed of a fluid chamber, in the top of which is a small hole for the vapor to escape through, and a screw-valve, has fitted to its top, by means of supports of metal, a flat disk or heater cap, surrounded by a cone-shaped ring to reflect all the heat on the bottom of the vessel placed on top the burner; it also has a fine wire placed just above the small vapor opening to divide the flame and prevent the hissing noise which usually accompanies the use of vapor burners of this description.

Claim.—First, the conical ring or supplementary heater encircling the heater cap, substantially in the manner described.

Second, the combination of a heater cap and ring heaters with a fluid chamber by means of conductors arranged and operating so as to communicate heat both to the top and bottom of the fluid chamber, as described.

Third, the division wire H, or its equivalent, to divide the jet and prevent hissing, as set forth.

Fourth, the combination of a fluid chamber, conductors, division wire, and heater cap, substantially as described.

Fifth, the combination of a fluid chamber, division wire, heater cap, and ring, substantially in the manner described.

Sixth, constructing the fluid chamber with a central tube for the screw valve, to prevent overflow and impart heat, as described.

Seventh, the combination of the fluid chamber, central tube, and perforated screw cap, when constructed, arranged, and operating as described, for the purposes specified.

No. 45,601.—John F. Griffen, New York, N. Y.—*Self-sealing Can.*—December 27, 1864.—This invention consists of a can, with a tapering neck. Over this neck is placed a cover, in the top of which is a depression. This cover is provided with a vent hole, which is covered by cement. Between the sides of the cover and the neck of the jar is placed an India-rubber packing ring, which is provided with a projection.

Claim.—First, the lip or cover D, formed with a depression *e*, and a vent hole *k*, the whole constructed to operate in the manner set forth.

Second, forming the packing ring or gasket S with a lip *t*, so as to protrude from the jar and cover (where they come together) at the point only where said lip is formed, as and for the purpose set forth.

Third, the combination of the tapering neck *c* and packing ring *h* with the cover D, when the latter is formed with a dish *e*, vent *k*, and recessed rim D *f*, the whole arranged and operating together, as set forth.

No. 45,602.—Caleb Harrison, Milwaukee, Wis.—*Mode of Raising Sunken Vessels.*—December 27, 1864.—The object of this invention is to provide a means for raising sunken vessels and other submerged bodies by the use of atmospheric air or gas, and has special reference to the use of compressed air, and the manner of rendering its buoyancy available and efficient.

Claim.—The raising of sunken vessels and other bodies in the manner and by the means substantially here recited.

No. 45,603.—A. Hartupee, Pittsburg, Penn.—*Steam Engines.*—December 27, 1864.—This invention consists in the arrangement of two cylinders, one of much larger diameter than the other, but the axis of each on a line with the other, and the pistons of each secured to the same rod, the whole combined with a receiver or moderator in such a manner that the high pressure steam used in the small cylinder is exhausted into the receiver, where it is allowed to expand to about four times its original volume, when it passes into the larger cylinder, in which it is worked as low-pressure steam, and from which it is exhausted into a condenser.

Claim.—The receiver or moderator F, applied in combination with the high and low-pressure steam cylinders A and A′, when the pistons are attached to a common piston rod C, and the induction and eduction valves operated from a common rock shaft, and all arranged substantially as described.

No. 45,604.—James W. Harvey, Marshalltown, Iowa.—*Gavelling Attachment to Harvesters.*—December-27, 1864.—This invention relates to the arrangement in connexion with the usual platform, from which the grain is discharged in the usual way, of an auxiliary concave platform formed in two parts, the forward one of which is hinged to the other, and is depressed at intervals to receive the grain as it is discharged from the main platform, and then elevated to allow the grain to be acted upon by a rotating rake. The rear edge of the concave is furnished with a yielding slatted gate, between the slats of which gavelling fingers pass to seize the grain when the gate yields, and allows the fingers to return to a convenient position over the binders' platform to permit the grain to be bound or discharged in a compact gavel upon the platform.

Claim.—First, the hinged platform C, operated through the medium of a roller or pin on the arm G, and a cam groove E′ in the wheel E, substantially as herein described.

Second, in combination with the aforesaid hinged platform C, the concave C′ employed in connexion with the rake D D′, to permit the grain from the grain platform of the harvester to be carried upward and delivered to the fingers which form the gavels, as set forth.

Third, the grooves *h* and rollers or pins *l*, employed in the described combination of the frame I, bar L, and pendants L′ L′, for opening and closing the fingers N N′.

Fourth, the combination of the grooves *h*′, rollers or pins *j*, frame J, arms J′ J′, and pendants M M, whereby the fingers are moved forth and back to receive and discharge the grain, as herein explained.

Fifth, the yielding arms or retainers Q, in combination with the spring Q2, whereby the gavelling fingers are afforded access to the grain when above the concave C, and the grain prevented from falling into the dumping platform in a loose condition, substantially as described.

No. 45,605.—H. R. Hawkins, Akron, Ohio.—*Horse Rakes.*—December 27, 1864.—In this rake the finger clearers are attached at their front ends to a bar just in the rear of the axle, and also firmly secured to another bar a little in rear of the first. The latter bar is pivoted to the rear ends of the thills, which extend beyond the axle, while the former bar is secured by links to the rear ends of treadle levers, so that when the treadle is forced down the rear ends of the finger clearers are depressed. Bed pieces are secured lengthwise to the thills which support the platform, standard, and driver's seat.

Claim.—Securing the finger clearers M to a rod, which is pivoted to the rear extension pieces of the thills, substantially as and for the purposes described.

Also, connecting the clearer fingers M with the treadle levers O, in the rear of the axle A, in such a manner that the outer ends of the clearer fingers are depressed when the rake is tilted, substantially as and for the purposes described.

Also, the use of the lateral bed pieces I resting lengthwise on the thills D as a foundation for the platform, driver's seat and standard, rendering those parts easily removable for storing and transportation, substantially as and for the purposes described.

Also, the combination and relative arrangement of the thills D D, axle A, cross-bars N O, teeth C, and clearers M, substantially as and for the purposes set forth.

No. 45,606—A. S. Hosley, New York, N. Y.—*Turning Machines.*—December 27, 1864.—The object of this invention is to turn articles in cylindrical or conical forms, such as spars for vessels, and it consists of a hollow rotating cylinder that is provided with sliding cutters operated by a coil spring and slides, the slides being worked by a toothed rim operating working pinions that are attached to the slides, pressing them and the frames on to a coiled spring on the inner circle of the cylinder.

Claim.—First, the employment or use of a rotary hollow cylinder I, provided at one or both ends with sliding cutters K, operated through the medium of a coil spring R and slides L, for the purpose herein set forth.

Second, the toothed rim O, pinions N, and screws M, operated by the cylinder I, substantially as shown, for the purpose of moving the slides L, as described.

Third, the dial M′ and index N′ employed in combination with a turning machine, substantially as and for the purposes herein specified.

No. 45,607.—Joseph P. Howard, Brooklyn, N. Y.—*Safes.*—December 27, 1864.—This safe is made of metal, in two parts, each corrugated transversely, and the two hinged together at bottom so as to close together like the two halves of a valise; the corrugations of the two sections coinciding, form, when closed, a series of cylindrical tubes intended for the reception of the coin, and each tube is slotted longitudinally upon one side so as to expose the edges of the coins to view. The coin is first arranged in the half tubes of one of the sections, when the other section is brought down upon it, and the two confined to each other by buttons, the latter being afterwards covered by seals.

Claim.—First, a portable safe for containing coin, constructed substantially as above described.

Second, making slots *s*, in one or more of the parts of the safe, so as to expose parts of the edges of the coin, substantially as and for the purpose above set forth.

No. 45,608.—Henry Howson, Philadelphia, Penn.—*Borer for Artesian Wells.*—December 27, 1864.—This invention consists in the use, for enlarging and chipping the sides of artesian oil wells, of chipping or cutting arms suspended within the well, and operated by a weight which is raised and permitted to fall. The object of the invention is to enlarge oil wells in the rocky strata containing fissures in which the oil is lodged, and thereby forming communications between such fissures and wells which have been unproductive for want of such communications. The invention is also applicable to the reopening of fissures through which oil has ceased to flow into the well, owing to being choked or otherwise obstructed.

Claim.—The employment, for enlarging, and chipping, and scraping the sides of artesian wells, of chipping or cutting arms suspended within the well, and operated by a weight, which is raised and permitted to fall, all substantially in the manner described.

No. 45,609.—George G. Hunt, Bridgeport, Conn.—*Car Trucks.*—December 27, 1864.—This invention consists in so constructing the trucks of railroad cars that the axle and axle boxes may be readily removed from the truck frame with greater ease and facility than has heretofore been made use of. The main truss bolts of the truck are made adjustable, in order to bring the strain more perfectly upon the trusses in a longitudinal direction.

Claim.—The slotted axle box *s* P P, in combination with the movable bolts D D and the truck frame, for the purpose of removing the axles and axle boxes from the said truck frame with facility and despatch.

Also, the adjustable bolts F F in combination with the truss K, in order to bring the weight of the car chiefly upon said truss, and thus throw the strain upon said truss in a line with the grain of the iron.

No. 45,610.—Elam D. Hurst, Lancaster, Penn.—*Oil Cans.*—December 27, 1864.—This invention consists in providing a passage for the admission of air to the can, and in such quantities that only a given amount of oil can escape in a given time. The device consists of a screw tube inserted in the cup which covers the aperture for supplying the can with oil. This tube is screwed into the cup, and has a small hole drilled nearly its entire length, where it terminates, and a lateral aperture is made through one side of the tube to meet it. This lateral aperture is so placed as to be within the cup when it is desirable to shut off the admission of air to the can. The outer end of the cup is open, and the tube has a slot in its outer end which is within the cup for the insertion of a screw-driver, by which means the tube is turned so as to be carried inwards until a portion of the lateral opening is exposed to the space inside of the can, when air is admitted, and in proportion to the quantity admitted is the amount of oil which will pass out.

Claim.—The construction of the inner screw tube C, with its lateral opening *f* and head *g*, in combination with the double B, for its reception and operation within the neck A of the oil can, substantially arranged in the manner and for the purpose specified.

No. 45,611.—James Hutson, Janesville, Wis.—*Locks.*—December 27, 1864.—This invention consists in the arrangement of a sliding plate for covering the keyhole, and of devices for locking it. The plate slides in grooves formed in two projecting ribs on the outer surface of that plate of the lock case which is next to the door, and a stud attached to it, passing through an elongated slot in the lock plate, enters one of two notches in a vibrating tumbler. The vibrating tumbler is pivoted at one end to the outer plate of the lock case, the pivot passing through an elongated slot in the tail of the bolt, and is provided with four hooking notches, two of which, in connexion with a stub, serve to lock the bolt either in or out, while the other two lock the sliding plate in a similar manner. The bolt, tumbler, and sliding plate are all operated upon directly by the key from the inside of the room, but from the outside the key comes in contact with the bolt and tumbler only.

Claim.—First, the use of plate C, in combination with supplemental bolt D, ward F, and key G, when constructed and used substantially as and for the purposes described.

Second, ward F, having the double capacity of holding the main bolt J and supplemental bolt D firmly in place, substantially as described.

Third, plate C, when made with a bevelled edge around the keyhole, substantially as and for the purpose described.

No. 45,612.—Hanford Ingraham, Naples, N. Y.—*Cultivators.*—December 27, 1864.—In this invention the frame is T-shaped, carrying two teeth in front and one in the rear. The shafts are fastened directly upon the ends of the front bar, and are raised and lowered by a cast-iron flange-shaped wedge.

Claim.—First, the construction and application of a cast-iron flange-shaped wedge, for the adjustment of the thills, substantially as in the manner and for the purpose herein described.

Second, the construction of a T-shaped frame, in combination with the adjustable thills, as herein arranged, substantially in the manner and for the purpose herein set forth.

No. 45,613.—Danforth Johnson, Chicago, Ill.—*Washing Fluid.*—December 27, 1864.—This invention consists of the use of strong lye of wood ashes, mixed with a solution of borax.

Claim.—Making a solution out of wood ashes and borax, to take the place of soap in washing clothing, as above described.

No. 45,614.—Robert V. Jones, Canton, Ohio.—*Raking Attachment to Harvesters.*—December 27, 1864.—This invention relates to the class of machines employing a curved or quadrant-shaped platform, and consists in operating the rake by means of an endless chain passing over two vertically arranged pulleys, placed at right angles, or thereabouts, to each other, and secured to standards attached to the inner corner of the platform; the chain being kept in place on said pulleys by two horizontally arranged pulleys, arranged at the point of intersection of lines crossing at right angles the axes of the vertical pulleys, and supported by a third curved standard. The outer end of the rake arm is guided by means of a forked extension of the same, embracing a vertically arranged endless guide rod, secured by brackets to the outer edge of the platform, the said rod being curved to correspond with the path described by the outer end of the sweep rake.

Claim.—The curved endless guide H, in combination with the endless belt F, provided with the rake G, and arranged, in relation with pulleys, to operate substantially in the manner as and for the purpose set forth.

No. 45,615.—John Kirkman, Peoria, Ill.—*Cultivators.*—December 27, 1864.—This invention consists of a spring and thumb-screw, for the purpose of regulating the position of the ploughs; also in keeping the end of the draught-pole elevated, by means of a cross-piece and bows resting upon the upper side of the necks of the horses.

Claim.—First, the spring E E S, and thumb-screw *o*, employed in combination with the levers B B, to retain the ploughs in either a working or an elevated position, and secure the same against liability to injury by contact with immovable bodies, as set forth.

Second, a machine constructed in the manner herein described, supporting the neck yoke *y* and the end of the tongue by means of bows C, or their equivalents, fitting upon or over the top or upper part of the horse's neck, substantially as and for the purpose set forth.

No. 45,616.—Silas H. Lancaster, Leclaire, Iowa.—*Mechanical Movement.*—December 27, 1864.—This invention consists in transmitting power to a driving shaft so as to rotate it in either direction, through the medium of pawls, two of which are adapted to rotate the shaft in one direction by an impelling or pushing force applied to a keyed ratchet wheel, and two other pawls to turn the said shaft in an opposite direction by a pulling or drawing force applied to another keyed ratchet wheel, the pawls being adjustable, so that one pair may be thrown out of connexion with its ratchet wheel, while the other pair is in operation.

Claim.—The reversing rods G G′, adapted to retain one pair of pawls out of connexion with its ratchet wheel while the other pair is in operation, substantially as described.

No. 45,617.—John W. Latcher and William J. Powell, Amsterdam, N. Y.—*Car Brake.*—December 27, 1864.—This invention consists in attaching to the truck stationary guides or ways in combination with the brakes, which are attached to horizontal rods or stems, and used in connexion with springs, the brakes being suspended or hung by the said ways or guides.

Claim.—The arrangement of suspending or hanging brakes by means of ways or guides, in the manner substantially as shown and described, and for the purpose specified.

Also, in combination with the stationary guide A, brake B, rod or stem V, and spring *c*, operating as set forth.

No. 45,618.—Richard Lavery and S. Stuart, South Boston, Mass.—*Devices for Stopping Leaks in Boiler Tubes.*—December 27, 1864.—This invention consists in providing a split ring, provided with ears and with a bend fitting to the cavity of a boiler tube close behind the tube sheet, and fastened therein by means of a wedge driven in its gap, in combination with an open cap fitting over the end of the tube and fastened to its place by bolts extending to the ears of the ring through holes in the cap, in such a manner that, by securing the ring in the end of the tube, the cap can be readily secured without drilling holes in the tube sheet. A flange is attached to the ring, which extends some distance out upon the tube sheet, the under side of which is provided with a recess for the purpose of receiving packing, which is designed to prevent leaks in the end of the boiler.

Claim.—The combination of the open cap E with the split ring C, provided with ears *c*, and secured in the end of a boiler tube, substantially in the manner and for the purpose herein set forth.

No. 45,619.—R. Lavery and S. Stuart, South Boston, Mass.—*Rings for Stopping Leaks in Boiler Tubes.*—December 27, 1864.—This invention consists in a sectional or split ring to be applied to a leaky tube, and secured therein by means of one or more wedges, in such a manner that by the action of said wedge or wedges the ring will be pressed firmly against the interior of the tube and the leak thereby stopped. The ring is provided with a bead for fitting into a cavity formed just inside of the tube sheet by the tool that secures the tube in its place, or it may be made plain, and used in any portion of the tube.

Claim.—First, a sectional or split ring, to be secured within a tube by means of one or more wedges, substantially as and for the purposes herein described.

Second, constructing the aforesaid sectional or split ring with a bead *a* to fit within the cavity *a* of the tube, in the manner specified.

No. 45,620.—Charles Lemon, Washington, D. C.—*Bookbinder's Cloth-cutting Table.*—December 27, 1864.—The object of this invention is to cut the cloth in regular widths from the piece, and it is accomplished by the use of two rollers, one on each side of a table, at one side of which knives are placed at adjustable distances, by means of screw clamps, and the cloth being passed from one roller to the other, is cut in its passage.

Claim.—First, the combination of the drawing and receiving roller B with the knives D and table A, in the manner and for the purpose described.

Second, constructing the drawing and receiving roller B in two tapering parts *e e*, in the manner and for the purpose described.

Third, mounting the knives upon stocks constructed in such a manner as to be clamped to the front edge of the table, and adjusted in the manner described and shown.

No. 45,621.—Thomas McSpedon, New York, N. Y.—*Machine for Making Paper Collars.*—December 27, 1864.—This machine comprises a mechanism for cutting out the collar, consisting of a male and female die: a mechanism for embossing the collar, and providing

it with button-holes, consisting of an embossing die provided with punches, by which the button-holes are formed, and a folding knife, by means of which, when desired, the collar is folded. The paper, or material of which the collar is to be formed, is fed into the machine, and is first presented to the cutting dies, where the operation of cutting out or forming the collar is performed; the collar is next carried to the embossing die, where it is embossed in imitation of the ordinary stitching, and has the button-holes cut in it. The collar may then be delivered from the machine; or, if it be desired to fold it, it may be conveyed, by means of a series of tapes or cords, to the folding knife, by which the operation of folding is performed.

Claim.—First, the pushers 32, constructed and operating as described, in combination with a collar-making machine, as described.

Second, the friction roller 39 and the cords 40, in combination with the pushers 32 as arranged with the cords or tapes 41 and the folding knife, all operating substantially as described.

Third, the arrangement of the stops 38 and the embossing die 13, as shown and described.

Fourth, combining with the embossing die the punches for cutting or forming the button-hole in the collar *g* when both shall be held in the cross-head 12, and operates by the connexions 11 and eccentrics 9.

Fifth, the male and female dies for cutting out or forming the collar and the embossing die, when the same shall be arranged and operated substantially as shown.

Sixth, combining the folding knife, for holding the collar, with the male and female dies and the embossing die, when the same shall be combined and operated as herein fully described.

Seventh, the friction roller 39, cords 40, cords 41, cords 47 and 45, and grooved rollers 44 and 46, which convey the collar from the embossing die to the folding knife, as described.

Eighth, so constructing a machine for the manufacture of paper collars, or collars made from paper, combined with some fibrous or textile material, that the various operations of cutting or forming the collar, embossing and providing the same with the button-holes, and finally folding the same, shall be accomplished continuously, and by one and the same machine, substantially as shown.

Ninth, in combination with the carriers 30, constructed and operating as described, the side guides 34, for the purpose specified.

No. 45,622.—Leverett Munson, Saybrook, Ohio.—*Trusses.*—December 27, 1864.—This invention consists of a double inguinal truss having a single arm, and provided with an abdominal pad having at each end an inguinal pad.

Claim.—The spring A, arm B, studs *a a*, and holes *a′ a′ a′ a′*, in combination with the pad D, circular pieces E, and ball and socket joint Fig. 3, the several parts being constructed, arranged, and operating as and for the purpose set forth.

No. 45,623.—Gabriel Natcher, Sidney, Ohio.—*Many-barrelled Cannon.*—December 27, 1864.—This invention consists of a battery gun having its barrels arranged around a central stem or support, but with a slight horizontal divergence, all the barrels being simultaneously discharged by a single hammer, and having a removable-chambered breech (similar to that of a revolver) secured upon the central shaft by a breech nut and screw.

Claim.—A battery consisting of a circular or elliptical range of barrels B B B diverging in horizontal planes, a removable-chambered breech F adjusted to the said range of barrels by a shaft C and tongue *c*, and an annular groove *f*3 to communicate fire to the range of barrels or chambers from a single nipple G, all as herein described and for the purpose specified.

No. 45,624.—Daniel B. Neal, Indianapolis, Ind.—*Sorghum Evaporator.*—December 27, 1864.—This invention consists of an evaporator provided with a series of compartments formed by transverse inclined partitions, a space being left between each partition and the bottom of the pan to admit of the application of strainers. The bottom of the pan is constructed of sheet metal, and has metal straps attached to it, and partitions to prevent warping. To the under side of the pan is secured a plate, directly under the rear compartment, to shield it from contact with fire.

Claim.—The inclined partitions *d* and inclined strainers C placed within the pan B, substantially as and for the purpose herein set forth.

Also, the straps D attached to the partitions *d* and the bottom *e* of the pan, substantially as and for the purpose specified.

Also, the deflector or plate D attached to the under side of the bottom *e* of the pan, at the rear part of the same, for the purpose described.

No. 45,625.—Joseph W. Norcross, Middletown, Conn.—*Boom and Gaff Joints.*—December 27, 1864.—The joint of the boom has a triple motion. The invention consists of a swivel and bracket forming a universal joint, the fulcrum of both being in one vertical plane.

Claim.—A boom or gaff joint with a triple motion, substantially as and for the purpose set forth.

Also, the swivel *a* in combination with the bracket or grooved rail *a'* and with a boom or gaff, constructed and operating substantially as and for the purpose herein described.

Also, combining with a boom or gaff a universal joint, the fulcra of which are situated in one and the same vertical plane, substantially as and for the purpose specified.

No. 45,626.—L. L. Pollard, Worcester, Mass.—*Horse Rakes*.—December 27, 1864.—This invention relates to the construction and combination of several devices for operating the rake. A foot lever, pivoted to the same support as the hand lever, is attached to the hand lever in such a manner as to be adjustable, thereby changing the leverage. A stop lever enters a notch in the end of the cam support upon the rake head, and locks the rake in an elevated position, which stop is thrown out from the notch by a spring above it, when the rake is still further elevated. The forward cam support is made adjnstable upon the hand lever.

Claim.—The combination with the hand lever I of the adjustable foot lever K, when used for operating the rake head, snbstantially as herein set forth.

Also, the combination with the rake head and chain support H of the stop lever L and spring *m*, substantially in the manner and for the purpose described.

Also, making the front chain support *g* adjustable on its lever I, for the purpose herein stated and described.

Also, the combination of the lifting and holding devices herein described, consisting of levers I K, chain supports H *g*, chain *b*, and spring *m*, with the rake head F and axle, substantially as and for the purposes described.

No 45,627.—Daniel E. Paris, Troy, N. Y.—*Cooking Stoves*.—December 27, 1864.—This invention consists of an elevated oven with perforations through the end plates, opening into a chamber between the bottom of the oven and fire flue, in combination with apertures through the oven bottom, and air passages through sides of the oven into the fire flue. The oven is placed in the rear part of the stove.

Claim.—An elevated oven cooking stove, having perforations A in the end plates B of an air chamber C arranged between the bottom of the oven and a fire fine F under it, in combination with an aperture or apertures G in the bottom of the oven, and an air passage or air passages H from the oven into a fire flue I along or around the oven, substantially as herein described.

No. 45,628.—Truman W. Pepper, Louis Planer, and Joseph Kayser, New York, N. Y.—*Sewing Machine*.—December 27, 1864.—This invention relates to an arrangement of devices for effecting a longitudinal feed motion, in combination with a narrow sewing table, also for producing a feed and regulating, changing or reversing and stopping the feed motion, and regulating the vertical throw of the feed lever. Reference to the specification and drawings will be necessary for an understanding of the construction and operation.

Claim.—First, the arrangement of devices, as above described, for effecting a longitudinal feed motion, in combination with the narrow sewing tablo A, for the purpose herein stated.

Second, the arrangement and combination of the compound levers C and E with the springs R and P and the cam G and studs *i i*, for the purpose of producing a feed for sewing machines.

Third, the employment of the lever J in combination with the cam G and studs *i i*, and the levers E and C, for regulating and changing or reversing and stopping the feed motion of sewing machines.

Fourth, the arrangement of the standard L with the lever E and cam G, to regulate the vertical throw of the feed lever C, as herein described.

No. 45,629.—Isaac E. Palmer, Middletown, Conn.—*Circular Loom for Weaving the Covering of Cords, &c.*—December 27, 1864.—In this machine the warp bobbins are placed on the periphery of a revolving cylinder, the shed being opened and closed by movable thread guides which are carried by said cylinder, but are caused to reciprocate horizontally by means of switch pieces thereon playing in the crossing grooves cut on a stationary cylinder, whose axis is in the same line as that of the other cylinder. The weft thread is carried by a heavy gravitating shuttle, slightly pendent by its thread guide from the core or cord to be covered, but having rollers in its convex bottom, and resting loosely upon the inner periphery of the revolving cylinder, the side flanges of which prevent its flying out laterally. Its thread, which always is delivered nearly vertically from the shuttle, is crossed by the warp threads as they continually pass it in their revolutions.

Claim.—First, the employment for carrying the weft yarn in a machine for weaving the covering of shade cord, or other circular or tabular fabric, of a gravitating shuttle I, applied and operating substantially as herein specified within a rotating cylinder which carries the warp yarn.

Second, in combination with the rotating cylinder E, having its axis horizontally arranged and carrying the warp bobbins G G, and with the gravitating shuttle I, the transversing yarn guides or carriers H H, having eyes *e e* provided in them, and applied and operating substantially as and for the purpose herein described.

Third, in combination with the said rotating cylinder E and the traversing yarn guides or carriers H H, the stationary cylinder F arranged at one end of the said rotating cylinder, and having two crossing grooves *p p'* in its outer periphery, and the switch pieces *n n*, or their equivalents, attached to the said guides, the whole operating substantially as and for the purpose herein set forth.

Fourth, the hook J combined with the gravitating shuttle, substantially as and for the purpose herein specified.

Fifth, the elastic yarn guides V V, forming double springs and serving the purpose of guiding the warp yarns from the bobbins to the traversing guides or carriers, that of producing friction upon the bobbins, and that of taking up any slack of the yarn, substantially as herein described.

No. 45,630.—John H. Porter, New York, N. Y.—*Combined Ash Sifter and Shovel*.—December 27, 1864.—This invention consists of a shovel of cast-iron provided with a high rim around the edge, the back part of the shovel or part nearest the handle being grated or perforated for sifting, and the front part is made solid, to take up ashes with. The front and back parts are on different planes, or at an angle to each other of a little less than 45°.

Claim.—A combined screen and fire shovel constructed or cast with a bottom having a screw C and solid shovel part D in different planes, substantially as shown and described.

No. 45,631.—Robert B. Potts and Frederick Klett, Camden, N. J.—*Apparatus for the Manufacture of Superphosphate of Lime*.—December 27, 1864.—This invention consists of a tub lined with lead and provided with a rotary stirrer, which consists of a series of ploughs attached to arms, extending in a horizontal direction from a vertical arbor. This arbor turns in a suitable socket in the centre of the tub, and its upper end has a bearing in a box attached to the cross-bar.

Claim.—The use in the manufacture of superphosphate of lime of an agitator *a b* and tank *d*, substantially as herein shown and described, and capable of being driven by power, as set forth.

No. 45,632.—James Pratt, Chicago, Ill.—*Lightning Rod*.—December 27, 1864.—This invention consists of a rod or cord of iron wires slightly twisted and covered with a strip of copper wound helically upon it, whereby the whole is capable of being coiled up and made portable for use, and readily adapted to a building.

Claim.—Enclosing the cord of continuous, twisted wires with a continuous copper strip, arranged and operating substantially as and for the purpose herein shown and described.

No. 45,633.—Geo. W. Putnam, Peterboro', (town of Smithfield,) N. Y.—*Meat Masher*.—December 27, 1864.—This invention consists in a reciprocating bruising lever connected to a vertically adjustable swivel standard, and provided with a toothed or rough surface formed of a plate of iron, or other material, to operate in combination with a suitable block in such a manner that a piece of meat placed upon it may be thoroughly broken or bruised to render it tender.

Claim.—The use of a reciprocating or rolling lever C C*, with flat or rough beating surfaces to operate in combination with the table B, or its equivalent, substantially in the manner and for the purpose herein shown and described.

No. 45,634.—E. Reynolds, Corunna, Mich.—*Hay Elevating Fork*.—December 27, 1864.—This invention relates to the arrangement of means for holding the fork tines in the proper position for sustaining the hay. It will be readily understood from the claim and engraving.

Claim.—The combination and arrangement of the braced tines A and the catch G with the block B, the arm E, and the small lever D, substantially as and for the purpose set forth.

No. 45,635.—Edmond Reynolds, Corunna, Mich.—*Stove Dexters*.—December 27, 1864.—This invention consists in a device made in two parts, to open and shut with a spring like a pair of scissors, with the ends so formed as to be used as a stove-cover lifter, to handle shallow and deep pans with, and for a tack hammer, &c.

Claim.—The stove dexters or implements for culinary and other uses above described, constructed substantially as above described.

No. 45,636.—Alexander K. Rider, Hydeville, Vt.—*Rotary Engine*.—December 27, 1864.—This invention consists in a hemispherical cylinder fitted with a rotating and oscillating piston and rotating sphero-conical abutment, the piston being attached by a hinge joint to the rotating main shaft of the engine, and fitted to a slot in the abutment, the axis of whose rotation is oblique to the main shaft. The steam enters the cylinder through the bed-plate by means of apertures provided for that purpose, and is prevented from passing the abutment below the shaft, where it is in contact with the cylinder head, and its pressure exerted against the portion of the piston which projects from the abutment above the said opening, and so produces the rotation of the piston, the main shaft, and the abutment.

Claim.—First, a rotary engine composed of a cylinder of hemispherical form, a rotating spheri-conical abutment, a rotating and oscillating piston, and a rotating shaft, the whole combined to operate substantially as and for the purposes herein described.

Second, the attachment of the rotating and oscillating piston D to the main shaft by means of the pin *e* inserted into a groove in the straight edge of the piston and passing through the shaft, substantially as herein specified.

Third, the T-shaped piston packing *c* applied in combination with the pin *e*, which attaches the piston to the main shaft and with the inside of the cylinder head, substantially as and for the purpose herein specified.

No. 45,637.—Alexander K. Rider, Hydeville, Vt.—*Rotary Engine.*—December 27, 1864.—This invention consists in a cylinder of spherical form, a rotating obliquely cranked shaft, rotating pistons of what may be termed sphero-conical form, and an abutment having a peculiar compound oscillating movement The pistons are eccentric to the shaft, the eccentricity of one being in one direction, and that of the other in the opposite direction. Steam is admitted through separate induction ports formed in the bed-plate, and is prevented from passing the abutments, and its pressure against the conical faces of the piston is caused to produce their rotary motion, the shafts rotating with them.

Claim.—First, a rotary engine composed of a spherical or hemispherical cylinder, a rotating obliquely cranked shaft, a rotary piston or piston of sphero-conical form, and an oscillating abutment, the whole combined to operate substantially as herein specified.

Second, the combination of the spherical collar F, to which the abutment is attached, and the partition B, or cylinder head formed of two plates *l m*, substantially as and for the purpose herein specified.

No. 45,638.—Robert Roberts, Utica, N. Y.—*Magazine or Self-loading Fire-arm.*—December 27, 1864.—The barrel of the arm in this invention is caused to slide forward from the stock (which contains the magazine) a sufficient distance to admit the cartridge between; and in being moved forward trips a pivoted lever or carrier, which raises a cartridge from the magazine to the line of the barrel, at the same time closing the end of the magazine till the barrel, by being drawn back over the cartridge, allows the pivoted carrier to be depressed for the reception of the next cartridge.

Claim.—First, the lever K, constructed and operating as described to prevent the premature exit of the cartridges from the magazine and elevate them successively to the level of the bore.

Second, in combination with a suitable lifting device, the posts or ways *m m* employed to guide the cartridges in their upper motion and retract the exploded shell, substantially as described.

No. 45,639.—T. E. Rollins, Corning, N. Y.—*Eccentric Cage.*—December 27, 1864.—This invention consists in the employment of two guide slots in the sides of an eccentric cage, to operate in combination with the shaft or stem to which the eccentric is attached, in such manner that by means of the slots the cage is held in line and prevented from being forced on one side by the action of the eccentric, while the shank or rod to which said cage is attached is prevented from being bent or made to bind in its bearings.

Claim.—The application of slots *c* in the sides of the cage G, to operate in combination with the shaft C and eccentric disk E, in the manner and for the purpose substantially as set forth.

No. 45,640.—Cyrus W. Saladee, Putnam, Ohio.—*Curry-comb.*—December 27, 1864.—This invention consists in constructing a double-faced curry-comb, the teeth of which are secured to both sides of a metallic frame or plate, having handles attached in such a manner as to admit readily of the use of either side of the comb.

Claim.—First, the metallic handles A1 A1, or their equivalents, secured to the sides or ends of the curry-comb on a parallel line with the teeth of the same, in the manner and for the purpose substantially as shown and described.

Second, the frame or plate A, rivets B B B B, studs D D D D, Fig. 1, plate 1, projections *x x x x*, Fig. 3, in combination with the adjustable handles A1 A1, in the manner and for the purpose substantially as shown and described.

No. 45,641.—Thomas K. Schermerhorn and Joseph Anderson, Brooklyn, N. Y.—*Expanding Tompion for Fire-arms.*—December 27, 1864; antedated December 17, 1864.—This invention consists in the combination and arrangement of a conical wedge with screw and segmental blocks forming the body of the tompion, and held together by elastic bands, a stationary nut within the same, and a top plate or flange, which is drawn tightly against the body of the tompion when being expanded by the screw and conical wedge.

Claim.—The stationary nut *g* in combination with the expander B, sectional plug A, elastic bands *d*, and flange D, constructed and operating as and for the purpose shown and described.

No. 45,642.—Jacob Seibel, Manlius, Ill.—*Harvester.*—December 27, 1864.—This invention relates to the particular arrangement of means for adjusting the height of the cutting apparatus and platform, as indicated by the claim.

Claim.—First, the combination of the shaft D, provided with the arms *i k*, the rod *l*, chain *l'*, and spring *n*, all arranged and operating substantially as and for the purposes specified and shown.

Second, the arrangement in combination with the above of the frame carrying the endless apron E and auxiliary belt G, substantially as and for the purposes herein set forth and shown.

No. 45,643.—M. L. Senderling, Jersey City, N. J.—*Trucks for Transporting Casks.*—December 27, 1864.—This invention consists in a truck, having its axle bent down in a crank-like shape nearly close to the ground, to allow the cask to be run in between the wheels on narrow runners which extend some distance rearward beyond the axle, and are connected with the front end of the frame of the truck, on which there is a windlass for drawing or rolling up the cask upon the runners, by winding up chains which are fastened at one end of the lower part of the axle, at the junction of the runners, and connected with the windlass.

Claim.—The bent or cranked axle C, runners D D, and windlass E, in combination with each other and with the frame A, open at its rear end, substantially as herein specified.

No. 45,644.—William Sewell and Adam S. Cameron, New York, N. Y.—*Valve Arrangement for Pumps.*—December 27, 1864.—A descending pipe communicates with the bilge-water in a ship, and an ascending pipe communicates with the sea-water, a lateral pipe being connected with the pump; over the mouth of the descending pipe rests a hinged valve: against the mouth of the ascending valve a disk valve is held by a screw, passing through the bend of said pipe, and a handle above to operate it. Thus, while any desired flow of sea-water may be admitted, alone, or with a partial stream of bilge-water, it cannot descend in the ship in any degree, being resisted by the hinged valve described.

Claim.—The combination of the two valves F and E, constructed and arranged in relation with each other and with the openings of the valve chamber, to operate in the manner substantially as and for the purpose herein set forth.

No. 45,645.—John W. Sharrett, Portsmouth, Va.—*Device for Working Jib-sails.*—December 27, 1864.—The jib-sheet passes from the block to a traveller, thence this line leads aloft, and returns to a cleat on the mast; the traveller passes on a travelling bar across the vessel; at or near the ends of the bar are detaining latches to hold the traveller on either side; lines pass aft from these latches, along the sides of the gunwales, so that the helmsman in working the sail can, at his will, release the traveller.

Claim.—First, the application of the jib-sheet to the mast B, substantially in the manner and for the purpose described.

Second, the use of catches *h h*, or equivalent devices, applied at or near the ends of the traveller bar A, substantially in the manner and for the purposes described.

No. 45,646.—Samuel J. Shaw, Marlboro', Mass.—*Sleeve Button or Fastener.*—December 27, 1864.—A bar or fastener pivoted at one end, is made to move sideways on a face plate, and is held by a spring notch at the other end.

Claim.—The said improved sleeve fastener, made in manner and so as to operate substantially as described.

No. 45,647.—William Shoup, Saltsburg, Penn.—*Pump.*—December 27, 1864; antedated April 26, 1864.—This invention consists in surrounding the pump tube with an outer concentric tube, which latter is provided with a gate opening into the pump tube, and a packing bag at its lower end.

Claim.—The combination of the pump tube A and concentric tube C, the latter provided with the gate D, and seed or packing bag F, all arranged substantially as and for the purpose set forth.

No. 45,648.—Willison G. Smith, Carlisle, Penn.—*Photographic Glass Rack.*—December 27, 1864.—This invention consists in forming the grooves in photographic plate racks, of a single piece of corrugated metal, attached to a frame.

Claim.—Constructing the grooves on the shelves of photographic racks, substantially as above described.

No. 45,649.—Wm. Stacey, Kittery, Maine.—*Anchor Tripper.*—December 27, 1864.—This invention consists in a combination of devices for the purpose of relieving or forcing the anchor from the davit or cat-head; a tripping line turns the hook which holds the ring, permitting the ring to slide off its suspending hooks.

Claim.—The combination of the tripping line E with the hook D, the block A, the davit or cat-head B, and the rope C, arranged together substantially as specified.

Also, the combination of the belaying pin G, or its equivalent, and the guide F, with the davit or cat-head B, the rope C, the block A, the hook D, and the tripping line F, the whole being arranged so as to operate together, substantially in the manner and for the purpose set forth.

No. 45,650.—Frank M. Stearns, Berea, Ohio.—*Rest for Grindstones.*—December 27, 1864; ante-dated December 3, 1862.—This invention consists in attaching to the frame of a grindstone a curved rod of iron, which is made adjustable as to height by means of a nut and spring, and bearing upon its upper end a cross-head for supporting a saw or other article during the operation of grinding.

Claim.—The curved iron rod with its cross-head A, substantially as described, in combination with the clutch C, nut D, spring E, and frame B, as and for the purpose set forth.

No. 45,651.—Samuel Stevenson, Oil City, Penn.—*Manufacture of Shot.*—December 27, 1864.—The lead is held in a melted state in a reservoir, which can be compressed by a piston or otherwise, so as to force out the lead into the air, in the form of spray.

Claim.—The mode of manufacturing shot, by throwing the molten lead into the air by means of a forcing pump, sufficiently high or distant to secure their spherical form when lodged in the basin adapted for their reception, as set forth and specified.

No. 45,652.—Charles F. Taylor, New York, N. Y.—*Exercising Machine*—December 27, 1864.—The claims in this case are sufficiently descriptive of the invention.

Claim.—The employment or use of oscillating platforms, one or more, provided with adjustable weights, and arranged to operate in the manner substantially as and for the purpose herein set forth.

Also, in connexion with the oscillating platforms, the adjustable bars H, for retaining the platforms in a horizontal position when required.

Also, the slides K, when used in combination wiih the oscillating platforms C, substantially as and for the purpose set forth.

No. 45,653.—G. W. Taylor and A. E. Wright, Philadelphia, Penn.—*Truss.*—December 27, 1864.—This invention consists in combining with the back braces a staple which straddles the body spring, so as to afford sufficient play for any movement of the body. It also consists in the application of an adjustable spring, in combination with a ball and a socket joint, which connects the front pad to the body spring, with a friction plate connected to the lower margin of said front pad, in such a manner that by said spring any pressure desirable can be given on the lower margin of the front pad, imparting to said pad an upward motion, and by the friction plate free play is given to the spring which is prevented from wearing and cutting the pad.

Claim.—First, the staple C, applied in combination with the cross-bar *b*, back braces B, and body spring A, in the manner and for the purpose substantially as herein shown and described.

Second, the spring *g* and friction plate E, applied in combination with the front pad D, and body spring A, in the manner and for the purpose substantially as set forth.

No. 45,654.—Walter Todd, Ottawa, Ill.—*Grain Separator*—December 27, 1864.—In this invention a rotating polygonal perforated prism is furnished with exterior imperforate plates, placed near the cylinder and each other. The whole is surrounded by a wire gauge screen, which also rotates.

Claim.—The rotating perforated screen B, provided with the plates C, in combination with the wire or other screen D, all arranged substantially as and for the purpose herein set forth.

No. 45,655.—William H. Towers, New York, N. Y.—*Drum Gas Heater.*—December 27, 1864.—This invention consists of a sheet-metal drum, open at one end and having arranged inside at a little distance from each other two conical cylinders, the upper one of which is fixed, the lower one being movable, and when made of bright material, can be used as a reflector. It is designed to suspend the drum in any convenient manner over a gas burner.

Claim.—The application and arrangements of the drum and cylinder to the common gas burner or any gas burner, applied and arranged as above described.

No. 45,656.—John C. Underwood, Richmond, Ind.—*Heater.*—December 27, 1864; antedated December 3, 1862.—This apparatus consists in the arrangement of parts designated in the claim, for heating air in its passage through the same, as will be seen by reference to the engraving.

Claim.—First, the plate J, and plate K, in combination with the flange *s* and holes *x x x x x x x x*, substantially as described.

Second, the air chamber H and smoke pipe F, in combination with the air conveyor G, all arranged, constructed and operated substantially as described.

Third, the air chambers or passages B8 and B9, in combination with the conveyor G, all being arranged, constructed and operated substantially as described.

Fouth, the air chamber or space B4, in connexion with the space B10 and chamber B3, all in combination with the holes A1 A1 A1 A1 A1 and A2 A2 A2 A2 A2, all being arranged, constructed, and operated substantially as above described.

No. 45,657.—J. T. Vanduzer, Tyrone, N. Y.—*Beehive.*—December 27, 1864.—The bottom of the hive is of wire gauze, above which a metallic diaphragm is fixed across the hive, with a portion cut away in the centre. Upon each side of the entrance upright strips of metal are fixed as guides to moths, which guides curve inwards, until they nearly touch at their termination over the centre of the opening in the diaphragm.

Claim.—The combination of the converging guides K, the diaphragm H, with its openings I, the wire gauze bottom G, and the door J, constructed substantially as above described.

No. 45,658.—James J. Van Kersen, Kalamazoo, Mich.—*Wheelbarrow.*—December 27, 1864.—This invention consists in making the box separate and adjustable; the load can be thrown off without removing the sides. The invention will be understood from the claim and engraving.

Claim.—The combined arrangement of the revolving box and folding head frame, substantially as and for the purposes herein set forth.

No. 45,659.—John Wallis, Fleming, N. Y.—*Hand Shears.*—December 27, 1864.—In this invention what are usually the handle parts of the shears turn inward and pass each other so as to be attached to supplementary levers, the inner ends of which are fulcrumed to the opposite half of the shears near the joint.

Claim.—The friction pulleys O and P, working against the levers C and D, in combination with the slots I and J, or their equivalents, as set forth.

No. 45,660.—James Warner, Springfield, Mass.—*Breech-loading Fire-arm.*—December 27, 1864; antedated December 14, 1864.—This invention relates to that class of fire-arms in which a hinged breech block swings open laterally, carrying in it a sliding hammer rod for transmitting the blow of the hammer to the primed metallic cartridge; and the improvement consists simply in providing bevelled grooves on the rear end of the barrel, against which the breech block slides in such a position as to press back the said sliding hammer rod, should its forward end be projecting, and thereby prevent the said rod interfering with the closing of the breech.

Claim.—The bevelled grooves *l* and *m* in the barrel and frame, in combination with the sliding pin F, substantially as and for the purpose herein specified.

No. 45,661.—Thomas J. West, Alfred, N. Y.—*Machine for making Horseshoes.*—December 27, 1864.—This machine consists of three distinct devices, one designed for shaping the shoe, consisting of a reciprocating roller and a curved and adjustable former; also a device for creasing the shoe, consisting of a curved table vibrating in the arc of a circle, in combination with a rotary cutter or creaser, and a device for punching the nail holes.

Claim.—First, the adjustable curved bed and pressure roller, operating substantially in the manner and for the purpose herein set forth.

Second, the creasing apparatus, constructed and operating substantially as described.

No. 45,662.—James W. Weston, New York, N. Y.—*Supporter for Artificial Leg.*—December 27, 1864.—This invention will be understood by reference to the claim and engraving.

Claim.—The rest *a*, connected to and combined with the artificial leg by means of the strap *c*, passed up and down through rings or eyes on the respective parts so as to support the leg and produce a self-adjustment, as specified.

No 45,663.—A. H. Woodruff, Lansing, Iowa.—*Valve Gear for Steam Engines.*—December 27, 1864.—This invention consists in the arrangement of the valves and ports, by which the induction and eduction of steam to and from the cylinder of the engine is effected, and in a mode of operating the valves, whereby the motion of the engine may be changed and made to run in either direction, with one eccentric, and the stopping and starting and reversing of the engine are effected with the same valves. To effect this a column is attached to the steam chest between the valves; to this column a beam is attached to the outer ends of which the valve rods are attached. Through the centre of this beam is passed a rock-shaft, on the outer end of which is an arm, to which the eccentric rod is attached, which gives the vibrating motion to the beam. This column, with its rock shaft and valve rods, is so adjusted that it can be raised or lowered by means of a lever provided for the purpose, by which means, owing to the peculiar construction of the valves, the above named changes are effected.

Claim.—The attachment of the valves operating rock-shaft and valves to a movable column I, by which they may be raised or lowered or otherwise moved in such a manner as to effect the induction at one or other edge of the valves, substantially as and for the purposes herein specified.

No. 45,664.—S. H. Wooldridge, Venice, Ill.—*Shovel Plough.*—December 27, 1864.—In this invention the standard is provided with a lip or shoulder upon its forward edge, to which the share is secured.

Claim.—First, the construction of the forward standard E with a supporting lip or shoulder *b* formed on its forward edge, substantially as and for the purposes described.

Second, the combination of the standard E, having a lip *b* formed on it, shovel D, having a bar D2 formed on it, and rear standard F, with a plough beam A, all arranged substantially as described.

No. 45,665.—A. G. Wright, Santa Cruz, Cal.—*Balloon* —December 27, 1864; antedated December 24, 1864.—This invention is explained by the claim and engraving.

Claim.—Attaching the lower edge of the casing of the balloon A directly to the upper edge of the boat-shaped car B, substantially in the manner and for the purpose set forth.

No. 45,666.—Theodore Yates, Milwaukee, Wis.—*Cartridge for Ordnance.*—December 27, 1864.—This cartridge is chiefly applicable to breech-loading cannon, and consists of a case similar to that commonly employed in small-arms, and provided with a central tube passing through the base of the cartridge and into the charge, within which tube a rod connected with a friction or similar primer is adjusted, so as by an external blow thereupon to ignite the same. A spring puppet-valve at the rear end of the rod forms a check against the escape of the gas.

Claim.—First, the fulminate tube E, employed for igniting the charge at or near the front end of the cartridge, and operating in connexion with the rod C, disks $c\ c'$, and wire e, substantially in the manner explained.

Second, the disk C', held within a corresponding seat or cavity in the forward end of the cylinder D, by the action of the spring C'', and adapted to be pressed to its seat by the gases generated by the charge, as stated.

No. 45,667.—T. C. Bartle and C. F. Putney, Independence, Iowa, assignor to T. C. Bartle.—*Steam Pan for Evaporators.*—December 27, 1864.—This invention consists in the employment of a series of steam pans arranged transversely beneath the evaporating pan, and between it and the fire, with suitable intervening spaces between the steam pans, provided with adjustable dampers, whereby the said spaces may be gradually opened and closed.

Claim.—The employment of a series of steam pans C C C, provided with the slides $E\ E'$, for closing the spaces $D\ D'$, in combination with the evaporating pan B, arranged and operating substantially as and for the purposes herein shown and described.

No. 45,668.—James Cartwright, South Reading, Mass., assignor to himself and George C. Sweetser, Boston, Mass.—*Drop Plate for Casting Solder.*—December 27, 1864.—This invention consists of a plate furnished with feet, and handled by means of a bail at each end, and containing a number of cup-shaped recesses, with holes between, to allow the surplus metal to run off after the holes have been filled by dipping the plate into melted solder.

Claim.—The employment or use of the drop plate A, provided with mould holes b and air channels c, in the manner and for the purpose substantially as herein shown and described.

No. 45,669.—James H. Conklin, Yorktown, N. Y., assignor to Geo. P. Marshall, Peekskill, N. Y.—*Edge Plane.*—December 27, 1864; antedated December 1, 1863.—This invention consists in forming grooves on the inner sides of the lower lips in connexion with the knife and adjusting screw.

Claim.—First, the combination of the grooved lips D D, immediately beneath the surface of C, substantially as set forth.

Second, the combination of the knife E and the screw F, with the grooved lips D D, substantially as set forth.

No. 45,670.—A. W. Hall, assignor to The Hall Mining Machinery Company, New York, N. Y.—*Apparatus for Extracting Gold from Foreign Matters.*—December 27, 1864.—This invention consists of a series of curved pipes connected with quicksilver basins in such a manner that the lower end of the upper pipe and the upper end of the second pipe will enter the bottom of the first basin, the end of the other pipe extending slightly above the bottom of the vessel. The lower end of the latter pipe and the upper end of the pipe A enter the bottom of the pan, and so on throughout the whole series.

Claim.—An apparatus for separating gold from foreign substances, composed of a series of bent pipes or tubes $A\ A'\ A''\ A'''$, combined by means of a series of connecting basins $B\ B'\ B''$ containing quicksilver, substantially as herein specified.

No. 45,671.—Thomas W. Hammon, assignor to himself and J. H. Lincoln, Montfort, Wis.—*Operating Cultivator Teeth.*—December 27, 1864.—This invention consists in attaching the standards or arms of the teeth to two separate shafts, which are connected by toothed segments, arranged in such a manner that when the teeth of one shaft are raised, those of the other shaft will be depressed or lowered, the toothed segments serving as equalizers to insure a proper action of the teeth in the soil.

Claim.—The employment or use in cultivators and grain drills of two parallel shafts B B, connected by toothed segments C C, or their equivalents, and having the arms or standards D of the teeth E attached to them, to operate in the manner substantially as and for the purpose herein set forth.

No. 45,672.—Peter Lear, Medford, Mass., assignor to himself and Samuel A. Bradley, Dorchester, Mass.—*Ventilator.*—December 27, 1864.—This invention consists of a cylindrical wind-wheel, having on its outside a number of V-shaped flanges, on which the wind impinges and sets the whole in rapid motion. At the bottom of this wheel is a series of wings, and when the wheel is revolving these wings serve to throw off centrifugally the impure air or smoke arising from the chimney, on the top of which the device is placed. By putting the apparatus inside the throat of the chimney, a current of air may be forced down into the apartment beneath. The whole device turns on a vertical spindle.

Claim.—The said improved ventilator, constructed substantially in the manner and so as to operate as described.

No. 45,673.—Levi L. Martin, assignor to himself and Horace Thayer, Warsaw, N. Y.—*Varnishing Machine.*—December 27, 1864.—This invention consists of a machine for varnishing box heads, blinds, &c., by means of horizontal elastic rollers mounted side by side, and turning in opposite directions, and supplied with color or varnish by tanks or disks, the surplus being removed by scrapers. The article to be varnished or painted is singly passed between the rollers.

Claim.—First, the within described machine, adapted to varnish or paint rigid articles on one or more faces by means of one or more elastic rollers and suitable supplying means arranged relatively to each other and to the moving article, being operated on so as to apply and press the varnish, or its equivalent, on one or more faces of the articles passed through, substantially in the manner herein set forth.

Second, in such machine, mounting the roll C and its supplying apparatus on a movable part a, moving relatively to fixed part A, so as to adapt the machine to varnish articles of different thicknesses, substantially as herein specified.

Third, in such machine, the within described arrangement of a roll, a tank, and a scraper, so as to take up and apply the varnish by a single operation in proper quantities, as herein set forth.

No. 45,674.—Edgar Murray, New York, N. Y., assignor to Charles W. Dunlap, Brooklyn, N. Y.—*Skate.*—December 27, 1864.—This invention consists of an adjustable toggle joint, heel clamp to grip the heel, and a clamp to grip the sides of the sole, said clamp being actuated simultaneously with the heel clamp by means of a lever.

Claim.—First, the combination of the heel clamp l, adjustable bar k, and lever g, whereby the heel clamp l is actuated by the toggle joint formed between $f\ h$ and o, substantially as specified.

Second, the toggle joint k and lever g, in combination with the plate e and clamps d, for grasping the edges of the sole of the boot or shoe, as set forth.

Third, the pin q, forming a fulcrum for the toggle joint lever g in drawing back the plate e and releasing the clamp d, as set forth.

No. 45,675.—George Pratt, West Roxbury, Mass., assignor to Chickering & Sons, Boston, Mass.—*Piano-forte Action.*—December 27, 1864.—This invention consists in a construction of the jack of a piano-forte action, whereby the peculiar advantages of what are known as the "French" and the "Pleyel" actions are combined. It also consists in what are known as the rest rail and the regulating rail of separate parts, and arranging them at some distance apart.

Claim—First, a jack with a projection on the back for the regulating screw to act on, and another projection on the front, which is acted on by a straight, curved, or elliptic wire spring, one end of which is inserted in a slot in said projection, the other end of the spring being inserted into and moving with the key; the jack thus operated upon by the spring and by the regulating screw, and thus constructed, acting immediately upon and behind the but of the flange, substantially as and for the purpose herein specified.

Second, making the rest rail and regulating rail separate and with a space between them when both these rails are behind the jacks, substantially as and for the purpose herein specified.

No. 45,676.—Joseph Raynor, assignor to himself and John R. Moffit, Harvey Clark, and H. Tamplin, Piqua, Ohio.—*Grain Threshing and Separating Machines.*—December 27, 1864.—This invention relates to devices for elevating the tailings to the threshing cylinder, consisting of a fan working at the bottom of a closed cylinder.

Claim.—The combination of the spout l, fan s, tube O, and conductor P, constructed and arranged as specified, and operating in connexion with the shaking shoe and threshing cylinder, substantially as and for the purpose set forth.

No. 45,677.—C. B. Rogers assignor to C. B. Rogers & Co., Norwich, Conn.—*Mode of Adjusting Circular Saws on their Arbors.*—December 27, 1864.—The object of this invention is to adjust a saw on its arbor so as to be at any desired angle with the same, and it consists in providing bevelled collars upon the arbor, so arranged that any degree of obliquity desired can be obtained, and, by having an index upon the collars, the degree or angle can be registered.

Claim.—First, the combination of the key tenon and slot $g\ g'$ with the four collars $c\ c'\ d\ d'$, saw b, arbor a, and nut e, substantially in the manner and for the purpose described.

Second, producing the desired changes in the degree of obliquity of the saw, and at the same time registering and indicating the change, in the manner and by means substantially as described.

No. 45,678.—SAMUEL ROHRER, Palmyra, Mo., assignor to himself and W. W. GRANGER, Lewis county, Mo.—*Portable Forge.*—December 27, 1864.—This invention consists in arranging in a box a bellows, supported at the bottom, the fireplace at top, and between the two the smoke funnel and chimney, and at one end of the fireplace a box containing the fixtures of the forge, tools, &c. When needed for use the hinged top of the box is thrown in a vertical position, and affords, by means of a pin therein, a fulcrum for the bellows lever, and to support the smoke funnel and chimney, the fireplace or hearth is elevated to the proper position and the feet attached to the box.

Claim.—The case or box A, adjustable fire box D, detachable smoke stack L M, and bellows C, all combined and arranged substantially as and for the purpose set forth.

Also, the plates H H attached to the fire box D, and arranged with the projections *k k* at the sides of the box A to hold up the fire box, substantially as described.

Also, the plate G, when hinged to the fire box D, and used in connexion with the smoke stack L M, substantially as and for the purpose specified.

Also, the hinged bottom *b*, when applied to the box A, provided with the bellows C, substantially as and for the purpose set forth.

No. 45,679.—PHILIP SCHRAG, assignor to EBERHARD FABER, New York, N. Y.—*Machine for Sand-papering Pencils.*—December 27, 1864.—This invention is designed for finishing lead pencils by sand-papering or polishing the wood, and it consists of a circular machine, in which is placed a revolving disk. In the outer casing are apertures, through which racks containing the pencils are placed, which present the pencils to the revolving disk, which latter is covered with sand or emery paper. To each rack is attached a rod, which rods are connected at one end with a cam on a centre shaft, which, as the disk revolves, gives the pencils in the rack a reciprocating motion.

Claim.—First, the employment or use of one or more slotted racks, substantially such as herein described, to operate in combination with a revolving polishing disk, in the manner and for the purpose substantially as set forth.

Second, imparting to the slotted racks an automatic reciprocating motion, substantially as and for the purpose described.

No. 45,680.—THOMAS SHAW, Philadelphia, Penn., assignor to PHILIP S. JUSTICE.—*Low-water Signal for Steam Boiler.*—December 27, 1864.—This invention consists in providing a cylinder of wood, through which the valve stem passes, and is confined to a cross-bar in the base of the instrument. On the top of the metallic cylinder which encloses the wooden one a whistle is placed, the interior of which is in communication with the chamber covered by the valve. To the lower end of the instrument a pipe is attached, which extends down within the boiler to low-water line; and in case the water falls below the mouth of this pipe from any cause, the steam enters and passes up to and around the valve stem, which, being of metal, is expanded, causing the valve to open and the alarm to be sounded.

Claim.—The employment of the metallic rod, in combination with a wood bearing, when arranged to operate substantially as and for the purpose set forth.

No. 45,681.—CHARLES SPOFFORD and VALENTINE FOGERTY, assignors to themselves and W. S. BELL, Boston, Mass.—*Paper Collar.*—December 27, 1864.—One or both ends of the band portion of the collar are closed for the purpose of imitating a neck-tie. A hole through both ends, when lapped, receives an ornamental stud or a stud attaching a bow.

Claim.—Converting the ends of a paper collar into an imitation neck-tie, substantially as described.

No. 45,682.—WILLIAM TUNSTILL, assignor to THEODORE H. CONKLING, New York, N. Y.—*Shuttle for Looms.*—December 27, 1864.—A cop, unsupported by any spindle, is placed loosely within a cylindrical or cop-shaped case, which has a longitudinal hinge to enable it to open for the reception of the cop. The yarn is unwound from the interior coils of the cop whilst being delivered from the shuttle. The case is secured in its place in the shuttle by its axial tubular gudgeon at one end and by a spring catch at its other end. The gudgeon is inserted in a hole in the shuttle, and its tube affords a passage for the delivery of the thread.

Claim.—The employment or use of the case B, in combination with a shuttle A, constructed, applied, and operating substantially as and for the purpose set forth.

No. 45,683.—GEORGE WESTINGHOUSE, Schenectady, N. Y., and LORENZO SMITH, Sharon Springs, N. Y., assignors to GEORGE WESTINGHOUSE, aforesaid.—*Threshing Machine.*—December 27, 1864.—This invention consists in the discharging device of the machine for carrying the straw over the riddle after the former has passed between the threshing cylinder and concave, thereby causing a thorough separation to be made of the threshed grain from the straw, by regulating the passage of the straw over the riddle, so as not to admit of its being discharged too quickly over the latter, and before the grain is separated from it, and at the same time insure its passing along sufficiently quick to prevent the threshing cylinder becoming clogged or choked. It consists also in the manner of hanging the grain receptacle or carrier, whereby the same is made to operate more efficiently than hitherto. It further consists in the construction of a wooden shaker, whereby the journals of the same are protected from wear.

Claim.—First, the rotary feeder L, in combination with the riddle F and shaker J, arranged and operating substantially as and for the purpose set forth.

Second, the grain receptacle or grain carrier M, hung or suspended, as shown and described, in combination with the riddle F and threshing cylinder B, concave C, and screw D, all constructed and arranged to operate in the manner as and for the purpose specified.

Third, encompassing the wooden shaft *d* of the shaker J with metal bands or ferrules *g*, as and for the purpose set forth.

No. 45,684.—EDWARD SONSTADT, Loughborough, England.—*Manufacture and Purification of Magnesium.*—December 27, 1864; patented in England May 21, 1863.—This invention consists in first making a solution of chloride of potassium, which is carefully freed from any sulphuric acid it may contain. This is mixed with a solution of chloride of magnesium, properly purified, in the proportion of equal atoms of the two salts, although the proportion may be varied between the limits of one-third of the equivalent of chloride of potassium to one of the chloride of magnesium and one atom of each salt. The solution is then evaporated to dryness, and heated to redness in a platinum crucible, and the resulting compound reduced by means of sodium in an iron crucible. The metal obtained is purified by distillation.

Claim.—The manufacture of the metal magnesium by acting by means of sodium on a material obtained by evaporating to dryness and then heating to redness a mixture, in solution, of chloride of magnesium with chloride of potassium, substantially as described.

Also, the distillation of metallic magnesium by means of an apparatus made of iron, from which atmospheric air is excluded during the distilling process, such apparatus consisting of a receiver placed immediately beneath the fire bars of the furnace which heats the vessel containing the crude metal, so that the receiver may, when required, be heated sufficiently to keep the magnesium which distils over in a fused or liquid state, and so that the pipe connecting the two vessels may be kept sufficiently hot to prevent the condensation of magnesium in it, substantially as herein described.

REISSUES.

No. 1,596.—Warren L. Fish, Newark, N. J.—*Lamp Chimney.*—Patent dated June 22, 1862; reissued December 23, 1862; again reissued January 5, 1864.

Claim.—First, forming over and around the flame of an ordinary kerosene or other lamp a heating chamber, having no other outlet than the flue or chimney of the lamp, and being, in fact, a chamber in the chimney of the lamp, by which it is adapted for heating or cooking purposes.

Second, the use, in connexion with oil lamps of ordinary construction and operation, of heating vessels, containing a central flue, so shaped as to form the chimney of said lamp, substantially as herein shown and described, whereby the same lamp may be used for both illuminating and heating purposes or for either.

Third, in oil lamps of ordinary construction and in connexion with a heating vessel, the use of a bulb, or its equivalent device, for the intermediate support of said vessel by or over the lamp, substantially as shown and described.

Fouth, in combination with a heating vessel and bulb, the use of a window or windows, or the equivalent thereof, made of a transparent material for the transmission of light through it, substantially as and for the purposes set forth.

No. 1,597.—Charles A. Miller, Philadelphia, Penn., assignee by mesne assignments of Albert M. Hill, Branford, Conn.—*Knob Latch.*—Patent dated June 11, 1861; reissued January 5, 1864.

Claim.—First, a latch bolt, so constructed and so connected to a door lock that it can be turned without in any degree withdrawing or detaching it from the lock case end, and without removing the detachable plate of the same.

Second, the plate I, or its equivalent, so arranged and applied to the lock in respect to the latch bolt and to one of the screws by which the lock is secured to the door that, on withdrawing the said screw, the latch bolt can be turned, and on reinserting the said screw the latch bolt will be prevented from turning, as herein set forth.

No. 1,598.—George Owen, Jacksonville, Ill.—*Plough Coupling.*—Patent dated February 4, 1862; reissued January 5, 1864.

Claim.—First, connecting two single ploughs by means of the hinged coupling pieces or rods *s s* attached to the beams of said ploughs in the rear of the standards thereof, so as to bring the ploughs close together, and thereby form a double mold-board plough, substantially in the manner and for the purpose described.

Second, the combination of the curved or bent piece or pieces *t t* and the sliding joints of the bars C and D, in the manner and for the purpose herein specified.

Third, connecting the compound curved or bent coupling bar C with the upper coupling bar D, substantially in the manner and for the purpose herein set forth.

Fourth, the combination of the front curved or bent stretcher bar B′ and curved or bent coupling bar C for connecting two ploughs, substantially in the manner and for the purpose herein set forth.

No. 1,599.—James H. Stevens, East Durham, N. Y.—*Manure Spreader.*—Patent dated March 25, 1862; reissued January 5, 1864.

Claim.—First, the arrangement of the endless flexible bed C, windlass shaft J and its connexions, in combination with the buckets D, spring *f*, and conducting tubes G H I, the whole combined and operating in the manner and for the purpose described.

Second, the arrangement of the endless flexible bed C, rollers B B, sides A, conducting tubes G H I, and framing F, the whole supported upon wheels, and operating in the manner and for the purpose described.

Third, the arrangement of the endless flexible bed C, in connexion with windlass shaft J and wheel K, operating in the manner and for the purpose described.

Fourth, the arrangement of the endless flexible bed C, in connexion with windlass shaft J and hand crank, constructed and operating substantially in the manner and for the purpose described.

No. 1,600.—Elmer Townsend, assignee, through mesne assignments of William Butterfield and Edgar M. Stevens, Boston' Mass.—*Sewing Machine.*—Patent dated July 4, 1854; reissued January 5, 1864.

Claim.—Separating into two instruments, a presser foot and a "rest cast-off," (both operating on the material to be sewed,) the tube or holder hereinbefore referred to, so that the "rest cast-off" can act independently of the presser foot as respects its times and extent of motion, substantially in the manner specified.

Also, constructing the "rest cast-off" of such a form that it operates and is located in front of the barb of the needle instead of surrounding it, by which construction it operates in an improved manner, especially when sewing in narrow channels.

Also, making the "rest cast-off" adjustable with reference to the needle, substantially as described.

Also, the combination of a supporting surface crotchet needle and presser foot with a "rest cast-off," operating substantially as described.

Also, the combination of a supporting surface crotchet needle and feeding device with a "rest cast-off," operating substantially as described.

Also, the improvement by which the "rest cast-off" is rendered capable of, adapting itself to any ordinary thickness or variation of the thickness of the fabric or article to be sewed, such improvement consisting in the above described mode of operating it by the spring F applied to the carrier lever E, and made to operate on the lower end of the recess C, as stated.

Also, the combination of the bobbin holder U with the spring V, the friction disk R, and the axle on which the holder turns, the same enabling an empty bobbin to be removed from the holder and a full one put in its place without disturbing the connexion of the spring with the bobbin and friction plate or disk.

No. 1,601.—Joseph T. Van Kirk, Philadelphia, Penn., and William M. Fulton, Elizabeth, N. J.—*Lamp.*—Patent dated November 29, 1859; reissued January 5, 1864.

Claim.—First, forming the wick tube of lamps, using a flat wick, of or from a solid continuous piece of metal without lap, joint, or seam, substantially as and for the purpose set forth.

Second, the combination of a wick tube so formed with the spindle E and wheels D D, when formed of a single piece of metal, as described.

Third, supporting the spindle E and wheels D D by a spring, substantially as and for the purpose set forth.

No. 1,602.—D. D. Lewis, Philadelphia, Penn.—*Railroad Frog.*—Patent dated May 17, 1859; reissued January 5, 1864.

Claim.—First, the ribs A and A′, curved from the throat *x* outward in both directions, as set forth, for the purpose specified.

Second, the ribs A and R, so bevelled and rounded on the edge that they will conform to or nearly conform to the treads and flanges of the car wheels, for the purpose described.

Third, the steel point *h* dovetailed to the body of the frog, in combination with the tread plate *k* and the block *i* when the said tread plate overlaps and is secured to the said point, and when the block *i* is of such a tapering or wedge-shaped form that during the process of riveting it and the tread plate to the body of the frog the said block may serve the purpose of driving the point tight into its socket.

No. 1,603.—Charles Perley, New York, N. Y.—*Method of Fitting the Hearing Socket and Head of Windlass.*—Patent dated November 13, 1849, and extended; reissued January 12, 1864.

Claim.—First, a windlass head fitted at the inner end upon a polygonal boss that is attached to the shaft or spindle, whereby the head can be easily removed, as set foith.

Second, A handspike heaver fitted to take the teeth at the inner or larger end of the windlass head, substantially as and for the purposes specified.

No. 1,604.—Joseph P. Manton, William H. Reynolds, Francis W. Reynolds, and William H. Taylor, Providence, R. I., assignees, by mesne assignments, of James Emerson, Worcester, Mass.—*Ship's Capstan and Windlass.*—Patent dated June 17, 1856; reissued January 12, 1864.

Claim.—First, the combination, substantially as described, of a friction brake with the independent chain wheel or "wild cat" of a ship's windlass or capstan, for the purpose of controlling the paying out of the cable of the vessel directly from the chain locker.

Second, the double or divided windlass or capstan, arranged for operation in the manner specified, and consisting of an upper hand operative portion of the body or capstan proper G, and under loose portion of said body H, the former being capable of working independently of the latter or in connexion with it, at pleasure, substantially as herein described.

No. 1,605.—John Howarth, Salem, Mass.—*Method of Distilling Coal, &c.*—Patent dated September 27, 1859; reissued January 19, 1864.

Claim.—Distilling coal or other carbonaceous substances for the production of oils, gases, vapors, &c., by passing through the material to be acted upon a current of super-heated steam in one body, in a vertical plane, or nearly so, through an upright retort—that is, so that a body of super-heated steam shall come in contact with every portion of the said material, as set forth.

Also, forming oleaginous vapors from coal or other substances yielding pyrogenous oils by passing through the material to be acted upon air combined with super-heated steam, substantially in the manner and for the purposes set forth.

Also, passing through the material to be acted upon super-heated steam in combination with steam direct from the boiler, for the purpose of regulating the temperature, as set forth.

No. 1,606.—H. W. Putnam, New York, N. Y.—*Bottle Stopper Fastening.*—Patent dated March 15, 1859; reissued January 19, 1864.

Claim.—First, forming the fastener at the part that comes over the cork of a piece of wire of a U form, with the ends returned and connected to the bottle, in order that the pressure on the cork or stopper may cause the fastener to hold more securely, as specified.

Second, a wire fastener for a cork or stopper, in which the ends of the wire are bent nearly at right angles to form the joint or hinge on which the fastener is turned, substantially as specified.

Third, forming the eyes for the reception of the fastener by means of wire bent, as set forth.

Fourth, a wire fastener for the stoppers of bottles, fitted so that it can be pressed aside from over the stopper, as set forth, in combination with a band or fastening, attaching the same to the neck of the bottle, as specified.

No. 1,607.—Edward Whitney, Albany, N. Y.—*Horse Collar and Hames.*—Patent dated October 27, 1863; reissued January 19, 1864.

Claim.—The metallic shield or plate C, constructed substantially as and for the purposes herein described and set forth.

Also, the combination of the metallic shield or plate C with the collar A B, substantially as and for the purposes herein described and set forth.

Also, the combination of the metallic shield or plate C, or any equivalent therefor, with the hames D, in the manner substantially as and for the purposes herein described and set forth.

Also, as a whole, the combination of the metallic shield, or its equivalent, the hames D, and the collar A B, in the manner and for the purposes substantially as herein described and set forth.

No. 1,608.—Augustus Walker, Buffalo, N. Y.—*Construction of Steam and Sailing Vessels for Naval and Merchant Service.*—Patent dated May 23, 1863; reissued January 19, 1864.

Claim.—First, constructing a vessel with one or more longitudinal arches or truss frames applied in vertical position to the centre of the hull, for the purpose of strengthening it, substantially as set forth.

Second, the combination of the central longitudinal truss framing or arch and double concave bottom, constructed substantially as herein described.

Third, the doubly arched prow or ram D^3, constructed and supported as described.

Fourth, the ventilating tubes I' I'', closable by the stanchions J J, substantially as described.

Fifth, the casing H, constructed with a circular arch *h*, for sustaining the turret G, substantially as specified.

Sixth, in connexion with a vessel of the above construction, the sliding pilot-houses K K, elevated and sustained in any way substantially as described.

Seventh, the described position and means of working the anchors.

No. 1,609.—O. L. Gardner, assignee of John Sperry and C. W. Sherwood, New York city.—*Machine for Enamelling Picture Frames.*—Patent dated April 2, 1861; reissued January 26, 1864.

Claim.—First, the employment, for the purpose specified, of a basin or enamel receiver D', either fixed or stationary, used in connexion with a rotating shaft C, or an equivalent means, for rotating the frame I, to be enamelled, and either with or without a lamp E, or other heating medium, substantially as described.

Second, the scraper J, formed of two plates *g h*, connected together by a bolt *j*, and arranged to operate as and for the purpose herein set forth.

Third, the lever H, in combination with the pin *e*, of shaft C, and the pin *f*, of the sliding or adjustable basin or receiver D', or other suitable clutch, arranged to operate substantially as and for the purpose specified

No. 1,610.—David Knox and Walter D. Richards, assignees by mesne assignments of C. H. Griffin, Lynn, Mass.—Patent dated June 12, 1855; reissued January 26, 1864.

Claim.—First, the combination of the depresser bar with the reciprocating knife frame, its two movable knives and their elevating springs or equivalent machinery, such being arranged and made to operate together substantially as specified.

Second, constructing a machine with two knives, each connected to a separate cutter-head, and with their edges toward the surface to be cut, that by the mechanism employed said knives shall be brought alternately to the cutting point, the one ascending as the other descends, the one cutting the right and the other the left side of the sole, and so on alternately in the manner described and for the purposes set forth.

No. 1,611.—N. F. Bryant, East Boston, Mass.—*Railway Carriage.*—Patent dated August 18, 1863; reissued February 2, 1864.

Claim.—Constructing a car truck with divided axles, or an axle to each wheel, such axle being so supported or journaled at each end thereof, that the opposite axles are movable toward or from the longitudinal centre of the car, the construction being for the purpose of adapting the car to tracks of different gauges, as set forth.

Also, the automatic combination, consisting not only of the chocks, or their equivalents, applied to the truck frame and wheels, and the chock rails, or their equivalents, applied to the track, but the two tracks of different gauges and their wheel-changing track, or the same and its flange-guide rails, the whole being arranged and so as to operate substantially as specified.

Also, in combination therewith, the projections or guides *n n*, for the purpose specified.

No. 1,612.—William Gee, New York city.—*Apparatus for Drawing Soda Water.*—Patent dated May 19, 1863; reissued February 2, 1864.

Claim.—First, a valve B, and its front A D E F, and openings C, in combination with valve H, and its port, forming a cock, for the purposes set forth.

Second, drawing soda water from a small and large opening, having one connexion with a draught tube or soda water apparatus.

Third, the small opening M, for the purpose of compressing the soda water while being admitted into the large opening C, and outlet, for the purpose set forth.

No. 1,613.—George W. Gregory, Binghamton, N. Y., assignee of E. W. Seymour and G. W. Gregory.—*Hay Elevator.*—Patent dated July 9, 1863; reissued February 2, 1864.

Claim.—Constructing a hay-elevating fork in such manner that while the head revolves, the handle attached centrally thereto remains in a vertical position.

Second, in combination with the revolving head and vertical handle, the strap or band passing around the head near or at its centre and attached to the handle in which the head revolves.

Third, the sustaining eye, or its equivalent, through which the hoisting rope passes, for the purpose of keeping the fork in a proper position.

Fourth, the latch E and the spring catch F, in combination with the revolving head A, handle C, and sustaining eye H, as and for the purpose herein described.

No. 1,614.—William N. Whiteley, Jr., Springfield, Ohio.—*Harvesting Machine.*—Patent dated November 25, 1856; reissued June 25, 1861; again reissued February 2, 1864.

Claim.—First, the combination of the main frame of a harvesting machine with the main ground and driving wheel's pinion shaft on the frame, the sector plates *f f*, and the sliding or adjustable boxes *g g'*, or their equivalents, so that the attendant of the machine can both vary the distance of the frame from the axle of the driving wheel, and its distance from the pinion shaft, while the axle remains in said sliding boxes in which it revolves, for the purposes set forth and described.

Second, in combination with the sector plate *f*, a projecting lip for the shipper's fulcrum pin, substantially such as is shown and described, for the purposes specified.

Third, retaining the pinion on its shaft by means of the shipper, or its equivalent, by which said pinion is thrown in and out of connexion with its clutch pin, substantially as shown and described, for the purpose stated.

Fourth, so connecting or combining the driver's seat of harvesting machines with the front end of the frame of the same, when used for reaping, that when the driver is on his seat his weight will do either, raise and hold up the rear end of the wheel frame, to which the cutting apparatus is connected, or both the rear end of the frame and the centre of the finger bar, for the purposes specified.

No. 1,615.—William N. Whiteley, Jr., Springfield, Ohio.—*Harvesting Machines.*—Patent dated November 25, 1856; reissued June 25, 1861; again reissued February 2, 1864.

Claim.—In combination with a harvester's platform, which is behind its cutting apparatus, an automatic rake, having its outer end moved faster over said platform than its inner, by a crank and pitman.

Also, providing said crank with suitable mechanism, so that the driver on his seat can lock the crank to or relieve it from its shaft or driving mechanism, so as to make the rake remove the gavels from the platform more or less often while the machine is in motion, and make the gavels a proper size for binding into sheaves where the grain is thin on the ground.

No. 1,616.—C. S. Patterson, E. Pincus, A. Hart, M. Moore, A. Mitchell, and H. H. Reed, assignees of E. A. Goodes and E. L. Miller, Philadelphia, Penn.—Patent dated July 26, 1859; reissued February 9, 1864.

Claim.—First, the loop catcher or needle *b* so constructed, so arranged on a sewing machine, and having such a motion imparted to it that it will hold a loop of thread and convey the same from the under side of the fabric and across the edge of the same, as set forth.

Second, the combination of the needle or loop catcher *b*, the eye-pointed needle *n*, and the hook *h*, or its equivalent, the whole being arranged for joint action, substantially as and for the purpose set forth.

Third, the combination of the eye-pointed needle *n*, the needle or loop catcher *b*, the hook *h*, and tongue L.

No. 1,617.—David M. Cochran, Richmond, Ind.—*Threshing Machine.*—Patent dated September 3, 1861; reissued February 16, 1864.

Claim.—First, the arrangement and combination of the endless belt or belts *g*, provided with the triangular slats *h h* and spout I, with partition *i*, the whole constructed and operating substantially as and for the purpose set forth.

Second, the combination of the elevator J, screw conveyor H, and grain receiver K, the latter being provided with the slide L and valve M, which valve is connected through the medium of a lever O and pawl P, with a ratchet or register Q, all arranged for joint operation as and for the purpose set forth.

Third, the construction of the rear or tail end of the thresher with a boxing B, which constitutes side walls to the last section of the conveyor of the thresher, and also to the first section of the stacker, substantially as and for the purpose set forth.

Fourth, the combination of the supplemental box E, box B, hinges *b*, hooks *a***, and conveyors of the stacker and thresher, substantially as and for the purpose set forth.

No. 1,618.—James B Herreshoff, Bristol, R. I.—*Process of Treating Fish-water for use in Dyeing, &c.*—Patent dated December, 1863; reissued February 16, 1864.

Claim.—First, the use of fish-water in the dye tub or as an agent for dyeing, substantially in the manner herein specified.

Second, the within described process of treating or preparing fish-water previous to its application in the dye tub by exposing it to a temperature above 212° under a pressure higher than that of the atmosphere, substantially as set forth.

No. 1,619.—F. H. Moore, Boston, Mass.—*Boot Strap.*—Patent dated January 5, 1864; reissued February 16, 1864.

Claim.—A strap for boots and shoes constructed of metal or other suitable rings or tough material, attached either permanently to the boot top or in such a manner as to admit, after the boot or shoe is drawn on the foot, of being turned or shoved down within or at the outer side of the boot top, substantially as herein set forth.

No. 1,620.—Thomas H. Neal, Boston, Mass.—*Running Gear of Locomotives.*—Patent dated June 30, 1863; reissued February 16, 1864.

Claim.—First, the combination of the wheels *q*, flanges *n*, and friction rollers *m*, with the crank shafts *x*, arranged and operating substantially as and in the manner herein described for the purpose set forth.

Second, the use of two parallel crank shafts connected by means of connecting rods, endless chains, or belts, when used in combination with the running gear of locomotives, as herein described and for the purpose set forth.

No. 1,621.—Samuel B. Sexton, Baltimore, Md.—*Stove.*—Patent dated April 19, 1859; reissued December 3, 1861; again reissued February 16, 1864.

Claim.—First, a stove for warming purposes, constructed with a fuel supply magazine supported free from the grate and a combustion chamber, having a base surface of greater diameter than the fuel magazine, substantially as and for the purpose set forth.

Second, in combination with the above, constructing the combustion chamber with projecting window or mica frames, substantially as described.

Third, a stove for warming purposes, embracing the features of construction named in my first claim and the additional feature of the gas circulating apartment above the fuel magazine, substantially as and for the purpose set forth.

Fourth, a stove for warming purposes wherein the flowing of the coals in a lateral direction from the lower end of the fuel magazine is wholly unobstructed, and at the same time the combustion chamber is formed by the outer wall of the stove, and the products of combustion circulate underneath, around, over, and in contact with the fuel magazine, whatever may be the form and relative proportion of the parts, substantially as and for the purposes set forth.

Fifth, the combination of a fuel magazine which has its lower end free from the grate G, with a stove which has illumination doors or windows in its wall A, so that the fire may be kindled through the apertures or door frames, substantially as set forth.

No. 1,622.—Samuel B. Sexton, Baltimore, Md.—*Stove.*—Patent dated April 19, 1859; reissued December 3, 1861; again reissued February 16, 1864.

Claim.—First, the adaptation of a fireplace stove which has diving flues, for use with a fuel magazine which has an unobstructed space between its lower end and the grate, substantially as and for the purpose set forth.

Second, a fireplace stove which has diving flues constructed with the reduced portion A′, enlarged portion A, reverberating plate A″, gas space *g*, projecting window or door frames *i*, and fuel-supply magazine H, substantially as and for the purpose set forth.

Third, a fireplace stove with diving flues and kindling apertures *i i*, in combination with a fuel-supply magazine which has a free unobstructed space below and out to the interior surface of the part A, between itself and the grate G, substantially as and for the purpose set forth.

Fourth, in combination with a fireplace stove which has diving flues, a fuel-supply magazine which has a free unobstructed burning space below it and out to the wall of the stove, substantially as described.

Fifth, the combination of the fuel-supply magazine, which is arranged to have a space between its lower end and the grate G, with a fireplace stove which has a contracted part A′, in which the gases circulate in contact with and over the cover of the fuel-supply magazine, and from which the gases pass into diving flues, and thence under or around the ash pan and up to the draught or exit flue, substantially as and for the purpose set forth.

Sixth, the chamber A A′ A″, with door I, in combination with the internally located fuel-supply magazine H, which is free from the grate and has a removable cover, substantially as and for the purpose set forth.

Seventh, a fireplace stove which combines in its construction a burning base surface G of larger diameter than the fuel magazine, a magazine H, and diving flues, substantially as and for the purpose set forth.

Eighth, a cold-air chamber combined, in any manner substantially as described, with a stove having a fuel-supply magazine H, for the purpose set forth.

Ninth, the combination of the main chamber A, fuel-supply magazine H, flues B B B′, and damper *b*, substantially as and for the purpose set forth.

No. 1,623.—John A., William F., and Isaac N. Dann, New Haven, Conn.—*Folding Chair.*—Patent dated January 6, 1863; reissued February 23, 1864.

Claim.—The combination of bent or curved arms with the cross legs of folding chairs, when the said arms are pivoted or hinged to the two legs which sustain the front of the seat, and the other or upper end of the arms secured to the back by means of slots, whereby the several parts may be folded into a compact form without disconnecting the said curved arms from either back or legs.

No. 1,624.—Ross Johnson, Frederick, Md.—*Sash and Door Fastening.*—Patent dated May 29, 1860; reissued February 23, 1864.

Claim.—The within described implement C *j i* as a door and window-sash fastener, substantially as set forth.

No. 1,625.—A. B. and N. H. Shaw, assignees of A. B. Shaw, Swanton, Vt.—*Sewing Machine.*—Patent dated December 16, 1862; reissued February 23, 1864.

Claim.—The combination of the lifting cam and pin *x* with the feed lever, and a spring applied to the said lever, to operate substantially as and for the purpose herein specified.

No. 1,626.—Mitchell, Vance & Co., assignees by mesne assignments of John Powers and E. M. Smith, New York, N. Y.—*Harvester.*—Patent dated January 14, 1862; reissued February 23, 1864.

Claim.—First, the combination of the upwardly curved arms D and sliding bars F, when united by a hinged joint *a*, substantially as and for the purpose described.

Second, the combination of the outwardly curved arms with the widespread bearings or boxes *h*, for the purpose of bracing the shoe and finger bar to the main frame in the direction of their greatest strain, substantially as described.

Third, the combination of the sliding lever N, with the lifting segment K and shoe C, and their flexible connexions *o q*; for the purpose of raising up, holding up, or lowering the finger bar and cutting apparatus, substantially as and for the purpose described.

Fourth, the curved, flanged, or angle iron bars or plates *s t*, for uniting the longitudinal pieces *r r*, as herein represented and for the purposes described.

Fifth, the guard fingers, having backs *h* and ledges *k* extending continuously along the bar, so as to present closed surfaces in front and beneath, and formed with channels or grooves *i* extending beneath the sickle bar, and partially around the bolt holes *l*, and open at the back to permit the ready escape of moisture, gum, or other foreign matter, and thus avoid choking or clogging, substantially as described.

No. 1,627.—Thomas J. Mayall, Roxbury, Mass.—*Machine Belting.*—Patent dated November 24, 1863; reissued March 8, 1864.

Claim.—The combination of fibres of leather with sulphur, India-rubber, or gutta-percha, separately or combined with litharge or other metallic oxides, with or without the use of any of the other ingredients mentioned in the specification, when the compound is subjected to artificial heat to produce the product as herein described.

No. 1,628.—Enoch Osgood, New York, N. Y.—*Cotton Gin.*—Patent dated December 22, 1863; reissued March 8, 1864.

Claim.—First, the combination of the elastic roller A, with the concave bar B, connected and operating together substantially as described.

Second, the combination of the elastic roller A, the concave bar B, and the endless apron C, arranged and operating together substantially as described.

Third, the combination and arrangement of the elastic roller A, the concave bar B, and the cleaning plate E, constructed and operating together substantially as described.

Fourth, the cleaning plate E, constructed with grooves in its inner side, and operating in combination with devices for drawing the fibre through said grooves, substantially as described.

Fifth, the cleaning plate E, constructed with teeth formed by grooving its inner side and bevelling its lower edge, and operating in connexion with devices for drawing the fibre between said teeth, substantially as described.

No. 1,629.—**Joseph W. Ross**, Boston, Mass.—*Inkstand.*—Patent dated April 30, 1861; reissued March 8, 1864.

Claim.—First, the use of the float *k*, travelling in a suitable guiding tube, and operating substantially as herein above described.

Second, so arranging and constructing an ink well or fountain that its cover or top surface can be brought flush or nearly so with the top of the desk, and so that the cover or ink well cannot be locked in or removed from the same without the use of a key or other instrument, substantially as set forth.

No. 1,630.—**John B. Wickersham**, New York, N. Y.—*Hat Stand and other Clothes-hanging Apparatus.*—Patent dated June 2, 1857; reissued March 8, 1864.

Claim.—Attaching the hooks of hat stands and other clothes-hanging apparatus, so that said hooks can be turned around horizontally, substantially as and for the purposes specified.

No. 1,631.—**Augustus Walker**, Buffalo, N Y.—*Construction of Steam and Sailing Vessels for Naval and Merchant Service.*—Antedated May 23, 1863; patent dated August 25, 1863; reissued January 19, 1864; again reissued March 8, 1864.

Claim.—First, constructing a vessel with one or more longitudinal arches or truss frames applied in vertical position to the central part of the hull for the purpose of strengthening it, substantially as set forth.

Second, a vessel bottom constructed with a central keel C, two concavities *c c* and two straight and horizontal or nearly horizontal surfaces *b b*, all extending longitudinally throughout the length of the vessel, substantially as shown and described.

Third, the combination of a central longitudinal truss framing or arch with a double concave bottom, constructed substantially as herein described.

Fourth, the doubly-arched prow or ram D3, constructed and supported as described.

Fifth, the dome or turret G, formed and supported substantially as shown and described, and adapted to be revolved either independently of or in connexion with the gun carriage.

Sixth, the inner turret or gun carriage G′, constructed separately from the dome or outer turret G, so as to be revolved either independently of or in connexion therewith.

Seventh, the method of ventilating by the construction and method of insertion of tubes or flues, substantially as set forth and described herein.

Eighth, closing the ventilating tubes I1 I2, by the stanchions J J, substantially as described.

Ninth, the casing H, constructed with a circular arch *h*, for sustaining the turret G or G′, substantially as specified.

Tenth, in connexion with a vessel of the above construction, the sliding pilot houses K K, elevated and sustained in any way, substantially as described, either by windlass or stationary screw.

Eleventh, the described position and means of working the anchors.

No. 1,632.—**Walter Wright**, Chicago, Ill., assignee by mesne assignments of **Jearum Atkins**.—*Rake to Grain Harvesters.*—Patent dated December 21, 1852; reissued October 31, 1854; again reissued March 8, 1864.

Claim.—An automatic rake for harvesters which is supported, guided and impelled by a vertical shaft and by contrivances sustained by or placed around the same, the said shaft and other contrivances being all placed upon the inner side of the machine or of its platform, when such rake acting alone shall rake and deposit the gavel upon the inner side of the newly cut swath, and shall then return to its proper position for raking the next gavel, in such a way as to swing clear of the standing grain as well as of the unraked grain, which is then lying upon the platform, all by means of a motion of this shaft upon its axis, with its necessary appurtenances, substantially as above described.

No. 1,633.—**Walter Wright**, Chicago, Ill., assignee by mesne assignments of **Jearum Atkins**.—*Rake to Grain Harvesters.*—Patent dated December 21, 1852; reissued October 31, 1854; again reissued March 8, 1864.

Claim.—First, an automatic rake for harvesters which shall singly and alone rake and deposit the gavel with the straw nearly at right angles to the line of draught, when such rake is controlled in its movements by contrivances, no part of which shall be placed upon the outer side of the machine, substantially as described.

Second, an automatic rake for harvesters which shall singly and alone rake and deposit the gavel with the straw nearly at right angles with the line of draught when such rake is sustained, guided and impelled by contrivances so placed on the inner side of the machine as not to be liable to become entangled either with the cut or with the uncut grain, substantially as described.

Third, an automatic rake for harvesters which singly and alone shall rake and deposit the gavel so far on the inner side of the newly cut swath as to be out of the way of the horses on the next round, and then swing back to its proper position for raking a new gavel in lines, which shall both in plan and elevation be substantially different from those described by its various parts in making its forward movement, thus keeping clear of the standing grain as well as that which lies upon the platform, when the movements of said rake are accurately directed in without the use of any exterior guide or other fixture for that purpose, substantially as described.

Fourth, in an automatic rake for harvesters, the employment of a palm, or its equivalent, by which, in connexion with the said rake, the gavel may be firmly grasped, when said arrangement is so contrived as to provide for a yielding pressure between the rake and the palm so as to be accommodated to the size of the gavel, substantially as described.

Fifth, in a harvester the use of an automatic rake which shall rake the gavel to the inner side of the machine when, in combination with a palm, or its equivalent, it shall grasp and turn and deposit it so that the straw shall lie perpendicularly to the line of draught, or nearly so, substantially as described.

Sixth, in a harvester the use of an automatic rake which, by a rapid movement in a direction nearly parallel with the cutter bar, shall rake the gavel, and then by a slower movement shall return outward and back to its proper position for commencing a new gavel so as not to interfere with the cut or with the uncut grain, when all the contrivances for giving such motion shall stand upon the inner side of the machine, substantially as described.

Seventh, in a harvesting machine a turning shaft or cram post, the action of which constantly preserves the same angle with the platform, in combination with a rake which has an undulating or swinging motion communicated to it through its arm or handle to bring it back, after raking one gavel, to its proper position for commencing another by means of an oscillating or rotary motion of said turning shaft upon its axes, substantially as described.

No. 1,634.—**The Burnside Rifle Company**, North Providence, R. I., assignees of **George R. Bacon**, Providence, R. I.—*Breech-loading Fire-arm.*—Patent dated July 21, 1863; reissued March 15, 1864.

Claim.—The method substantially as described of guiding the movements of the movable cartridge block in a breech-loading fire-arm by the combination of a stationary pin *c*, with a compound groove, as herein specified.

No. 1,635.—**Albert Ball**, Worcester, Mass.—*Self-loading Fire-arm.*—Patent dated June 23, 1863; reissued March 15, 1864.

Claim.—The mode substantially as described of making the rear part of the barrel or cartridge chamber, and the front part of the charging carriage—that is to say, making the charging carriage with a recess or trough for receiving a cartridge and allowing of the ejectment of its shell in manner as explained, and so constructing the breech end of the barrel or the cartridge chamber thereof, that such recess or trough of such charging carriage may, when the cartridge is in place in the bore or cartridge chamber, form part of and complete such cartridge chamber, in manner substantially as described.

Also, the combination of the ejecting spring D, with the charging carriage, when constructed and combined with a magazine and barrel, substantially in manner and so as to operate therewith as herein before explained.

Also, the combination of the locking-piece P, with its actuating mechanism, (viz., the spring *g* and catch *f*,) with the tumbler I and the charging carriage O, the whole being constructed and arranged in manner and so as to operate together, substantially as explained.

Also, the charging carriage as made in manner and so as to operate with the magazine and the barrel as described, viz., to receive within it a cartridge from the magazine; to raise it up to the barrel or charging chamber thereof; to form part of and serve as a breech to such chamber, and finally to withdraw the shell of the cartridge therefrom, all as explained.

No. 1,636.—**William M.** and **Jonas B. Ellis**, Washington, D. C.—*Steam Boiler.*—Patent dated August 26, 1862; reissued March 15, 1864.

Claim.—Connecting the water legs, extending continuously from the front to the rear of the boiler, to the shell of the boiler at the point of the working water line of the boiler, substantially as herein set forth.

No. 1,637.—**William M.** and **Jonas B. Ellis**, Washington, D. C.—*Steam Boiler.*—Patent dated August 26, 1862; reissued March 15, 1864.

Claim.—Gradually increasing the area of the tubes from the highest to the lowest tubes, as herein described.

No. 1,638.—**Enoch S. Hidden**, assignor of **Enoch Hidden**, New York, N. Y.—*Side Lights for Ships.*—Patent dated June 21, 1853; reissued September 8, 1863; reissued March 15, 1864.

Claim.—First, the combination, substantially in the manner described, of a turning flange arranged, shaped, and operating substantially as specified with a glass frame and suitable interposed packing, whereby the packing may be compressed and the frame held shut or have liberty to open under a mode of operation, substantlally as set forth.

Second, in combination with a glass frame and a turning flange substantially such as are described, a pin and a stop, operating substantially as set forth.

Third, a stationary frame with projecting lugs having long mortises therein in combination with pins projecting from a glass frame, both substantially such as herein set forth, so that the glass frame may be opened and shut, substantially as set forth.

Fourth, in combination with a stationary frame attached to the side or deck of a vessel, a sleeve or ring of lead or other ductile metal, soldered or otherwise joined thereto, so that it can be flanged or turned over the edge of the opening through the vessel, thereby making the joint between the stationary frame and the vessel water-tight, substantially as described

No. 1,639.—ORASMUS M. VAIL, Brooklyn, N. Y., and THOMAS J. VAIL, Hartford, Conn., assignees of REUBEN SHALER, Madison, Conn.—*Wheel Skate.*—Patent dated February 24, 1860; reissued March 15, 1864.

Claim.—A roller skate which is a combination of a foot stock with rollers made elastic by India-rubber or gutta-percha, the combination operating substantially as herein set forth.

No. 1,640.—GIDEON PIERCE, Ercildoun, Penn.—*Horse Rake.*—Patent dated November 29, 1859; reissued March 22, 1864.

Claim.—The arrangement and combination of the axle *a*, cog wheel *b*, rack *c*, lever I, frame *d*, bar G, standard *g* and teeth *f*, operating substantially as and for the purpose set forth.

No. 1,641.—JAMES B. EADS, St. Louis, Mo., assignee by mesne assignments of MILLS L. CALLENDER, New York, N. Y., and N. W. NORTHRUP, Greene, N. Y.—*Operating Ordnance.*—Patent dated March 17, 1863; reissued March 29 1864.

Claim.—So combining a revolving tower and gun with a revolving steam cylinder or piston as that they may be raised and lowered vertically by steam, while they are capable also of being turned horizontally together, substantially in the manner described.

No. 1,642.—JAMES B. EADS, St. Louis, Mo., assignee by mesne assignments of MILLS L. CALLENDER, New York, N. Y., and N. W. NORTHRUP, Greene, N. Y.—*Operating Ordnance.*—Patent dated March 17, 1863; reissued March 29, 1864.

Claim.—First, the movement of a gun by steam, or its equivalent, back and forth on a line with the axis of the gun, and the taking up of the recoil and counter-recoil of the gun by steam, or its equivalent.

Second, also taking the recoil and counter-recoil of the gun upon a cushion of steam in the cylinder or cylinders, which are so connected in the gun as to raise and lower with it, substantially as described.

No. 1,643.—JAMES B. EADS, St. Louis, Mo., assignee by mesne assignments of MILLS L. CALLENDER, New York, N. Y., and N. W. NORTHRUP, Greene, N. Y.—*Operating Ordnance.*—Patent dated March 17, 1863; reissued March 29, 1864.

Claim.—Sustaining a gun upon a column of steam, upon which column the gun may be turned horizontally to bring it to bear upon any object, substantially as described.

No. 1,644.—JAMES B. EADS, St. Louis, Mo., assignee by mesne assignments of MILLS L CALLENDER, New York, N. Y., and N. W. NORTHRUP, Greene, N. Y.—*Operating Ordnance.*—Patent dated March 17, 1863; reissued March 29, 1864.

Claim.—So combining a gun with a vertical and horizontal steam cylinder or cylinders, as that the gun may be moved by steam vertically or horizontally at different times, or both vertically and horizontally at the same time, substantially as described.

No. 1,645.—JOHN E. PARKER and HENRY J. P. WHIPPLE, West Meriden, Conn., assignees of G. N. CUMMINGS, Meriden, Conn.—*Mode of Attaching Knobs to Spindles.*—Patent dated July 22, 1862; reissued March 29, 1864.

Claim.—Combining the knob with a threaded spindle by means of an independent piece of metal which embraces the spindle at its square portion, and engages with the end of the shank of the knob, substantially in the manner and for the purposes set forth herein.

No. 1,646.—SOLOMON S. GRAY, Boston, Mass.—*Shirt Collar.*—Patent dated June 23, 1863; reissued March 29, 1864.

Claim.—First, the turning over of a paper, or of a paper and cloth collar, by a defined line, whether pressed into the material by a die or pointed instrument, or by bending it over the edge of a pattern or block, of the proper curve or line, substantially as described.

Second, turning the part B of a paper or a paper and cloth collar over on to or towards the part A, in a curved or regular line instead of a straight line, substantially as and for the purpose described.

Third, so turning over the part B on to or towards the part A, in the manner above described, as that a space shall be left between the two parts, for the purpose and substantially in the manner herein described.

No. 1,647.—SYLVESTER LEWIS, Rochester, N. Y.—*Mode of Treating Oils and Fats, for Rendering them more Useful for Burning in Lamps, Lubricating Machinery, and for other purposes.*—Patent dated June 10, 1862; reissued March 29, 1864.

Claim.—The treatment of oils and fats by the use of benzole, benzine, or naphtha, either with or without annotto combined, substantially in the manner and for the purpose described.

No. 1,648.—H. K. PARSONS, assignee through mesne assignments of JACOB H. MUMMA, Harrisburg, Penn.—*Straw Cutter.*—Patent dated January 26, 1858; reissued September 6, 1859; reissued March 29, 1864.

Claim.—First, a knife constructed in the form of a spiral segment of a cylinder, and so that when it is applied to supports, heads, arms, or holders, its entire outer surface will, if intersected transversely at any point, form the arc or segment of a circle concentric with the axis about which it revolves, in contradistinction to a tangentially arranged knife and other knives, which in being sharpened are reduced so as no longer to cut in the same path or circle, substantially as described.

Second, a reversible spiral knife with two under bevelled cutting edges, and constructed with its outer surface concentric with its axis of motion, and adapted for use, substantially as described.

Third, the combined application to straw-cutting machines of a changeable feed gear with two edged revolving cutters or blades, when so made that they shall bring a different cutting edge into action, or when run in either direction they shall always feed in the material in one and the same direction, substantially as and for the purpose stated.

Fourth, the combination of the feed rollers, acted upon by tappets, and the crushing rolls controlled by gum-elastic springs, when arranged in relation to, and acting in connexion with, the cutting apparatus, as herein described.

No. 1,649.—WM. FUZZARD and JAMES HATCH, Malden, Mass., assignees of said WM. FUZZARD.—*Machine for Surface-Sizing Fibrous Material.*—Patent dated January 12, 1864; reissued April 5, 1864.

Claim.—The employment or use of a heated metallic cylinder B, or one having a metallic exterior or periphery, in combination with a heated pressure cylinder, one or more, and a polishing roller G, or its equivalent, arranged as shown, for the purpose of surfacing and drying, simultaneously or at one operation, fibrous materials, as set forth.

Also, the distributing or throwing of the glazing or sizing upon or against the cylinder, or upon or against a web without a cylinder, by means of a brush, substantially as set forth.

No. 1,650.—GEORGE W. REED, assignor to W. V. ADAMS, New York, N. Y.—*Handcuff.*—Patent dated June 14, 1862; reissued April 5, 1864.

Claim.—First, a handcuff or shackle composed of the two sections A and B hinged together and constructed substantially as described, and provided with the lock C, or its equivalent.

Second, in combination with the shackle as above described the clevis, or staple, substantially as set forth.

No. 1,651.—JEHYLEMAN SHAW, Bridgeport, Conn.—*Apparatus for Saving Silver, &c., from Waste Solutions.*—Patent dated July 8, 1862; reissued April 5, 1864.

Claim.—First, the employment or use, either in combination with the basin or sink, into which persons using solutions of gold or silver suffer them to be wasted, or in place of said sink or basin of a vessel A, so arranged in combination with a bag C, or its equivalent, that the waste solutions in running through said vessel shall be brought in contact with such chemicals or metals which will cause the whole or any part of the silver or gold contained in said solutions to be precipitated and retained in said vessel, while the worthless material is allowed to escape.

Second, the use of the partition B in the vessel or sink A, which serves to collect the waste solutions containing gold or silver substantially as herein described, so that the gold or silver is forced down to the bottom and prevented from being carried off by the current of the liquid.

Third, the filter D, applied in combination with the vessel or sink A, in which the waste solutions collect, substantially in the manner set forth, so that said filter will retain such particles of silver or gold which may still be kept in suspension in the liquid.

No. 1,652.—THE SPENCER REPEATING RIFLE COMPANY, Boston, Mass., assignees by mesne assignments of CHRISTOPHER M. SPENCER, South Manchester, Conn.—*Breech-loading Fire-arm.*—Patent dated July 29, 1862; reissued April 12, 1864.

Claim.—First, the compound breech, consisting of the pieces B and C, constructed, operated, and operating substantially in the manner described.

Second. the combination with the compound breech B C, of the guard lever G, substantially in the manner and for the purpose set forth.

Third, the lever G, arranged and operated substantially as described.

No. 1,653.—Stanley A. Jewett, Cleveland, Ohio.—*Melodeon.*—Patent dated October 13, 1857; reissued April 19, 1864.

Claim.—First, the production of a perfect mute by combining the action of the air passages *m* N O, or their equivalents, with the mute valve L, as herein set forth.

Second, the formation of a gradual swell or crescendo and diminuendo by means of operating the swell valve T, by the contraction and expansion of the bellows, or its equivalent, as herein specified.

No. 1,654.—Alois Peteler, New Brighton, N. Y.—*Apparatus for Disinfecting Foul Air in Vessels.*—Patent dated April 9, 1861; reissued April 19, 1864.

Claim.—First, disinfecting vessels, rooms, or other closed spaces by forcing the air contained therein through contracted passages which are reduced in temperature by means of a cooling agent confined within a chamber without contact with the external air, or with that which it is desired to disinfect, substantially as described.

Second, the air conduit C D H, or its equivalent, applied in combination with a fan or other blower B, a refrigerating chamber F, and with the deck or other part A of a vessel or other closed space, substantially in the manner herein specified, so that the air while passing through said conduit will become cooled and flow into said vessel or other closed space without coming in contact with the ice or freezing mixture contained in the ice chamber.

Third, the arrangement of the rotary hollow shaft E, with chambers *e*, apertures *g g'*, and drums G, with abutments *h*, in combination with the fan blower B, or its equivalent tubes C and H, and with the refrigerating chamber F, constructed and operating in the manner and for the purpose substantially as herein specified.

No. 1,655.—L. S. Scofield, Boston, Mass., assignee of T. D. Hoxsey, Paterson, N. J.—*Tape for Spring Skirts.*—Patent dated February 12, 1861; reissued April 19, 1864.

Claim.—The combination of the longitudinal sack B (made either as a continuous pocket or composed of a series of pockets or loops) running lengthwise through the tape, with the transverse bags or pockets P.

No. 1,656.—N. P. Stanton, New York, N. Y., assignee of W. D. Ludlow.—*Preserve Can.*—Patent dated June 28, 1859; reissued April 19, 1864.

Claim.—First, the employment or use for closing a can or vessel for preserving provisions, &c., of a key or cross-bar D, and lugs E E, attached to the inner side of a rim or cavity *a*, on the can, to prevent the disruption of said lugs in closing the can, and to avoid projections.

Second, the use of a convex cover C, in combination with a cross-bar D, or its equivalent, applying the force by which said cover is held down to or about the centre of the same.

Third, in combination with a can or vessel A, cover C, and lugs E E, the elastic cross-bar D, pivoted to the cover C, and adapted to hold it down with a yielding pressure, as explained.

No. 1,657.—Joseph Van Houten, Mount Morris, N. Y.—*Grain Separator.*—Patent dated December 22, 1863; reissued April 19, 1864.

Claim.—First, providing the upper end of the wheat sieves C with an adjustable plate or covering D, substantially in the manner and for the purposes set forth.

Second, so constructing and arranging the adjustable division plate E that one edge may be raised or lowered within the groove *c*, substantially as described and for the purposes set forth.

No. 1,658.—Elias Brown, assignee of Abel Gray, Wappinger's Falls, N. Y.—*Design for Back Combs.*—Patent dated January 24, 1860; reissued April 26, 1864.

Claim.—The ornamental design for a comb, herein shown and described, which consists substantially in providing the upper part of the comb frame with a series or string of spherically-shaped projections or balls of gradually diminishing diameter from the centre toward the edges of the comb, as set forth.

No. 1,659.—Nathan Kinman, Cambria, N. Y.—*Flour Packer.*—Patent dated October 30, 1849: extended ———; reissued April 26, 1864.

Claim.—First, the packing of flour by means of inclined blades or spiral scrolls, substantially in the manner and for the purposes set forth.

Second, the spout *b*, conjointly with the blades *h*, or spiral scrolls for directing the flour into the barrel, and for holding the flour while the barrel is removed, substantially as set forth.

Third, the hollow shaft *g*, for the escape of the air as it is expelled from the barrel in packing flour.

Fourth, the self-acting clutch in combination with the packing apparatus, in the manner above set forth.

No. 1,660.—A. G. Shaver, New Haven, Conn.—*Eraser and Pencil Sharpener.*—Patent dated March 8, 1859: reissued August 30, 1859; again reissued April 26, 1864.

Claim.—First, an eraser with a convex or burnishing back, substantially as and for the purpose set forth.

Second, the application of one or more cutting edges E to the shank of an eraser.

Third, the serrated or file groove E, for the purpose herein shown and described.

No. 1,661.—Benjamin F. Sturtevant, Boston, Mass.—*Toothpick.*—Patent dated June 2, 1863; reissued April 26, 1864.

Claim.—As a new article of manufacture a machine-made toothpick, cut from a band or strip, in such a manner that the form of the pick one way corresponds with the cross-section of the band, while its form the other way is determined by the shape of the cutter or cutters, and movement given to the strip or to both.

Also, making toothpicks with bevels or chamfers at the opposite ends of each, from a blank or band chamfered at its opposite edges, substantially as described.

No. 1,662.—Aaron Higley, Warren, Ohio.—*Grain Separator.*—Patent dated December 3, 1861: reissued May 3, 1864.

Claim.—First, the shoes B J, when superimposed one above the other, being suspended and operated in such a way as to cause the lower shoe to vibrate with less velocity than the upper one, and so arranged as to admit a wind spout G to be interposed between said shoes.

Second, so hanging and operating the lower shoe that its lateral vibration shall be at a less velocity and longer stroke than the upper shoe, as and for the purpose specified.

Third, the arrangement of the hopper A, sieves *e f g h i j*, imperforate plates *o r*, and troughs A' B' W X, with shoe B, the whole combined and operating in the manner and for the purpose set forth.

Fourth, the arrangement of the sieves in the shoe B, with the endless apron F, trunk G, fan I, sieves K L M, in the shoe J, and drawers E O R, the whole combined and operating in the manner and for the purpose described.

Fifth, the combination of the sliding gate or valve *a*, screw bolt *b*, and nut *c* for regulating the size of the seed aperture in the hopper H, substantially as described.

No. 1,663.—Joseph Rider, Newark, Ohio, and E. Remington & Sons, Ilion, N. Y., assignees of said Rider.—*Breech-loading Fire-arm.*—Patent dated December 8, 1863; reissued May 3, 1864.

Claim.—First, so constructing and arranging the breech plate and hammer as that when the hammer is on the cock and the breech plate drawn back to open the breech or bore of the arm for the insertion of the cartridge, neither can be made to fly up by the accidental or otherwise touching of the trigger, substantially in the manner described.

Second, so combining a hammer and an independent breech plate, as that the hammer shall lock the breech plate when both are up against the end of the bore, and the breech plate lock the hammer when both are swung back to open the bore or chambers, substantially as herein described.

Third, so constructing and arranging a hammer and an independent breech plate as that while moving upon different centres and in different arcs, they shall both, when up against the end of the barrel or bore of the arm, occupy substantially the same space as herein described and represented.

Fourth, in combination with a hammer arranged behind and acting in rear of the breech plate, the pivoting of said hammer in front or the pivot of the breech plate, substantially as and for the purpose described.

No. 1,664.—John Kedzie, Rochester, N. Y.—*Filter.*—Patent dated January 10, 1854; reissued June 16, 1863; again reissued May 10, 1864.

Claim.—An inner crock or vessel B, having its bottom or base closed, but admitting water by means of perforations *a a*, or in some equivalent manner, and provided with an eduction outlet *c*, when the same is used in combination with packing C, and an outer tub or receptacle A, substantially as herein specified.

No. 1,665.—Jacob Strayer, South Bend, Ind.—*Seed Drill.* (Div. A.)—Patent dated May 14, 1861; reissued May 10, 1864.

Claim.—Making the teeth on one part or portion of feeding roller for seed drills opposite the spaces betwen the teeth on the other part or portion of said roller, substantially as described, so as to deliver or discharge the seed more uniformly

No. 1,666.—Jacob Strayer, South Bend, Ind.—*Seed Drill.* (Div. B.)—Patent dated May 14, 1861; reissued May 10, 1864.

Claim.—Making the feed roller in two or more sections, substantially in the manner and for the purpose described.

No. 1,667.—J. F. SHELDON, Abington, Ill.—*Refining Sorghum Juice and Sirup.*—Patent dated September 23, 1863; reissued May 10, 1864.

Claim.—First, treating the juice and sirup with soda or other equivalent substance, in the manner and for the purpose specified.

Second, treating the juice or sirup with soda, cream tartar, and milk, or their equivalents, as and for the purpose set forth.

No. 1,668.—R. A. VERVALEN, Haverstraw, N. Y.—*Brick Machine.*—Patent dated June 29, 1852; reissued May 10, 1864.

Claim.—First, the plunger or follower rod composed of two parts, working one within the other, and connected by a pin *d* in one part passing through an oblong slot in the other, or other equivalent means, in combination with the lever H, provided with step projections *b1 b2*, or any other device which will serve as a stop to control the play of the part connected with the driving crank, and regulate the pressure of the plunger or follower upon the clay in the moulds, as set forth.

Second, the lever M, connected with the mould-discharging device and with the driving crank *a* of the plunger or follower rod in such a manner that the filled mould will be discharged from the device while the plunger or follower is rising, and this in connexion either with the lever N, or any other means for giving the return movement to the mould-discharging device.

Third, the arrangement of the levers I J N, rods K L, vertical lever M, and the rod O, with the levers P S, and upright shaft R, for the purpose of operating the feeder T, and vibrating bar V, substantially as set forth.

Fourth, the employment or use of the spring V, attached to the vertical lever M, and operated upon by the rods *r r*, attached to the lever, whereby the working of the machine is prevented by any obstruction, as described.

Fifth, the attaching together of the feeder T and vibrating bar U, having a guide rod *m* working in suitable bearings *n n*, or arranged in any other suitable way.

No. 1,699.—ZENAS WHEELER, San Francisco, Cal.—*Machine for Collecting and Separating Amalgam and Mercury from Ore Pulp.*—Patent dated July 14, 1863; reissued May 10, 1844.

Claim.—The tub A, provided with a concave bottom *a* and chamber *b*, in combination with the rotating pads L, as and for the purpose specified.

Also, in combination with the pads L, concave bottom *a* and chamber *b* of the tub A, the tubular shaft H and arms K, all arranged for joint operation as and for the purpose specified.

Also, the perpetual and self-regulating discharge of the mercury from under the pulp in the separator through the medium of the chamber *b*, tubes B *b'*, and outlet or branch *c'*, or their equivalents, in the manner and for the purpose set forth.

No. 1,670.—E. H. ASHCROFT, Boston, Mass., assignee of RICHARD S. LAWRENCE, Windsor, Vt.—*Breech-loading Fire-arm.*—Patent dated January 6, 1852; reissued May 17, 1864.

Claim.—First, mounting the barrel on a conical or tapering spindle to turn it aside and load it at the breech, substantially in the manner described.

Second, screwing the barrel into a sleeve or reinforce, whereto the arms on which the barrel turns are attached, to strengthen and support it, substantially in the manner described.

Third, the combination of the barrel with the flanch *j*, carrying a slot or groove, the lips *l* on the sleeve to fit in the slot, and the spring catch lever *k*, as and for the purposes set forth.

Fourth, the combination of the barrel with a curved steel cutting edged breech-piece, as described, so that no loose powder can remain on the outside of the breech after the base of cartridge has been cut off and the barrel turned into position to fire.

No. 1,671.—JOHN BRIGGS, Roxbury, Mass.—*Draught Regulator.*—Patent dated February 16, 1864; reissued May 17, 1864.

Claim.—The employment of a flexible-headed air-tight drum, connected with and operating the valves or draught passages of a heating apparatus, substantially as set forth.

No. 1,672.—CHARLES H. HUNT, Madison, N. H.—*Throstle Spinning Machine.*—Patent dated September 28, 1852; reissued May 17, 1864.

Claim.—A combination composed of a "let off" or escapement mechanism, or its equivalent, and a reciprocating rotary mangle wheel or mechanism, the whole being substantially such as described, and to be used in a spinning machine for operating automatically its spindle rail or rails, or the equivalent thereof, in the manner and for the purpose or purposes herein before specified.

Also, the combination of the curved links or "goose necks" *e e* with the shaft K and its spindle rail connexions, when the said shaft K has combined with it mechanism, substantially as described, or its equivalent, for turning or operating it, in the manner and for the purposes as herein before set forth.

Also, the combination of the adjustable annular collars, or their equivalents, with the shaft K and the chains *d d*, and their operative mechanism, as specified.

No. 1,673.—PHILO P. STEWART, Troy, N. Y.—*Cooking Stove.*—Patent dated April 12, 1859; reissued May 17, 1864.

Claim.—First, the method or means, substantially as described, of preventing the heat from passing through to the rising flue leading to the chimney by separating it from the back over plate and from the descending flues by non-conducting partitions, or their equivalents therefor, and for the purposes herein set forth.

Second, the employment of a double damper filled in with cement, or other equivalent non-conducting material, in combination with the flue above the oven and with the rising flue leading to the chimney, substantially as and for the purpose herein described and set forth.

Third, separating the direct sheet flue under the oven from the return sheet flue below, by means of a plate, constructed substantially as and for the purposes herein described and set forth.

Fourth, the dividing of the space between the bottom plate of the oven and the bottom plate of the stove, by means of the inclined plate *i*, in the manner and for the purposes substantially as herein described and set forth.

Fifth, the employment of the space or chamber *i* in combination with the outer edge of the oven bottom plate, and with the back and oven plate, in the manner substantially as and for the purposes herein described and set forth.

Sixth, the sheet flue division plate *i'*, having a recess *h'* at each front corner thereof, and the front projection A between such recesses, substantially as and for the purposes herein described and set forth.

Seventh, the additional bottom plate or encasement device *r* in combination with the broad sheet flue *h*, in the manner and for the purposes substantially as herein described and set forth.

No. 1,674.—GEO. E. VANDERBURGH, Mamaroneck, N. Y., assignor to THE LIQUID QUARTZ COMPANY, New York, N. Y.—*Mode of Reducing Silicates to a Liquor or Gelatinous State.*—Patent dated May 29, 1860; reissued April 1, 1862; again reissued May 17, 1864.

Claim.—Reducing any disintegrated silicious substance to a liquid or gelatinous state, by bringing it into direct contact with superheated steam while enclosed within a suitable vessel, substantially as herein set forth.

No. 1,675.—GEO. E. VANDERBURGH, Mamaroneck, N. Y., assignor to THE LIQUID QUARTZ COMPANY, New York, N. Y.—*Apparatus for Treating Silicious Substances.*—Patent dated May 29, 1860; reissued April 1, 1862; again reissued May 17, 1864.

Claim.—The employment of superheated steam in a digesting apparatus, constructed and operating substantially in the manner herein represented and described, for the purpose of reducing silicious and other refractory substances to a liquid or gelatinous state.

No. 1,676.—GEO. E. VANDERBURGH, Marmaroneck, N. Y., assignor to THE LIQUID QUARTZ COMPANY, New York, N. Y.—*Manufacture of Artificial Stone.*—Patent dated May 29, 1860; reissued April 1, 1862; again reissued May 17, 1864.

Claim.—The improvement produced upon artificial stones, blocks, &c., which are principally composed of lime and sand, by saturating the same with a liquid silicate, after the said articles are put into the proper shape for use, by any known or suitable process.

No. 1,677.—THOMAS C. CRAVEN, Greenbush, N. Y.—*Cotton Gin.*—Patent dated January 27, 1864; reissued May 24, 1864.

Claim.—First, a series of teeth connected at one end to a cylinder, within and eccentric to an outer cylinder, so that said teeth will be alternately projected and retracted in the revolution of such cylinder when said cylinders are connected together, substantially as described, so that they revolve in unison upon a non-revolving shaft without strain or friction on the teeth, as and for the purpose set forth.

Second, the plates 12, constructed and adjusted as specified, in combination with the cylinders *e* and *f* and teeth 8, whereby the teeth can be adjusted and projected more or less, as specified.

Third, constructing the teeth of the cotton ginning cylinder of pointed wires having L-shaped bands by means of which they are secured to the cylinder *e* by bands *q*, as set forth.

Fourth, rotating the cylinder *f* in unison with the cylinder *e*, by means of the pins 11 entering into the openings in the plates 12 at the end of the cylinder *f*, as specified.

Fifth, regulating or determining the operative length of the ginning teeth by means of metallic guards between such teeth, having their supporting surfaces above the base of the teeth, so that only those portions of the teeth that are above said guard operate on the roll of cotton as specified.

Sixth, a sharp angle or bend formed in the aforesaid metallic guards at the point where the teeth draw the cotton through the guards, in combination with tapering rounded teeth projecting up between such guards and having their base below the surfaces of such guards, whereby the action of the teeth, at the point where the seeds are separated from the cotton, is not injuriously affected by the surfaces of the guards bejng above the base of the teeth, as specified.

Seventh, conveying the cotton from the ginning cylinder up the incline *l* to the condensing cylinder by a current of air induced by the suction blower *o* entering the opening 19, as specified.

Eighth, the arrangement of the roller *t*, brush *r*, and adjustable guard *w*, whereby the action of said brush in separating the motes can be regulated, as specified.

Ninth, the condensing cylinder *m*, supported and driven by the rollers *t* and *y*, as specified, whereby the said condensing cylinder can be formed without any central axis and with its ends open for the air to be exhausted, as specified.

Tenth, the exhausted condensing cylinder *m*, fitted and acting as specified, in combination with the rollers *y* and *z*, for removing the cotton from such cylinder, as specified.

No 1,678.—**John Magee**, Chelsea, Mass., assignor to the **Norton Furnace Company**, Norton. Mass —*Cooking Stove.*—Patent dated April 15, 1862; reissued May 24, 1864.

Claim.—First, in a stove in which an enlarged oven is used, by the employment of a curved or crooked front oven plate, recessing the front plate of the stove at and over the grate so as to leave an enlarged chamber underneath the grate for the purpose of holding a large ash pan or drawer removable at the front, substantially as set forth.

Second, in a cooking stove having an enlarged oven, locating the ash pit over and on a level with a hearth or thereabouts in front of the stove, substantially as set forth.

Third, in cooking stoves of otherwise ordinary or suitable construction, the employment of two hearths—that is to say, one over and the other under the ash pit, but both in front of the stove, substantially as set forth.

Fourth, in combination with a curved or crooked interior partition plate whereby an enlarged oven is provided, an ash pit projecting in front of the enlarged oven open in front and provided with doors, &c., substantially as set forth.

Fifth, in cooking stoves of otherwise ordinary or suitable construction, interposing between the grate and the ash pan a hopper, or the equivalent thereof, to direct the ashes thrown or falling from the grate, substantially as set forth.

Sixth, in combination with a projecting ash pit and ash pit hearth, the employment of doors or equivalent closing plate located in front over the hearth as described, so as to admit of the removal of the ashes without uncovering the grate, substantially as set forth.

No. 1,679.—**Robert Dick**, Buffalo, N. Y.—*Accountant Labels for Periodicals, &c.*—Patent dated October 4, 1859; antedated July 26, 1858; reissued May 31, 1864.

Claim.—First, the method of keeping accounts current by means of successive impressions taken from a form or forms of type, or its equivalents, into which the current transactions of any business are to be type-posted from time to time; in producing the novelty of a metallic or type ledger, so representing all accounts, and so incorporating all current business transactions, as to render the further use of written ledgers unnecessary, printed versions of the metallic ledger being used instead, for counting-room and all similar purposes.

Second, the printed ledger or record herein described, consisting of a succession of impressions or versions taken from the type or metallic ledger, at regular or irregular intervals, each impression or version showing the several transactions or the balances of each individual account, substantially as herein described. This includes the use of any such impression or impressions for ledger or counting-room purposes.

Third, the use of all such impressions for rendering or transmitting accounts, or for addressing or directing newspapers or other periodicals to subscribers or others, whether applied to the papers directly from the type or intermediately by impressions previously taken, or otherwise, substantially as described.

Fourth, in connexion with newspaper and all similar business, the combination, in print, of a subscriber's address with a statement of his subscription account in the form of the time to which it is paid, or otherwise, substantially as herein described.

Fifth, the method of cutting off from a printed column or web of columns such addresses and accounts, and affixing them separately to newspapers or other periodicals, or to cards and envelopes, by means of a machine, substantially as herein set forth.

Sixth, the machine herein mentioned, and its uses as shown, operating substantially as described.

No. 1,680.—**Ludwig Haecker**, Altenburg, Hungary.—*Brewing.*—Patent dated July 1, 1862; reissued May 31, 1864.

Claim.—The within-described process of producing maize beers, by treating maize mixed with barley malt, about in the proportion and substantially in the manner set forth.

No. 1,681.—**O. L. Hopson** and **H. P. Brooks**, Watertown, Conn.—*Buckle.*—Patent dated May 12, 1863; reissued May 31, 1864.

Claim.—A buckle, the prongs of which are of one piece of wire, bent and applied to a bar of the frame, substantially as described, and prevented from sliding on the bar by means of holes, notches, or other suitable stops, formed in or on the bar, as herein set forth.

No. 1,682.—**Dayton S. Morgan** and **Wm. H. Seymour**, assignees of **Palmer** and **Williams**, Brooklyn, N. Y.—*Harvester.*—Patent dated July 1, 1851; reissued April 10, 1855; again reissued January 1, 1861; again reissued May 31, 1864.

Claim.—The combination of the cutting apparatus of a harvesting machine with a quadrant-shaped platform arranged in the rear thereof, and a sweep-rake, operated by mechanism in such manner that its teeth are caused to sweep over the platform in curves when acting on the grain; these parts being and operating substantially as herein before set forth.

Also, the combination of a quadrant-shaped platform, a sweep rake operated by mechanism, which causes the rake to move in alternately opposite directions, an inclined rail to raise the rake, and a switch; these parts being and operating substantially as herein before set forth.

No. 1,683.—**Dayton S. Morgan**, assignee of **W. H. Seymour**, Brockport, N. Y.—*Reaping Machine.*—Patent dated July 8, 1851; reissued July 10, 1860; again reissued May 31, 1864.

Claim.—First, the combination in a harvesting machine of the cutting apparatus (to sever the stalks) with a reel and with a quadrant-shaped platform located in the rear of the cutting apparatus; these three members being and operating substantially as set forth.

Second, the combination in a harvesting machine of the cutting apparatus with a quadrant-shaped platform in the rear of the cutting apparatus, a sweep-rake, mechanism for operating the same, and devices for preventing the rise of the rake-teeth when operating on the grain; these five members being and operating substantially as set forth.

No. 1,684.—**Philo P. Stewart**, Troy, N. Y.—*Cooking Stove.*—Patent dated January 18, 1859; reissued May 31, 1864.

Claim.—First, the supplying of a continued current of air, heated by the front plate of the fire-box or chamber, and in a flue or space immediately in front of the same and without the aid of any intervening plates, to the oven of a stove in which the oven is at the rear of the fire-chamber, and at the same time extending under and beyond it so as to include the said flue or space, and permit the said heated air to freely enter the said oven, in the manner and for the purposes substantially as herein described and set forth.

Second, in a stove constructed with an oven and fire-box, or chamber, substantially like the one herein above described, the making the front plate to open with the doors *k*, and the attaching an apron in front so as to hold or receive a kitchen or other roaster, substantially as specified, so that the heat radiated by the front plate of the fire-box or chamber shall be aided by the heat radiated by the oven plates, in the manner and for the purposes substantially as herein described and set forth.

Third, the employment of the additional or extra bottom *r*, in combination with the three-flue bottom of a cook-stove, (and with space between the same,) in the manner substantially as and for the purpose herein described and set forth.

Fourth, the employment of the additional or extra back *u*, in combination with the ascending and descending flues at the back end of the oven, in the manner substantially as and for the purposes herein described and set forth.

Fifth, the boiler, having a removable top or cover, and two inclined flues, which are separate at the lower end, and unite into one at the top, so as to connect with the pipe leading to the chimney, substantially as and for the purposes herein described and set forth.

No. 1,685.—**Philo P. Stewart**, Troy, N. Y., assignee of **George W. Gardner**, Albany, N. Y.—*Stove Grate-bar.*—Patent dated November 18, 1851; reissued May 31, 1864.

Claim.—First, the detaching of cinders, clinkers, or ashes, from coals or solid burning fuel by means of parallel grate-bars having an oscillating or vibrating motion in a horizontal plane, imparted thereto by means of a frame or yoke and lever, or equivalents therefor, in the manner substantially as herein described and set forth.

Second, the employment of parallel grate-bars so constructed, arranged, and combined with a frame or yoke as to be operated or vibrated in a horizontal plane by means of a lever, substantially as herein described and set forth.

No. 1,686.—**Christian Shunk**, Youngstown, Ohio.—*Manufacture and Refining of Iron.*—Patent dated February 12, 1856; reissued May 31, 1864.

Claim.—First, the manufacture and refining of crude iron by the several processes herein set forth and described.

Second, refining cast-iron through compressed air, by diffusing the same so as to permeate the liquid mass of the iron.

Third, the employment and application of common salt as stated. And these claims are made jointly and separately, in the manner and for the purposes substantially as specified.

No. 1,687.—**L. M. Speer**, Belle Vernon, Penn.—*Washing Sand.*—Patent dated August 20, 1861; reissued May 31, 1864.

Claim.—First, an apparatus for washing sand, which is so constructed that the sand will be elevated through a body of water or bath, and at the same time receive a zig-zag or un-

Seventh, conveying the cotton from the ginning cylinder up the incline *l* to the condensing cylinder by a current of air induced by the suction blower *o* entering the opening 19, as specified.

Eighth, the arrangement of the roller *t*, brush *r*, and adjustable guard *w*, whereby the action of said brush in separating the motes can be regulated, as specified.

Ninth, the condensing cylinder *m*, supported and driven by the rollers *t* and *y*, as specified, whereby the said condensing cylinder can be formed without any central axis and with its ends open for the air to be exhausted, as specified.

Tenth, the exhausted condensing cylinder *m*, fitted and acting as specified, in combination with the rollers *y* and *z*, for removing the cotton from such cylinder, as specified.

No 1,678.—John Magee, Chelsea, Mass., assignor to the Norton Furnace Company, Norton. Mass —*Cooking Stove.*—Patent dated April 15, 1862; reissued May 24, 1864.

Claim.—First, in a stove in which an enlarged oven is used, by the employment of a curved or crooked front oven plate, recessing the front plate of the stove at and over the grate so as to leave an enlarged chamber underneath the grate for the purpose of holding a large ash pan or drawer removable at the front, substantially as set forth.

Second, in a cooking stove having an enlarged oven, locating the ash pit over and on a level with a hearth or thereabouts in front of the stove, substantially as set forth.

Third, in cooking stoves of otherwise ordinary or suitable construction, the employment of two hearths—that is to say, one over and the other under the ash pit, but both in front of the stove, substantially as set forth.

Fourth, in combination with a curved or crooked interior partition plate whereby an enlarged oven is provided, an ash pit projecting in front of the enlarged oven open in front and provided with doors, &c., substantially as set forth.

Fifth, in cooking stoves of otherwise ordinary or suitable construction, interposing between the grate and the ash pan a hopper, or the equivalent thereof, to direct the ashes thrown or falling from the grate, substantially as set forth.

Sixth, in combination with a projecting ash pit and ash pit hearth, the employment of doors or equivalent closing plate located in front over the hearth as described, so as to admit of the removal of the ashes without uncovering the grate, substantially as set forth.

No. 1,679.—Robert Dick, Buffalo, N. Y.—*Accountant Labels for Periodicals, &c.*—Patent dated October 4, 1859; antedated July 26, 1858; reissued May 31, 1864.

Claim.—First, the method of keeping accounts current by means of successive impressions taken from a form or forms of type, or its equivalents, into which the current transactions of any business are to be type-posted from time to time; in producing the novelty of a metallic or type ledger, so representing all accounts, and so incorporating all current business transactions, as to render the further use of written ledgers unnecessary, printed versions of the metallic ledger being used instead, for counting-room and all similar purposes.

Second, the printed ledger or record herein described, consisting of a succession of impressions or versions taken from the type or metallic ledger, at regular or irregular intervals, each impression or version showing the several transactions or the balances of each individual account, substantially as herein described. This includes the use of any such impression or impressions for ledger or counting-room purposes.

Third, the use of all such impressions for rendering or transmitting accounts, or for addressing or directing newspapers or other periodicals to subscribers or others, whether applied to the papers directly from the type or intermediately by impressions previously taken, or otherwise, substantially as described.

Fourth, in connexion with newspaper and all similar business, the combination, in print, of a subscriber's address with a statement of his subscription account in the form of the time to which it is paid, or otherwise, substantially as herein described.

Fifth, the method of cutting off from a printed column or web of columns such addresses and accounts, and affixing them separately to newspapers or other periodicals, or to cards and envelopes, by means of a machine, substantially as herein set forth.

Sixth, the machine herein mentioned, and its uses as shown, operating substantially as described.

No. 1,680.—Ludwig Haecker, Altenburg, Hungary.—*Brewing.*—Patent dated July 1, 1862; reissued May 31, 1864.

Claim.—The within-described process of producing maize beers, by treating maize mixed with barley malt, about in the proportion and substantially in the manner set forth.

No. 1,681.—O. L. Hopson and H. P. Brooks, Watertown, Conn.—*Buckle.*—Patent dated May 12, 1863; reissued May 31, 1864.

Claim.—A buckle, the prongs of which are of one piece of wire, bent and applied to a bar of the frame, substantially as described, and prevented from sliding on the bar by means of holes, notches, or other suitable stops, formed in or on the bar, as herein set forth.

No. 1,682.—Dayton S. Morgan and Wm. H. Seymour, assignees of Palmer and Williams, Brooklyn, N. Y.—*Harvester.*—Patent dated July 1, 1851; reissued April 10, 1855; again reissued January 1, 1861; again reissued May 31, 1864.

Claim.—The combination of the cutting apparatus of a harvesting machine with a quadrant-shaped platform arranged in the rear thereof, and a sweep-rake, operated by mechanism in such manner that its teeth are caused to sweep over the platform in curves when acting on the grain; these parts being and operating substantially as herein before set forth.

Also, the combination of a quadrant-shaped platform, a sweep rake operated by mechanism, which causes the rake to move in alternately opposite directions, an inclined rail to raise the rake, and a switch; these parts being and operating substantially as herein before set forth.

No. 1,683.—Dayton S. Morgan, assignee of W. H. Seymour, Brockport, N. Y.—*Reaping Machine.*—Patent dated July 8, 1851; reissued July 10, 1860; again reissued May 31, 1864.

Claim.—First, the combination in a harvesting machine of the cutting apparatus (to sever the stalks) with a reel and with a quadrant-shaped platform located in the rear of the cutting apparatus; these three members being and operating substantially as set forth.

Second, the combination in a harvesting machine of the cutting apparatus with a quadrant-shaped platform in the rear of the cutting apparatus, a sweep-rake, mechanism for operating the same, and devices for preventing the rise of the rake-teeth when operating on the grain; these five members being and operating substantially as set forth.

No. 1,684.—Philo P. Stewart, Troy, N. Y.—*Cooking Stove.*—Patent dated January 18, 1859; reissued May 31, 1864.

Claim.—First, the supplying of a continued current of air, heated by the front plate of the fire-box or chamber, and in a flue or space immediately in front of the same and without the aid of any intervening plates, to the oven of a stove in which the oven is at the rear of the fire-chamber, and at the same time extending under and beyond it so as to include the said flue or space, and permit the said heated air to freely enter the said oven, in the manner and for the purposes substantially as herein described and set forth.

Second, in a stove constructed with an oven and fire-box, or chamber, substantially like the one herein above described, the making the front plate to open with the doors *k*, and the attaching an apron in front so as to hold or receive a kitchen or other roaster, substantially as specified, so that the heat radiated by the front plate of the fire-box or chamber shall be aided by the heat radiated by the oven plates, in the manner and for the purposes substantially as herein described and set forth.

Third, the employment of the additional or extra bottom *r*, in combination with the three-flue bottom of a cook-stove, (and with space between the same,) in the manner substantially as and for the purpose herein described and set forth.

Fourth, the employment of the additional or extra back *u*, in combination with the ascending and descending flues at the back end of the oven, in the manner substantially as and for the purposes herein described and set forth.

Fifth, the boiler, having a removable top or cover, and two inclined flues, which are separate at the lower end, and unite into one at the top, so as to connect with the pipe leading to the chimney, substantially as and for the purposes herein described and set forth.

No. 1,685.—Philo P. Stewart, Troy, N. Y., assignee of George W. Gardner, Albany, N. Y.—*Stove Grate-bar.*—Patent dated November 18, 1851; reissued May 31, 1864.

Claim.—First, the detaching of cinders, clinkers, or ashes, from coals or solid burning fuel by means of parallel grate-bars having an oscillating or vibrating motion in a horizontal plane, imparted thereto by means of a frame or yoke and lever, or equivalents therefor, in the manner substantially as herein described and set forth.

Second, the employment of parallel grate-bars so constructed, arranged, and combined with a frame or yoke as to be operated or vibrated in a horizontal plane by means of a lever, substantially as herein described and set forth.

No. 1,686.—Christian Shunk, Youngstown, Ohio.—*Manufacture and Refining of Iron.*—Patent dated February 12, 1856; reissued May 31, 1864.

Claim.—First, the manufacture and refining of crude iron by the several processes herein set forth and described.

Second, refining cast-iron through compressed air, by diffusing the same so as to permeate the liquid mass of the iron.

Third, the employment and application of common salt as stated. And these claims are made jointly and separately, in the manner and for the purposes substantially as specified.

No. 1,687.—L. M. Speer, Belle Vernon, Penn.—*Washing Sand.*—Patent dated August 20, 1861; reissued May 31, 1864.

Claim.—First, an apparatus for washing sand, which is so constructed that the sand will be elevated through a body of water or bath, and at the same time receive a zig-zag or undulating movement, and thereby caused to deposit its impurities into said bath, substantially as described.

Second, an inclined sluice-trough, in combination with an inclined screw elevator or elevators, and one or more water-baths, operating substantially as described.

Third, conducting the water used in washing the sand from a main trunk H, or its equivalent, through an inclined sluice, which is so arranged as to receive the sand from elevator G and to deposit both the sand and water into suitable baths or receptacles arranged beneath said sluice, substantially as described.

No. 1,688.—The Simpson Water-proof Manufacturing Company, New York, N. Y., assignees of Edwin L. Simpson, Bridgeport, Conn., by mesne assignments.—*Manufacture of Flocked Fabrics.*—Patent dated March 24, 1863; reissued May 31, 1864.

Claim.—Covering in excess a previously prepared surface with flocks, or their equivalent, rolling or otherwise pressing the same, and afterwards removing the excess, substantially as and for the purpose specified.

No. 1,689.—C. Waste, assignee of Orson and Chas. Waste, Cameron, Ill.—*Cutting Hay for Pressing.*—Patent dated January 26, 1864; reissued May 31, 1864.

Claim.—First, in a machine for pressing and cutting hay, preparatory to pressing it into bales, so arranging and combining two pressure rollers with two side pieces or guide plates R R, in a closely fitting joint at the ends of the rollers, or other equivalent device, as that the hay is prevented from spreading laterally under the heavy pressure of the rollers, and the hay to be prepared for pressing is thereby fed through and crushed so as to break the stems and close the hollow in the interior of the straws, and delivered on a receiving table in sheets, and thus fitted to be more compactly pressed into bales, substantially as described.

Second, so arranging and combining two pressure rollers with two strips running up in front and between the rollers, or other equivalent device, as that the hay is prevented from clogging the rollers, substantially as described.

Third, the combination of the rollers A A with a knife working periodically, so connected and geared to the rollers as to cut the hay in proper lengths for packing, substantially as set forth.

Fourth, the combination and arrangement of the catch F with the weight E and knife C, substantially as and for the purpose specified.

Fifth, the combination of the knife C with a grooved projection M, substantially as set forth.

No. 1,690.—E. K. Collins, Chili, N. Y.—*Clover Bolt.*—Patent dated August 16, 1859; reissued June 7, 1864.

Claim.—Giving the counter movement longitudinally to the two single bolts B and B' when used in combination with the threshing and hulling cylinders of clover machines, whether said bolts have an alternating rising and falling motion or not.

No. 1,691.—R. W. Jones, Syracuse, N. Y.—*Harness Snap.*—Patent dated November 3, 1863; reissued June 7, 1864.

Claim.—First, placing the spring, which acts upon the tongue of a snap-hook, loosely into a recess, cast or otherwise, produced in the body of the hook, substantially as and for the purpose specified.

Second, the cam *g*, on the inner edge of the tongue of a snap-hook, arranged in combination with the spring acting on said tongue and with its pivot, in such a manner that the force in opening the tongue is diminishing instead of increasing.

No. 1,692.—W. D. Mann, Detroit, Mich.—*Mode of Slinging Accoutrements.*—Patent dated December 3, 1863; reissued June 7, 1864.

Claim.—So arranging the slinging attachments, accoutrements, and equipments of infantry or cavalry soldiers that when in use the weight of the cartridge box will be counterbalanced by the other accoutrements and equipments or arms usually worn upon the body, and the weight of the whole borne upon the shoulders, substantially as described.

Also, the combination of the shoulder straps B B with the belt strap A, whether for infantry or cavalry equipment, substantially in the manner and for the purpose herein shown and described.

Also, the combination of shoulder straps B B with the cartridge box G, substantially in the manner and for the purpose herein shown and described.

Also, the attachment of the knapsack to the shoulder-straps B B, substantially in the manner and for the purpose herein shown and described.

Also, the slinging straps J J, attached to the knapsack, substantially in the manner and for the purpose herein shown and described.

Also, the fly-strap attached to the lower part of the knapsack, substantially as and for the purpose herein shown and described.

No. 1,693.—The Moore's Patent Fire-arms Company, assignees of Daniel Moore, Brooklyn, N. Y.—(A.) *Revolving Fire-arm.*—Patent dated April 28, 1863; reissued June 7, 1864.

Claim.—First, constructing the revolving-chambered cylinder of a fire-arm with the rear portion of such cylinder turned off to form a ring and produce an opening into the rear end of each chamber, through which access is afforded for pushing the exploded cartridge case out at the front end of the chamber, as specified.

Second, the circular abutment 2 at the rear end of the cylinder, partially closing the chambers, in combination with a fixed abutment 3 projecting from the stock and covering the open portion at the rear end of the chamber on a line with the barrel, as set forth.

No. 1,694.—(B.)—The Moore's Patent Fire-arms Company, assignees of Daniel Moore, Brooklyn, N. Y.—*Revolving Fire-arm.*—Patent dated April 28, 1863; reissued June 7, 1864.

Claim.—A movable gate, applied at the forward end of the cylinder, to retain the metallic cartridge cases when in the chambers, or allow of the introduction or removal of such cases after said gate has been moved aside, substantially as specified.

No. 1,695.—(A.)—Cyrenus Wheeler, Jr., Poplar Ridge, N. Y., assignee of Sylvester Colburn, Ansonia, Conn.—*Grain and Grass Harvester.*—Patent dated July 3, 1855; reissued June 7, 1864.

Claim.—Making ledger plates for harvester fingers elastic, by combining therewith a spring or its equivalent, substantially as set forth.

Also, securing the back end of the ledger plate against lateral movement, by a recess formed in the finger for its reception, substantially as set forth.

Also, the construction of the guard fingers with two recesses for securing the ledger plate against lateral movement, substantially as and for the purposes set forth.

Also, the brace bars in front of the cutter bar, as lateral bearings for the cutter, in combination with the guard finger and ledger plate, substantially as set forth.

No. 1,696.—(B.)—Cyrenus Wheeler, Jr., Poplar Ridge, assignee of Sylvester Colburn, Ansonia, Conn.—*Grain and Grass Harvester.*—Patent dated July 3, 1855; reissued June 7, 1864.

Claim.—Forming with the guard finger, below the cutter and in front of the cutter bar, projecting brace bars, serving as lateral bearings for the cutter and as braces between the fingers, substantially as set forth.

Also, forming the brace bars with a flange or rib projecting back from them under the front edge of the cutter bar, to give additional stiffness and to protect the cutter bar, substantially as set forth.

Also, in combination with the braces in front of the cutter bar, making that part of the guard finger between the cutter bar and finger bar wide enough to serve as braces between the fingers, substantially as set forth.

No. 1,697.—W. E. Parmenter and Joseph and James Grundy, West Cambridge, Mass., assignees of Thomas Grundy, deceased, late of Boston, Mass.—*Water Closet.*—Patent dated June 26, 1860; reissued June 14, 1864.

Claim.—Arranging a valve or plunger, or both, above the valve seat, and with reference to the inlet and outlet passages of a water-controlling device, substantially as specified—that is to say, so that either or both the valve and plunger shall be relieved or protected from the superimposed impingement thereupon of the current passing through such a device.

No. 1,698.—J. F. Seiberling, Doylestown, Ohio.—*Harvester.*—Patent dated October 15, 1861; reissued June 14, 1864.

Claim.—First, discharging the completed gavel by dropping the rear end of the platform simultaneously with arresting the accumulation of the grain thereon, substantially as and for the purposes set forth.

Second, the combination of the cut-off L, with a dropping or tilting platform, for the purpose of arresting the fall of the accumulating grain, whilst discharging the completed gavel, substantially as described.

No. 1,699.—J. F. Seiberling, Doylestown, Ohio.—*Harvester.*—Patent dated October 15, 1861; reissued June 14, 1864.

Claim.—First, the arrangement and combination of the treadle F, rod U, lever V, rod G, and lever H, for elevating and depressing the platform M, substantially as set forth.

Second, in combination with the parts F U V G and H, the lever I and rod K, for operating the cut-off, substantially as set forth for the purpose mentioned.

No. 1,700.—J. F. Seiberling, Doylestown, Ohio.—*Harvester.*—Patent dated October 15, 1861; reissued June 14, 1864.

Claim.—First, the slotted dropping platform, through which the stubble penetrates and seizes the gavel while the platform is drawn away for the purpose of discharging the grain, substantially as specified.

Second, the combination of the slotted dropper M, the cut-off L, and the finger beam, substantially as described.

No. 1,701.—J. F. Seiberling, Doylestown, Ohio.—*Harvester.*—Patent dated October 15, 1861; reissued June 14, 1864.

Claim.—The arrangement of the hinged bars Q and R, for supporting the heel of the cutter beam, and for elevating and depressing the same and the reel by means of lever T, or other devices, said hinged bars being used in connexion with the shoe or bar O, and its flexible attachment, substantially as set forth.

No. 1,702.—J. F. Seiberling, Doylestown, Ohio.—*Harvester.*—Patent dated October 15 1861; reissued June 14, 1864.

Claim.—A finger beam provided with a caster wheel at its outer end and a horizontally folding hinge at its inner end, whereby said finger beam is rendered capable of folding automatically to the side of the main frame for the purpose of transportation, substantially as set forth.

No. 1,703.—Cæsar Neumann, New York, N. Y.—*Hoop Skirt.*—Patent dated November 1 1859; reissued June 26, 1860; again reissued June 14, 1864.

Claim.—A hoop skirt having its hoops supported by cords twisted or braided, either before or during the manufacture of the skirt, substantially as herein shown and described.

No. 1,704.—S. Pancoast, assignee of George Fetter, Philadelphia, Penn.—*Sewing Machine.*—Patent dated October 23, 1860; reissued June 21, 1864.

Claim.—First, the hoop or loop catcher N, formed substantially as described and illustrated, the said hook being arranged to revolve around or adjacent to a spool case, and being so situated in respect to the eye-pointed needle, and having such a motion imparted to it in connexion with its revolving motion that it will seize the needle thread, carry the same around, or partly around, a spool case, and release the said loop of thread, all substantially as set forth.

Second, the guard M, or its equivalent, constructed, arranged, and operating on the thread which passes from the spool case to the fabric, substantially as set forth.

Third, the stationary spindle I, with its disk J, the hollow spindle G, and carrier H, the annular cap L, and spool case K, the whole being arranged and operating substantially as set forth.

No. 1,705.—F. F. Smith, assignor to himself and the Collins Company, Collinsville, Conn.—*Mode of Casting Plough Plates.*—Patent dated November 20, 1860; reissued June 21, 1864.

Claim.—In connexion with the making of cast cast-steel plough plates in moulds, the opening or loosening up of the mould, before the molten metal chills enough to shrink to any extent, for the purpose of relieving the plate or casting, and to prevent it from cracking by the shrinkage of the cast cast-steel in cooling, substantially as herein described.

No. 1,706.—F. F. Smith, assignor to himself and the Collins Company, Collinsville, Conn.—*Plough.*—Patent dated November 20, 1860; reissued June 21, 1864.

Claim.—A plough, the plates of which are made of molten cast-steel, substantially as and for the purpose described.

No. 1,707.—Emery Parker, Meriden, Conn.—*Mode of Attaching Door Knobs to Spindles.*—Patent dated May 5, 1863; reissued June 21, 1864.

Claim.—In combination with a screw-threaded knob and the screw-threaded angular spindle, the key or clamp piece b, or its equivalent, fitting a recess in the end of the shank, located entirely within the escutcheon, and concealed thereby from view, in the manner and for the purpose substantially as set forth.

Also, the employment of the independent washer e in combination with the spindle, escutcheon, knob, shank, and metal piece b, when constructed and arranged substantially as and for the purpose described.

No. 1,708.—Frederick Stevens, Harrison township, N. J., assignee of Luther Fogg, Boston, Mass.—*Buckle*—Patent dated June 2, 1863; reissued August 11, 1863; again reissued June 21, 1864.

Claim.—The connexion of the tongue with the surrounding frame by a hinged joint, substantially as described, in combination with its connexion with the metallic shank by a second hinged joint back of, and parallel with, the hinged joint by which it is connected with the surrounding frame, substantially as described, whereby the tongue can be made to liberate the end of the strap independently of the bending or yielding of the connexion between the shank and the strap or other article to which it is to be attached.

Also, the curved or bent frame having the inner face of the cross-bar b' sloping or bevelled, or of equivalent form, in combination with the griping tongue, substantially as described.

Also, grooving the griping end of the tongue, substantially as described, when combined with the surrounding frame, substantially as described.

No. 1,709.—Selden A. Bailey, Simeon S. Cook, and Benedict M. Cook, Woonsocket, R. I., assignees by mesne assignments of John Allender, New London, Conn.—*Roller for Expressing Water from Clothes.*—Patent dated January 11, 1859; reissued June 28, 1864.

Claim.—First, a roller so constructed as to yield more at its centre than at or near its ends, in combination with a covering of vulcanized rubber of tubular form, as and for the purpose set forth.

Second, cog-wheels, in combination with elastic rollers, constructed and used substantially as set forth.

No. 1,710.—Selden A. Bailey, Simeon S. Cook, and Benedict M. Cook, Woonsocket, R. I., assignees by mesne assignments of said S. A. Bailey.—*Machine for Wringing Clothes.*—Patent dated April 5, 1859; reissued June 28, 1864.

Claim.—First, the employment of the cylindrical wooden spring-piece $a\ a$, which is divided in two parts at its centre, each part being slotted from the place of division, as shown in the drawing, towards its outer end, the same being covered by a rubber cylinder, substantially in the manner and for the purpose specified.

Second, the spring F, in combination with elastic rollers, for the purpose set forth.

No. 1,711.—James Young, New York, N. Y.—*Electro-magnetic Bathing Apparatus.*—Patent dated May 14, 1861; reissued June 28, 1864.

Claim.—First, the use of the above described electrodes i and i', charged and operated in the manner and for the purposes herein before specified.

Second, the use of adjustable metallic plates or electrodes $i\ i'$, in combination with stationary metallic plates or electrodes C and D, connected with an electro-magnet in combination with a non-conducting bath-tub, for the purpose specified.

Third, the combination of the bathing-tub A, an electro-magnet, metallic strip $q\ q'$, and brakes $r\ r'$, $r2$, $r3$, $r4$, $r5$, and $r6$, for the purpose of charging, at will, each or all of the metallic plates or electrodes in the tub A, and operating substantially as described.

Fourth, the combination of a non-conducting bath-tub with a metallic plate or electrode at each end, one electrode being connected with a positive pole, and the other electrode with a negative pole of an electro-magnet.

Fifth, the use of the main switch $n'\ n$, by which the polarity of all the brakes $r\ r'$, $r2$, $r3$, $r4$, $r5$, and $r6$ are at once reversed, and by one movement.

Sixth, the combination of an electro-magnet M, bathing-tub A, and metallic vessel H with a rod m, operating as and for the purpose set forth.

Seventh, so combining a swing-tub A, switch N, and an electro-magnet M, that, by the oscillating motions of the tub the current is changed.

Eighth, so arranging the top rail n^* on the sides of the tub, that the same projects over the inside and outside, in the manner and for the purposes set forth.

Ninth, the stationary metallic guides or side rails $j\ j'$, attached to the sides or top rail of a bath, when used for maintaining in position, guiding, or charging with electricity the electrodes $i\ i'$, substantially as described.

No. 1,712.—James Daykin, Cleveland, Ohio.—*Elevating and Delivering Water from Wheels.*—Patent dated August 21, 1860; reissued June 28, 1864.

Claim.—First, the inclined board K, or its substantial equivalent, as herein described, in combination with the spouts A′ and E′, bucket E, valve M, rod L, rope S, or its described equivalent, and counter-balance weight F, the whole being constructed, arranged, and operated in the manner and for the purpose set forth.

Second, throwing the lower end of the bucket forward over the delivery spout by means of the inclined board K, whether the said board is entire or only represented by its operative parts of contact, as herein described, and opening the valve M by the same movement, by means of the rod L, in the manner herein fully set forth.

No. 1,713.—Jonathan E. Warner, Boston, Mass.—*Stave Machine.*—Patent dated November 15, 1853; reissued June 28, 1864.

Claim.—Clamps which support the interior surface of a stave, and are combined with and turn on an axis which is at substantially the same distance from the position of the stave as the axis of the barrel of which the stave is to form a part, substantially as set forth, in combination with a revolving cutter for bevelling the end of a stave, and, also, in combination with a revolving cutter for howelling the end of a stave, and, also, in combination with a revolving crozing cutter, each acting on the stave substantially as described.

Also, pairs of clamps mounted and turning on an axis having the relation to the barrel described, whereby one stave may be adjusted in readiness for working off on one pair of clamps, while another stave, supported on another pair of clamps, is being worked off by revolving cutters, as specified.

Also, the combination of dressing up cutters with unyielding exterior clamps for the stave to be dressed up, and with yielding internal clamps turning on an axis, substantially the same as that of the barrel to be formed by the stave, all being and operating substantially as set forth.

Also, the combination of exterior and internal clamps for the stave, which latter turn on an axis located with reference to the stave, substantially as described, with revolving cutters for bevelling, howelling and crozing the two ends of the stave without removing it from between the clamps, all being and operating substantially as set forth.

Also, the combination of exterior and interior clamps for the stave, the latter turning on an axis located with reference to the stave, as described, with two sets of revolving cutters and two circular saws, all being and operating substantially as set forth, so that the stave may be worked off by applying it once to the machine.

Also, cutter-heads and exterior clamps which are adjustable lengthwise of a stave, substantially as described, in combination with interior clamps, also adjustable lengthwise of the stave, as set forth, whereby staves of different lengths may be worked off in the same machine, as specified.

Also, the combination of the internal clamps for the stave with their axes in such manner that they may be adjusted radially, substantially as set forth.

No. 1,714.—E. D. JORDAN, Boston, Mass., assignee by mesne assigments of JOHN GOULDING.—*Machine for the Manufacture of Wool and other Fibrous Materials.*—Patent dated December 15, 1826; reissued July 29, 1836; extended August 30, 1862, by act of Congress; reissued June 28, 1864.

Claim.—First, in combination, the following sets of apparatus or elements making up a machine, namely: first, a bobbin-stand or creel; second, bobbins on which rovings may be wound; third, guides or pins; fourth, a carding machine; fifth, condensing and drawing-off apparatus; and, sixth, winding apparatus, all substantially such as are herein described, whereby rovings may be fed to a carding machine, carded, condensed, drawn off, and wound again in a condensed state, substantially in the manner hereinbefore set forth.

Second, the feed-rollers of a carding machine, in combination with bobbins and proper stands therefor, and guides or pins, whereby slivers or rovings may be fed to be carded by mechanism, substantially as herein described.

Third, a delivering cylinder of a carding machine, in combination with apparatus for drawing off, condensing or twisting, and winding carded filaments, the apparatus being substantially such as herein described, whereby carded filaments may be delivered, drawn off, condensed, and wound in a condensed state upon bobbins, as hereinbefore set forth.

And lastly, a mule or spinning frame, provided with spindles mounted on a carriage, and with jaws, or their equivalents, for retaining roving, in combination with bobbins whose axes are parallel or nearly so with the line of spindles, and rest upon drums revolving to unwind the bobbins, the combination being and operating substantially as hereinbefore set forth.

No. 1,715.—WM. H. ELLIOTT, Plattsburg, N. Y.—*Base Pin and Lever of Revolving Fire-arms.*—Patent dated December 17, 1861: reissued July 5, 1864.

Claim.—So combining the base pin and lever of a revolving pistol, when arranged centrally below the barrel, as that the base pin may be drawn in a forward direction to release the cylinder without displacing the lever, substantially as described.

Also, providing a groove *u* in the lever *d*, so as to afford a space for the reception of the base pin *e* as it is passed forward out of the cylinder, as and for the purpose herein specified.

Also, cutting away the projecting portions of the head of the base pin, as represented at *r r*, when the base pin so formed is employed with a grooved lever *d*, as and for the purpose set forth.

No. 1,716.—JAMES G. ENGLISH and EDWIN F. MERRICK, assignees of H. S. GOLIGHTLY and C. S. TWITCHELL, New Haven, Conn.—*Folding Arm Chair.*—Patent dated October 6, 1863; reissued July 5, 1864.

Claim.—First, locating the pivot joints of the standards and rear legs in such relation to the pivot joints of the arms that on folding the chair the said joints shall be situated according to the angles of a triangle in any position intermediate between being open and being folded, substantially as set forth.

Second, so connecting the parts of a folding arm chair by pivot joints that the complete folding may be effected by simply drawing the legs together, substantially as set forth.

Third, the construction and arrangement of an arm chair capable of being folded upon joints without any of the parts thereof having of necessity a sliding motion in or upon the joints, substantially as set forth.

No. 1717.—THOMAS HANVEY, Elma, N. Y.—*Stave Machine.*—Patent dated August 25, 1863; reissued July 5, 1864.

Claim.—In a machine for cutting or slicing staves from a bolt or block of wood, the forming and compression rollers, so constructed and combined that the cut stave may be passed through sidewise and formed and compressed, substantially as herein described.

No. 1,718.—JOHN F. KELLER, Greencastle, Penn.—*Machine for Sowing Fertilizers.*—Patent dated January 8, 1851; reissued July 5, 1861.

Claim.—First, the arrangement of a series of spike rollers B, when placed vertically and moved through a partial revolution by reciprocating motion, substantially as set forth.

Second, preventing fertilizers from clogging in the hopper (while being sowed) by the use of a roller or rollers moved through a partial revolution, and worked backward and forward, thus producing a jarring action by reversing the stroke, substantially as specified.

Third, the use of the clearers H and feed slide R, (Figs. 5 and 6,) the latter having the peculiar openings G, with sharp edges for cutting the fertilizer away, substantially in the manner and for the purposes described.

Fourth, the arrangement of the movable connecting rods E and W, in combination with the elbow X and the universal joint, substantially as described for the purposes specified.

No. 1,719.—C. W. and W. W. MARSH, Clinton, Ill.—*Reaping Machine.*—Patent dated August 17, 1858; reissued July 5, 1864.

Claim.—First, the binder tables M M, when used in connexion with the trough or grain receiver I, substantially as and for the purpose specified.

Second, the binder's platform J, when used in connexion with the binder's tables M M, as and for the purpose set forth.

Third, the tables M M and platform J, substantially as and for the purpose set forth.

No. 1,720.—SHARP'S RIFLE COMPANY, Hartford, Conn., assignees of C. SHARP, Philadelphia, Penn.—*Breech-loading Fire-arm.*—Patent dated September 12, 1848, and extended August 25, 1862; reissued July 5, 1864.

Claim.—The combination of a gun barrel open at the breech and a slide movable across said breech to close it, with a receiver for the slide and the stock, constructed in such manner that the cartridge may be inserted into the bore of the barrel by moving the cartridge forward past the stock and receiver in line or thereabouts with said bore, substantially as set forth.

Also, the combination of a gun barrel open at the breech, a slide movable across said breech to close it, a receiver for said slide, and a controlling lever, the whole operating in such manner that, when the breech is secured, the application of pressure to the slide does not tend practically to displace the controlling lever from its position, substantially as set forth.

Also, the combination of the slide, movable across the breech of the gun barrel to close it, and a lever to control the same, with a spring operating to hold said lever in its position when the breech of the barrel is secured by the slide, substantially as set forth.

Also, the combination of the slide, movable across the breech of a gun barrel to close it, and a lever to control the same, with a spring operating to hold said lever in its position when the breech of the barrel has been opened, substantially as set forth.

Also, the combination of a gun barrel open at the breech, and a receiver for the slide, with a slide which is both movable across said breech and is furnished with a knife edge to shear off the projecting but of the cartridge, substantially as set forth.

No. 1,721.—THE SIMPSON WATER-PROOF MANUFACTURING COMPANY, New York, N. Y., assignees, by mesne assignments, of EDWIN L. SIMPSON, Bridgeport, Conn.—*Composition for Water-proofing and Coating Fabrics.*—Patent dated March 24, 1863; reissued July 5, 1864

Claim.—First, the liquid produced by dissolving gutta-percha by means of naphtha or carbon spirits, substantially in the manner described.

Second, the compound produced by combining camphene, benzine, and boiled vegetable oil, or their equivalents, with liquid gutta-percha, in the manner and for the purpose herein set forth.

Third, the varnish or finishing coat produced in the manner described.

No. 1,722.—CYRENUS WHEELER, Jr., Poplar Ridge, N. Y., assignee of A. J. COOK, Enon, Ohio.—*Harvester.*—Patent dated March 28, 1854; reissued July 5, 1864.

Claim.—The device for discharging the grain from the receiver *z*, in combination with the arm *r* and apron *i*, substantially as described.

Also, the rake *r*, revolving with and making one of the wings of the reel, in combination with the cam surfaces, so arranged and mounted on the reel supports as to guide the rake in its removal of the grain from the platform in a path parallel thereto, substantially as described.

No. 1,723.—CYRENUS WHEELER, Jr., Poplar Ridge, N. Y., assignee of A. J. COOK, Enon, Ohio.—*Harvester.*—Patent dated March 28, 1854; reissued July 5, 1864.

Claim.—The combination of shear plates or linings with slotted guard fingers that support the crop to be cut both above and below the plane of the cutter, substantially as described.

No. 1,724.—DOUGLAS BLY, Rochester, N. Y.—*Artificial Leg.*—Patent dated May 17, 1859; reissued July 3, 1860; again reissued December 33, 1862; again reissued July 12, 1864.

Claim.—Curving or deflecting the jointed extremities of the bars J so as to bring their axis of motion back of their line of direction, substantially as and for the purposes set forth.

Also, the cord T and spring P, acting upon the parts D and L, substantially in the manner and for the purpose herein set forth.

Also, the combination of the India-rubber spring E with a tendon or cord in such a manner that the required effect is derived from the compression and expansion of the material, and not from its elongations and contractions, substantially as set forth.

Also, placing the spring of caoutchouc, or equivalent material, which acts from the compression of its mass, in a chamber or cavity, which has such a size or diameter in relation to that of the springs as to regulate and check the compression of the spring at the required limit of the motion of the limb, and protects the spring from over-action.

Also, the axial bolts or transverse axis B C, as and for the purpose herein set forth.

Also, providing the ends of cords F with the enlargements and with the conical socket fastenings G to receive the same, substantially as described, in order to apply adjusting screws, for the purposes herein specified.

Also, the manner of constructing the bearing portions of the knee-joint, consisting of the upper and lower bearing blocks N N, each of which forms a segment of a cylinder more or less corresponding with the axial bolt, the one being fixed in position and the other adjustable by means of the screws S S, to admit of adjusting the parts together to prevent looseness and noise and to reduce and regulate the friction, substantially as and for the purpose herein set forth.

No. 1,725.—Martin Briggs, Rochester, N. Y., assignee of H. W. Covert.—*Lock.*—Patent dated September 15, 1857; reissued July 12, 1864

Claim.—The plain or corrugated centre *h*, as described, in combination with the ring or rim *g*, the whole arranged in the manner and operating as herein specified.

Also, in combination with a set of permutation wheels H H, the stationary washers *n n*, operating substantially in the manner and for the purpose herein specified.

Also, in combination with a set of permutation wheels H H and stationary intermediate washers *n n*, the enclosing box I, substantially as described.

No. 1,726.—E. D. and Geo. Draper, Milford, Mass., assignees, by mesne assignments, of Newell Wyllys.—*Drawing Regulator for Spinning Machines.*—Patent dated January 28, 1851; reissued July 12, 1864.

Claim.—The combination of the escapement mechanism, or its mechanical equivalent, with the trumpet M. the counter weight W, or its equivalent and mechanism, substantially as described, for revolving the screw *e* of the belt shipper and of the mechanisms by which the sets or drawing rollers are revolved, the said escapement mechanism being connected with the trumpet and applied to the gear S, and consisting of the disk *t*, the pawls *a b*, the lever *y*, and its operative mechanism, substantially as herein before explained.

Also, as the invention of the said Wyllys, the arrangement of the trumpet arm E, as herein described, in connexion with the system of weighted levers, the escapement, the belt-shifting mechanism, the reversed cone pulleys, and the mechanism operated by them, whereby the force required to move the trumpet is made to vary under different circumstances to a sufficient extent to prevent over-sensitiveness in the mechanism which changes the relative speed of the drawing rolls to inequalities in the slivers, while, at the same time, but little force is required to effect such changes, thus proportioning the draw more nearly than heretofore to the quantity of fibre in the sliver, and thereby rendering the latter of more uniform diameter and density.

No. 1,727.—Florian Grosjean, New York, N. Y.—*Spoon and Fork.*—Patent dated January 28, 1862; reissued July 7, 1863; again reissued July 12, 1864.

Claim.—Stamping or swaging spoons or forks from pieces of sheet metal with middle longitudinal corrugations or ridges extending along the narrow or weaker part of the handle and prolonged into the bowl thereof, so as to give proper strength and finish to the junction of the handle and bowl, either leaving the flat around the corrugation or forming a bead therein, substantially as and for the purposes herein specified.

No. 1,728.—F. C. Leypoldt, Philadelphia, Penn.—*Apparatus for Cutting Button-holes.*—Patent dated December 18, 1860; reissued July 12, 1864.

Claim.—An instrument for cutting button-holes, wherein the cutter B is actuated by the described combination of lever A and C, when these levers are jointed and otherwise arranged, substantially as and for the purpose set forth.

No. 1,729.—T. K. Reed and C. E. Howard, assignees of T. K. Reed and H. F. Packard, West Bridgewater, Mass.—*Eyelet Machine.*—Patent dated July 22, 1862; reissued July 19, 1864.

Claim.—First, The combination of the hopper D, the rotating cylinder F, the cam A, and the chute I, substantially as and for the purposes described.

Second, the oscillating brush E, applied and operating in combination with the hopper D and cylinder F, substantially as and for the purposes set forth.

Third, the stationary brush G, applied and operating in combination with the hopper D and cylinder F, substantially as and for the purposes described.

Fourth, the curb J and inclined plane K, applied and operating in combination with the cylinder F and chute I, substantially as and for the purpose set forth.

No. 1,730.—T. K. Reed and C. E. Howard, assignees of T. K. Reed and H. F. Packard, West Bridgewater, Mass.—*Eyelet Machine.*—Patent dated July 22, 1862; reissued July 19, 1864.

Claim.—First, an eyeleting machine which has an inclined chute, substantially as herein described, interposed between the supply hopper and the eyelet-applying tools herein described, and above the under and below the upper of said tools, and directly between the two, such machine feeding and applying the eyelets, substantially as set forth.

Second, depositing the eyelets successively upon a yielding pin *h* by means of an inclined chute I, and immediately after applying the eyelet to the article by means of two tools L and *l*, substantially as and for the purpose set forth.

No. 1,731.—William Sewell and A. S. Cameron, New York, N. Y.—*Direct Action Steam Pump.*—Patent dated May 10, 1864; reissued July 19, 1864.

Claim.—First, the combination, in direct-action steam pumps, of the separate steam and water piston rods C D, having a detachable connexion, substantially as herein shown and described, so that the said rods may be disconnected and the machine used as a steam engine or hand pump, independent of each other, as set forth.

Second, the employment of the rock shaft H and the extensible arm N, or its equivalent, for connecting the said rock shaft with the water piston rod, substantially as and for the purpose herein specified.

Third, the socket E connecting the steam and water piston rods for working the pumps by steam, and serving as a guide to the water piston rod in working the pump by hand, substantially as herein described.

No. 1,732.—S. E. Ament, Oswego, Ill.—*Revolving Rake.*—Patent dated February 9, 1864; reissued July 26, 1864.

Claim.—First, the metallic bearing girdle D, adapted to be fixed on the shaft A, substantially in the manner and for the purpose herein set forth.

Second, the flanges 1 and 2, having the situation described, and employed for the purpose substantially as herein set forth.

Third, in revolving rakes the duplicate sliding bolts I and J, arranged relatively to one or more pairs of reversed stops W Y, and to operate substantially as and for the purpose herein set forth.

Fourth, the sectional eccentric peripheries of the flanges 1 and 2, arranged relatively to bolts I and J, and to the operative parts of a revolving rake, substantially as and for the purpose herein set forth.

Fifth, the metallic bush or saddle F, formed with side cheeks F1 F2, and with notches or holes *f*1 *f*2, arranged to serve in connexion with the handle E, and with sliding stops I J, substantially in the manner and for the purpose herein set forth.

Sixth, bracing the entire series of teeth by the employment of the series of braces P P, arranged to form an additional direct connexion from the rigid shaft A to the teeth *a*, substantially in the manner and for the purpose herein set forth.

No. 1,733.—Leonard Anderson, Painesville, Ohio.—*Method of Hanging Reciprocating Saws.*—Patent dated January 17, 1860; reissued August 2, 1864.

Claim.—First, locating the pin K (which connects the saw B with the pitman H) above the fulcrum pin *b* of the said pitman, as shown in figure 2; or locating it below, as represented in figure 3, when the top of the said saw moves in slides or grooves, for the purpose of imparting to the saw a receding back motion during its upward stroke, as herein set forth.

Second, the employment and use of curved slides or grooves F′, by which to overcome or counteract the tendency of the saw, when pivoted above or below the fulcrum pin of the pitman, to move in a curved line on its downward stroke, so that, by the compensating nature of the said curved slides, the saw will descend in a direct vertical line and cause all of its teeth to cut direct, as herein stated.

No. 1,734.—Derastus Harper, Chicago, Ill.—*Plough.*—Patent dated October 21, 1862; reissued August 2, 1864.

Claim.—First, the standard A, constructed of wrought-iron in angle form, substantially as above set forth.

Second, the combination of the above standard with the mould board B, landside C, and share E, attached to the standard, and all arranged as set forth.

Third, the bar or sole F of the landside C, constructed of wrought-iron in angle form at its back part, turned upwards at its front part, and secured to the standard as shown, for the purpose specified.

No. 1,735.—Cahoon Manufacturing Company, assignees, by mesne assignments, of Charles W. Cahoon, Portland, Me.—*Lamp.*—Patent dated February 19, 1861; reissued August 9, 1864.

Claim.—The combination of the chimney holder and clamp, chimney fastings of a lamp with the support of the chimney holder by a horizontal joint, the combination as a whole substantially as set forth.

Also, the combination of the chimney holder, chimney fastenings, support for the chimney, joint, and thumb plate, the whole operating substantially as set forth.

Also, the combination of the preceding combination with a guard, arranged substantially as set forth.

Also, the combination of a spring with the chimney holder, chimney fastenings, support for the chimney, and joint, the whole operating substantially as set forth.

Also, the combination of a chimney guard with the chimney holder, chimney fastenings, support for the chimney, and joint, the whole operating substantially as set forth.

Also, the combination of a transparent plate with an opaque metal lamp body, substantially as set forth.

No. 1,736.—CYRUS W. SALADEE, Paducah, Ky.—*Stirrup.*—Patent dated April 27, 1864; reissued August 9, 1864.

Claim.—As a new article of manufacture, the guard B, constructed, operating, and attached in the manner substantially as shown and described.

No. 1,737.—ETHAN ALLEN, Worcester, Mass.—*Revolving Fire-arm.*—Patent dated September 7, 1858; reissued August 16, 1864.

Claim.—The use of a guard or guards, constructed and operating substantially as described and for the purpose specified.

No. 1,738.—ETHAN ALLEN, Worcester, Mass.—*Revolving Fire-arm.*—Patent dated September 7, 1858; reissued August 16, 1864.

Claim.—The method of protecting the joints from fouling between the revolving cylinder breech and the stationary parts contiguous thereto, in repeating fire-arms, by means of the inclined recess or recesses, or their equivalent, arranged and operating substantially as described.

No. 1,739.—GARDNER CHILSON, Boston, Mass.—*Draught Regulator and Ventilator.*—Patent dated April 29, 1864; reissued August 16, 1864.

Claim.—The arrangement and combination of an annular air register B G and a damper D, the whole being or to be applied to a smoke pipe A, substantially as described.

Also, the combination and arrangement of an annular current guard *c* with an annular air register B G, combined or to be arranged with respect to a pipe or conduit A, and so as to operate therewith, substantially as specified.

Also, the combination and arrangement of an annular current guard *c* and air register B G and a damper D, the whole being or to be applied together and to a smoke pipe A, in manner substantially as specified.

Also, the combination of the enlargement *a*, or the additional space made thereby, with the annular air register B G, and the current guard *c*.

Also, the connexion of the damper and the annular register valve by means of the slotted arm E and their pin *d*, whereby both damper and valve may be moved simultaneously, as described.

Also, the combination of the enlargement *a*, or the additional space formed thereby, with the annular air register B G, the curved guard *c*, and the damper D.

No. 1,740.—C. H. HELMES, Poughkeepsie, N. Y.—*Trimming the Heels of Boots and Shoes.*—Patent dated March 12, 1861; reissued August 16, 1864.

Claim.—First, the use of the vertical sliding frame, having a horizontal axis on which to centre the heel of the boot or shoe, in combination with a rotary cutter arranged in a fixed standard, with its axis parallel with the axis of the sliding frame on which the shoe is centred, for the purpose of trimming the heel from end to end, as hereinbefore set forth.

Second, the use of the pattern plate when secured to the heel of a boot or shoe in a vertical position, so as to obtain a centre, round which the heel turns, in combination with a guide roller on the axis of a horizontal rotary cutter, substantially as hereinbefore set forth.

Third, the use of a shoulder or loose roller on the end of the cutter stock as a "counter" protector, in combination with a rotary cutter and a boot or shoe, when suspended vertically, so as to turn on an axis parallel with the axis of the rotary cutter, substantially as hereinbefore set forth.

Fourth, the use of the spring for supporting the sliding frame in a vertical position in the guide ways of the standard with an elastic pressure under the action of the rotary cutter, in combination with the sliding frame of a boot or shoe heel-trimming machine and the treadle for operating the same, substantially as set forth.

No. 1,741.—A. DERROM, Paterson, N. J.—*Portable Hut.*—Patent dated July 9, 1861; reissued August 23, 1864.

Claim.—First, the right and left battens H on the sections G, in combination with the buttons I, in the manner and for the purpose herein described.

Second, the angular blocks *a*, with angular dovetail slots *b b'* formed in them, in the manner and for the purpose described.

Third, the construction and combination of the sills A A' *e*, studs B B' *j j'*, rafters D D *i*, girders C C *i*, siding sections G G1 G2 H I J, and dovetail fastenings, in the manner and for the purposes herein described.

Fourth, the combination of the section G, with inner and outer stops, and the sections G1 G2, with bolts, for the purpose of forming the sides and ends of a house with intermediate posts or studs, substantially as described.

Fifth, the application of dovetail fastenings, which lock both in a longitudinal and transverse direction, for the purpose and in the manner herein described.

No. 1,742.—A. DERROM, Paterson, N. J.—*Portable Hut.*—Patent dated July 9, 1861; reissued August 23, 1864.

Claim.—So erecting the sides and ends of a house, of sections of uniform or nearly uniform size, that a section at intervals may be readily taken out without disturbing the framing, substantially as and for the purposes set forth.

Second, so disposing dovetail fastenings, or their equivalents, and the sections of the sides and ends of the house, that while the dovetail fastenings or their equivalents serve to lock the frame together, the sections of the sidings, &c., serve to lock the dovetail fastenings or their equivalents, substantially as and for the purposes set forth.

No. 1,743.—E. JONES, Chester Cross Roads, Ohio.—*Harvester.*—Patent dated March 27' 1860; reissued August 23, 1864.

Claim.—First, the combination and relative arrangement of frames A and F with each other and their supporting wheels B B' and G, substantially as and for the purpose above described.

Second, arranging or locating the shoe which supports the heel of the finger beam in a mowing machine, in combination with an arm or supporting piece rigidly connected with the shoe, and which extends back of the shoe and is connected to the frame which supports the gearing and driver by a compound or double joint, for the purposes as shown and described.

Third, the combination with the frame and shoe of a harvesting machine, connected by a supporting piece extending from the rear of the shoe to the frame and attached thereto by a double joint of a lateral sustaining brace upon the opposite side from the finger beam, so arranged as not to interfere with the free rising and falling of the entire finger beam, nor with the folding of the same at the grass side of the machine, substantially as shown and described.

Fourth, the inclined plane or wedge *i*, with the heel of the cutter bar, substantially as described.

No. 1,744.—EDWIN JONES, Chester Cross Roads, Ohio.—*Harvester.*—Patent dated March 27, 1860; reissued August 23, 1864.

Claim.—First, connecting the front end of the right angled lever *k* to the front elevated end of the shoe which supports the heel of the finger beam by a flexible connexion, arranged to work up and down in front or advance of the front inner corner of the main frame, when there is ample room without interfering with the frame or other working parts of the machine.

Second, in a mowing machine having the finger beam arranged so as to give a "front side cut," as it is generally called, combining the supports of the finger beam, and the connexion of the shoe with the front end of the lever by which the cutting apparatus is raised substantially as described, so that one of the supports of the finger beam will be in rear of said lifting cord, and the shoe which supports the heel of the finger beam, and on a line, or nearly so, with a vertical plane passing through the axis of the main supporting wheels, while the other is at or near the front outer corner of the main frame, thus enabling the heel of the finger beam to be raised by power applied at or near the angle formed by its extending supports.

Third, in a mowing machine supporting the finger beam to which the guard fingers are attached, by two supports, one of which is at or near the front outer corner of the main frame, while the other supporting device is connected to and extends back from the shoe which supports the heel of the finger beam on a line at right angles, or nearly so, to the first connexion or extension piece, and is supported outside of the main frame, at a point nearly on a line with a vertical plane passing through the main supporting wheels, both connexions being such as to allow the fingers to rise and fall to pass over irregularities in the ground without raising the front of the main frame in the same proportion.

No. 1,745.—EDWIN JONES, Chester Cross Roads, Ohio.—*Harvester.*—Patent dated March 27, 1860; reissued August 23, 1864.

Claim.—First, the arrangement of the folding frame to support the grain platform, in combination with the main frame and raker's seat, substantially in the manner and for the purpose specified.

Second, the combination with a folding grain platform to a rear delivery reaping machine, as set forth in the above first clause of claim, of a lever *k*, arranged and operating substantially as and for the purposes stated.

Third, hinging the frame F to a support on the inner side of the main frame, and at a point within the periphery of the wheel B', in combination with hinging or supporting the front by a coupling arm O.

Fourth, the raker's seat S, in the described combination with frame F, and the main frame, whether said seat is made to front at an angle to the line of motion of the machine or not.

Fifth, seat S, with frame F, which supports the grain platform when arranged in relation to each other, in the manner and for the purposes herein shown and described.

No. 1,746.—ANDREW WHITELY, Springfield, Ohio, assignee by mesne assignments of JOHN J. WEEKS, Oyster Bay, N. Y.—*Harvester.*—Patent dated September 26, 1854; reissued August 23, 1864.

Claim.—First, the combination of the tongue C, fulcrum pin *a*, frame A, post U, fulcrum pin *v*, lever V, and connecting link *w*, or their equivalents, substantially as herein shown and described, for the purposes specified.

Second, the combination of the tongue C, fulcrum pin *a*, frame A, post U, fulcrum pin *v*, lever V, connecting link *w*, holding standard W, and pin Z, or their equivalents, substantially as herein shown and described, for the purposes specified.

Third, the combination of the tongue C, fulcrum pin *a*, frame A, finger bar D, the open space herein described between the shoe E, the frame A, and the vertical plane in which the driving wheel L moves, the post U, fulcrum pin *v*, lever V, and connecting link *w*, or their equivalents, substantially as herein shown and described, for the purposes specified.

Fourth, the combination of the tongue C, fulcrum pin *a*, frame A. finger bar D, the open space herein described between the shoe E, frame A, and the vertical plane in which the driving wheel L moves, the post U, fulcrum pin *v*, lever V, connecting link *w*, holding standard W, and pin *z*, or their equivalents, substantially as herein shown and described for the purposes specified.

Fifth, the combination or arrangement of the following parts or elements in a harvester: the tongue C, fulcrum pin *a*, frame A, a finger bar with a track-clearer in rear of its outer end, the driving wheel L, grain wheel I, post U, fulcrum pin *v*, lever V, and connecting link *w*, or their equivalents, for joint operation.

Sixth, the combination or arrangement of the following parts or elements in a harvester: the tongue C, fulcrum pin *a*, frame A, shoe E, finger bar D, track-clearer H, driving wheel L, grain wheel I. post U, fulcrum pin *v*, lever V, connecting link *w*, holding standard W, and pin Z, or their equivalents, substantially as herein shown and described, for the purposes described.

Seventh, the combination or arrangement of the following parts or elements in a harvester: the short cutter herein described, the narrow divider herein described. a finger bar having in rear of its outer end a track-clearer, the tongue C. fulcrum pin *a*, frame A, wheels L and I, post U, fulcrum pin *v*, lever V, and connecting link *w*, or their equivalents, for the purposes specified.

Eighth, the combination or arrangement of the following parts or elements in a harvester: the short cutter herein described, the narrow divider herein described, a finger bar having in rear of its outer end a track-clearer, the tongue C, fulcrum pin *a*, frame A, wheels L and I, post U, fulcrum pin *v*, lever V, connecting link *w*, holding post W, and pin Z, or their equivalents, for the purposes specified.

Ninth, the construction and connexion of the sections of harvester cutters to the cutter bar in such a manner that each alternate section of the cutter will have its cutting edges at the lower side, while the other sections will have their cutting edges at the upper side, and the adjoining edges be a sufficient distance apart at their rear ends to the ground while on the cutter bars.

No. 1,747.—ANDREW WHITELY, Springfield, Ohio, assignee by mesne assignment of JOHN J. WEEKS, Oyster Bay, N. Y.—*Harvester.*—Patent dated September 26, 1854; reissued August 23, 1864.

Claim.—First, the combination of the short cutter herein described with the narrow divider herein described.

Second, the combination of the short cutter herein described with the narrow divider herein described, and having one of those portions of it, against which the crop is cut, of a less width than the other.

Third, the combination of the short cutter herein described with the narrow divider herein described, and having one of those portions of it, against which the crop is cut, of a less width than one-half the length of a section of said cutter.

Fourth, the combination of the short cutter herein described with the narrow divider herein described, and having a portion of it extended backward under and secured to the finger bar.

Fifth, the combination of the short cutter herein described with the narrow divider herein described, and having one of those portions of it, against which the crop is cut, of a less width than the other, and a portion extended backward under and secured to the finger bar.

Sixth, the combination of the short cutter herein described with the narrow divider herein described, and having one of those portions of it, against which the crop is cut, of a less width than one-half of the length of a section of said cutter, and a portion extended backward across and connected to the finger bar.

Seventh, the combination of the short cutter herein described with the narrow divider herein described, and having a portion of it extended in rear of the finger bar.

Eighth, the combination of the short cutter herein described with the narrow divider herein described, and having that portion of it which crosses and is connected to the finger bar extended further inward than those portions against which the crop is cut.

Ninth, the combination or arrangement of the following parts or elements in a harvester: the short cutter herein described, the narrow divider herein described, and a track-clearer, for the purposes specified.

Tenth, the combination and arrangement of the following parts or elements in a harvester: the short cutter herein described, and a revolving track-clearer, for the purposes specified.

Eleventh, the combination or arrangement of the following parts or elements in a harvester: short cutter herein described, the narrow divider herein described, a finger bar having in rear of its outer portion a track-clearer, and the fulcrum pin *a*, or an equivalent thereof, which will enable this cutting and clearing apparatus to rise and fall with the undulations of the ground and cut the grass close thereto.

No. 1,748.—JACOB SHAVOR and ALBERT C. CORSE, assignees of MARCUS P. NORTON, Troy, N. Y.—*Post Office Stamp.*—Patent dated April 14, 1863; reissued August 23, 1864.

Claim.—First, the postage-cancelling device C, with "wood," "cork," or "rubber" type or blotter G therein, or any equivalents therefor, so as to cancel, blot, or efface the postage stamp with indelible or other ink, in the manner and for the purposes substantially as herein described and set forth.

Second, the cancelling device C, with wood, cork, or rubber, or any equivalent thereof, forming the type or blotter G therein, in combination with the cross-piece B and with the post-marking device D, substantially as and for the purposes herein described and set forth.

Third, the post-marking of letters, envelopes, and packets and the cancellation of the postage stamps thereon with ink at one and the same blow or operation of the instrument, in the manner and by the means substantially as herein described and set forth.

Fourth, the employment and combination of post-marking device with postage-stamp cancelling device, both being operated by one or the same handle for the post-marking the letter, envelope, or packet and for the destruction of postage stamps thereon with indelible or other ink, substantially as described.

No. 1,749.—HENRY A. ALDEN, Matteawan, N. Y.—*Stuffing for Mattresses.*—Patent dated February 16, 1864; reissued August 30, 1864.

Claim.—As a new manufacture the production of mattresses, chair seatings, and other articles of furniture, bedding, &c., in which the stuffing is composed of sponge, prepared in the manner substantially as herein set forth.

No. 1,750.—JAS. G. ENGLISH and EDWIN F. MERSICK, New Haven, Conn., assignees by mesne assignments of J. H. SWAN, New York, N. Y.—*Folding Chair.*—Patent dated August 21, 1860; reissued August 30, 1864.

Claim.—First, a folding chair, composed of jointed cross-legs, with a flexible seat, having combined with it a back and arms, the back being attached to the rear and upper ends of the front legs by hinge joints, as described, while the arms are connected in like manner with the front and upper ends of the rear legs, substantially as set forth.

Second, the combination of a cross-leg chair, with flexible seat and a back and arms, the whole constituting a folding arm-chair, when arranged for operation as described, so that the folding of the chair is or may be effected by drawing the legs together and by swinging the back over and backward, substantially in the manner and for the purposes set forth.

Third, an arm-chair, folding as described, in which the back is capable of adjustment, substantially in the manner and for the purposes set forth.

Fourth, in folding arm-chairs, operating as described, the employment of jointed arms in combination with adjustable stops or pawls, as set forth.

No. 1,751.—I. A. HEALD, Washington, D. C.—*Cigar Machine.*—Patent dated August 6, 1861; reissued August 30, 1864.

Claim.—First, running a belt in the form of a loop, whereby a single belt is made to enclose and form a bearing for the whole outside surface of the cigar, with the exception of a sufficient space to admit the wrapper.

Second, the use of a belt of unequalled thickness, for the purpose of giving to the cigar any required degree of taper, or for giving it any other desirable form, substantially as shown.

Third, the rotary brush L, when used for the purpose of facilitating the insertion of the wrapper, and to insure the winding of the same around the filling.

Fourth, forming or shaping the end of a cigar, by means of a series of rotary cutters having either smooth or serrated edges, substantially as described.

Fifth, finishing or cutting off the end of a cigar by means of the rotary cutter N, or its equivalent, substantially as described.

Sixth, applying paste to the wrapper of a cigar at the moment of applying said wrapper to the cigar by means of the brush M, or its equivalent, substantially as shown and described.

No. 1,752.—MALLEABLE IRON FITTINGS COMPANY, Branford, Conn., assignees by mesne assignments of CALEB C. WALWORTH, Boston, Mass.—*Machine for Finishing Gas-pipe Fittings.*—Patent dated October 7, 1856; reissued August 30, 1864.

Claim.—A machine so organized as to be capable of operating at the same time on two or more ends of pipe fittings, which are located at angles with each other, substantially as set forth.

No. 1,753.—MASA BRANCH SOUTHWICK, St. Hilaire, Canada.—*Mode of Desiccating Articles of Food.*—Patent dated September 15, 1853; reissued August 30, 1864.

Claim.—First, the process of desiccating food, composed of either vegetable or animal substances, by means of the direct application of an artificial current of hot air.

Second, the revolving tube B, or its equivalent, in combination with any mechanical device for creating and applying a current of air, substantially as specified.

Third, the cylinder D, constructed and operating as and for the purpose set forth, whether used in combination with the revolving table B or not.

Fourth, the rake F, in combination with the revolving table, or its equivalent.

Fifth, the roller G, in combination with the table B, or its equivalent, when constructed and operating substantially as set forth.

No. 1,754.—JOHN M. NICHOLS, Brooklyn, N. Y., assignee by mesre assignments of F. A. GLEASON, Rome, N. Y.—*Machine for Mitre Dovetailing.*—Patent dated March 7, 1863; reissued August 30, 1864.

Claim.—First, forming a mitre with a dovetail tongue and a dovetail groove at one operation by cutters that act with a drawing cut and form a smooth surface, substantially as specified.

Second, forming at one operation a dovetail groove on one side and a dovetail tongue on the other side of a mitre joint and separating crosswise a piece of lumber, substantially as specified.

Third, a series of standing cutters arranged as specified, so as to produce a proportionate increase or decrease in the size of the tongue or groove in the act of adjusting such cutters for different thicknesses of material, as specified.

Fourth, forming the standing cutters for dovetail mitres as an arc of a circle, as specified, so that such cutters can be more compact than would be the case if straight cutters were employed, as set forth.

No. 1,755.—CÆSAR NEUMANN, New York, N. Y.—*Skeleton Skirt.*—Patent dated August 16, 1859; reissued August 30, 1864.

Claim.—First, the divided hoops A A, to adapt the skirt to be opened in front from top to bottom.

Second, the combination of the jointed or hinged hoop supporters B and a series of horizontal wires A, when arranged and operated in the manner and for the purpose substantially as set forth.

Third, the additional wires or extension pieces D connected to the main wires A of a hoop skirt and to each other by clasps, buttons, hooks, or other equivalent means, so that they can be readily opened and closed, and at the same time the skirt can be enlarged or contracted.

Fourth, the metallic waistband E, in combination with a hoop skirt.

No. 1,756.—ROBERT PATON, New York, N. Y.—*School Seat.*—Patent dated August 20, 1861; reissued August 30, 1864.

Claim.—A folding seat D, attached by joints *d* to the side frames A, with stationary supports *c* on the side frames situated anywhere below or underneath the seat, for the purpose of supporting the latter, substantially as set forth.

No. 1,757.—WM. N. WHITELY, assignee of ABNER WHITELY, Springfield, Ohio.—*Harvester.*—Patent dated April 25, 1855; reissued August 30, 1864.

Claim.—First, the combination of the narrow divider, short cutter, and grain wheel, arranged and operating substantially, as herein described, for the purposes specified.

Second, the combination of the narrow divider, short cutter, grain wheel and its adjusting mechanism, arranged and operating substantially, as herein described, for the purposes specified.

Third, the combination of the herein-described platform, reel, and automatic rake, or an equivalent of this combination, for the purposes specified.

Fourth, the combination of the herein-described platform, reel, automatic rake, and counterbalance for the rake, or an equivalent of this combination, for the purposes specified.

Fifth, the combination of the herein-described platform, reel, automatic rake, guides which guide and keep the rake in its proper path, or an equivalent of this combination.

Sixth, the combination of the herein-described platform, reel, automatic rake and shipping mechanism for the rake, or the equivalent of this combination, for the purposes specified.

Seventh, the combination of the herein-described platform, reel, automatic rake, and shipping mechanism for the reel, or an equivalent combination, for the purposes specified.

Eighth, the combination or arrangement of the following parts or elements in a harvester: the narrow divider, the short cutter, the grain wheel at its end, the platform, the reel, and the automatic rake herein described, so as to cut the grain in the best manner, remove the gavels in the best manner, and deposit them at the best place by one continuous automatic operation.

No. 1,758.—WM. N. WHITELY, assignee of ABNER WHITELY, Springfield, Ohio.—*Harvester.*—Patent dated April 25, 1855; reissued August 30, 1864.

Claim.—First, the alternate spaces in rear of the cutter bar and sections of the cutter, combined with the shoulders of the fingers against which the cutter bar works, for the purpose of altering the bearings, as and for the purposes set forth and described.

Second, the cutter section *f*, seen at Fig. 9 of the drawings, serrated on the flat side and bevelled on the other, substantially as and for the purposes set forth and described.

Third, the combination of the herein-described platform, automatic rake and its driving mechanism, or their equivalents, for the purposes specified.

Fourth, the combination of the herein-described platform, automatic rake, its driving mechanism and its shipping mechanism, or their equivalents, for the purposes specified.

Fifth, the combination of the herein-described narrow divider, short cutter, grain wheel at its end, platform, automatic rake, and its driving mechanism, or their equivalents, so as to cut the grain, remove the gavels and deposit them, as herein described, at one continuous automatic operation.

No. 1,759.—ROBERT N. EAGLE, Washington, D. C.—*Riding Stirrups and their Covers.*—Patent dated September 17, 1861; reissued September 6, 1864.

Claim.—First, the locating of the point of suspension inside or outside of a vertical line which is drawn from near the centre of, and at right angles to, the tread of the stirrup, substantially as set forth.

Second, in making this inclination adjustable by the sliding hub, or its equivalent, so as to suit the different circumstances under which it may be used, or the conformation of the user, substantially as described.

Third, the peculiar angular construction of the eye and the manner of its attachment to the body of the stirrup, so as to impart to the tread of said stirrup an angular position horizontally, and also with reference to the body of the horse, thus allowing an easy entrance to the foot without twisting the stirrup leather, and causing at the same time the foot to move in the proper directions, substantially as set forth.

Fourth, hanging the stirrup upon the horizontal or nearly horizontal axis which passes angularly over the tread in the direction of a line drawn horizontally from the little toe to the instep, substantially as set forth.

Fifth, constructing the sides or arms of a stirrup in a spiral form, with the inner side or arm shorter than the outer side or arm, so as to compel the toes and foot of the rider to turn inward toward the body of the horse, substantially as described.

Sixth, constructing the tread or marginal base of the stirrup with an irregular concavity, in order to conform to the bend of the foot or boot, and with the front of said marginal base of the tread higher relatively than the base at the entrance of the stirrup, as and for the purposes described.

Seventh, the cover of the stirrup, said cover being made of one piece, the lower portion being turned inward from the bottom to cover the tread and lower part of the sides, thus forming a guard and protection to the foot, substantially as set forth.

Eighth, a guard or bar *g*, to be applied to the stirrup or stirrup frame, to prevent the foot from passing too far through, or to serve as a support for the cover where one is used.

No. 1,760.—DANIEL BARNUM, New York, N. Y.—*Sewing Machine Guide.*—Patent dated February 12, 1861; reissued September 6, 1864.

Claim.—First, the use of thin sheet or light elastic spring metal for making automatic clamping surfaces, extending out from the gauging line of a sewing-machine gauge, and in combination therewith, beyond the line of seam to be sewed by a needle, and of thus producing a gentle automatic spring pressure upon the upper surface of flexible material while the same is approaching the needle, and thereby automatically smoothing and holding the said material, preparatory to its being sewed, outside of the line of the seam, as well as between it and the line of the gauge, substantially as and for the purposes specified.

Second, the use of thin sheet or light elastic spring metal for making automatic clamping spring surfaces, as specified, in combination with diagonal corrugations, struck up thereon outside of the line of the seam, to be sewed by a sewing machine, substantially as and for the purposes specified.

Third; the use of thin sheet or light elastic spring metal for making automatic clamping surfaces, as specified, in combination with the incline plane or bevelled edges which are turned or struck up, as described, to facilitate an easy entrance, of varying thicknesses and uneven surfaces of material, under the upper clamping surface, substantially as and for the purposes specified.

No. 1,761.—GEO. W. BILLINGS, New York, N. Y.—*Cleaning and Separating the Fibres of Flax, Hemp, &c.*—Patent dated March 8, 1864; antedated February 21, 1864; reissued September 13, 1864.

Claim.—First, the process, herein specified, of subjecting vegetable fibres to a rotting or fermenting operation after the stalk or other woody portions have been removed or partially removed, for the purposes and substantially as specified.

Second, the process of washing the vegetable fibre in alternate directions for its cleansing, while contained in a closed vessel, for the purpose and in the mode substantially as specified.

No. 1,762.—RUFUS DUTTON, Brooklyn, N. Y.—*Harvester.*—Patent dated March 19, 1861; reissued September 13, 1864.

Claim.—Constructing the casing of the secondary gearing, substantially as described, so that such casing shall not only receive and protect such gear from grass, dirt, &c., but shall also form or furnish the bearings of the counter shaft of such gear, substantially as and for the purposes set forth.

Also, the conical skeleton track-clearer, formed of spiral rods or wires, when connected at their outer ends by weighted clamps, substantially as described.

No. 1,763.—Rufus Dutton, Brooklyn, N. Y.—*Harvesters.*—Patent dated March 19, 1861; reissued September 13, 1864.

Claim.—Raising the outer end of the finger box of harvesters, having a flexible finger bar, by means of a lever supported on the same joints with the finger bar, or on the shoe or heel of such bar at or near such joints, and turning freely toward the finger bar, but rigid with it when turned in an opposite direction, by causing such lever, when the heel of the finger bar is raised, to be brought in contact with the pole or the frame of the machine, or a projection therefrom, so as to press or force down such lever, and thereby raise the water out of the finger bar, substantially as set forth.

Also, a guard finger, made in a single piece, covering the sickle bar, and having openings in the bottom thereof for the escape of grass and other substances entering with the sickle, when said guard finger is provided with a bearing surface, as *i*, connecting the upper and lower portions of said guard finger and resting against the edge of the finger bar, and is braced and sustained against lateral strain, as herein set forth.

No. 1,764.—George Harwood and George H. Quincy, Boston, Mass., assignees of William Clissold, Dubridge Works, Stroud, England.—*Machine for Oiling Wool.*—Patent dated February 24, 1862; reissued September 13, 1864.

Claim.—First, the oiling of wool by means of a pressure roller, supplied with oil or oleaginous mixture, in the manner substantially as set forth.

Second, a machine or apparatus for oiling wool, consisting of the following elements combined: 1st, one or more reservoirs for containing the oil or oleaginous mixture; 2d, a dipper or dippers and a brush or brushes, the former to convey and the latter to receive the determinate and requisite quantity of oil or oleaginous mixture; 3d, a distributor or distributors, receiving oil or oleaginous mixture from the brush or brushes, and transferring it to the wool, substantially as set forth.

Third, the combination with an oil reservoir and intermediate dipper and brush, or other equivalent device for conveying oil in requisite quantities to the distributor, of a pressure roller, arranged immediately in front of the feed rollers, above the feed apron of a carding or other wool-preparing machinery, substantially as set forth.

Fourth, in a wool-oiling apparatus, in which the wool is oiled by imprinting the oil as described, in combination with a pressure roller, or the equivalent thereof, a brush or brushes, charged with oil by means of one or more dipping plates, substantially as set forth.

Fifth, the combination with one or more oil reservoirs and travelling brush or brushes of a plate or plates for charging the said brush or brushes with the requisite amount of oil, and when arranged for action so as to properly agitate the oil or oleaginous mixture, substantially as set forth.

Sixth, in combination with a distributing pressure roller a brush, travelling diagonally over the said roller—that is to say, at an angle with the axis of, but in a plane tangent to the roller, substantially as and for the purposes set forth.

No. 1,765.—J. Meyer, Brooklyn, N. Y.—*Machine for Boring Metal.*—Patent dated June 16, 1863; reissued September 13, 1864.

Claim.—First, the swivel arm or disk D in combination with the driving shaft A, constructed and operating substantially as and for the purpose set forth.

Second, the swivel arm *h* in combination with a suitable driving shaft, and with the bore spindle, constructed and operating substantially as and for the purpose specified.

No. 1,766.—William H. McMillan, New York, N. Y.—*Oar.*—Patent dated April 19, 1864; reissued September 13, 1864.

Claim.—An oar, made in separate pieces, of any suitable material or materials, and connected together, substantially as herein described.

No. 1,767.—A. H. Van Gieson and E. A. Smith, assignees by mesne assignments of A. H. Van Gieson, Newark, N. J.—*Leather Splitting Machine.*—Patent dated July 8, 1862; reissued September 13, 1864.

Claim.—First, the combination of the bed 1, fingers 22, and roller 5, or equivalent device for spreading and holding the leather, the knife 7, or its equivalent for splitting the leather, and the drawing rollers 9 and 10, or equivalent device for drawing the leather through the machine: these parts or elements, to wit, the spreading and holding device, the knife, and the drawing divider, being so combined as to accomplish the result stated—that is to say, to draw and hold the leather to the knife by its own tension instead of by pressure, not confining myself to the particular form or construction of the various parts so long as these three essential elements are combined substantially as and to the effect above set forth.

Second, the combination of the gauge 6 with the spreading and holding device above defined, substantially as and to the effect above stated.

Third, the combination of the corrugated bed 1, the weighted fingers 2, and the roller 5, substantially as and for the purpose set forth.

No. 1,768.—Harmon G. Weibling, Denver City, Colorado.—*Carriage Wheel.*—Patent dated January 20, 1863; reissued September 13, 1864.

Claim.—The application of friction rollers partially imbedded in a groove in the under side of the axle or spindle upon which the wheel is placed, substantially as and for the purposes above described.

Also, the application of the friction rollers E E E imbedded partially in the surface of the shoulder H and the nut M, as and for the purpose above described.

No. 1,769.—Robert Brown, Newark, Ohio.—*Harvester.*—Patent dated June 18, 1861; reissued September 20, 1864.

Claim.—Rigidly connecting the rake frame, which is supported on the main frame of the machine, with the hinged finger beam in such a manner that the rake shaft does not change its relative position to said finger beam when the latter is raised or lowered in passing over uneven ground, substantially in the manner and for the purposes herein set forth.

Also, securing both the finger bar and rake frame to a hollow shaft L, the journals *l* of which run in bearings M in the main frame, and themselves constitute bearings for the journals *h* of the crank shaft, as herein shown and described and for the purposes set forth.

Also, the reel attachments *o m p*, constructed, combined, and arranged in the manner specified, to enable the attachment of any desired number of arms.

No. 1,770.—J R. Parsons, Hoosic Falls, N. Y., assignee of Benjamin T. Roney, Bristol, Penn.—*Grain and Grass Harvester.*—Patent dated March 11, 1856; reissued September 20, 1864.

Claim.—First, the gear or main frame in combination with the movable or cutter frame, by means of lugs and bevelled projections, the whole being arranged and constructed substantially in the manner and for the purposes set forth.

Second, in combination with a master guard tooth or shoe of a cutting apparatus, which is free to conform itself both longitudinally and laterally to the undulations of the ground, a roller located in reference to the cutters, and operating substantially as described.

Third, combining a supplementary frame supporting an endless belt and a cutting apparatus, which conforms itself to the surface of the ground, with wheels supporting it and actuating a belt, as described.

No. 1,771.—Lewis Francis and Cyrus H. Loutrel, assignees of said Lewis Francis New York, N. Y.—*Composition for Making Printers' Inking Rollers.*—Patent dated March 8, 1864; reissued September 27, 1864.

Claim.—Combining an alkali or alkalies or alkaline earths, or any of their compounds, with glue and glycerine, to form a composition for the manufacture of printers' inking rollers.

No. 1,772.—Lewis Francis and C. H. Loutrel, assignees of said L. Francis, New York, N. Y.—*Composition for Making Printers' Inking Rollers.*—Patent dated March 8, 1864; reissued September 27, 1864.

Claim.—Combining sugar or any other saccharine matter with glue and glycerine, to form a composition for the manufacture of printers' inking rollers.

No. 1,773.—H. Linderman, New York, N. Y.—*Piano-forte.*—Patent dated August 7, 1860; reissued September 20, 1864.

Claim.—First, the arrangement and construction of a curved or arched structure as a substitute for the long and cross blocks now in use, in the manner and for the purpose substantially as described.

Second, an arched or curved structure as a substitute for the long and cross blocks, as well as the outside casing, made of a number of veneers or boards glued together, in the manner and for the purpose substantially as set forth and specified.

No. 1,774.—S. B. Sexton, Baltimore, Md.—*Stoves.*—Patent dated April 19, 1859; reissued December 3, 1861; again reissued February 6, 1864; again reissued September 27, 1864.

Claim.—First, a stove for warming or heating purposes, constructed with a fuel magazine, supported free from the grate, and a combustible chamber, having a fire bed or base-burning surface of a greater diameter than the fuel magazine, so arranged and constructed that the fuel may be spread out laterally and form a conical pile, and burn in thin layers, and so that the inflamed gases may rise or circulate in a free space as they are evolved from the entire outer surface of the burning conical pile of coals, substantially as and for the purposes set forth.

Second, in combination with the subject-matter of the first claim, constructing the combustion chamber A with projecting window frames, substantially as and for the purpose described.

Third, a stove for warming purposes, embracing the features of construction mentioned in the first claim, and the additional feature of the gas or products of combustion, circulating apartment above and around the upper portion of the magazine, substantially as and for the purposes set forth.

Fourth, a stove for warming purposes, wherein the spreading of the coals in a lateral direction from the lower end of the magazine is wholly unobstructed all around and, at the same time, the combustion chamber proper is formed by the outer wall of the stove, and the products of combustion circulate underneath, around, over, and in contact with the magazine, whatever may be the form and relative proportions of the parts, substantially as and for the purposes described.

Fifth, the combination of a fuel-supply magazine H, which has its lower end free from the fire bed G, with unobstructed space below it, where the fuel may spread out laterally and burn in a conical pile and in thin layers, with a stove which has illumination doors or windows in its wall A so constructed and arranged that the fire may be kindled through the apertures or door frames, substantially as set forth.

Sixth, the combination of the free space F, illumination space or wall A, and gas-circulating space *p*, and the upper part of the circumference of the magazine H in a magazine stove, substantially as and for the purpose described.

No. 1,775.—JAMES A. SAXTON, Canton, Ohio, assignee by mesne assignments of HOSEA WILLARD and ROBERT ROSS.—*Harvesters.*—Patent dated November 3, 1857; reissued September 27, 1864.

Claim.—First, the combination of the grain platform G, or its equivalent, with a hinged coupling arm E′ and a rear connexion, which allows of an up motion of the platform independently of the main frame, substantially as described.

Second, supporting the rear delivery side of the platform G, or its equivalent, by a yielding connexion from the main frame, in combination with supporting the front delivery side by a leading wheel *g*″, or its equivalent, substantially as described.

Third, the combination of the grain platform, raker's seat G, and arm G″, or its equivalent, with the inner side of the main frame, substantially as set forth.

Fourth, connecting the front of a grain platform of a two-wheel harvesting machine to a finger beam, which is in turn hinged by a free hinge to a hinged coupling arm, whereby the platform is free to conform to the irregularities of the ground, substantially as set forth and described.

Fifth, the combination of the independent-supporting and driving wheels B B′ with ratchets *b b*′, levers C C′, gears D D′, and *d*′ *d*″, substantially as and for the purposes set forth.

Sixth, the combination of convex pulleys J′ with the concave ratchet wheel *b*′, substantially as set forth.

No. 1,776.—JAMES A. SAXTON, Canton, Ohio, assignee by mesne assignments of HOSEA WILLARD and R. ROSS.—*Harvester.*—Patent dated November 3, 1857; reissued September 27, 1864.

Claim.—First, the combination of a knuckle, or the equivalent thereof, with the joint which connects the finger beam and coupling arm for raising the hinged finger beam of a mowing machine off of the ground to pass obstructions.

Second, the combination of a lever with a hinged finger beam and coupling arm, as herein described, in such a manner, that while the finger beam or either end is free to conform to the inequalities of the ground while in operation, the finger beam can be raised or elevated to pass over obstructions, as set forth, by simply raising the coupling arm, substantially as described.

Third, the combination with the joint which connects the finger beam and coupling arm of a knuckle and adjusting screw or bolt, or their equivalents, for regulating the upward deflection of the heel end of the finger beam.

No. 1,777 —JAMES A. SAXTON, Canton, Ohio, assignee by mesne assignments of HOSEA WILLARD and ROBERT ROSS.—*Harvester.*—Patent dated November 3, 1857; reissued September 27, 1864.

Claim.—First, the combination with the finger beam which supports the cutter or cutters of a single draught coupling arm, one end of which is hinged or jointed to a bracket or hanger connected to the front outer corner of the main frame, while the other end extends out by or under the inner front corner of the main frame, and is here hinged or jointed to the heel of the finger beam or to the shoe which supports the same, substantially as and for the purpose herein described.

Second, hinging the coupling which carries forward the finger beam, as aforesaid, to a bracket or hanger connected or fastened to the front outer corner of the main frame, in combination with giving to said coupling arm a bracing support at a point near the inner side of the main frame, substantially as and for the purpose herein described.

No. 1,778.—JAMES A. SAXTON, Canton, Ohio, assignee by mesne assignments of HOSEA WILLARD and ROBERT ROSS.—*Harvester.*—Patent dated November 3, 1857; reissued September 27, 1864.

Claim.—First, the combination with the heel of the finger beam, or the shoe which supports it, of a yielding finger bar, hinged extension piece, or coupling arm, and a friction support, substantially as and for the purpose herein described.

Second, the combination of a metallic loop with the shoe which supports the heel of the finger bar or beam, and the finger bar extension piece or coupling, whereby the use of a hinged brace is obviated, while the heel of the finger bar or beam is allowed to yield up and down to conform to the inequalities of the ground, and at the same time is kept from being twisted back when the machine is in operation, or forward when the machine is backed, substantially as and for the purpose herein described.

Third, the arrangement of said finger bar extension piece or yielding connexion in such a manner, as respects the main frame, that one of its ends will be connected to the front outer corner of the main frame, while the other end projects out by the inner front corner of the main frame, there to connect with the shoe which supports the heel of the finger bar or beam, in combination with a friction support, for the purposes as stated, substantially as and for the purposes described.

No. 1,779.—JAMES A. SAXTON, Canton, Ohio, assignee by mesne assignments of HOSEA WILLARD and ROBERT ROSS.—*Harvester.*—Patent dated November 3, 1857; reissued September 27, 1864.

Claim.—The arrangement of the draught or tongue, the main driving and bearing wheels, and the two supporters to the finger bar extension piece, substantially as described, whereby the line of draught through the tongue will be on a line between the two supporters, and also on a line between the outer wheel and inner or sliding loop support to render the machine more evenly balanced, and the various parts less liable to give way.

No. 1,780.—JAMES A. SAXTON, assignee by mesne assignments of HOSEA WILLARD and ROBERT ROSS, Canton, Ohio.—*Harvester.*—Patent dated November 3, 1857; reissued September 27, 1864.

Claim.—First, the combination of a leading wheel with the inner shoe hinged to a coupling arm, substantially as and for the purposes herein described.

Second, the combination with said shoe and leading wheel of an adjustable arm, for the purposes set forth, substantially as and for the purposes herein described.

Third, the combination and relative arrangement of wheel *g*″, arm *g*′, finger beam F′, shoe F, and curved coupling arm or finger bar extension piece E′, substantially as described.

No. 1,781.—J. A. SAXTON, assignee by mesne assignments of HOSEA WILLARD and ROBERT ROSS, Canton, Ohio.—*Harvester.*—Patent dated November 3, 1857; reissued July 27, 1864.

Claim.—The combination with the finger beam or bar and the main frame of a two-wheel machine of an adjustable hinged coupling arm, substantially as and for the purposes set forth.

No. 1,782.—G. CHILSON, Boston, Mass.—*Furnace or Heat Generator and Radiator.*—Patent dated September 26, 1854; reissued September 27, 1864.

Claim.—In combination with one or more tapering tubes, substantially as described, made to communicate in the fire chamber, essentially as specified, a conical or tapering radiator, closed at top and arranged directly over the fire, and made to open near its base in the said tapering tube or tubes, and to operate with respect to them and the fire pot or chamber, and the surrounding air or medium to be warmed or heated, substantially as specified.

Also, arranging the feed or fireplace door within the trunk or mouth-piece to the fire-pot or place, and so as to operate as specified. And in combination with the mouth-piece and the door, arranged in it as specified, the passage in the mouth-piece and its plate *c*, for the thin sheet or stratum of air to pass under the door (while it is wholly closed) and said plate *c*, and be heated by contact with the plate before it (the said air) reaches the fuel. And in combination with the inclined door of the fireplace the plate *c* and the air passage directly under it, the ledge or flange *a*′, arranged as described, the same being not only for the purpose of regulating the admission of air into the passage, but of keeping it from passing under the door and over the plate *c*, while the ledge is below the level of the top surface of the plate.

Also, the arrangement of the register hole (viz., in line of or axially with respect to the shaft of the grate) in combination with the arrangement of the outer end of the said shaft, viz., entirely within the throat of the ash-pit, or in rear of the registry plate or opening, as specified, the said arrangement not only enabling to dispose the grate shaft entirely within the ash-pit mouth, (the end of said shaft, when projecting from the front face of the furnace, being, generally speaking, more or less in the way, besides presenting an appearance often disagreeable to the eye,) but to make the registry opening answer the purpose, not only of admitting air to the fire when required, but of enabling a person to place a key or crank upon the shaft for the purpose of turning or moving the grate when necessary, and this without danger of ashes escaping out of the ash-pit, provided its door be closed.

Also, the combination of a fire pot, a dome surmounting it, and a series of flues leading from the base or lower part of the dome, the whole being substantially as herein before described.

Also, the combination of a fire pot, a dome surmounting it, a series of flues leading from the base or lower part of the dome, and a series of conical or partially conical bases or semicones, serving not only to facilitate the entrance of smoke and heat into the conical radiators or flues, but the absorption of heat and its radiation towards the floor, and its reflection into the tapering radiators, the whole being substantially as described.

Also, the combination of a fire pot, a dome surmounting it, or placed over it, a series of flues leading from the base or lower part of the dome, and a hollow ring or annular radiator placed on and opening out of the said flues, the whole being substantially as herein before explained.

No. 1,783.—**ALFRED BERNEY**, Jersey City, N. J., assignee by mesne assignment of **CHARLES B. TURNER**, Buffalo, N. Y.—*Mode of Operating Brakes of Railroads.*—Patent dated November 14, 1848; extended November 14, 1862; reissued October 4, 1864.

Claim.—First, the combination of a sliding bumper with a rod and a brake system and an interposed spring, the combination being substantially as specified and operating substantially as described.

Second, the combination of a sliding rod, a bumper, a guide or cheeks, and a locking plate, all substantially as set forth, whereby the spring forms a connexion either between the bumper and the car body or the bumper and a system of brakes, substantially in the manner and for the purposes set forth.

Third, a locking plate in combination with a sliding rod, capable of operating a brake system and a bumper, whereby the bumper may either be permitted to or prevented from communicating motion to a brake system under a mode of operation substantially as herein before set forth.

No. 1,784.—**ALFRED BERNEY**, Jersey City, N. J., assignee by mesne assignment of **CHAS. B. TURNER**, Buffalo, N. Y.—*Operating Brakes of Railroad Cars.*—Patent dated November 14, 1848; extended November 14, 1862; reissued October 4, 1864.

Claim.—First, the combination of these three elements, viz: A lever having the characteristics specified; two connexions between said lever and two systems of brakes, and a connexion between said lever and a windlass, the whole being combined and working together to produce results substantially such as are specified under a mode of operation substantially as set forth.

Second, a combination of four levers and their connecting rods, arranged with reference to each other, and operating substantially as specified, whereby pressure may be exerted on four rubbing surfaces on the same side of the car, substantially in the manner and under the conditions herein before described.

No. 1,785.—**LEVI L. HILL**, assignor to **SIMON STEVENS**, New York, N. Y.—*Mode of Burning Petroleum and other Hydro-carbons.*—Patent dated April 7, 1863; reissued February 24, 1863; reissued October 4, 1864.

Claim.—First, the mode or process herein described for burning petroleum and similar hydro-carbon liquids for the production of heat or light, or of heat and light.

Second, combining or mixing steam or the vapor of water with hydro-carbon vapor and air, substantially as set forth, for producing by combustion an intensely heated flame for generating steam and for metallurgic and other similar purposes.

Third, the use of a platinum cap or chimney, constructed and operating as described, in combination with a jet of the mixed vapors of a hydro-carbon and air, with or without steam, for the production of light, as set forth.

No. 1,786.—**JOHN A. KRAKE**, Alden, N. Y.—*Grain Separators.*—Patent dated November 27, 1855; reissued October 4, 1864.

Claim.—First, suspending or supporting the shoe D of a fanning mill, or its screens, by means of the vibrating arms *d d*, and rock shaft E, or equivalent, in such manner as to brace said shoe or screens against any longitudinal movement, but to allow a free and regular lateral motion, combined with a vertical one, produced by the oscillating or pendulous motion described, said shoe or screen and vibrating arms being combined with each other, and with the fanning mill, for the purpose herein set forth.

Second, in combination with the shoe D, thus vibrated by the arms *d d*, and with the similarly vibrating shoe or screen G, the shaft K, having the angle irons *k k k* provided with adjusting holes *u u* and the couplings *v v*, the whole so arranged that an equal or an unequal action may be given to said screens, and the same vibrated to a greater or less degree, substantially as herein specified.

No. 1,787.—**WM. H. SMITH** and **ROYAL M. BASSETT**, Birmingham, Conn., and **CHAS. D. GIBSON**, New York, N. Y., assignees of said **WM. H. SMITH**.—*Packing of Projectiles for Rifled Ordnance.*—Patent dated January 5, 1864; reissued October 4, 1864.

Claim.—Making the jacket or centring case of a sufficient diameter only (during the greater portion of its length) to fit over the bolt or body A of the projectile, and with an enlargement near its forward end, in combination with a suitable band or washer near its rear, the whole constructed to operate substantially as and for the purpose set forth.

Second, the employment, in combination with the jacket or centring case, having an enlargement near its front end and a band washer or washer, or the equivalent thereof, near its rear end, of a surrounding band or belt of packing material E, substantially as set forth.

Third, the combination of the sliding bar or washer C, with the casing E and sabot D, the whole arranged to operate substantially as described for the purpose set forth.

No. 1,788.—**WM. H. SMITH** and **ROYAL M. BASSETT**, Birmingham, Conn., assignees of said **W. H. SMITH**.—*Projectile for Rifled Ordnance.*—Patent dated December 23, 1862; reissued October 4, 1864.

Claim.—The employment, in combination with the body or bolt of a sub-calibre projectile of a metallic centring and guiding holder case, or its equivalent, having its front and rear portions fitting the body or bolt, and adapted to fill the bore of the gun, and united by an intervening portion, in the manner substantially as set forth for the purpose described.

No. 1,789.—**THE BORDENTOWN MACHINE COMPANY**, assignees of **JAMES MOLYNEUX**, Bordentown, N. J.—*Apparatus for Forcing Oil from Oil Wells.*—Patent dated April 5, 1864; reissued October 4, 1864.

Claim.—The pipe B of an artesian oil well, (with or without a supplementary pipe,) so combined with a pump or steam boiler that by the use of compressed air or steam the oil in the well may be forced upward therefrom through the pipe B, or through a supplementary pipe, all substantially as set forth.

No. 1,790.—**O. A. HOWE**, New York, N. Y.—*Horseshoe.*—Patent dated September 15, 1863; reissued October 11, 1864.

Claim.—A horseshoe, provided at its under or face side with a groove, having pendent projections or their equivalent within it to hold a filling of India-rubber or any other suitable material, substantially as herein set forth.

No. 1,791.—**JAMES LEFFEL**, Springfield, Ohio.—*Water Wheel.*—Patent dated January 14, 1862; reissued October 11, 1864.

Claim.—First, the above described wheel, constructed with two independent sets of buckets *a* and *b*, the former having a central and the latter a vertical discharge, substantially as described.

Second, constructing and arranging the annular diaphragm D, to operate in the manner and for the purpose herein set forth.

Third, in combination with the diaphragm D, the vertically discharging buckets *b*, when constructed and arranged to operate as and for the purpose set forth.

Fourth, in combination with an upper plate B, whose inner surface shall be slightly concave in that portion directly over the buckets, making the surface upon which the lower edge of said buckets rests curved, as shown and described.

No. 1,792.—**JAMES LEFFEL**, Springfield, Ohio.—*Case for Water Wheels.*—Patent dated January 14, 1862; reissued October 11, 1864.

Claim.—First, the crown plate A, provided with the horizontally projecting rim *c* and hub A′, as and for the purpose set forth.

Second, the cylindrical tube R, provided with the horizontally projecting flange *e*, when used in combination with plate A, as herein described.

Third, the gate H, when constructed and operating as and for the purpose substantially as herein specified.

Fourth, in combination with the parts A and R, the use of a series of gates H, as and for the purpose set forth.

Fifth, in combination with the cylindrical casing of a turbine wheel, a series of scroll-shaped gates, so hung that they shall be nearly balanced by the pressure of the water.

Sixth, the combination and arrangement of the collar L, rods P, lever M, provided with the rock-bar O and pinion N, when constructed to operate in the manner and for the purpose herein set forth.

No. 1,793.—**H. K. PARSONS**, assignee by mesne assignments of **JOHN KRAUSER**, Harrisburg, Penn.—*Cider Mill.*—Patent dated August 30, 1853; reissued October 11, 1864.

Claim.—First, so locating the hopper as that the substance to be ground shall be delivered upon that portion of the piston or crusher which shall be within the hopper when thrust forward, or into the space formed by the withdrawal of the same, when thrown backward.

Second, operating the pistons or concaves of a cider mill by means of eccentrics, whether said pistons be arranged as in Figs. 1 and 2, to move in a straight line, or to be pivoted at top and bottom as in Figs. 8 and 9.

Third, the concave *k′*, arranged to operate in combination with the pistons P, or with the concaves *d*, as and for the purposes set forth.

No. 1,794.—Levi Bissell, assignor to the Locomotive Safety Truck Company, New York, N. Y.—*Truck for Locomotives.*—Patent dated August 4, 1857; reissued October 18, 1864.

Claim.—First, connecting the truck with the frame of the locomotive so that it shall be free to move laterally under the frame, in combination with the means herein described, or the equivalents thereof, by which the weight of the locomotive resting on the truck acts automatically to resist the lateral motion of the truck and retain it in a central position while running on the straight parts of the track and to aid in restoring it to such position when passing from curved to straight parts of the track, substantially as set forth.

Second, connecting the truck and body of the locomotive at a point between the axles of the truck and driving wheels, so that the truck may move laterally under the locomotive, substantially as described, to compel the axles of the truck and driving wheels to assume positions parallel, or nearly so, with the radii of the curves of the track, or at right angles with the rails on the straight parts of the track, as specified.

No. 1,795.—John Gray Milwaukie, Wis.—*Grain Separator.*—Patent dated December 22, 1863; reissued October 18, 1864.

Claim.—First, in combination with "Booth's Compound Shaker," for separating wheat from oats, &c., the movable screen *d*, for the purpose of more fully separating the smaller seeds, &c., from the wheat.

Second, in combination with said shaker the screen *d* and back fall *e*, for the purposes herein recited.

Third, the application of the slide legs D to "Booth's Compound Shaker," for the purpose of elevating and depressing the zinc sieves C to any desired angle.

Fourth, the application of the crank power E and the eccentric rod *l* to "Booth's Compound Shaker," said crank power and eccentric rod being arranged and attached in manner substantially as above set forth for the purpose of producing upon the machine a quick vibratory motion.

No. 1,796.—William Kitson, Lowell, Mass.—*Fire Extinguisher.*—Patent dated October 20, 1863; reissued October 18, 1864.

Claim.—The employment for admitting water to a cotton or other bin, or other place to extinguish fire therein, of a valve or cock, which is opened by means of a weight which is set free for the purpose, by the ignition of a fuze or other inflammable or combustible material, substantially as herein described.

No. 1,797.—Morris Mattson, New York, N. Y.—*Enema Syringe.*—Patent dated November 19, 1861; reissued October 18, 1864.

Claim.—First, the combination of the elastic self-expanding and self-filling enema syringe bulb A and the connector compound of two parts *m* and *f*, or their equivalent, so constructed and combined with the bulb A as to confine the latter between those parts and at the same time furnish a free opening for the induction and eduction of the fluid, not confining myself to the specific form and construction of parts described so long as I accomplish the same result by means substantially the same; that is to say, the parts being so combined that the elastic bulb of an enema syringe shall be connected to the pipe which forms in whole or in part a connexion with one or more of the induction or eduction pipes by the said elastic bulb being clamped or compressed upon or against said pipe or connexion and thus forming a tight and durable joint, as set forth.

Second, so constructing the plug *m* and so combining it with the elastic bulb A of an enema syringe and the connecting pipe *f*, that when the latter is removed for any purpose the plug *m* shall be retained in its place by the elasticity of the bulb A secure from accidental displacement, substantially as set forth.

Third, the combination of the elastic bulb A, the connector *m f*, or its equivalent, and one or more flexible tubes *g*, either for induction or eduction, substantially as and for the purpose set forth.

No. 1,798.—W. L. Bradley, N. L. Bradley, and Walter Hubbard, West Meriden, Conn., assignees by mesne assignments of Jason Barton, Middle Haddam, Conn.—*Pressure Bell.*—Patent dated April 8, 1856; reissued October 25, 1864.

Claim.—The combination and arrangement of the bell-striking instrument, arranged to swing in a plane substantially at right angles with the plane of the rim of the bell, and piston extending through the axis of the bell, these three operating substantially as set forth.

Also, the combination of the bell-striking instrument, piston, and curved stand, whereby the striking instrument is permitted to swing across the bell in a plane substantially at right angles with the plane of the rim of the bell, substantially as set forth.

Also, the combination of the bell-striking instrument, piston, and stand, substantially as described, so that the piston strikes another part of the apparatus before the hammer strikes the bell, in a plane substantially at right angles with the plane of the rim of the bell, substantially as set forth.

No. 1,799.—Gustavus Finken, Brooklyn, N. Y.—*Apparatus for Manufacturing Cube Sugar.*—Patent dated August 20, 1861; reissued February 4, 1862; reissued October 25, 1864.

Claim.—The formation of the cubes, blocks, or lumps from the granular sugar in the manufacture of what I have herein specified as embraced by the term "cube sugar," by means of machinery composed of an endless or rotating series of moulds fitted with compressing and discharging pistons, and having applied in combination with them a cam or cams, or their equivalent, for operating the pistons one or more at a time in regular succession throughout the whole of the series, substantially as herein described.

No. 1,800.—W. Gale, Chicopee Falls, Mass.—*Straw Cutter.*—Patent dated September 12, 1854; reissued April 3, 1860; reissued October 25, 1864.

Claim.—First, connecting the cutting and the pressure cylinders of cutters for hay, straw, or other substances, by gearing or its equivalent, in such manner that the knife or each of the knives upon one cylinder shall at every revolution be caused to come into actual contact with the other cylinder or with some part of the other cylinder, at any desired point to which the parts may be adjusted.

Second, the employment in a straw or other cutter of a revolving cutting cylinder having one or more knives, in combination with a pressure cylinder having one or more radial flanges, arms, or projections, and so arranged that the feed is caught between the two, drawn forward and cut off by the pressure between the knife on one cylinder and the flange on the other.

Third, forming those parts of the pressure cylinder against which the knife or knives are made to cut, in sections or strips, separate from the body of the cylinder, substantially as and for the purpose set forth.

Fourth, combining with the feed-box of a straw or other cutter an adjustable throat, having a mode of operation substantially as set forth.

Fifth, combining, substantially as set forth, an automatically operating throat, with the cutting cylinder of a straw or other cutter, in such a manner as to diminish the number of knives heretofore employed in ordinary cutters.

No. 1,801.—Moses Marshall, W. Aldrich, and L. B. Tyng, assignees of said Moses Marshall, Lowell, Mass.—*Knitting Machine.*—Patent dated March 15, 1853; reissued October 25, 1864.

Claim.—First, forming the stitches alternately on each side of the needle rests by two sets of needles placed at an angle to each other, and operating one needle at a time, substantially as described.

Second, the two plates or rests *e* and *f*, or their equivalents, so arranged as to support the two sets of needles, and allow the fabric knit to pass between them, substantially as described.

Third, connecting the cam boxes *i i*, which actuate the opposite sets of needles, by means of the arm *l l*, or its equivalent, so as to give the proper alternate and relative movements to said sets of needles, substantially as described.

Fourth, connecting the feeder, which carries the thread, with the arm which connects the cam boxes, substantially as and for the purpose described.

Fifth, two sets of single and independent needles crossing at an angle to each other, and those of each set moving in direct or parallel lines, and the two sets operating alternately on each side of said angle, substantially as and for the purpose described.

No. 1,802.—Rollin White, Springfield, Mass.—*Revolving Fire-arm.*—Patent dated April 13, 1858; reissued October 25, 1864.

Claim.—Combining with a fixed barrel a many-chambered rotating cylinder, the chambers of which are made of a cylindrical form to within a short distance of the front end, and there formed with a contraction of less calibre than the diameter of the ball, when such contracted front end is free to move longitudinally from the breech, substantially as and for the purpose specified.

Also, in combination with the chambers formed with a contraction at the front end, substantially as specified, the making of the cylinder in two or more parts, so connected that they shall rotate together and be free to separate longitudinally, substantially as and for the purpose specified.

Also, the combination of a fixed barrel, a rotating cylinder having a series of chambers extended entirely through it, so placed and rotated that the several chambers may in succession be brought in line with the barrel, and a rotating breech plate to close up the rear end of the chambers of the cylinder, and which is separable from, although it rotates with, the cylinder, substantially as and for the purpose specified.

No. 1,803.—Cancelled.

No. 1,804.—Moritz Pinner, New York, N. Y., assignee of Jean Bouvet, La Rochelle, France.—*Metal Cans, Cases, Boxes, &c., for Preserving Food, Paints, Oils, and other Substances.*—Patent dated June 28, 1864; reissued November 1, 1864.

Claim.—The manufacture and use of metal boxes, cans, cases and other vessels hermetically sealed or closed, substantially in the manner herein described, so that they may be opened by means of a pair of pincers, a key or other like contrivance, operating in the same way, without the necessity of cutting the can or cover, as set forth.

Also, the free end *c* of the wire C, or its equivalent, operating in the same way, in combination with the top, cap or any other part of a hermetically sealed can, box, or other vessel, for the purpose of starting the opening of such can, box. or other vessel when required.

Also, inserting or soldering in the top of a preserve can or box, or in any other part of such can or box, or in any other hermetically sealed vessel, in which an opening is to be made, a wire C, or its equivalent, of any suitable shape and length, with a protruding part *c*, so that such box, can, or other vessel may be opened in the manner substantially as herein set forth and described.

No. 1,805.—THE UNION BUTTONHOLE AND EMBROIDERY MACHINE COMPANY, Boston, Mass., assignees of KASIMER VOGEL, Chelsea, Mass.—*Sewing Machine.*—Patent dated October 4, 1859; reissued November 1, 1864.

Claim.—In combination with the needle which carries its thread through the cloth, combined with suitable means below for concentrating the stitches to form a seam within the edge, or what is to be the edge, the employment of the thread which passes over the edge to make the edge finish, with the seam within the edge, substantially as described and for the purpose set forth.

Also, the employment of a guide or guides for introducing and laying a thread or cord, termed a bar, on one or both surfaces of the material, parallel with the seam, and under the connecting thread or threads, substantially as described, in combination with the sewing mechanism, or equivalent thereof, and the mechanism, or the equivalent thereof, for passing the thread or threads over and across said bar or bars, substantially as described.

No. 1,806.—WM. H. AKINS.—Dryden, N. Y.—*Lock.*—Patent dated May 13, 1856; reissued November 8, 1864.

Claim.—So arranging a series of revolving disks *c c*, upon a fixed stud or bearing D, that each in turn shall be made the means of adjusting the position of the next, the whole being operated by a turning shaft F, substantially as herein specified.

Also, in combination with a series of disks *c c*, arranged and operating as above described, the stationary washers *e e*, for keeping the disks apart, substantially as herein set forth.

Also, altering the respective numbers of two or all the disks *c*, by the simple change of an adjustable projection or pin from one hole to another, substantially as herein described.

Also, the method herein described of discovering the proper numbers to open the lock, substantially as specified.

No. 1,807.—SHELDEN A. BAILEY, SIMEON S. COOK, and BENEDICT M. COOK, Smithfield, R. I., assignees by mesne assignments of JOHN ALLENDER, New London, Conn.—Patent dated January 11, 1859; reissued June 28, 1864; again reissued November 8, 1864.

Claim.—First, a roller so constructed as to yield more at its centre than at or near its ends, in combination with a covering of vulcanized rubber of tubular form, as and for the purpose set forth.

Second, cog-wheels in combination with vulcanized rubber rollers or any other elastic substance or compounds impervious to water.

No. 1,808.—JAMES B. EADS, St. Louis, Mo.—*Operating Guns and Gun Towers.*—Patent dated March 31, 1863; reissued September 15, 1863; reissued November 8, 1864.

Claim.—Depressing and elevating the aim of the gun while the muzzle is kept at or near the centre of the porthole, by raising and lowering the carriage of said gun, substantially in the manner and for the purposes herein described.

Also, controlling the muzzle of the gun by means of the tripping pan and the guide bar on the turret, whereby the muzzle of the gun may be guided fairly into the port and the size of the port be greatly reduced, substantially as described.

No. 1,809.—JAMES B. EADS, St. Louis, Mo.—*Operating Guns and Gun Towers.*—Patent dated March 31, 1863; reissued September 15, 1863; reissued November 8, 1864.

Claim.—The use of a central steam joint in connexion with a revolving gun tower in which the cylinders and appliances for working the gun or guns rotate with the tower; the steam joint being for the purpose of connecting the rotating pipes and cylinders within the tower with the stationary pipes outside of the tower, substantially as and in the manner described.

No. 1,810.—JAMES B. EADS, St. Louis, Mo.—*Operating Guns and Gun Towers.*—Patent dated March 31, 1863; reissued September 15, 1863; reissued November 8, 1864.

Claim.—So combining a revolving tower with a gun or guns, and with one or more steam cylinders and pistons and their necessary appliances, as that the gun or guns may be raised or lowered by steam, with or independent of the tower, and so that the tower, gun or guns, and cylinder, may be turned by steam horizontally, or the main cylinder remain fixed while the tower is revolved around it, as may be preferred and substantially as described.

No. 1,811.—JAMES B. EADS, St. Louis, Mo.—*Operating Guns and Gun Towers.*—Patent dated March 31, 1863; reissued September 15, 1863; again reissued November 8 1864.

Claim.—First, causing the recoil of the gun to open the exhaust part of the cylinder that runs it out and in, after the recoil has been checked by the steam, substantially as described.

Second, causing the least movement of the gun in either direction out or in, after the recoil, to open the proper steam port and thus check its further motion until the operator is ready to move it as he may desire, substantially as described.

Third, connecting the gun frame in such manner with the valve of the steam cylinder supporting the gun frame, as to make the valve self-acting by causing the last descent of the gun frame to open the inlet port and admit more steam, and to close the port when sufficient steam is admitted, and to open the exhaust port if the cylinder have an excess of steam and the frame should begin to rise above the point at which it was fixed: thus allowing the frame to be fixed at any particular point while the valve gear is at the same time entirely under the control of the operator, substantially as described.

Fourth, the construction of the valve gear of the large cylinder in such a manner that the inlet port shall be opened in case of the accidental descent of the gun frame, and thus check it without further injury, substantially as described.

No. 1,812.—JAMES B. EADS, St. Louis, Mo.—*Operating Guns and Gun Towers.*—Patent dated March 31, 1863; reissued September 15, 1863; again reissued November 8, 1864.

Claim.—Making a gun tower in sections so that the top section may be lowered into the hold of the vessel, for the purpose and in the manner substantially as herein described.

No. 1,813.—DENNIS G. LITTLEFIELD, Albany, N. Y.—*Stove.*—Patent dated January 24, 1854; reissued November 19, 1861; again reissued August 26, 1862; again reissued March 3, 1863; again reissued November 8, 1864.

Claim.—The combination of a fuel-supplying cylinder with a fire pot, when the said supplying cylinder has its cover opening enclosed within a chamber or space communicating not only with the outlet from the fire pot, but also with the exit flue, substantially as herein described, when the case forming said enclosing chamber becomes a part of the stove itself, and is so constructed, united, and combined with other parts of the stove as to form a complete manufactured article, or a structure having vitality as a complete individual thing for the combustion of anthracite and other concentrated fuel, substantially in the manner and for the purpose herein specified.

No. 1,814.—DENNIS G. LITTLEFIELD, Albany, N. Y.—*Stove.*—Patent dated January 24, 1854; reissued November 9, 1861; again reissued August 26, 1862; again reissued March 3, 1863; again reissued November 8, 1864.

Claim.—The arrangement, adaptation, and combination with a fuel-supplying cylinder stove of an illuminating case to the chamber which receives light and the gaseous products of combination from the burning fuel, when said case is illuminated by windows or glazed apertures arranged continuously upon every side, or in so much of its surface as may be fully exposed to view, substantially in the manner and for the purpose herein set forth.

No. 1,815.—DENNIS G. LITTLEFIELD, Albany, N. Y.—*Stove.*—Patent dated January 24, 1854; reissued November 19, 1861; again reissued August 26, 1862; again reissued May 19, 1863; again reissued November 8, 1864.

Claim.—First, a fire pot, constructed substantially as described, in combination with a fuel-supplying cylinder, having its cover opening surrounded by a chamber which communicates with the outlet from the fire pot, and also with the flue leading to the chimney, when the openings in the fire pot, or outlets therefrom, are broadest at the bottom, as and for the purpose specified.

Second, the combination of a fire pot, constructed substantially as described, with a fuel-supplying cylinder, which has its cover opening surrounded by a chamber which communicates with the outlet from the fire pot, and also with the flue leading to the chimney, when the aggregate amount of outlet space from the fire pot exceeds the amount of inlet, as and for the purpose specified.

No. 1,816.—ISAAC E. PALMER, Middletown, Conn.—*Bed Canopy.*—Patent dated January 31, 1860; reissued November 8, 1864.

Claim.—First, the combination of the grasping base A A′ *a a′* with the standard, substantially as herein described, irrespective of the construction of the standard.

Second, the extending frame of the canopy, consisting of ribs F F pivoted at their centre, and a hoop or band C connected to said ribs by metal clasps, all combined substantially as herein specified.

No. 1,817.—JOHN B. WORTENDYKE, Godwinville, N. J.—*Machine for Making Paper Twine, &c.*—Patent dated May 24, 1864; reissued November 8, 1864.

Claim.—Performing the twisting operation while the paper is in a moistened state, substantially as and for the purpose herein set forth.

No. 1,818.—**John B. Wortendyke**, Godwinville, N. J.—*Machine for Making Paper Twine, &c.*—Patent dated May 24, 1864; reissued November 8, 1864.

Claim.—First, the moistening of the paper of which the twine is to be formed while on its way over or between the rolls by which it is delivered to the spindle or throstle, by which the twisting is performed, substantially as herein described.

Second, the employment, in a machine for making twine or cord from paper, of a paper guide E, or other equivalent device, for gathering up the paper edgewise, or laterally, in the form of roping, substantially as herein described, on its way to a spindle, throstle, or other twisting device.

Third, the grooving of the roller B, substantially as and for the purpose herein specified.

No. 1,819.—**Oliver P. Drake**, Boston, Mass.—*Apparatus for Combining Hydro-carbon Vapor with Air.*—Patent dated August 30, 1853: reissued November 15, 1864.

Claim.—The vaporizing chamber and rotary blowing apparatus combined, in the manner and for the purpose substantially as set forth.

Also, the combination of the vaporizing chamber and rotary blowing apparatus, under the general arrangement described, with a weight, or its equivalent, acting with a uniform force, so that the pressure at the burner is uniform, whether a greater or less quantity of the mixed air and vapor is burnt.

Also, the combination of the vaporizing chamber with the mechanical agitator for the purpose of agitating the liquid during the mixture of the vapor with air, substantially as set forth.

Also, the combination of the heater and gas burner with the water vessel and vaporizing chamber, substantially as specified, so that by means of the said heater and gas burner and the pipes connecting them with the water vessel and the chamber, the whole or part of the mixture of air and benzole vapor produced by the apparatus may not only be used in any convenient place for the purpose of illumination, but also for heating the water of the vessel, substantially as set forth.

Also, the combination of the closed vaporizing chambers, the rotary vaporizer or disseminator, placed therein, and the rotary metre wheel and its closed case, or an air-forcing apparatus so made as to force a stream of air into the hollow shaft of the vaporizer and through or against saturated portions of the disseminator and into the vaporizing chamber or regenerator, so as to vaporize the benzole or hydro-carbon and mix it with air, substantially as above specified.

Also, in combination with the rotating metre wheel and its case and the hot-water vessel, the coiled induction air pipe, as made to pass through the water in the vessel and thereby receive heat therefrom, so as to warm the air as it passes through the pipe, and to supply oxygen to the volatilized vapors, and for the purpose of facilitating the evaporation of the same.

Also, in combination with the induction air pipe, the chamber and its regulator slide and orifice, applied for the purpose of supplying cold air to the warmed air or to the metre wheel, in order to diminish or regulate the temperature of the air passing into the said wheel, and forced into the vaporizing chamber.

Also, the peculiar mode of making the rotary disseminator or vaporizer, viz., of two perforated heads or disks, a hollow perforated shaft, and strands of lamp-wicking or other absorbent material stretched from one head to the other, as specified.

No. 1,820.—**Thomas S. Hudson**, East Cambridge, Mass.—*Barometer Inkstand.*—Patent dated May 4, 1861; reissued November 15, 1864.

Claim.—The improved barometric inkstand, as made of the glass cistern, arm, and neck, and the metallic case and collar, constructed, arranged, and combined together substantially as set forth.

Also; the combination and arrangement of the semi-dome or tunnel C, or the same and a cover D, with the ink cistern and its neck, and so as to operate therewith, substantially as specified.

No. 1,821.—**Thomas Sands**, Gilford, N. H.—*Machine for making Knitting-needles.*—Patent dated June 23, 1863; antedated June 10, 1863; reissued November 15, 1864.

Claim.—The burr, or equivalent cutter, for slabbing that part of the wire which is to form the barb or beak of the needle, in combination with the means, or the equivalent thereof, for holding the wire by the eye which has been formed, substantially as described, that the flattening of the wire by the burr, or equivalent cutter, may be in proper relation to the eye.

Also, the combination, substantially as described, of the means for forming the eye, the means for slabbing that part of the wire which is to form the barb or beak of the needle, and the means for cutting off the wire, substantially as described.

Also, the combination, substantially as described, of the means for straightening the wire, the means for forming the eye and holding the wire by the eye, the means for slabbing, and the means for cutting off the wire, substantially as and for the purpose specified.

Also, the combination, substantially as described, of the bed or block on which the wire is supported during the operation of slabbing, the burr, or equivalent cutter, for slabbing the wire, the means described, or the equivalent thereof, for causing the burr cutter to act upon the wire in the direction of its length, and a cam, or equivalent pattern, to determine the motions of the burr, or equivalent cutter, towards and from the wire, to determine the form of slabbing.

No. 1,822.—**William H. Butler, Alfred A. Valentine**, and **Sarah A. Holmes**, New York, N. Y., administrators of the estate of **Richard G. Holmes**, deceased, assignees of **Richard G. Holmes**, deceased, and **William H. Butler**.—*Fire-proof Filling for Safes.*—Patent dated March 27, 1855; reissued November 15, 1864.

Claim.—First, a safe filling, composed of broken or pulverized alum or equivalent crystalline material in a cold and dry state, mingled with earthy matter, substantially in the proportions and for the purpose herein set forth.

Second, the use of alum or equivalent crystalline material containing acid, in the filling of safes, in combination with marble dust or an equivalent dry alkali, as a neutralizer or hardener, substantially as and for the purpose herein set forth.

Third, in connexion with the above, as a new and useful improvement in filling of safes or other fire-proof structures, interspersing in the said filling a frame-work of solid substance, arranged substantially in the manner and for the purpose described.

No. 1,823.—**Dennis G. Littlefield**, Albany, N. Y.—*Stove.*—Patent dated January 24, 1854; reissued November 19, 1861; again reissued August 26, 1862; again reissued May 19, 1863; again reissued November 22, 1864.

Claim.—The arrangement, adaptation, and combination with a fuel-supplying stove, of a cover, so hinged to the top plate of the stove that it may be swung open on a horizontal plane, substantially in the manner and for the purposes specified.

No. 1,824.—**David S. McNamara**, Troy, N. Y.—*Harvester.*—Patent dated June 30, 1857; reissued November 22, 1864.

Claim.—First, the combination of a pointed or hinged lever and caster wheel with the drooping end of the main frame and finger beam of a harvester when arranged in relation to said main frame and finger beam, substantially as and for the purpose set forth.

Second, the combination of lever I, frame A, and caster wheel and leading wheel, substantially as and for the purposes set forth.

Third, an adjustable leading and supporting wheel in combination with the shoe part of the main frame which supports the heel of the finger beam in a mowing machine, when arranged so as to run directly in advance of the heel end of the finger beam and cutter bar and the bearing part of the shoe, and when the axis of said wheel is rigidly connected with the main frame, substantially in the manner and for the purposes herein set forth.

Fourth, the combination and relative arrangement of frame A, finger beam G, lever I, caster wheel J, and leading wheel M, substantially as shown and described.

Fifth, the combination and arrangement of the main frame, finger beam, shoe, part F of the main frame and crank shaft, substantially as and for the purposes set forth.

Sixth, connecting the shaft *t*, by means of the arm and link, with the rod placed at the under side of the draught pole, and connected with the yoke ring, substantially as described for the purposes set forth.

No. 1,825.—**John B. Wortendyke**, Godwinville, N. J.—*Machine for Cutting Paper for Paper Twine.*—Patent dated September 13, 1864; reissued November 22, 1864.

Claim.—First, the two rollers C C in combination with the cylinders B B, arranged relatively with each other, to operate in the manner substantially as and for the purposes herein set forth.

Second, the employment, in combination with cutting devices for cutting paper into strips, of separate sets of receiving or take-up rollers for receiving or taking away the cut strips from the said cutting devices, whereby the strips are separated from and prevented from interfering with each other, in a manner substantially as herein described.

Third, in combination with the cutting devices for cutting the paper into strips, the securing of the receiving or take-up rollers, which take the strips of paper from the cutters to their respective shafts by means of friction devices, for the purpose of allowing the several rollers to have separate or independent movements, substantially as set forth.

No. 1,826.—**Jonathan L. Booth**, Rochester, N. Y.—*Grain Separator.*—Patent dated September 20, 1859; reissued September 25, 1860; again reissued November 29, 1864.

Claim—The combination of the zig-zag screens and boxes B C when the same have a lateral shake motion, or one at right angles to the passage of the grain, in such a manner as to have the grain pass consecutively over and through them, and arranged relatively with each other, to operate substantially as and for the purpose herein set forth.

Also, the series of zig-zag screens and boxes B C, with or without the troughs E, and having a lateral shake motion in connexion with the fan G and spout H, substantially as herein set forth.

No. 1,827.—W. H. Hepburn and G. K. Peterson, San Francisco, Cal.—*Machine for Grinding and Amalgamating Gold and Silver.*—Patent dated April 19, 1864; reissued November 29, 1864.

Claim.—First, the pan B with a concave bottom, in combination with a corresponding-shaped muller, in shell form, having openings in the hub and shell sufficient to allow the pulp to pass freely to the grinding surfaces, arranged with or without the ribs m, substantially as described and for the purpose set forth.

Second, the arrangement of the shoes P, provided with curved bevelled edges, and attached to the under side of the muller H, so as to form oblique or spiral curved grooves p in reverse direction to relation of muller, for the purpose specified.

Third, the spiral flanges or ribs m^* on the upper side of the muller, as described.

Fourth, the arrangement of the hand wheels O N, thimble L, and tubular screen M, substantially as described and for the use and purposes as hereinbefore set forth.

No. 1,828.—William E. Lockwood, assignee, by mesne assignments, of Walter Hunt, New York, N. Y.—*Shirt Collar.*—Patent dated July 25, 1854; reissued November 29, 1864.

Claim.—A shirt collar composed of paper and muslin, or its equivalent, and polished or burnished, substantially as and for the purpose described.

No. 1,829.—Barney Mee, Troy, N. Y.—*Machine for making Horseshoes.*—Patent dated June 9, 1863; reissued November 29, 1864.

Claim.—Combining with the rotating male mould, around which the rod of iron is bent, the vibrating lever for pushing the rod when bent away from the front or toe end of the mould, and the sliding bar with its diagonal groove for operating the said vibrating lever, substantially as herein described.

No. 1,830.—John Findley Riggs, Frémont, Nebraska Territory.—*Manufacture of Sugar.*—Patent dated January 26, 1864; reissued November 29, 1864.

Claim.—Refining sorghum or other sugar by applying a liquid to dissolve the gum and removing the same by pressure.

No. 1,831.—Amos Holbrook, Jr., Lynn, Mass.—*Device for Heating Waxed Threads in Sewing Machines.*—Patent dated June 21, 1864; reissued December 6 1864.

Claim.—Combining with the rotating horn of a sewing machine a conduit for supplying gas to a burner to heat the horn, when so arranged as not to interfere with the free continuous rotation of the horn in either direction, or the supply of gas to the burner.

No. 1,832.—Joseph H. Shireman, East Berlin, Penn.—*Horse Rake.*—Patent dated September 9, 1862; reissued December 6, 1864.

Claim.—First, suspending the hand lever N upon the axle B, so that the former may articulate upon the latter, in the manner and for the purpose described.

Second, the inclined way K in combination with the hand lever N, arranged and operating substantially in the manner and for the purpose set forth.

Third, the perforated bar T in combination with the hand lever N, arranged and operating substantially in the manner and for the purpose set forth.

Fourth, the arrangement of the driver's seat to one side of the centre of the length of the continuously rotating axle B, and in relation to the tight driving wheel A1, lever N, inclined way K, and perforated bar T, in the manner and for the purpose set forth.

Fifth, the arrangement of the hangers T' of the tooth board B' on the same rod or shaft that the rake teeth are supported and articulate upon, in combination with an axle which transmits the power of the team to the rake during the act of discharging the hay from the teeth, substantially as and for the purpose set forth.

Sixth, the hangers T'' of the teeth board B' constructed and applied in connexion with a rake which operates to discharge its load by the power of the team through the agency of the axle, substantially as set forth.

No. 1,833.—William Hazen, Milwaukee, Wis.—*Process of Treating Steel to render it Tougher, Stronger, and more Elastic.*—Patent dated September 20, 1864; reissued December 13, 1864.

Claim.—First, the treatment of steel so as to render the same tougher, stronger, and more elastic, by immersion in a bath or solution of combined chemical agencies, substantially as described and for the purpose set forth.

Second, the process of treating steel by the combination of aqua ammonia, sulphate of iron and sal ammoniac in solution, substantially as described and for the purpose set forth.

No. 1,834.—R. N. Allen, Cleveland, Ohio.—*Railroad Car Axle Boxes.*—Patent dated March 23, 1858; reissued December 20, 1864.

Claim.—First, constructing the cavity on the inside of the case E in such manner as to allow an easy adjustment of collars or washers on the axle through the front opening of the case, substantially as set forth.

Second, the employment or use of the collar or washer F in combination with the case, when said collar or washer is adjusted to and in its place on the axle through the front opening of said case, substantially as and for the purpose set forth.

Third, the movable brace G and the end of the key C in combination for holding the washers in their place against the back end of the case, substantially as set forth.

Fourth, the described curved surface on the upper side of the bearing box B, on either side of the key C, or on the inner surface of the case, in combination with the bearing box or key, for the purpose set forth.

No. 1,835.—Solomon S. Gray, Boston, Mass.—*Apparatus for Forming Collars.*—(Div. A.)—Patent dated July 5, 1864; reissued December 20, 1864.

Claim.—First, the combination of the former D with the elastic band, or its equivalent, when operating substantially as herein described.

Second, holding the strip or collar by its two ends while the former is being forced into or through it, to mould it to the desired form, substantially as described.

Third, leaving that portion of the strip or collar that is to be moulded unclamped or free, while the other portion is firmly held, so that a former moving past it may mould or stretch said free portion, as described.

No. 1,836.—Solomon S. Gray, Boston, Mass.—*Apparatus for Forming Collars.*—(Div. B.)—Patent dated July 5, 1864; reissued December 20, 1864.

Claim.—As an article of manufacture, a paper or a paper and cloth collar, having its upper or turned over portion moulded or stretched, substantially as and for the purpose herein set forth.

No. 1,837.—Henry Hannen and John Parker, Philadelphia, Penn., assignees by mesne assignment of Jesse N. Bolles.—*Apparatus for Boring Artesian Wells.*—Patent dated April 14, 1857; reissued December 20, 1864.

Claim.—First, the combination of a drill or cutter A with tubular rods, through which the detritus is caused to pass upward, and to be discharged at the point described, substantially as specified.

Second, one or more valves f arranged within the tubular drill rods of a well-boring machine, substantially as and for the purpose set forth.

Third, the drill or cutter A composed of the portions $a\ a$ and cross-piece b, constructed and arranged substantially as and for the purpose set forth.

No. 1,838.—A. Kirby and David M. Osborne, assignees of Wm. A. Kirby, Auburn, N. Y.—*Harvesting Machine.*—Patent dated July 2, 1861; reissued June 9, 1863; again reissued December 20, 1864.

Claim.—First, in combination with an automatic rake an adjustable shaft, for the purpose and in the manner substantially as described.

Second, in combination with an adjustable shaft of an automatic rake the universal joint k', for the purpose and in the manner substantially as described.

Third, in a harvesting machine, having an adjustable connexion between that part which carries the automatic rake and that part which carries the gearing, the adjustable shaft and universal joint, substantially as and for the purpose described.

No. 1,839.—The Brooklyn Fire-arms Company, assignee by mesne assignment of Frank P. Slocum, Brooklyn, N. Y.—*Revolving Fire-arms.*—Patent dated April 14, 1863; reissued December 20, 1864.

Claim.—First, the construction of a revolving fire-arm, with independent longitudinally movable chambers, in combination with openings in the sides of the cylinder of sufficient size to permit the lateral insertion of metallic cartridges, without removing the chambers entirely from the cylinder.

Second, the stationary piston applied in combination with the revolving cylinder and its independently-movable chambers, substantially as and for the purpose herein described.

Third, the projection $f\,f$ on the longitudinally-movable chambers D D in combination with the longitudinal openings C C of the cylinder, substantially as and for the purpose herein specified.

Fourth, the notches $z\ z$ in the sides of the longitudinal openings C C of the cylinder in combination with the projections $f\,f$ in the longitudinally-movable chambers, substantially as and for the purpose herein set forth.

No. 1,840.—Charles Houghton, trustee, Roxbury, Mass., assignee of Philip C. Rowe, Boston, Mass.—*Tobacco Pipe.*—Patent dated July 12, 1864; reissued December 27, 1864.

Claim.—A smoking pipe having its parts constructed and arranged in the manner and for the purpose substantially as described.

No. 1,841.—The McKay Turned Shoe Company of Massachusetts, assignees by mesne assignments of L. H. and S. B. Holden, Woburn, Mass.—*Boots and Shoes.*—Patent dated April 2, 1861; reissued December 27, 1864.

Claim.—So preparing the sole and upper for sewing that the parts thereof to be sewed together are brought to the condition substantially as shown and described—that is to say, projecting from or beyond the sole at right angles, or nearly so, to the general surface thereof, in such manner as to bring both faces of the seam on the outside of the work while the sewing is being performed.

No. 1,842.—The McKay Turned Shoe Company of Massachusetts, assignees by mesne assignments of L. H. and S. B. Holden, Woburn, Mass.—*Boots and Shoes.*—Patent dated April 2, 1861; reissued December 27, 1864.

Claim.—A boot or shoe having the construction substantially as specified.

No. 1,843.—Addison Smith and James M. Sayre, New York, N. Y., assignees by mesne assignments of Philip W. Mackenzie, Jersey City, N. J.—*Cupola and other Furnaces.*—Patent dated August 25, 1857; reissued February 10, 1863; again reissued December 27, 1864.

Claim.—First, a furnace of elongated form and having its surrounding shell concave on the sides, substantially as described for the purpose set forth.

Second, introducing the blast in cupola or blast furnaces in a thin sheet or sheets, substantially as described, in contradistinction to a series of round jets, whereby the blast is caused to act more uniformly in the charge.

Third, a furnace having the plan of its bosh of a shape substantially like that shown, and provided with a means for the introduction of the blast all along both sides, whereby the mass of fuel and metal is presented in thin vertical strata to the action of two continuous sheets of blast entering at the opposite sides of the furnace, substantially as and for the purpose set forth hereinbefore.

Fourth, projecting the inner edge of the bosh (or the inner lower portion of the furnace chamber) inwardly beyond the tuyere or blast opening, or tuyere mouths, substantially as described.

DESIGNS.

No. 1,879.—George B. Owen, New York, N. Y.—*Clock Case.*—January 5, 1864.

No. 1,880.—George Sharp, Philadelphia, Penn.—*Spoon Handle.*—January 5, 1864.

No. 1,881.—N. S. Vedder, Troy, N. Y., assignor to R. P. Myers, Cleveland, Ohio.—*Cook Stove.*—January 5, 1864.

No. 1,882.—James F. Drummond, New York, N. Y.—*Bas-relief of General G. B. McClellan.*—January 5, 1864.

No. 1,883.—George Scott, New York, N. Y.—*Bottle.*—January 12, 1864.

No. 1,884 to 1,886.—E. J. Ney, Lowell, Mass., assignor to the Lowell Manufacturing Company.—*Three patents for Carpet Patterns.*—January 19, 1864.

No. 1,887.—Daniel S. Plume, Newark, N. J.—*Stair Rod.*—January 19, 1864.

No. 1,888.—Wm. R. Bush, Fall River, Mass.—*Hand Engine.*—January 26, 1864.

No. 1,889.—Samuel B. Newell, Cincinnati, Ohio.—*Trade Mark.*—January 26, 1864.

No. 1,890.—Joseph Robley, Brooklyn, N. Y.—*Oil-cloth Pattern.*—January 29, 1864.

No. 1,891 and 1,892.—W. Barnet Le Van, Philadelphia, Penn.—*Valves*, (*two patents.*)—January 29, 1864.

No. 1,893.—Nicholas S. Vedder and Benjamin Johnson, assignors to Wager and Fales, Troy, N. Y.—*Stove Plate.*—January 29, 1864.

No. 1,894.—N. S. Vedder, assignor to Cox & Church, Troy, N. Y.—*Plate of a Stove.*—February 2, 1864.

No. 1,895.—N. C. Whitcomb, Oak Hill, N. Y.—*Metal Pulley Block.*—February 2, 1864.

No. 1,896.—Servetus Longley, Cincinnati, Ohio.—*Pack of Cards.*—February 16, 1864.

No. 1,897.—Wm. B. Maddux, Cincinnati, Ohio.—*Labelling Barrels.*—February 16, 1864

No. 1,898 to 1,901.—Elemir J. Ney, assignor to the Lowell Manufacturing Company, Lowell, Mass.—*Carpet Patterns*, (*four cases*)—February 16, 1864.

No. 1,902.—Chas. A. Shaw and James R. Clark, Biddeford, Me.—*Sewing Machine.*—February 16, 1864.

No. 1,903.—Henry G. Morris, Philadelphia, Penn.—*Stop-cock.*—February 23, 1864.

No. 1,904.—Chas. Deavs, assignor to Archer & Pancoast, New York, N. Y.—*Jacket for Lamp Burners.*—March 1, 1864.

No. 1,905.—John G. Folsom, Winchendon, Mass.—*Spool Holder for Sewing Machines.*—March 1, 1864.

No. 1,906.—Webb Harding, Cambridge, Mass.—*Macaroni Spoon.*—March 1, 1864.

No. 1,907.—John Neil, assignor to Wm. M. Brasher and S. H. Herriman, Clinton, Mass.—*Floor Cloth Pattern.*—March 1 1864.

No. 1,908.—Joseph Robley, assignor to Brasher, Herriman & Co., Brooklyn, N. Y.—*Floor Cloth Pattern.*—March 1, 1864.

No. 1,909 to 1,919.—Henry G. Thompson, New York, N. Y., assignor to the Hartford Carpet Company, Hartford, Conn.—*Carpet Patterns.*—March 8, 1864.

No. 1,920.—E W. Blake, administrator of the estate of Edward F. Blake, New Haven, Conn.—*Nut Cracker.*—March 15, 1864.

No. 1,921 to 1,924.—E. J. Ney, assignor to the Lowell Manufacturing Company, Lowell, Mass.—*Carpet Patterns*, (*four cases.*)—March 15, 1864.

No. 1,925.—E. J. NEY, assignor to the LOWELL MANUFACTURING COMPANY, Lowell, Mass.—*Carpet Pattern.*—March 22, 1864.

No. 1,926.—LAWSON C. IVES, Hartford, Conn.—*Design for a Thread Spool.*—March 29, 1864.

No. 1,927.—H. EVERETT, Philadelphia, Penn.—*Oil Can.*—April 5, 1864.

No. 1,928.—GEO. GREEN, Wappinger's Creek, N. Y., assignor to DEBORAH POWERS, ALBERT E. POWERS, and N. F. POWERS, Lansingburg, N. Y.—*Floor Cloth Pattern.*—April 5, 1864.

No. 1,929.—JAS. L. JACKSON, New York, N. Y.—*Screen.*—April 5, 1864.

No. 1,930.—D. MOORE, Brooklyn, N. Y.—*Revolving Pistol Handle.*—April 5, 1864.

No. 1,931.—JAMES PATTERSON, Elizabethtown, N. J., assignor to EDWARD HARVEY, Brooklyn, N. Y.—*Floor Cloth Pattern.*—April 5, 1864.

No. 1,932.—D. F. PACKER, Pittsburg, Penn.—*Trade Mark.*—April 19, 1864.

No. 1,933.—W. H. PAGE, assignor to W. H. PAGE & Co., Norwich, Conn.—*Ornate Letters.*—April 19, 1864.

No. 1,934 to 1,936.—JOHN ROGERS, New York, N. Y.—*Group of Figures, (three cases.)*—April 19, 1864.

No. 1,937.—THEODORE THURBER, Auburn, N. Y.—*Trade Mark.*—April 26, 1864.

No. 1,939.—E. K. BUTLER, Boston, Mass.—*Slipper Pattern.*—May 10, 1864.

No. 1,940.—ELIAS INGRAHAM, Bristol, Conn.—*Clock Case.*—May 10, 1864.

No. 1,941 to 1,643.—E. J. NEY, assignor to the LOWELL MANUFACTURING COMPANY, Lowell, Mass.—*Carpet Pattern, (three cases.)*—May 10, 1864.

No. 1,944.—WM. ROBOTHAM, assignor to himself and WALTER GREACON, Newark, N. J.—*Trade Mark.*—May 10, 1864.

No. 1,945.—JOHN G. FOLSOM, Winchendon, Mass.—*Arm of a Sewing Machine.*—May 17, 1864.

No. 1,946.—J. W. PARTRIDGE, Roxbury, Mass.—*Lady's Hat.*—May 17, 1864.

No. 1,947.—J. ROGERS, New York, N. Y.—*Statuette Group of Figures.*—May 17, 1864.

No. 1,948.—GEO. R. JACKSON, assignor to himself and BURNET & CO, New York, N. Y.—*Stall-guard.*—May 24, 1864.

No. 1,949.—C. F. RICHERS, assignor to CHAS. WOOD, CHAS. HUGHES, and STEPHEN FRABRIER, New York, N. Y.—*Spoon or Fork-handle.*—June 7, 1864.

No. 1,950.—G. W. WESTBROOK, New York, N. Y.—*Trade Mark.*—June 7, 1864.

No. 1,951.—RUSSELL WHEELER and S. A. BAILEY, Utica, N. Y.—*Agricultural Furnace.*—June 7, 1864.

No. 1,952.—GEO. WILKINSON, assignor to GORHAM & CO., Providence, R. I.—*Spoon or Fork Handle.*—June 7, 1864.

No. 1,953 to 1,956.—E. J. NEY, assignor to THE LOWELL MANUFACTURING COMPANY, Lowell, Mass.—*Four Carpet Patterns.*—June 14, 1864.

No. 1,957.—C. J. SHEPARD, Brooklyn, N. Y.—*Plates of a Cook's Range.*—June 14, 1864.

No. 1,958.—J. STEPHENSON, New York, N. Y.—*Pedestal for Railroad Cars.*—June 14, 1864.

No 1,959.—JOHN STEPHENSON, New York, N. Y.—*Lamp Box for Railroad Cars.*—June 14, 1864.

No. 1,960.—J. STEPHENSON, New York, N. Y.—*Railroad Car Step.*—June 14, 1864.

No. 1,961.—J. STEPHENSON, New York, N. Y.—*Clog-hanger for Railroad Cars.*—June 14, 1864.

No. 1,962.—J. STEPHENSON, New York, N. Y.—*Axle Box for Railroad Cars.*—June 14, 1864.

No. 1,963.—A. D. WARREN, assignor to STEPHEN RICHARDSON, 2d, North Attleboro', Mass.—*Watch Chain.*—June 14, 1864.

No. 1,964.—WM. E. GEORGE, Wrentham, Mass., assignor to JOSEPH COWELL.—*Lady's Hat.*—June 21, 1864.

No. 1,965.—GARRETTSON SMITH and HENRY BROWNE, assignors to J. G. ABBOTT and C. NOBLE, Philadelphia, Penn.—*Plate of a Cook's Stove.*—June 21, 1864.

No. 1,966.—ROBERT DUNN, Greenpoint, N. Y.—*Clock Case.*—June 28, 1864.

No. 1,967.—JOHN ROGERS, New York, N. Y.—*Group of Figures.*—June 28, 1864.

No. 1,968.—G. SMITH and HENRY BROWN, Philadelphia, Penn., assignors to J. H. HAYWOOD, D. L. BARTLETT, and H. W. W. ROBBINS.—*Stove.*—July 12, 1864.

No. 1,969.—HENRY DAMON, Boston, Mass.—*Trade Mark.*—July 12, 1864: antedated June 7, 1864.

No. 1,970.—GILES F. FILLEY, St. Louis, Mo.—*Doors of a Stove.*—July 12, 1864.

No. 1,971.—ISAAC S. CLOUGH, Brooklyn, N. Y., and VINCENT FOUNTAIN, Jr., Castleton, N. Y.—*Lantern.*—July 19, 1864.

No. 1,972 to 1,978.—E. J. NEY, Jr., assignor to THE LOWELL MANUFACTURING COMPANY, Lowell, Mass.—*Seven patents for Carpet Patterns.*—July 19, 1864.

No. 1,979.—ISAAC DEZOUCHE, assignor to BRIDGE, BEACH & CO., St. Louis, Mo.—*Plates of a Cook's Stove.*—July 26, 1864.

No. 1,980.—ISAAC DEZOUCHE, assignor to BRIDGE, BEACH & CO., St. Louis, Mo.—*Plates of a Parlor Cook's Stove.*—July 26, 1864.

No. 1,981.—ISAAC DEZOUCHE, assignor to BRIDGE, BEACH & CO., St. Louis, Mo.—*Plates of a Cook's Store Stove.*—August 2, 1864.

No. 1,982.—J. CLOUGH, Brooklyn, N. Y., and N. FOUNTAIN, Jr., Castleton, N. Y.—*Toy Bow.*—August 16, 1864.

No. 1,983.—E. J. KUNTZE, New York, N. Y.—*Statuette of Schiller.*—August 16, 1864.

No. 1,984.—D. E. PARIS, Troy, N. Y.—*Plate of a Stove.*—August 16, 1864.

No. 1,985.—A. E. POWERS, Lansingburg, N. Y.—*Floor Oil Cloth.*—August 16, 1864.

No. 1,986.—N. S. VEDDER, assignor to D. E. PARIS, Troy, N. Y.—*Plate of a Stove.*—August 16, 1864.

No. 1,987.—GEO. COWING, Seneca Falls, N. Y.—*Pump.*—September 20, 1864.

No. 1,988.—GEORGE T. PALMER, Brooklyn, N. Y.—*Aquarium or Fish Tank.*—September 20, 1864.

No. 1,989.—ROBERT S. STENTON, West Farms, N. Y.—*Skate.*—September 20, 1864.

No. 1,990.—SAMUEL TRISCHET, New York, N. Y.—*Ruffle.*—September 20, 1864.

No. 1,991.—WM. B. TATRO, Hartford, Conn.—*Double Lamp Stove.*—September 27, 1864.

No. 1,992.—MARTIN CARTY, New York, N. Y.—*Photographic Album Leaf.*—October 18, 1864.

No. 1,993.—J. F. WEBSTER, New York, N. Y., assignor to E. HARVEY, Brooklyn, N. Y.—*Floor Oil Cloth.*—October 18, 1864.

No. 1,994.—CHAS. ZEUNER, assignor to M. GREENWOOD & CO., Cincinnati, Ohio.—*Shovel and Tongs Stand.*—October 18, 1864.

No. 1,995.—CHAS. F. BRAND, assignor to HARRISON BROTHERS & CO., Philadelphia Penn.—November 8, 1864.

No. 1,996.—**Henry Braunhohl**, New York, N. Y.—*Trunk Cover.*—November 8, 1864.

No. 1,997.—**Geo. C. Percival**, M. D., Brooklyn, N. Y.—*Ink Bottle.*—November 8, 1864.

No. 1,998.—**Frederick Bailey**, New York, N. Y.—*Ink Bottle.*—November 15, 1864.

No. 1,999 to 2,003.—**Elemir J. Ney**, assignor to the **Lowell Manufacturing Company**, Lowell, Mass.—*Carpet Patterns, (five patents.)*—November 15, 1864.

No. 2,004.—**Michael Moore**, Brooklyn, N. Y.—*Table Caster.*—December 5, 1864.

No. 2,005.—**Russell Wheeler**, and **Stephen A. Bailey**, Utica, N. Y.—*Cook Stove.*—December 5, 1864.

No. 2,006.—**E. J. Cridge**, Troy, N. Y.—*Cook Stove.*—December 13, 1864.

No. 2,007.—**Samuel Crump, Jr.**, assignor to **Beards & Cummings**, New York, N. Y.—*Label of a Mustard Box.*—December 13, 1864.

No. 2,008 to 2,012.—**Elemir J. Ney**, assignor to the **Lowell Manufacturing Company**, Lowell, Mass.—*Carpet Patterns, (five cases.)*—December 13, 1864.

No. 2,013 to 2,015.—**Nicholas S. Vedder**, Troy, N. Y.—*Stove Plates, (three cases.)*—December 13, 1864.

No. 2,016.—**Edward Burke**, Philadelphia, Penn.—*Match Box.*—December 20, 1864.

No. 2,017.—**Israel A. Powell**, Lawrenceville, Ill.—*Trade Mark.*—December 20, 1864.

EXTENSIONS.

Benjamin Crawford, Allegheny, Penn.—*Steam Boiler Furnace.*—Patent dated January 29, 1850; reissued December 2, 1862; extended January 29, 1864.

Claim.—First, the injection of whirling jets of steam among the gases evolved by the fuel on the grates, for the purpose set forth.

Second, self-whirling adjustages, or their equivalents, on the pipes leading from the boiler or steam blower to proper positions for increasing the draught or promoting combustion, substantially as set forth.

Third, whirling live steam for the purpose of increasing or maintaining the draught of a steam boiler furnace, substantially as set forth, or the equivalent thereto.

Fourth, a combined stream of mingled steam and hot air introduced and forced into the ash pit and up through the fire of a steam boiler furnace, by means of the steam boiler, and hot air and steam pipes which intersect one another and terminate in a discharging nozzle within the ash pit, substantially as set forth, or the equivalent thereto.

Fifth, live steam blowers arranged in the flues of a steam boiler, for the purpose of aiding the draught and blowing out the foul matter which accumulates in the flues.

Sixth, the combination of means as set forth for performing unitedly the several functions specified.

James Radley and **Margaret D. Hunter**, administratrix of **John W. Hunter**, deceased, New York, N. Y.—*Spark Arrester.*—Patent dated January 22, 1850; reissued January 16, 1855.

Claim.—First, the arranging of a series of chambers and channels between conically-shaped plates, the channels being so formed as to cause the products of combustion to impinge against that side of each of the dirt chambers which has the springs and caps, and thereby force the sparks, dirt, &c., into them, in the manner described herein.

Second, the piece p, suspended in the central aperture at the top of the spark arrester, arranged and operating in the manner and for the purpose substantially as herein before described.

Third, the double cover or top, for the formation of a second series of dirt passages, arranged and operating in the manner and for the purpose substantially as herein before described.

John Turnbull, Baltimore, Md., and **James Turnbull**, Simsbury, Conn.—*Loom for Piled Fabrics.*—Patent dated January 29, 1850.

Claim.—First, dividing the heddles into two or more divisions to be worked in succession, substantially as herein described, that the entire opening of the shed may be effected in succession, and thus avoid the evil effects consequent on the opening of the shed at one operation as heretofore described.

Second, operating the two picker levers or treadles by means of a shifting tappet, operated or shifted alternately for each pick by means of an eccentric, or its equivalent, that the shaft which carries the tappet or tappets may make one entire rotation for each throw of the shuttle, substantially as herein described, and thus operating the shuttle by a tappet rotating with greater velocity than by any means heretofore known, as described.

Leonard Smith, Troy, N. Y.—*Smut Machine.*—Patent dated February 12, 1850.

Claim.—First, the grates B B, in the top of the machine, in combination with the scrolls or spiral chambers A A and spouts C C, for discharging smut and other light materials carried up by the blast, as set forth.

Second, the chamber I, at the bottom of the cylinder, which concentrates and gives free discharge to all foreign matter to be separated from the grain by the blast in the last stage of operation of the machine, in the manner described and represented.

Third, in combination with the concave bottom, which gathers the grain for its discharge from the machine, the distributors $j\ j$, Fig. 6, which give direction in the discharge of the grain separated from the foreign matter by the blast.

Fourth, the draught floats $h\ h\ h\ h$, Fig. 5, in combination with the scouring surfaces $f\ f$, for cleaning buckwheat, as set forth.

Solomon Goddard and **Henry Warfield**, Truxton N. Y.—*Raising and Lowering Carriage Tops.*—Patent dated February 19, 1850.

Claim.—Connecting the jointed braces upon opposite sides of carriage tops by means of a shaft A, or rod passing back of the seat, in such manner that the braces may be worked simultaneously upon both sides, substantially as herein described.

John G. Perry, South Kingston, R. I.—*Meat-cutting Apparatus.*—Patent dated February 26, 1850; reissued February 25, 1862.

Claim.—First, the use and employment of the studs $s\ s\ s$, Fig. 3, with one or both of the discharge openings L L, substantially as described and for the purpose herein set forth.

Second, combining the knives and space blocks with the case of a meat cutter, in the manner substantially as herein described and for the purposes set forth.

John T. Davy, Troy, N. Y.—*Portable Furnace.*—Letters patent No. 7,159. DatedMarch 12, 1850.

Claim.—Combining with a portable furnace of the usual construction a surrounding heating chamber provided with apertures or slots to admit of the insertion or removal of the flaps, combined with the door or flap at top, substantially as described.

Also, providing the said air-heating chamber with a revolving top provided with a single small door or flap, which, by the rotation, may be brought directly over the slots in succession and the flaps inserted or removed, substantially as described.

Francis D. Hayward and John C. Bickford, Colchester, Conn.—*Process of Rolling India-rubber Cloth.*—Letters patent No. 7,189, dated March 19, 1850.

Claim.—The new or improved process of applying and fixing rubber to cloth by means of rollers, the said improved process being a combination of the method of spreading the rubber by the pressure of rollers, and the method of grinding and fixing it at the same time against and into the substance of the cloth, all as specified.

William Van Anden, Poughkeepsie, N. Y.—*Machine for Making Wrought Iron Railroad Chairs.*—Patent dated April 30, 1850; reissued August 12, 1853.

Claim.—First, the combination of two or more properly shaped dies, between which a chair blank is clamped prior to the cutting of that portion of it which constitutes the lips thereof, substantially in the manner and for the purposes herein described.

Second, automatic shears in combination with properly shaped dies for clamping a chair blank and cutting the lips thereof, substantially as herein set forth.

Third, such shears when they also act as benders to complete the formation of a chair lip by reason of their having a motion in two directions, substantially in the manner herein specified.

Fourth, a double or parting clamp and die, substantially such as is herein described, so that a chair may be removed from the die upon which it is formed, as herein set forth.

Fifth, discharging a chair from a double or parting die or its equivalent, by hooks or their equivalents, acting to shove a chair off a die, substantially in the manner herein described.

Sixth, in combination, two clamping dies, one of which acts as a former and divides at proper intervals, shears which also act as benders or their equivalents, and a discharging apparatus acting in respect to each other, substantially in the manner and for the purposes herein set forth.

James Bogardus, New York, N. Y.—*Construction of the Frame, Roof, and Floor of Iron Buildings.*—Patent dated May 7, 1850.

Claim.—The method, substantially as herein described, of making the framework of iron houses of more than one story by means of beams cast in sections, with end flanches, which receive bolts for uniting and drawing them together, and with top and bottom parallel flanches when this is combined with columns, pilasters, or posts cast with horizontal flanches at top and bottom, the top flanch of one column and the bottom flanch of another being secured by bolts to the horizontal flanches of two beams, one column above and the other below the point at which the beams are joined, for the purpose and in the manner substantially as described.

Also, the method, substantially as herein described, of making the floors by means of thin plates of metal formed with a groove on one edge and tongue on the other, by riveting narrow strips of metal to their under surface and near the edges, the plates so formed being put together breaking joints, substantially in the manner and for the purpose specified.

Also, the method, substantially as described, of covering the roofs of houses by means of series of thin metal plates formed each with a groove on one edge by riveting narrow plates or strips to the under surface thereof, that the edge of one plate may fit into the groove on the lower edge of the next above, and so on throughout the series, substantially as described, when these plates are also provided with the lapping pieces or plates riveted or otherwise secured to the upper surface of one end of each plate in each series to lap over the end of the contiguous plates of the next series, the said lapping pieces of each series being also made to lap one over the other, substantially as and for the purpose specified.

William Pierpoint, Salem, N. J.—*Straw Carrier.*—Patent dated May 7, 1850.

Claim.—An elongated apron or pierced platform hung upon and worked by cranks connected with and forming a part of the threshing and separating machine, substantially in the manner and for the purposes herein described.

John C. Dodge, Dodgeville, Mass.—*Preventing Fibres from Winding on Drawing Rollers in Spinning Machines.*—Patent dated May 14, 1850.

Claim.—The improved manner of applying and using the roller, the same consisting in placing it not exactly in contact with the lower front drawing roller, but a distance therefrom, and by means of separate or additional machinery giving to it a rotary motion at the same velocity and in the same direction with those of the said lower front drawing roller, the whole being substantially in the manner and for the purpose as herein before specified.

Amasa Woolson, Springfield, Vt.—*Machine for Shearing Cloth.*—Patent dated May 28, 1850.

Claim.—First, a flexible rest, constructed substantially as herein above described.

Second, making the rest susceptible of extension on each or either end by combining with the ordinary stationary rest, and on each side thereof a flexible and movable rest, as herein above specified.

Lastly, making an extension or flexible and movable rest self-operating, or so as to be changed by the cloth itself in its passage through the machine, all as herein above set forth.

Louisa Ressique, Brooklyn, N. Y., administratrix of W. F. Ressique, Cincinnati, Ohio, deceased.—*Spring Mattress.*—Patent dated June 10, 1850.

Claim.—The construction of the jointed spring mattress, substantially as set forth in the specification.

Reuben Daniels, Woodstock, Vt.—*Straw Cutter.*—Patent dated July 2, 1850.

Claim.—The method of feeding straw, fodder, and other substances, to a series of rotating cutters by means of a continuous motion by a roller with pointed teeth and hung in a swinging frame, substantially as described.

Also, the method of cutting straw, fodder, and other like substances, by means of a cutting cylinder, provided with cutters, the outer faces of which, from the cutting edge, are curved or inclined in towards the axis, so as to admit of continuous feed, the blades of the cutters acting as gauge plates for the length of the cut, in combination with the feeding the straw, fodder, or other substances to be cut, by continuous motion, substantially as set forth.

Joseph Hollen, White Township, Penn.—*Knitting Machine.*—Patent dated July 16, 1850.

Claim.—First, the projecting and withdrawing the needles separately and singly, with their arrangement as described, by which I am enabled to knit closer work with stouter needles, substantially as described.

Second, in combination therewith, the combination of the jack, the sinkers and depressers, substantially as described.

Third, the thread-bearer V, having an extended sideway motion to and fro, at each stitch, by which it lays the thread across the needle at each stitch, and returns with it to be ready for the next stitch.

Fourth, the spring vice for regulating the supply of thread to the needle opened by the rod *w*, substantially as described.

Fifth, the peculiar arrangement and combination of the several parts of the machine, by which their various motions are derived from a single crank and screw thread, substantially as described.

William Uffield, Lancaster, Ohio.—*Boot Tree.*—Patent dated July 25, 1850.

Claim.—The combination of the sliding wedges A A, and the right and left screws B B, with the inclined planes or grooves *c c*, substantially in the manner and for the purpose above set forth, the screws B B being made to play within the groove D, and being confined to its place longitudinally by the bar E, working in the groove H.

Zachariah Allen, Providence, R. I.—*Machinery for Double-folding Wide Cloth.*—Patent dated July 16, 1850.

Claim.—The use and application of the rigid prong or extension piece A, to act upon the middle of the piece of cloth in the process of it, in connexion with the winding rollers C D, to secure the exact double-folding of the cloth.

Lewis Moore, Ypsilanti, Mich.—*Seeding Machine.*—Patent dated July 2, 1850; reissued October 12, 1852; again reissued August 26, 1862.

Claim.—The employment of a reciprocating gauge plate, when provided with feeding apertures, in combination with corresponding apertures in the upper bottom which have their sides oblique to the sides of the apertures in the said reciprocating plate, and when combined with a device for giving it a variable reciprocating motion for the purpose of sowing the seed constantly and uniformly and varying the amount at pleasure, while the machine is moving, by simply varying the extent of its reciprocating motion, as herein described.

Also, the pivoted rod *m*, and vibrating lever *p*, which is provided with apertures arranged in the arc of a circle whose centre is at the pivoted end of the rod *m*, in combination with the curved or undulating disk *s*, and the gauge plate *j*, substantially as herein described, for the purpose of imparting to the gauge plate a reciprocating motion which may be varied at pleasure by the operator by inserting the rod *m* in one or another of the apertures in the lever *p*, at different distances from its fulcrum.

F. P. Dimpfel, Philadelphia, Penn.—*Steam Boiler.*—Patent dated July 16, 1850.

Claim.—First, so arranging a series of bent water tubes within the flue space of a boiler, and connected at each end with the body of water in the boiler, substantially as herein described, by means of which the cirulation of water is greatly increased, and the injurious effects due to expansion and construction avoided, substantially as described.

Second, surrounding the crown sheet to which the ends of circulating tubes or their equivalents are attached, with a rim, substantially as and for the purpose specified.

Third, extending the ends of the tubes, or equivalents thereof, above the crown plate or roof of the fire-box, or any other plate or plates, one side of which is fire surface, to which they are attached, (when the other or lower end communicates with a water space or spaces below or beyond the plate to which the upper ends are attached,) substantially as and for the purpose specified.

Fourth, giving a forced circulation to the water through the boiler or generator by mechanical means, substantially as and for the purpose specified.

A. C. Twining, New Haven, Conn.—*Manufacturing Ice.*—Patented in England July 3, 1850.

Claim.—First, the combination of an exhausting pump or apparatus that is also condensing or compressing with a restorer and with a freezing cistern, having water chambers, substantially as above.

Second, the same pump and restorer in combination with a separate exhaust vessel, (the same whose connexion is indicated in the drawing by *p*,) in or around which the ether or other liquid uncongealable at the temperature employed is cooled and made to pass into the freezing cistern, and there perform its office substantially as above.

Third, the operator or apparatus introducing into the cistern or the separate exhaust vessel the ether or volatile liquid, in jets or drops, as above, in combination with the exhaust pump and restorer.

Fourth, the use of the water vessels, in combination with the water chambers, and the intervening liquid for perfecting contact, as above set forth.

Fifth, in combination with the restoring apparatus, the cooling of the liquid around the same by exhaustion, using therefor the secondary pump and connexions, substantially as set forth.

Theodore Alteneder, Philadelphia, Penn.—*Joint for Compasses for Measuring.*—Patent dated July 16, 1850.

Claim.—A compass joint formed of two surfaces held together by centre screws, passing through a cap piece, substantially as herein described.

John E. Heath, Warren, Ohio.—*Machine for Raking and Binding Grain.*—Patent dated July 22, 1850.

Claim.—First, gathering the grain and compressing it into a sheaf, substantially as herein set forth, by means of the rake and standards.

Second, carrying the cord round the sheaf, and holding the latter until the band is tied by means of the curved lever *h*, and toothed arms *g'* substantially as herein described.

Third, the employment of the split thimble and sliding hook to aid in tying the band.

Fourth, alternating the rake to gather the grain and compress the sheaf by means of the spring, strap, and drum, substantially as herein set forth.

Fifth, bridging the space through which the bound sheaf drops, to support the grain while it is being gathered, substantially as herein set forth.

Frederick M. Butler, New York, N. Y.—*Truss Pad.*—Patent dated July 22, 1850.

Claim.—The formation of the pads for trusses, braces, supporters, &c., as above described, to wit: made of the shape in the boundary seen at Figs 5 and 6, (a rounded obtuse angle,) and the padding made somewhat hollow and fullest on the sides A A A A, as seen in Figs. 1 3 and 4, adapted to bear under and outwards of the fullness of the abdomen, making a plane concave pad, whether single or double, (the latter seen in Figs. 7, 8, 9, 10.)

William E. Ward, Port Chester, N. Y.—*Bolt and Rivet Machine.*—Patent dated July 30, 1850.

Claim.—First, gauging the length of the shank after a head has been formed on the end by pushing the head against a gauge beyond the header which has a lateral motion to allow it to pass by, substantially as described, in combination with the operation of cutting off the shank at such distance from the griping dies as by the same operation to determine or gauge the length of the rod or wire which shall be left projecting beyond the griping dies for forming the next head, substantially as described.

Second, cutting off the rod or wire, after the head has been formed, by the return lateral motion of the header, in combination with the rest, substantially as described. the edges of the rest and heading die being formed to answer the purpose of shears, as herein described.

Luke V. V. Newton, New York, N. Y.—*Preparing the Face of Metallic Types.*—Patent dated August 20, 1850.

Claim.—The placing or coating of the surfaces of metallic printing types, stereotype plates or other printing plates, whether cast or engraved, with an additional coat of metal by means of galvanic electricity, in the manner and for the purpose described.

Asa Blood, Janesville, Wis.—*Obstetric Chairs and Supporters.*—Patent dated August 27,

Claim.—An obstetric chair with its seat composed of sections hinged together substantially in the manner and for the purpose herein set forth.

Also, a chair-back, hinged to the seat in such manner that it can turn both horizontally and vertically, substantially in the manner herein set forth.

Also, the combination of the stirrups with the abdominal pad, substantially in the manner and for the purpose herein set forth.

Benjamin Welch, Salisbury, Conn., formerly of Lakeville, Conn.—*Surgeons' Splints.*—Patent dated September 3, 1850.

Claim.—The improved surgeons' splints, composed of thin strata of wood combined with some elastic adhesive substance interposed between them, substantially as herein set forth.

J. H. Towne, Philadelphia, Penn.—*Direct Action of Steam Hammers.*—Patent dated September 3, 1850.

Claim.—Attaching the hammer to the sliding steam cylinder, substantially as herein described, the steam being admitted and discharged to and from the sliding steam cylinder, substantially as herein described.

Russell Scarritt, St. Louis, Mo.—*Sofa Bedstead.*—Patent dated October 8, 1850; reissued January 7, 1851.

Claim.—The combination of the frames D D, which are of the same form of the sofa ends F F, with the said sofa ends, substantially in the manner and for the purpose as herein set forth, to wit: When the back A is elevated, to convert the sofa bed into a sofa, the frames D D must be swung inward against the sofa back, to retain it in an elevated position, and to throw the said frames out of the way and out of sight; and when it is desired to change the sofa bed from a sofa to a bed, the said frames D D can only be swung outward into a line with the sofa ends F F, so that the ledges *l l*, on the inner sides of the same, will unerringly catch and retain the back A when it reaches a horizontal position, as it is thrown backward, in which position the sofa ends F F and the swinging frames D D will form an ornamental and uniform head and foot to the bed form of the improved sofa bed.

Also, the placing of the pivots *t t*, which suspend the mattress frame A such a distance from the lower or inner edge of the same, that when the said mattress frame is thrown backward into a horizontal position, the lower or inner edge of the mattress A' will by that movement be thrown forward and press against the rear edge of the mattress B' with such force as to form a close and an elastic joint between the two, and thereby furnish an extra width to the bed form of the improved sofa bed, substantially in the manner herein set forth.

Also, the projection of the mattress A below the pivots that it turns upon, in combination with the movement of the mattress B' or hinges located at its front edge, by means of which a firm and close joint is formed between the rear end of the mattress B' and the face of the mattress A', when they are arranged in the form of a sofa, which joint aids in retaining the said mattress A' in an elevated position, substantially as herein set forth.

George K. Snow, Watertown, Mass.—*Machine for Folding Paper.*—Patent dated October 15, 1850; reissued April 3, 1860.

Claim.—The improvement or combination as invented consists of the following elements: First, a slotted plate B, table or contrivance for receiving and supporting the sheet. Second, two parallel planes or plates L M, extending at right angles from such support and so arranged that there shall be one of the said plates on each side of the slot *b* of the first element or support of the sheet. Third, a striking and folding frame or plate D, so arranged and operated as to press the paper against the middle or other proper part of it, force it downward through the slot and between the two parallel plates, the said parallel plates operating to complete the fold and hold the sheet of paper during the return or retrograde movement of the striking frame or plate. And in combination therewith, a second striking and folding plate N, arranged at right angles to the said two parallel plates, and made so as to press or operate through them or their slots and directly after the said retrograde movement of the first one, so as to press against the sheet of paper and force it through one of the said slots and thereby once more or a second time fold it.

Also, in combination with such second combination of mechanism, a third striking and folding plate R, and slotted parallel folding plate S and friction rollers *p q*, or equivalent contrivances. the same being for supporting the twice folded sheet of paper, folding it a third time and subsequently discharging it, such discharge taking place in consequence of the return or retrograde movement of the striking or doubling plate, as above described.

Also, the combination of one or more register points or a registering apparatus, with the sheet-receiving table or platform, and an apparatus for producing one or more folds in the sheet.

Also, a combination composed not only of machinery for folding sheets of paper, but machinery for receiving and piling or packing such sheets in a regular pile or pack.

Also, the combination of mechanism which is applied to the striking plate and its rollers or folding contrivances and used for packing the sheets; the said mechanism consisting of the stationary plate T and the spring plate U, or plate and its springs or other proper equivalents which permit the recession of the plate in proportion as the pack of sheets increases in size, the whole being arranged and made to operate substantially in the manner as herein before specified.

Also, the combination of one or more edged gauges C C1 C2, with the sheet-receiving platform and an apparatus for folding paper, substantially as described.

AUSTIN F. PARK, Troy, N. Y.—*Machine for Transmitting Messages by Electric Telegraph.*—Patent dated August 27, 1864.

Claim.—First, the two guides E and *h*, with their hook and detent spring as described, in combination with the movable connecting points D D and the type forms for letters, substantially in the manner and for the purpose set forth, the guides being disconnected as soon as the movable connecting point has passed them, thereby causing the finger key rods to resume their proper position to be again acted upon, and allowing the succeeding points to pass in their regular revolving course, without coming in contact with the type forms.

Second, the manner of disconnecting the two guides, viz., by the action of the movable connecting point upon the detent spring, as above set forth.

Third, the employment of a clicking apparatus to indicate the proper time of depressing the keys, the whole being constructed and arranged in the manner and for the purpose substantially as herein set forth.

TIMOTHY ROSE, Cortlandtville, N. Y.—*Water Wheel.*—Patent dated September 24, 1850.

Claim.—The discharge aperture of the chutes movable relatively to the axis of the wheel, or the axis of the wheel movable relatively to the aperture of the chute, substantially as described, for the purpose of varying the effective diameter of the wheel, and thereby increasing or decreasing the velocity thereof, substantially as described.

JAMES YOUNG, Manchester, England.—*Making Paraffine Oil.*—Patent dated March 23, 1852; antedated October 7, 1850.

Claim.—The obtaining of paraffine oil, or an oil containing paraffine, and paraffine from bituminous coals, by treating them in manner herein before described.

RICHARD MONTGOMERY, New York, N. Y.—*Steam Boilers.*—Patent dated October 29, 1850.

Claim.—The employment of corrugated plates of metal for forming the curved arches of fine chambers and shells of steam boilers, the corrugations running in the direction of the curves, substantially as described.

A. S. MACOMBER, Bennington, Vt.—*Steam Cutters.*—Patent dated November 5, 1850.

Claim.—The application and use of rotary spiral cutters D D, which are self-feeding, in combination with a stationary knife or cutting edge; in the manner and for the purpose substantially as described.

ALLEN B. WILSON, Waterbury, Conn.—*Sewing Machine.*—Patent dated November 12, 1850; reissued January 22, 1856; again reissued December 9, 1856; extended November 12, 1864.

Claim.—First, the method of causing the cloth or material to be sewed in a sewing machine to progress regularly by the joint action of the surfaces between which it is clamped and act in conjunction, substantially in the manner and for the purposes herein specified.

Second, holding the cloth or other material at rest by the needle, or its equivalent, in combination with the method of causing it to progress regularly, the whole substantially as herein set forth.

Third, arranging feeding surfaces, substantially as herein specified, in such relation to the needle, as herein set forth, that they or one of them shall perform the office of stripping the cloth or material from the needle as it rises or recedes from it, as herein described.

Fourth, so mounting and attaching one of the feeding surfaces to some other part of the machine that it may be removed or drawn away from the other surface at pleasure, substantially in the manner and to effect the objects herein set forth.

ALLEN B. WILSON, Waterbury, Conn.—*Sewing Machine.*—Patent dated November 12, 1850; reissued January 9, 1856; again reissued December 9, 1856; extended November 12, 1864.

Claim.—First, the combination in a single machine of these three following elements, namely: a table or platform to support the material to be sewed, holding it for the action of the needle, and presenting it properly to the grasp of the feeding apparatus; a sewing mechanism proper consisting of a needle and shuttle, or their equivalent, and a mechanical feed automatic, and causing the cloth to progress regularly, to which the cloth is not attached, and so grasping the cloth that it may be turned and twisted by the hand of an operator, such twisting not interfering with the regular progression of the cloth, and the whole being constructed and acting together and in combination with each other, substantially in the manner and for the purposes herein specified.

Second, moving a shuttle so shaped and held by its race that jaws may embrace it, by means of two jaws which are alternately in contact with the shuttle, and are constructed and move substantially in the manner herein set forth, making and breaking their contact without any aid from cams or springs or the equivalent of such devices.

Third, a double pointed shuttle, substantially such as is herein specified, in combination with jaws for driving it, substantially such as are described, whereby the shuttle may be thrown alternately from opposite directions through loops without practically disturbing the loop thread.

JUNIUS and ALFRED JUDSON, assignors to JUNIUS JUDSON, Rochester, N. Y.—*Valve for Governors.*—Patent dated November 5, 1850; reissued January 10, 1854; extended November 5, 1864.

Claim.—Making the opening or openings controlled by the governor valves of steam engines of gradually increasing capacity from the closed towards the open position, substantially in the manner and for the purpose specified.

Also, interposing a spring between the valve cover and the set screw, or its equivalent, which determines or sets the position of the face of the valve to its seat, so that the tension of the said spring shall resist the pressure of the steam on the valve cover, and thereby produce an increased flow of steam to the cylinder, substantially as specified.

Also, the employment of the valve lever adjustable to the steam of the valve, in combination with a fixed indicator, substantially as specified, for the purpose of setting the valve in any required position without opening the valve box, as set forth.

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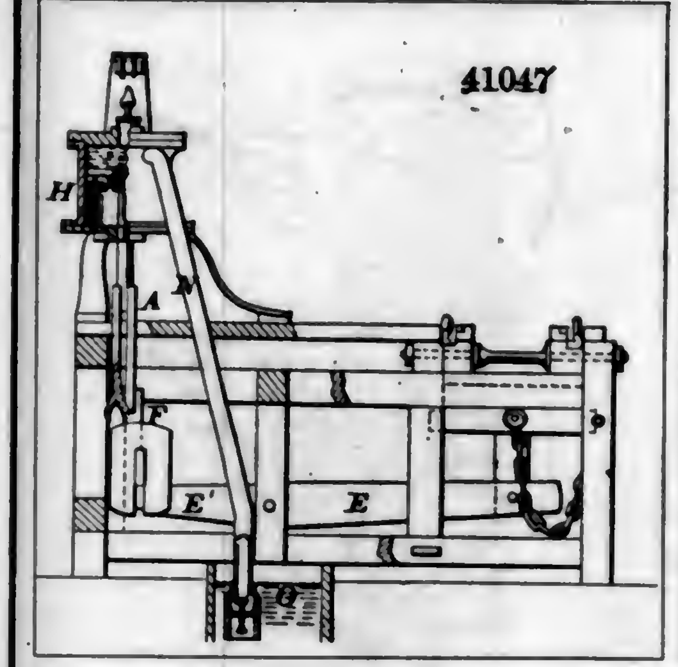
1866.

ILLUSTRATIONS.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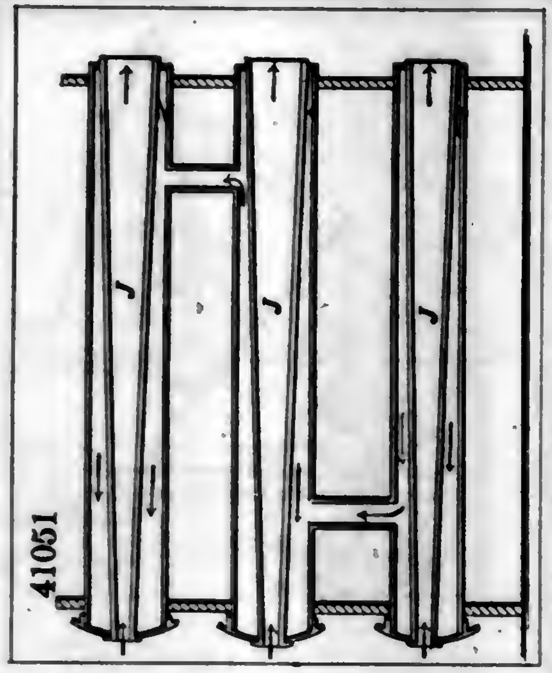
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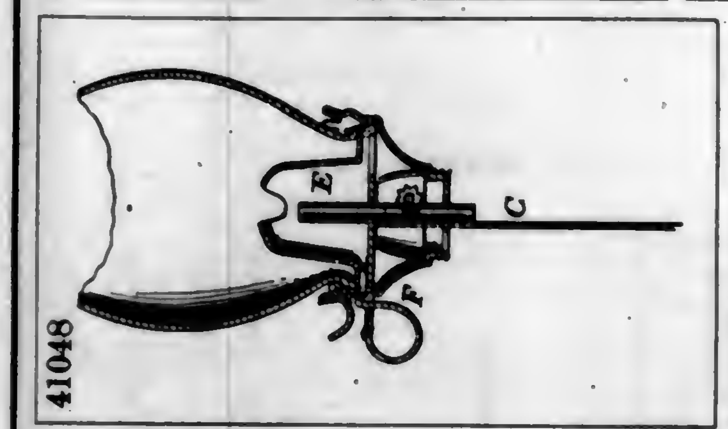
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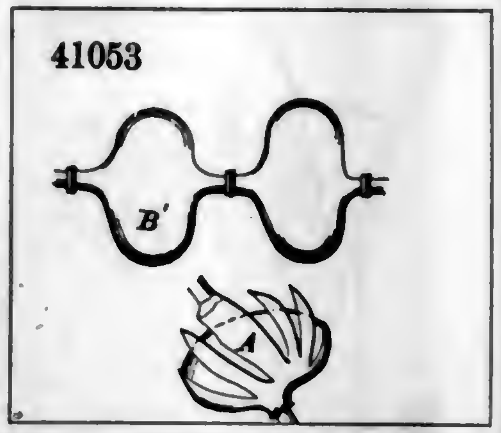
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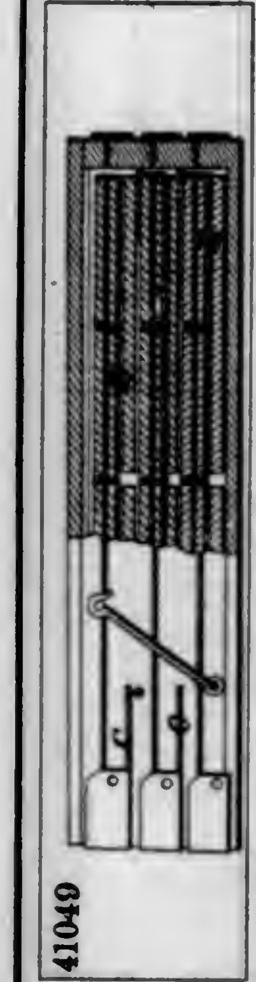
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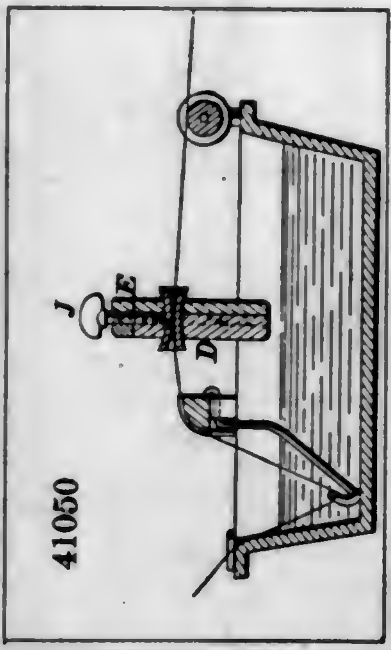
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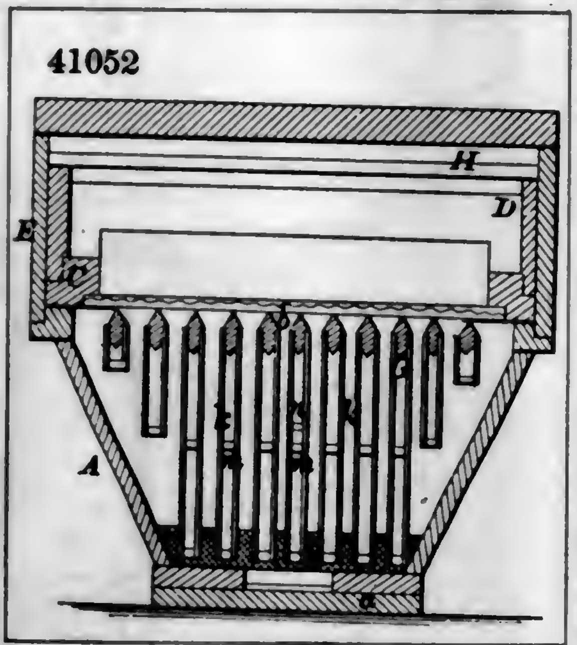
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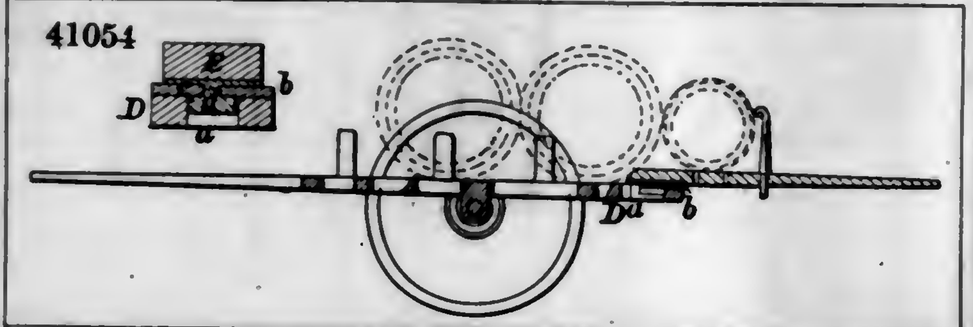
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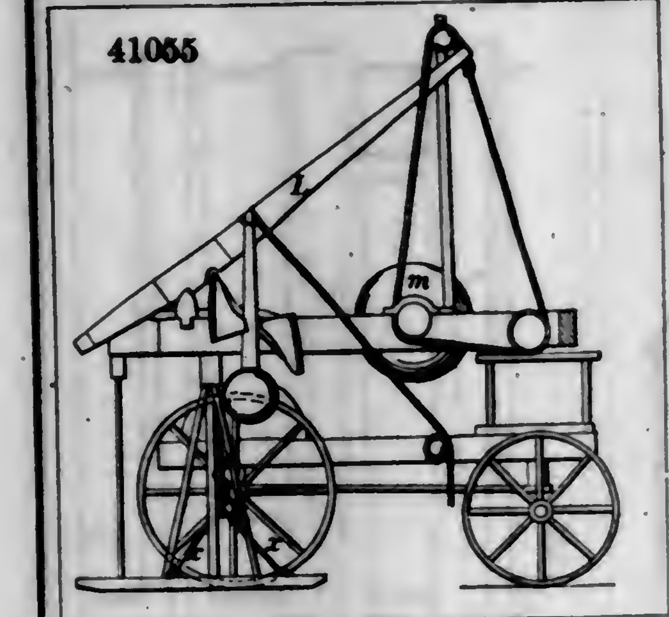

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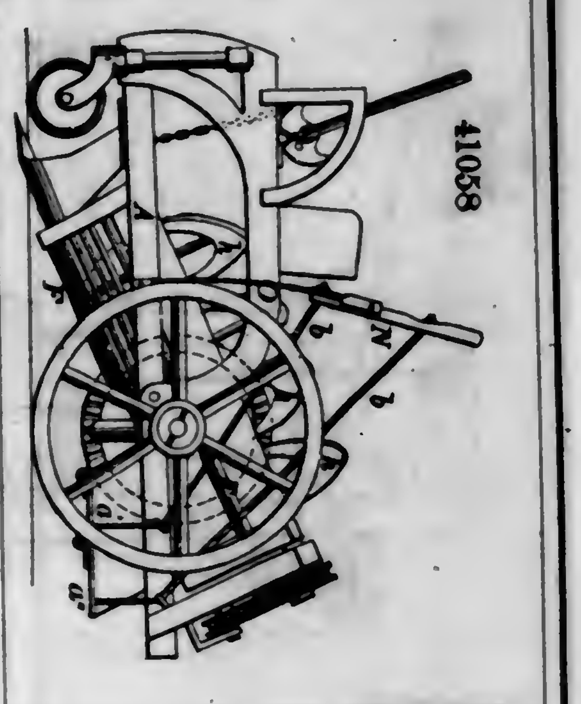

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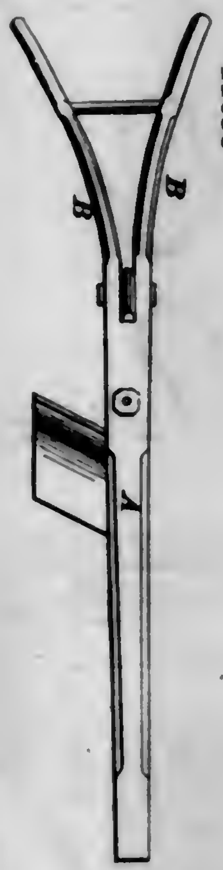

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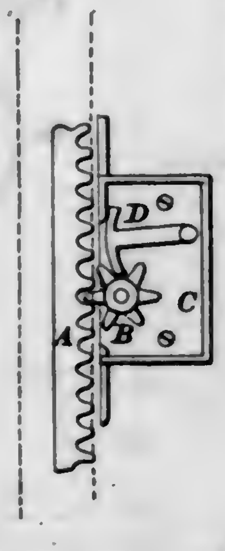

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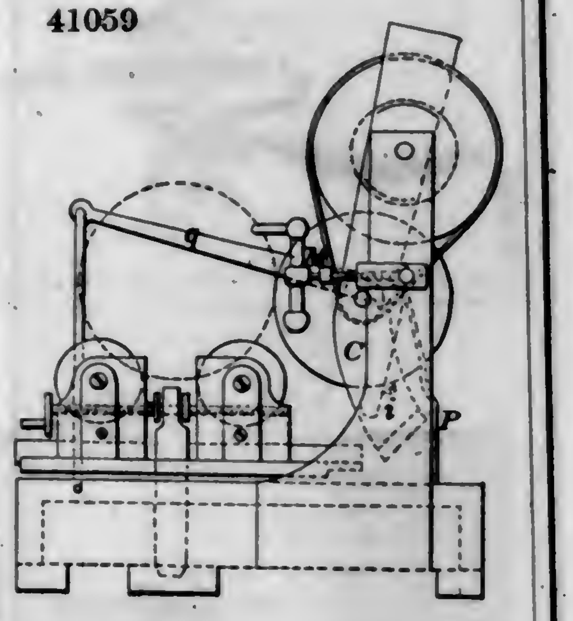

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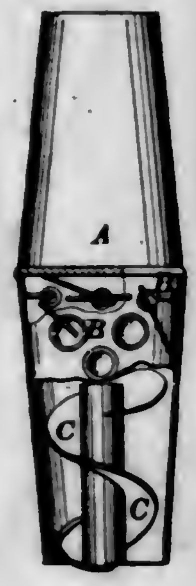

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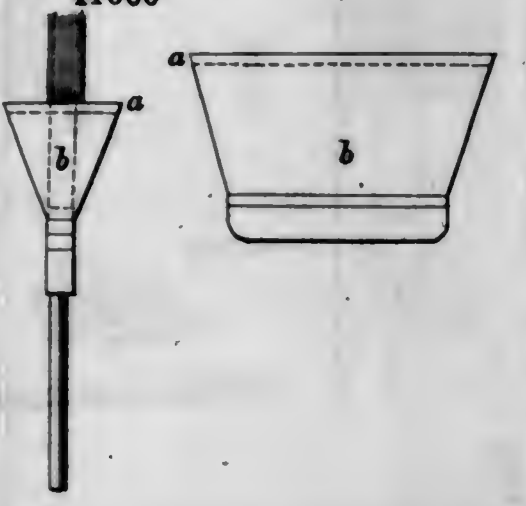

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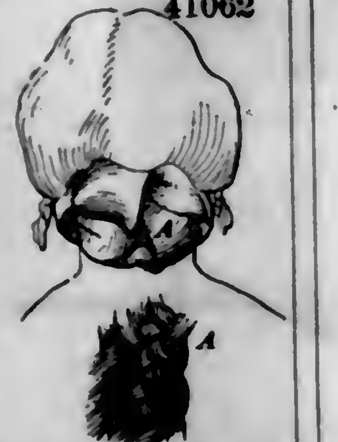

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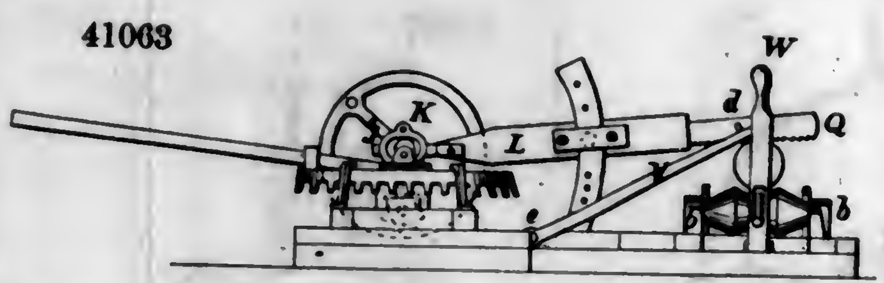

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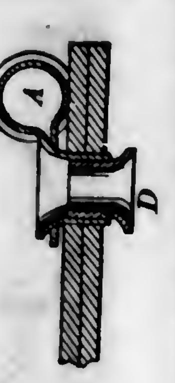

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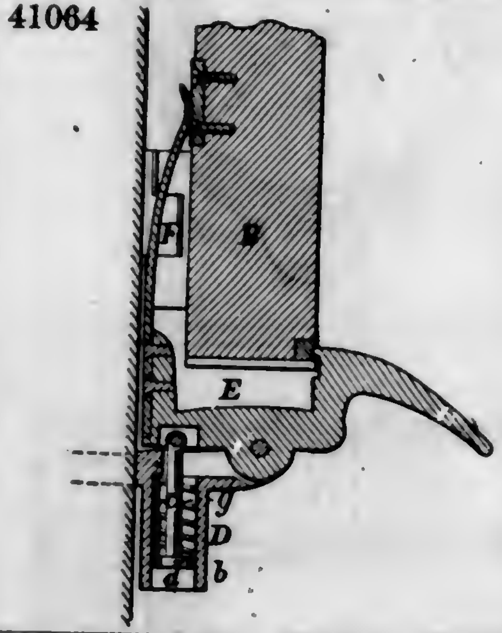

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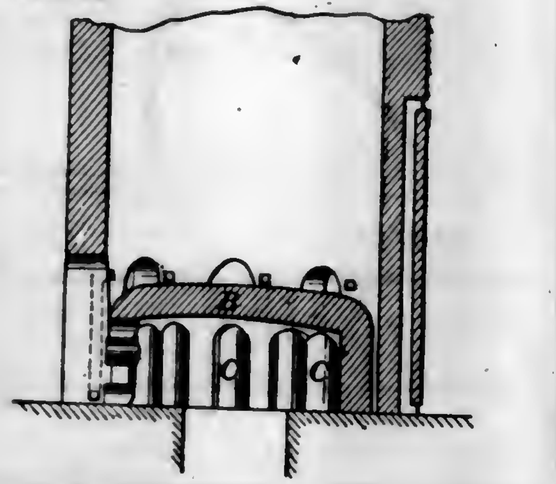

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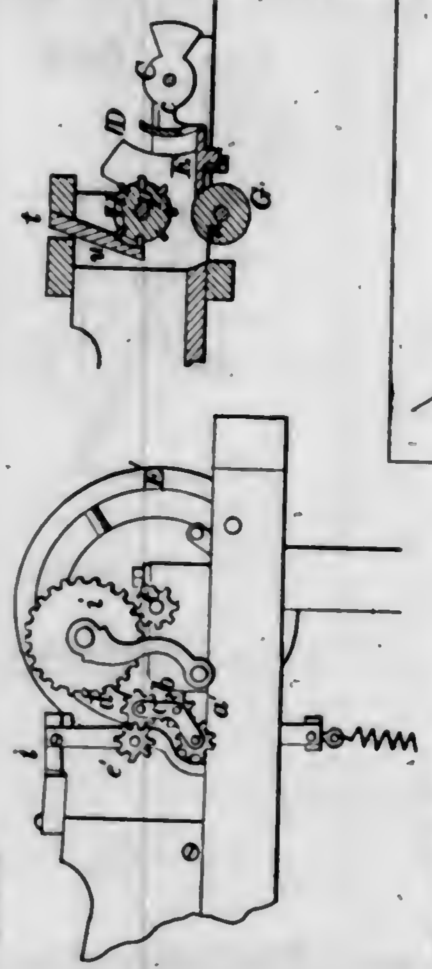

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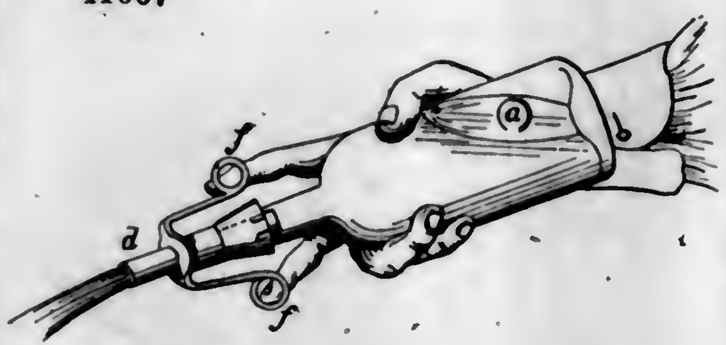

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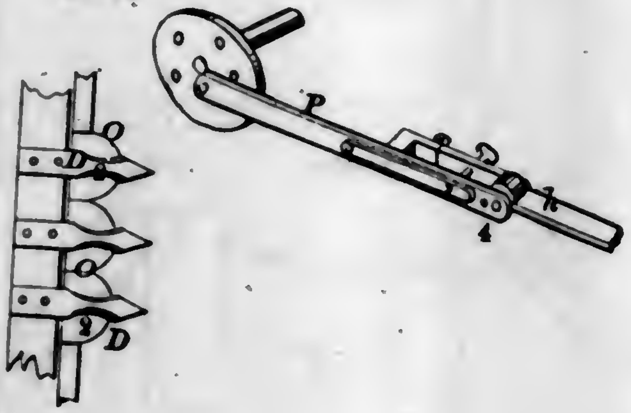

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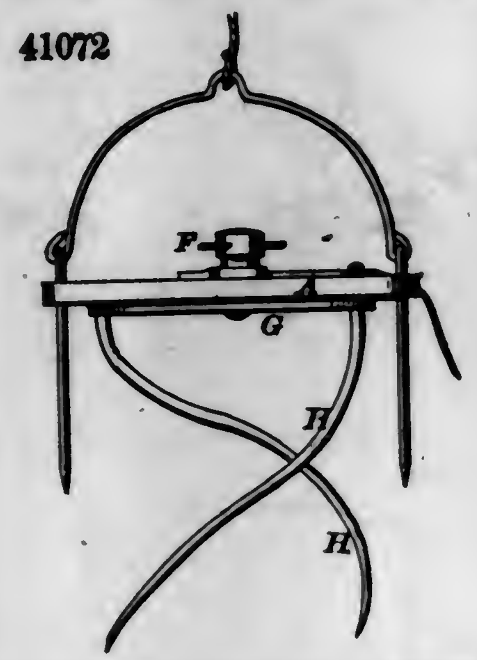

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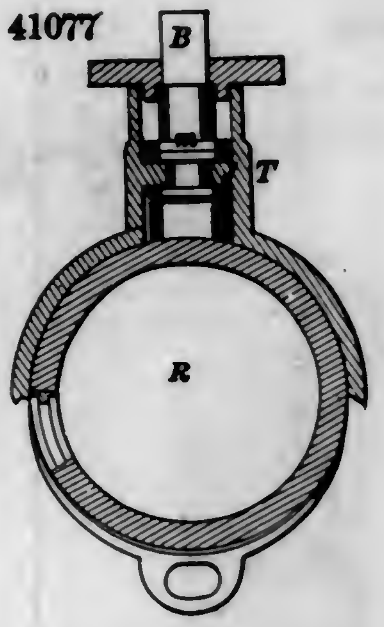

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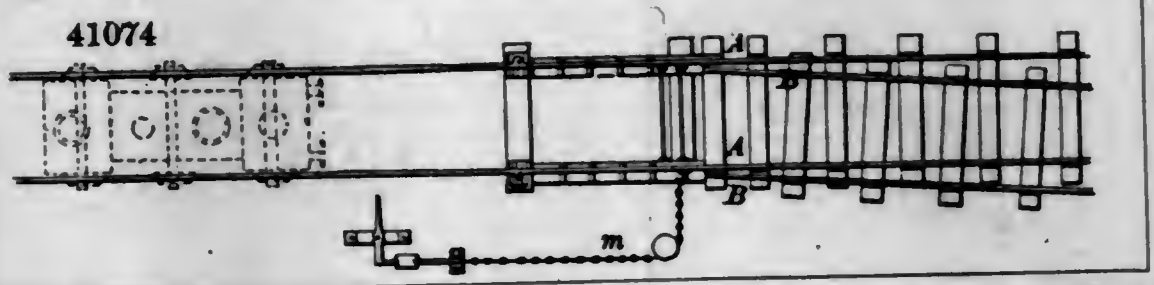

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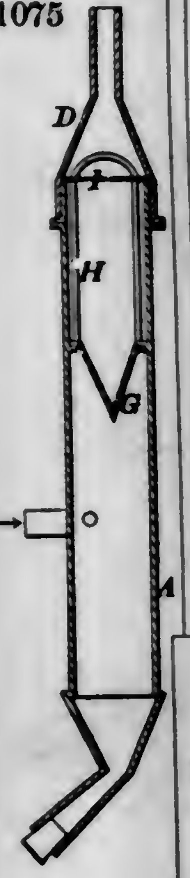

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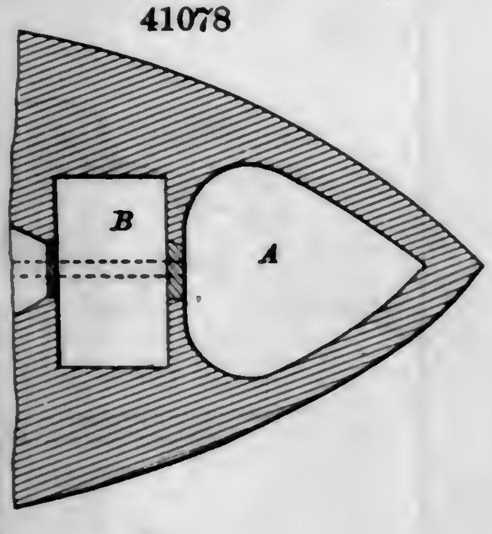

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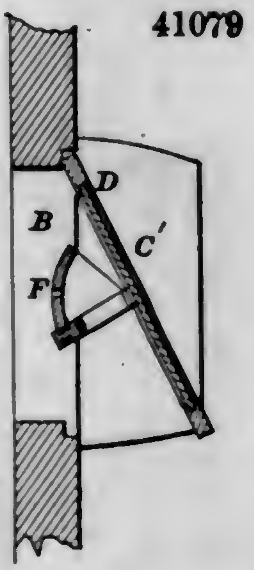

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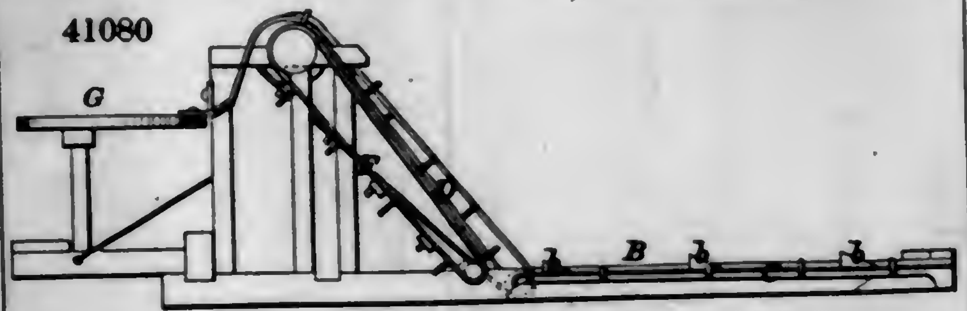

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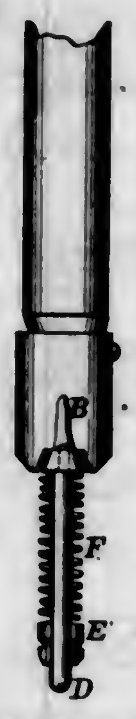

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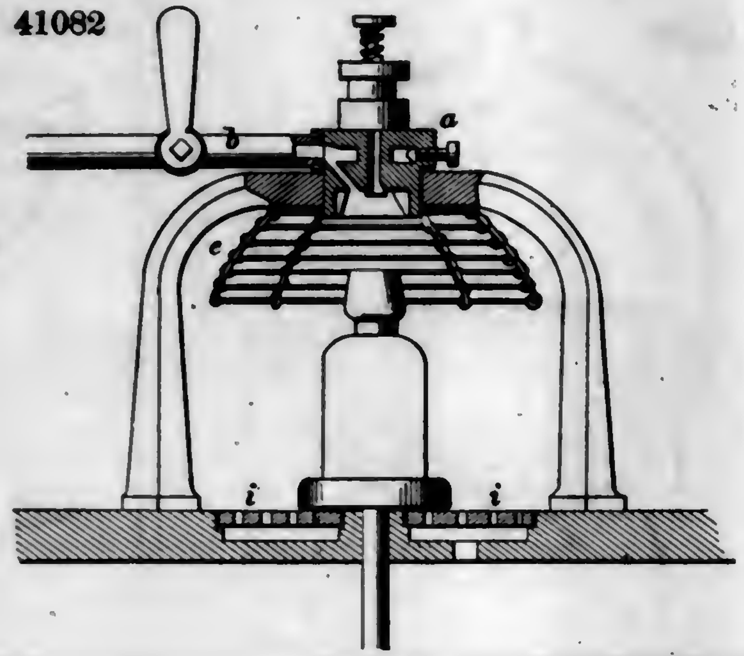

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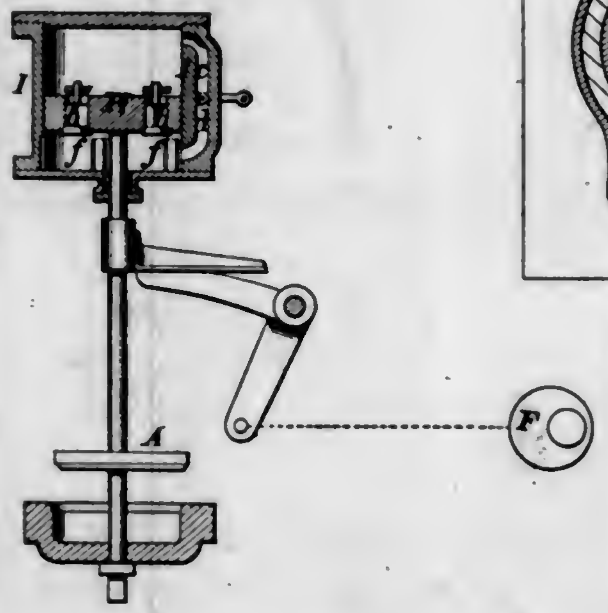

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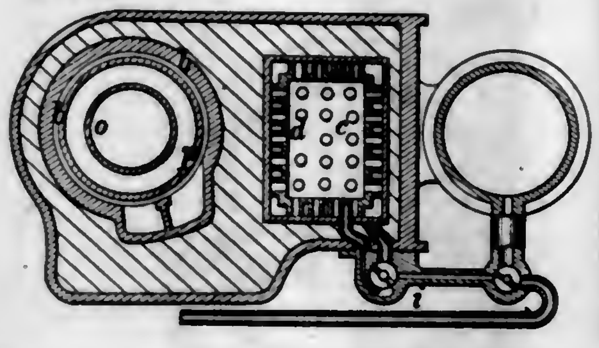

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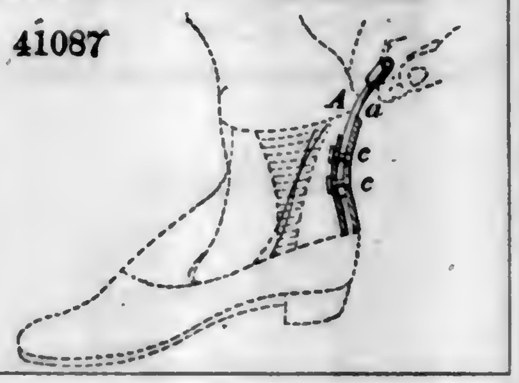

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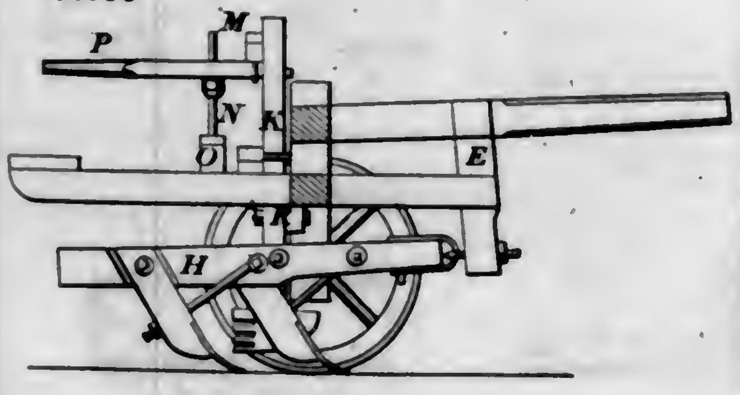

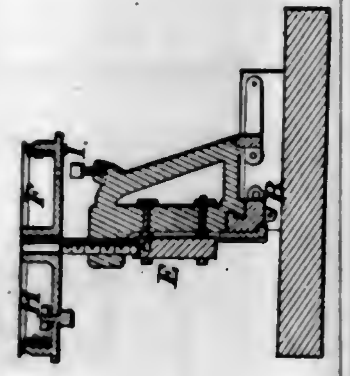

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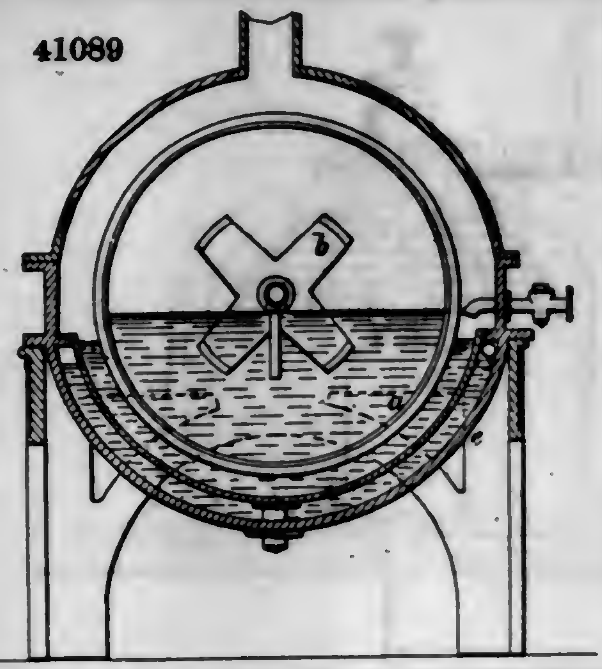

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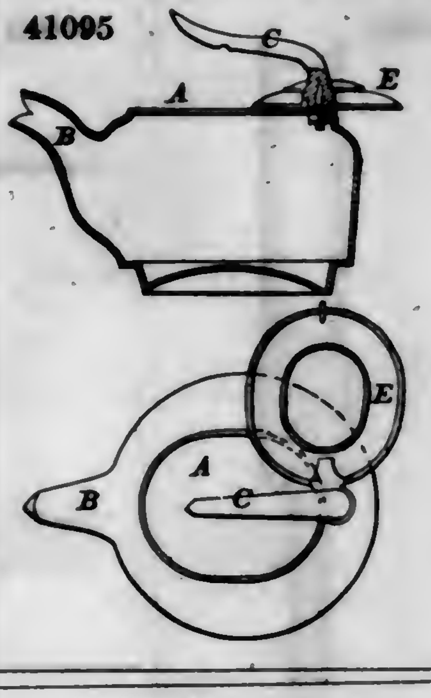

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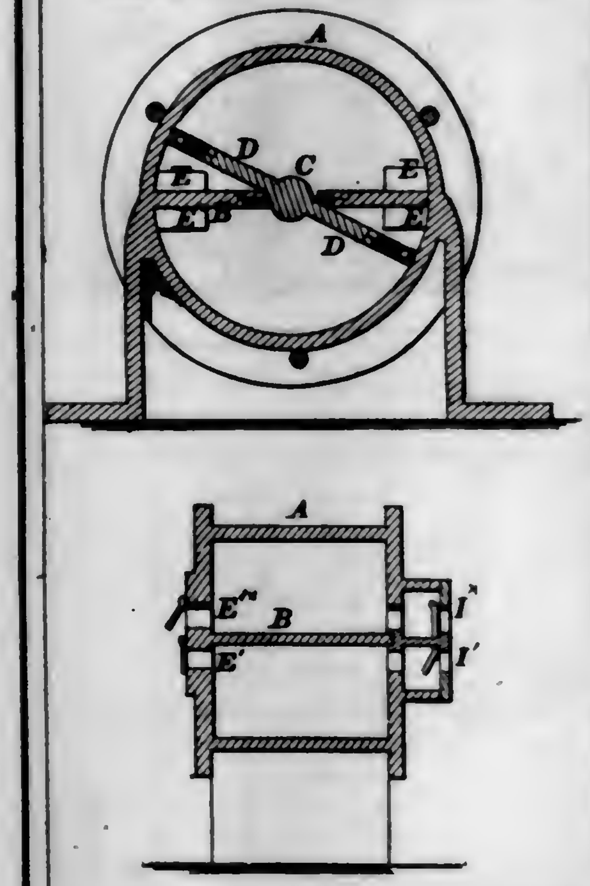

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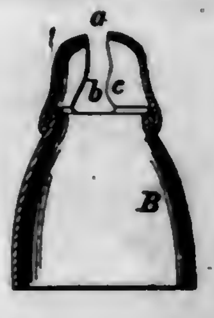

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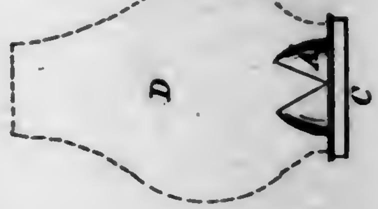

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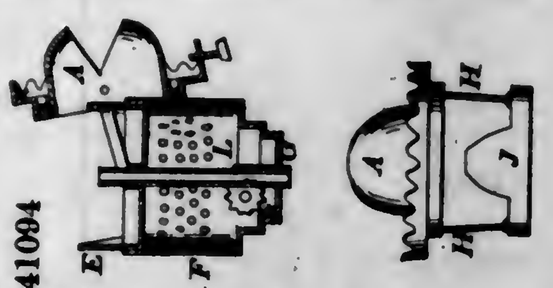

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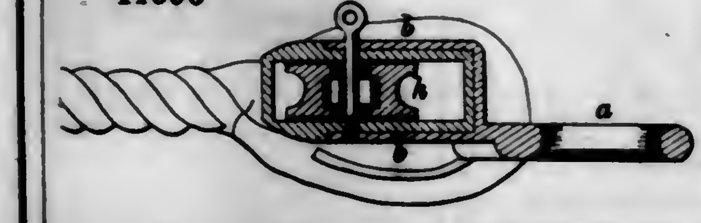

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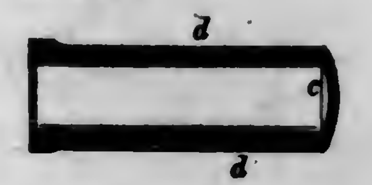

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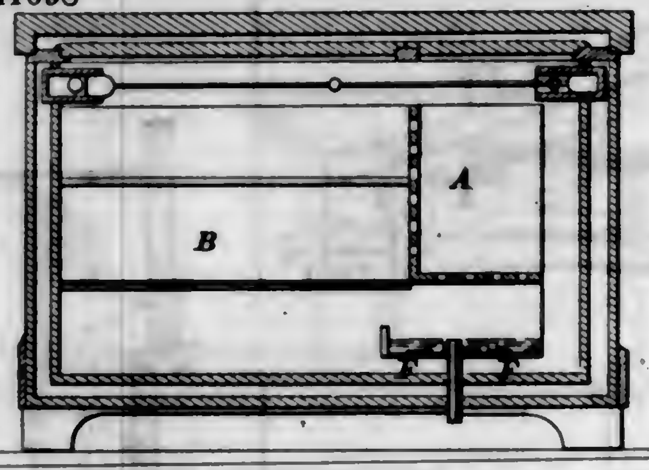

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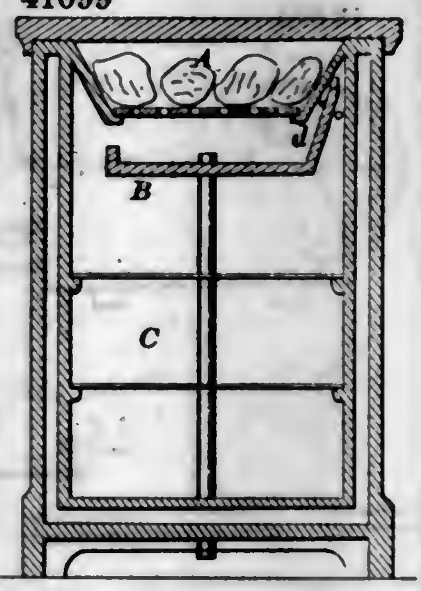

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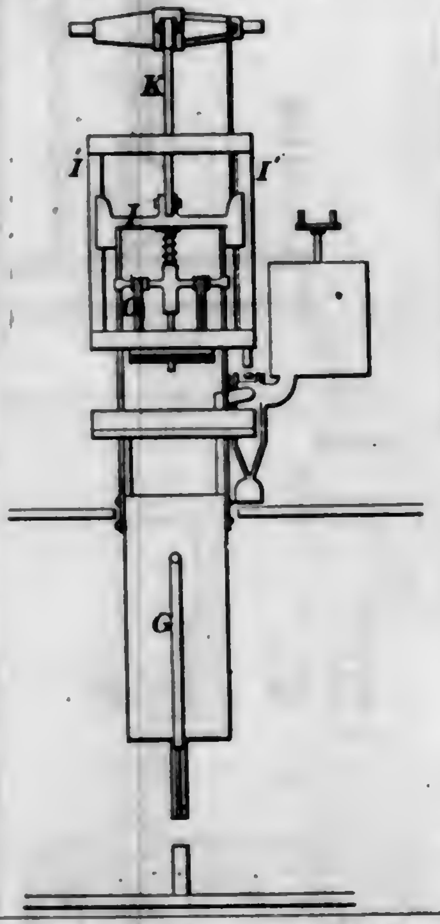

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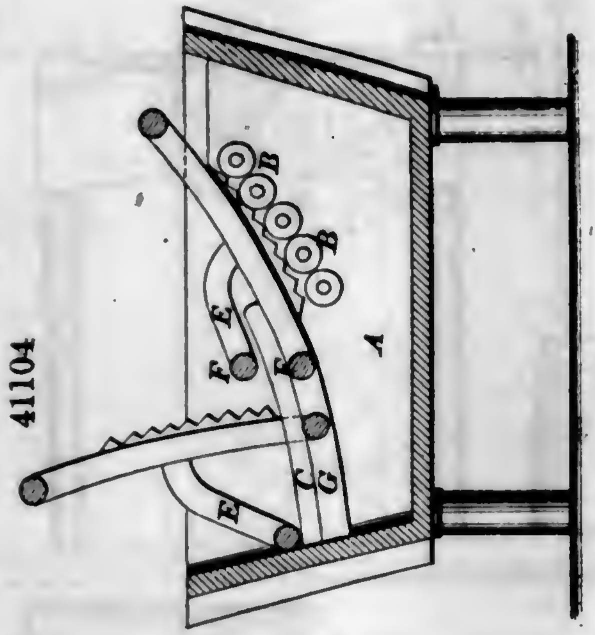

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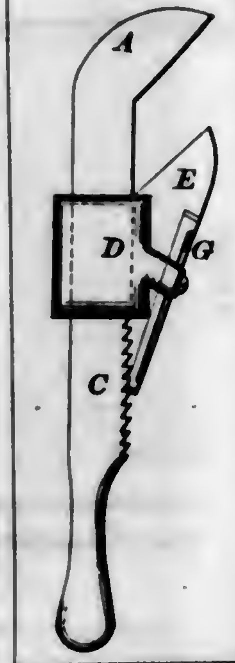

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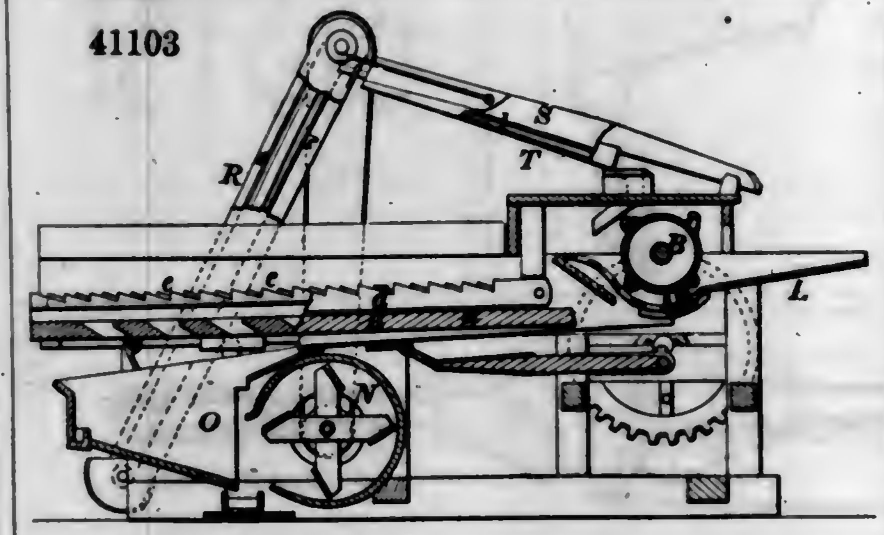

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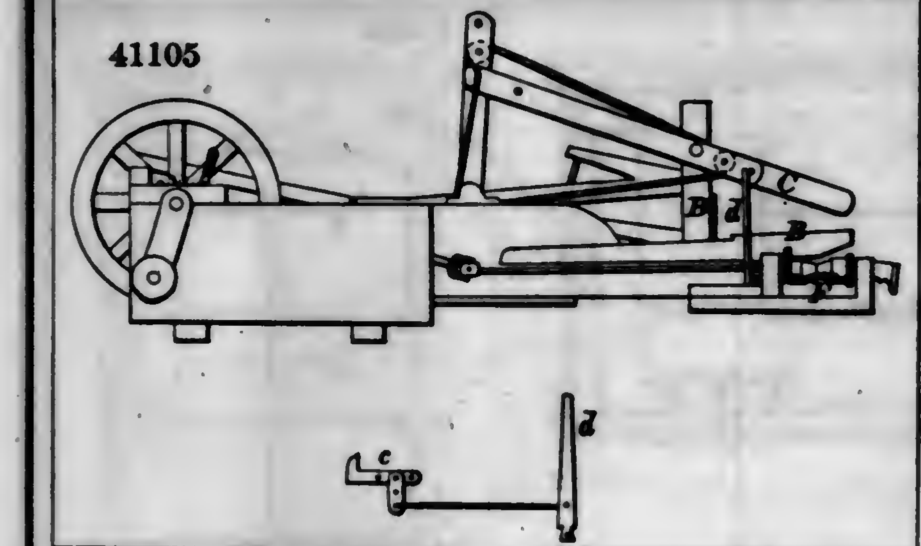

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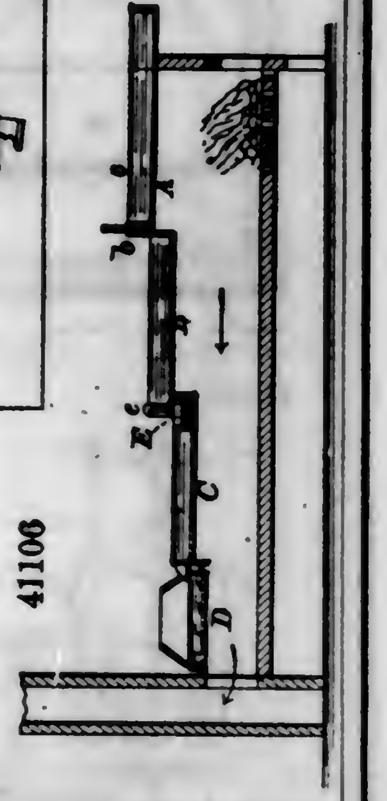

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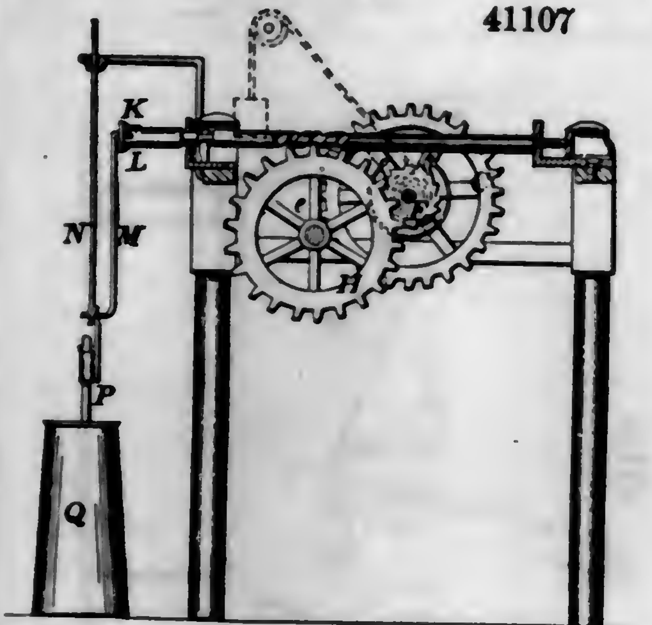

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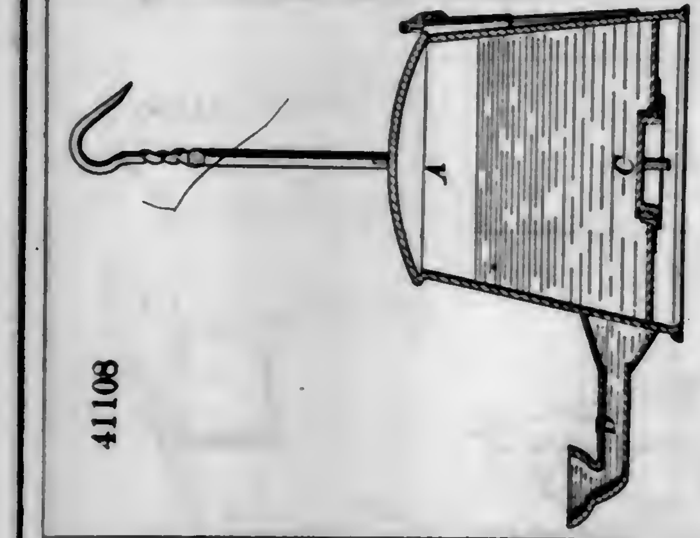

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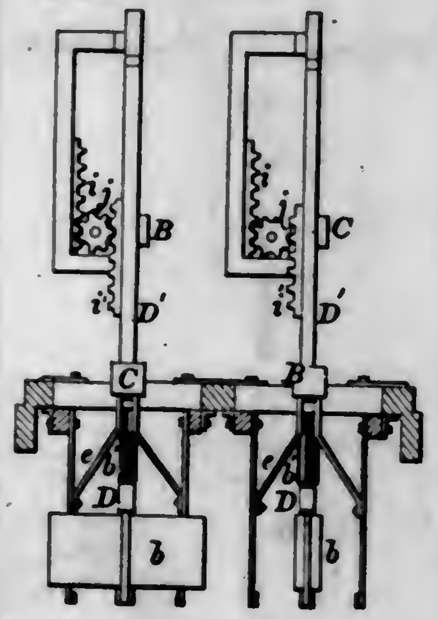

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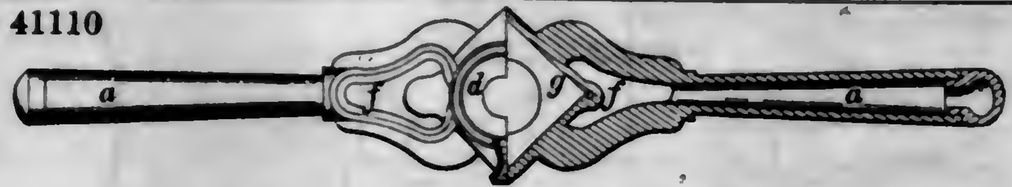

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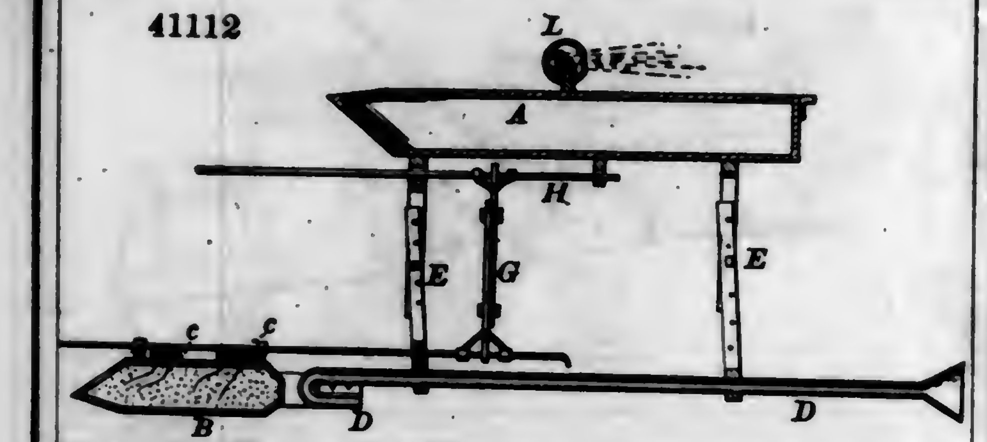

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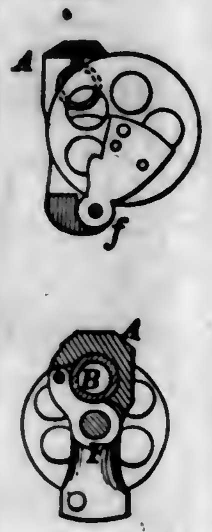

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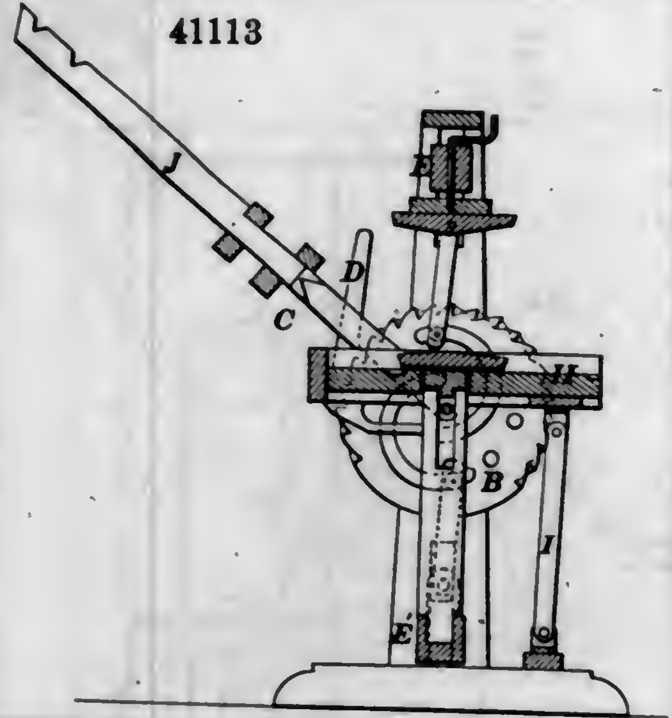

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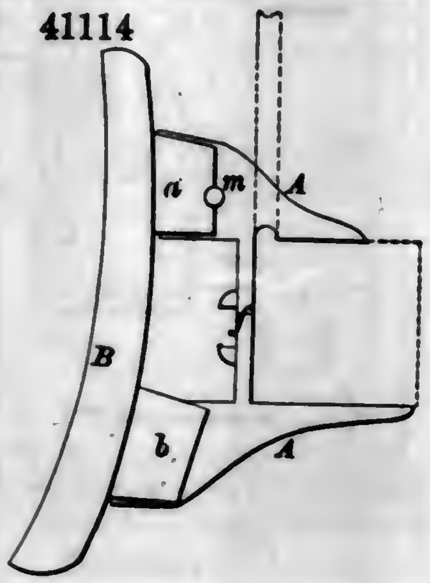

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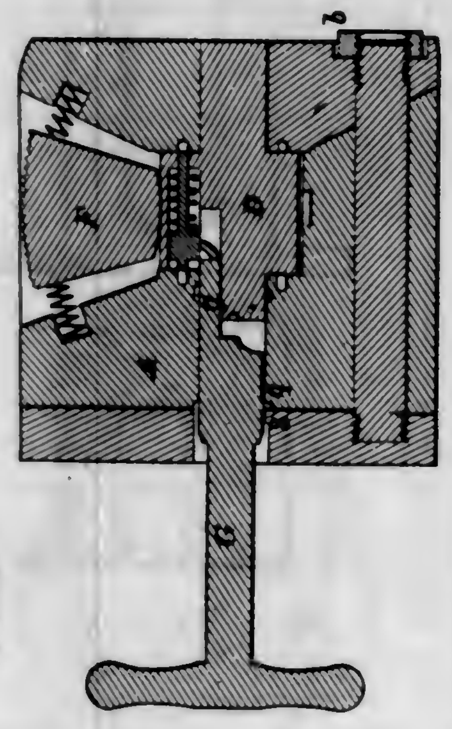

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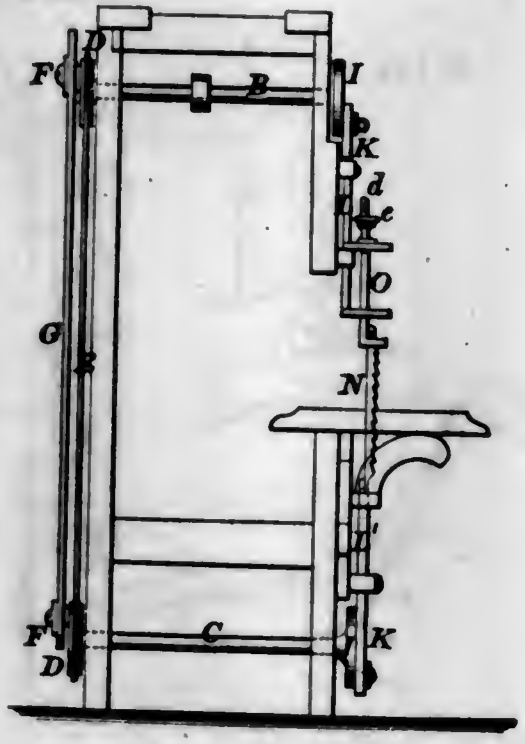

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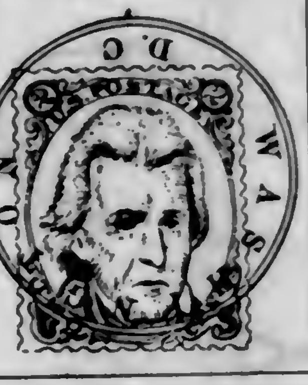

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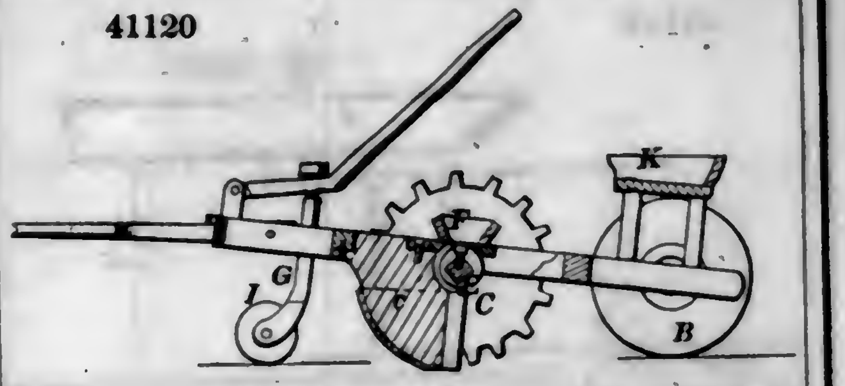

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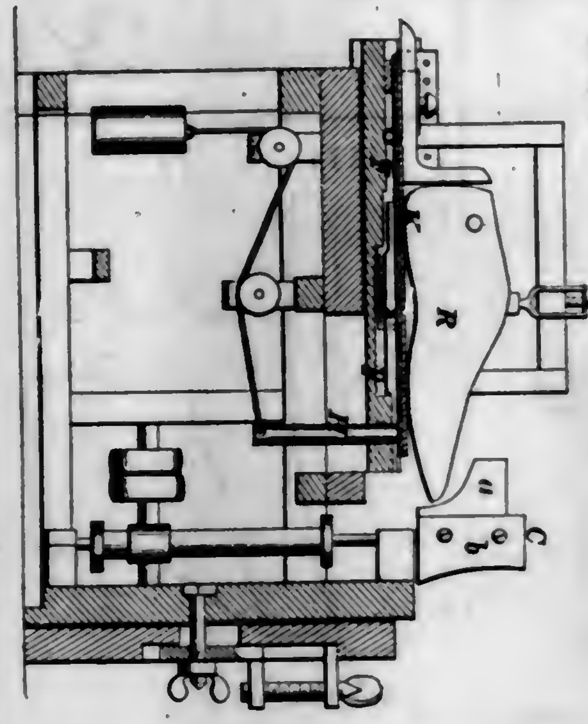

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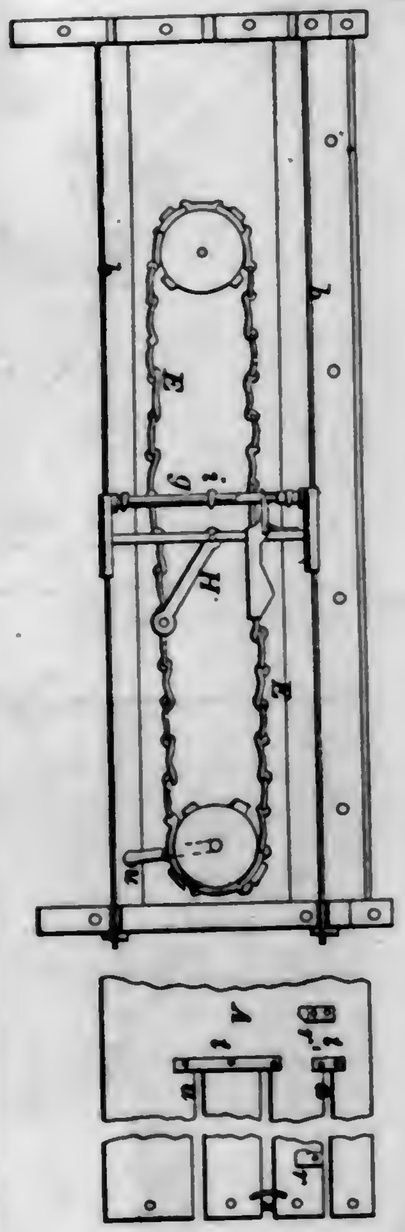

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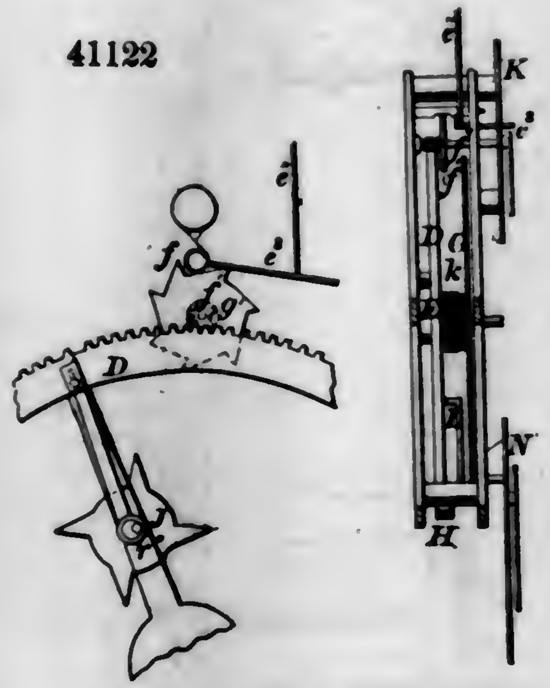

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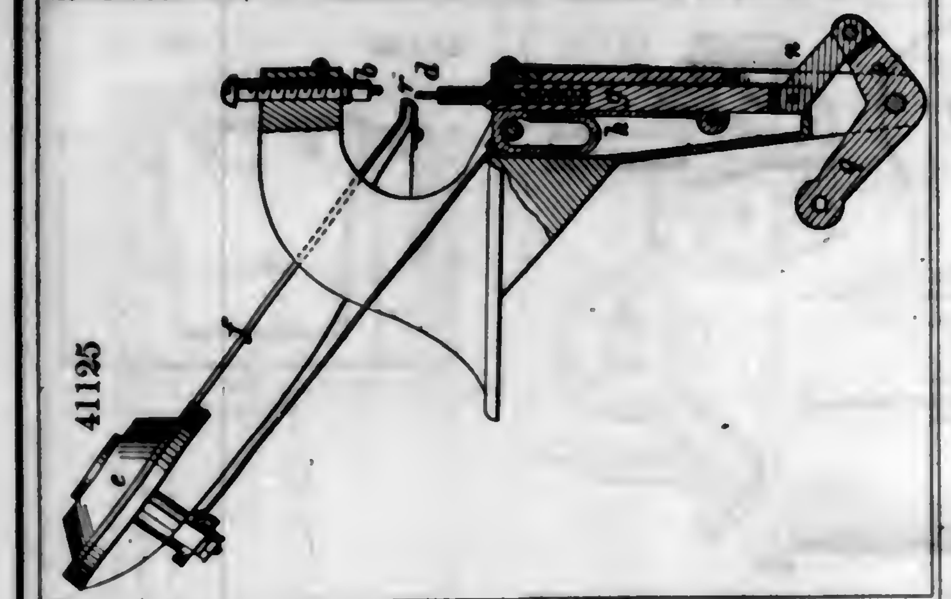

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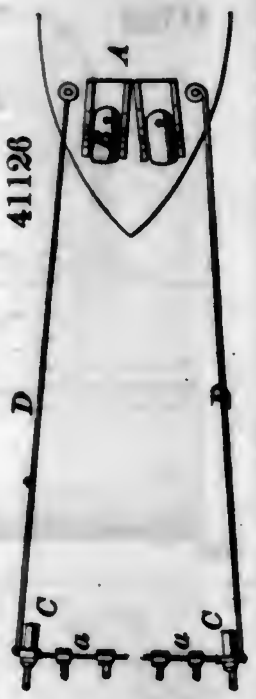

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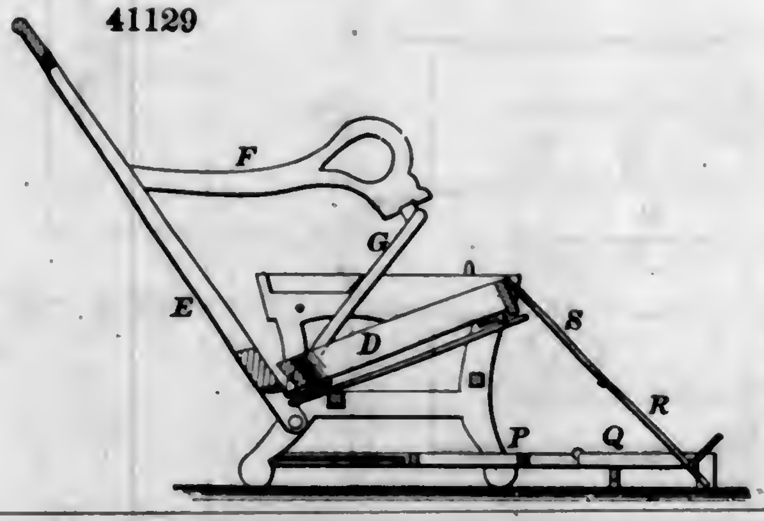

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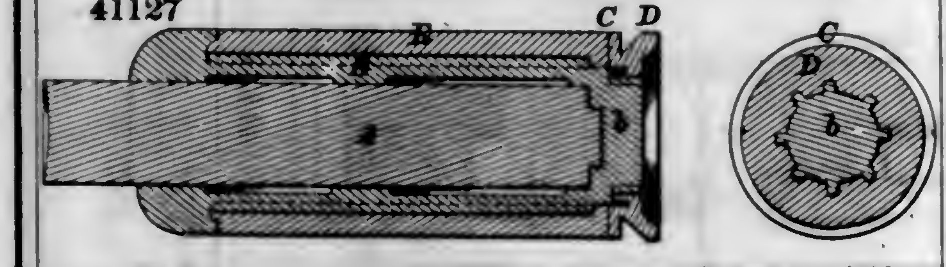

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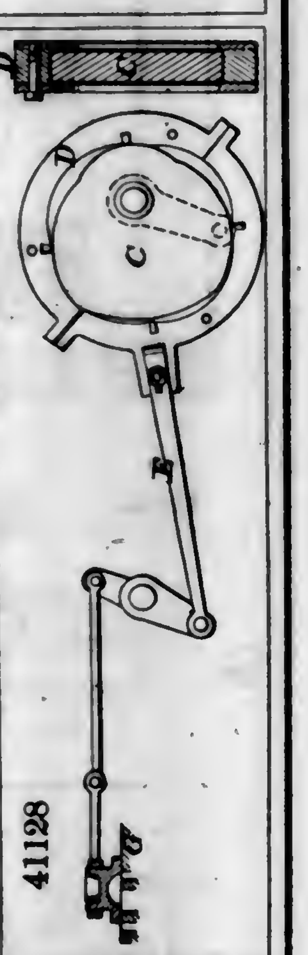

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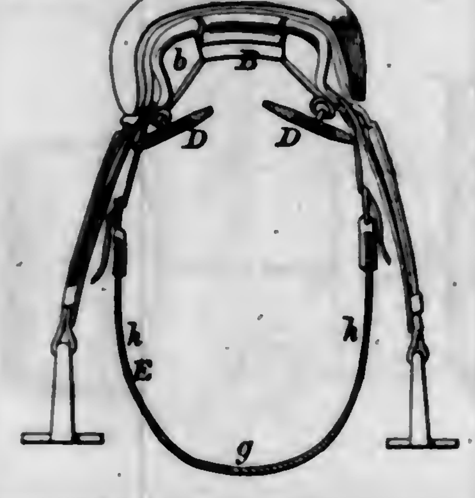

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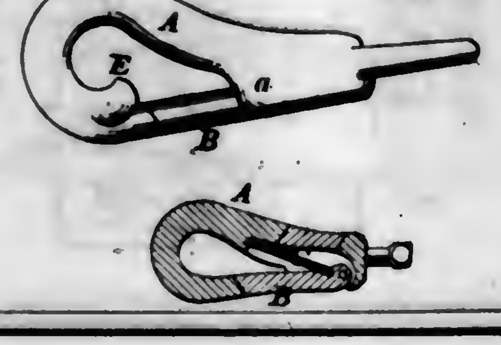

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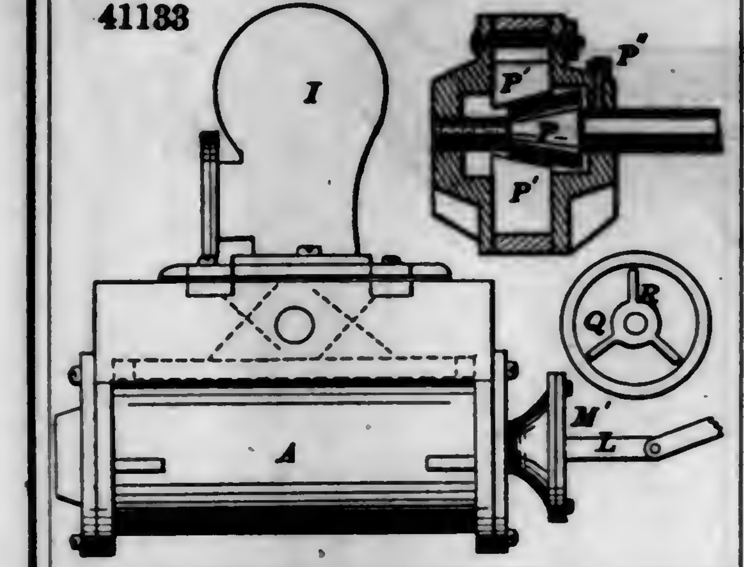

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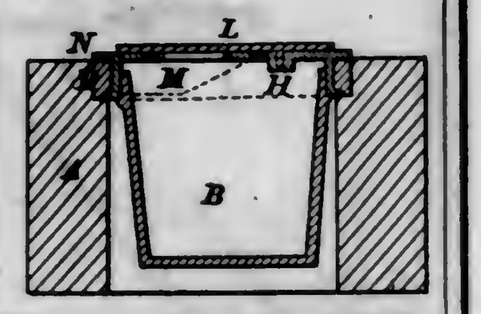

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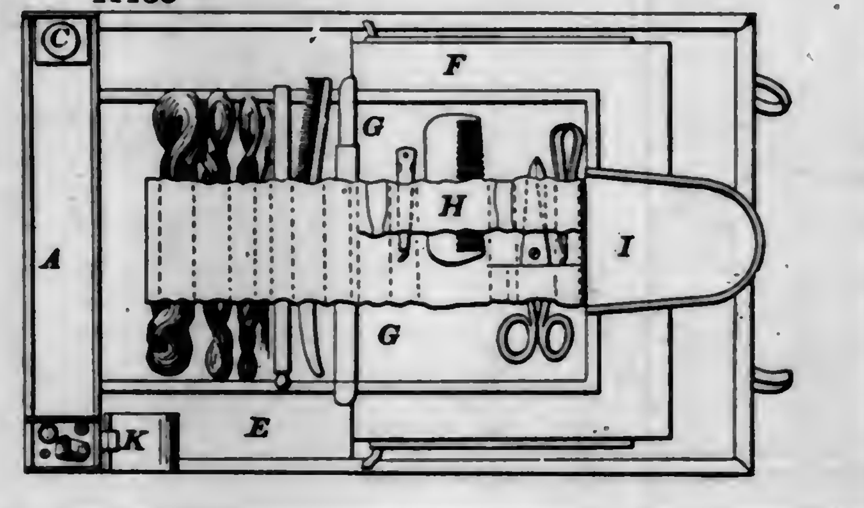

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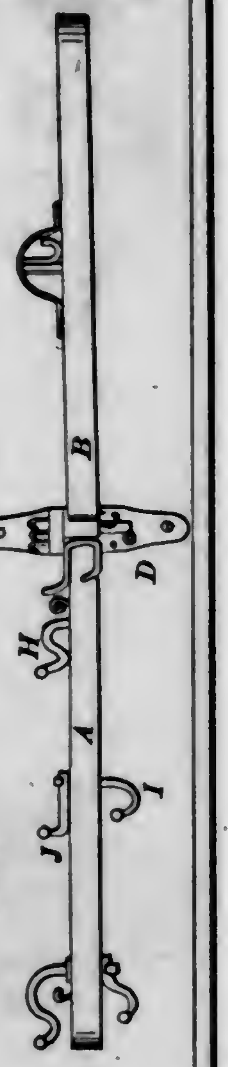

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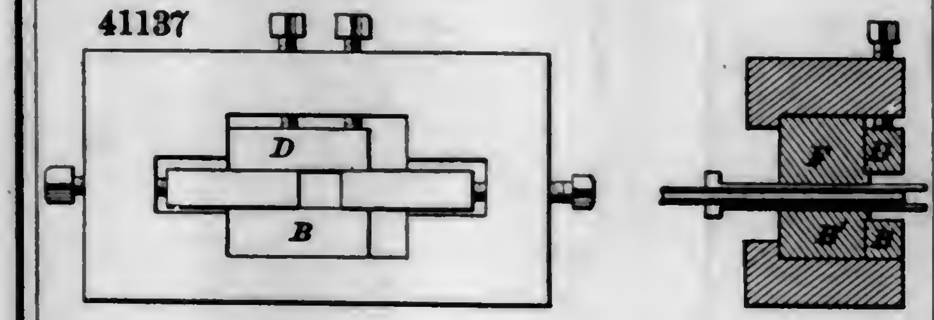

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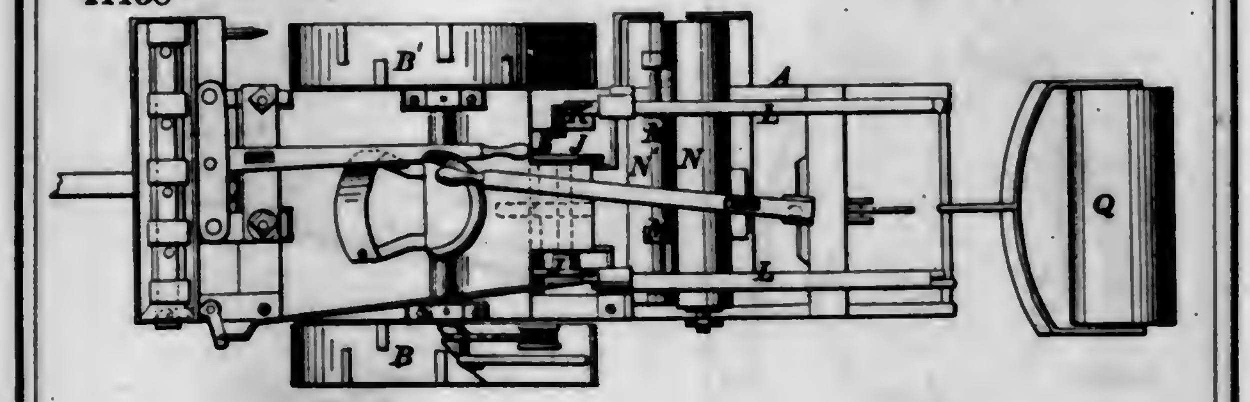

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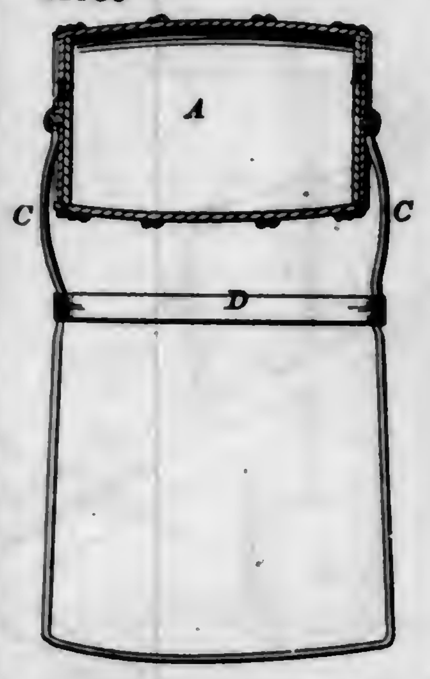

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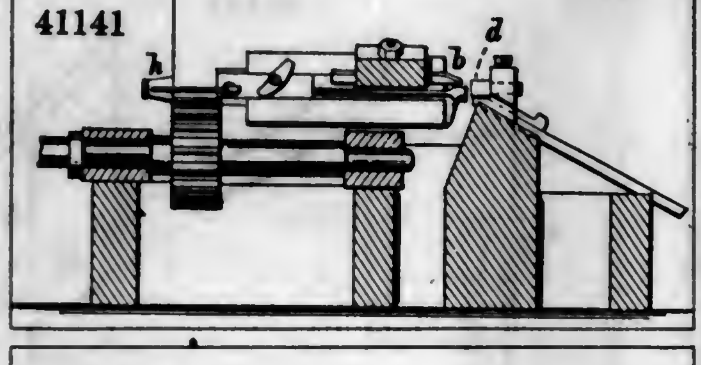

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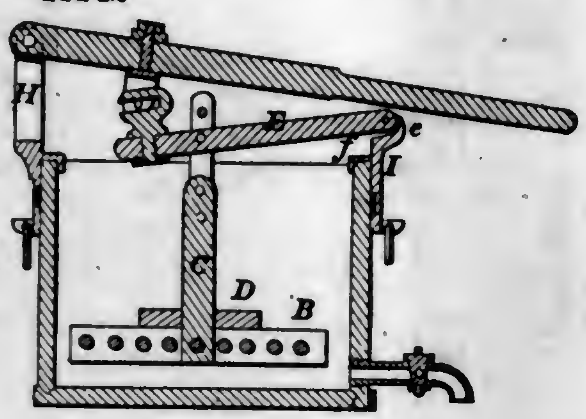

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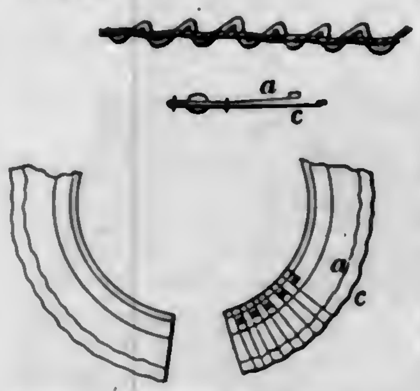

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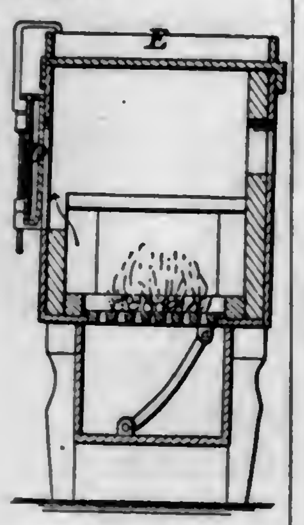

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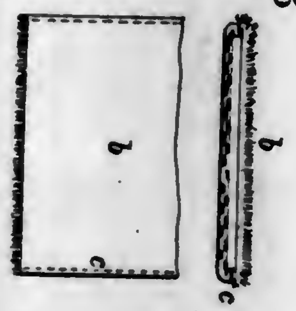

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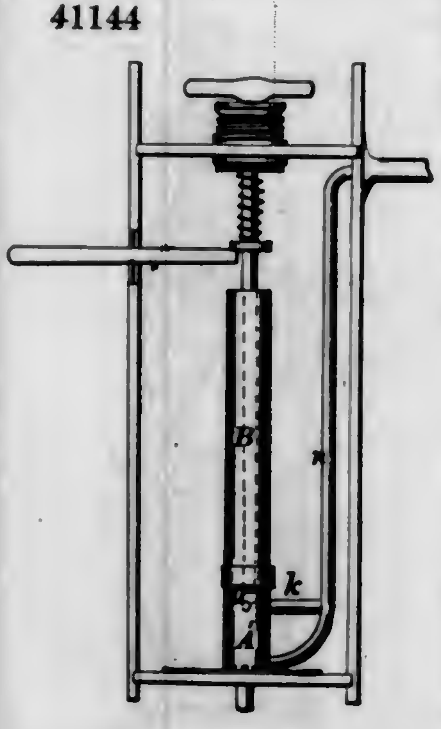

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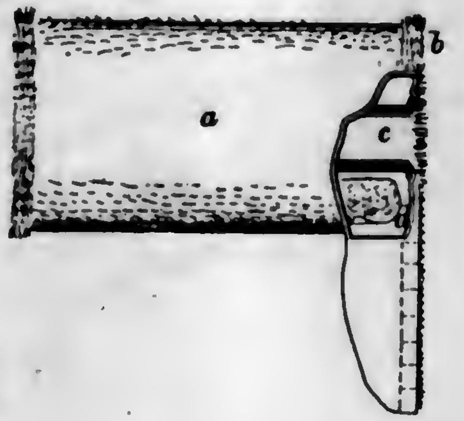

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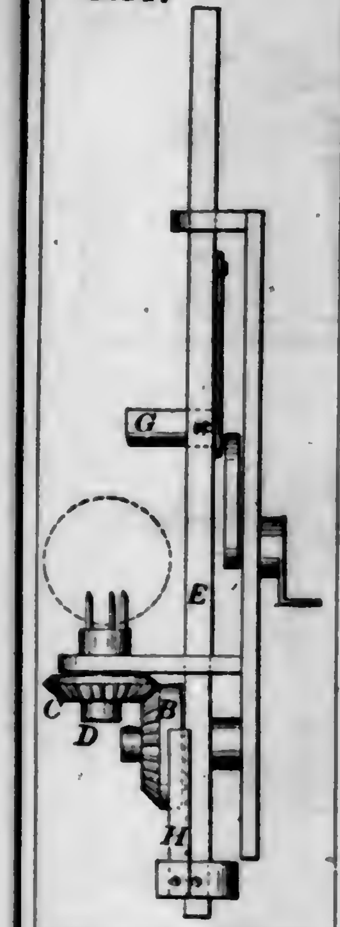

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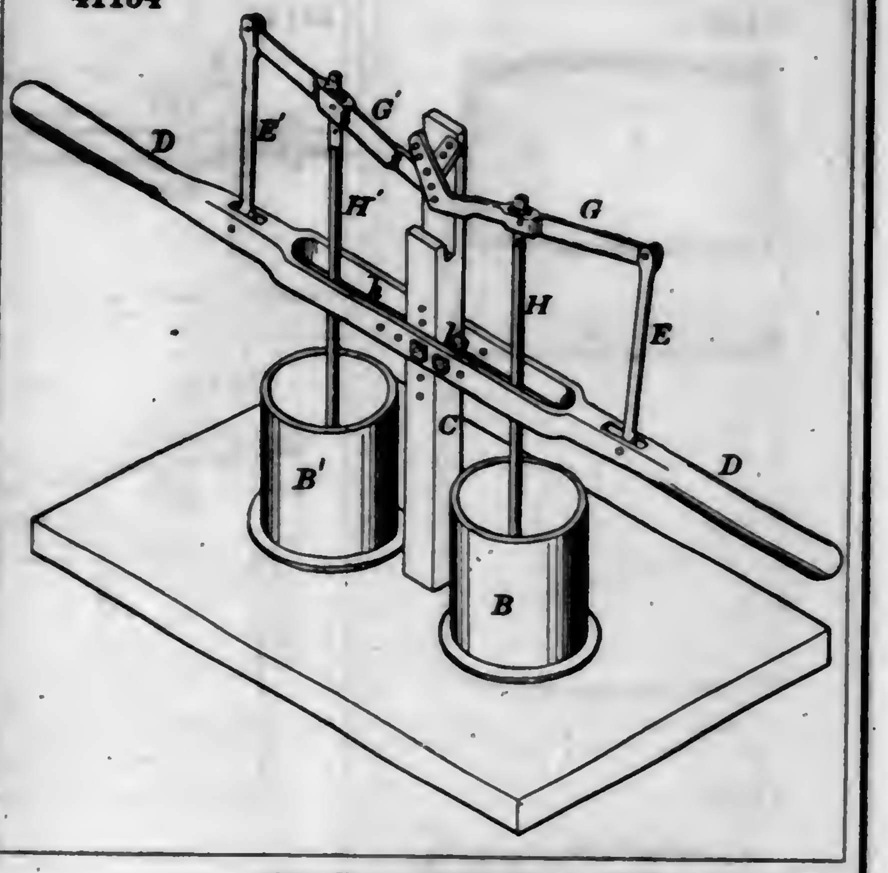

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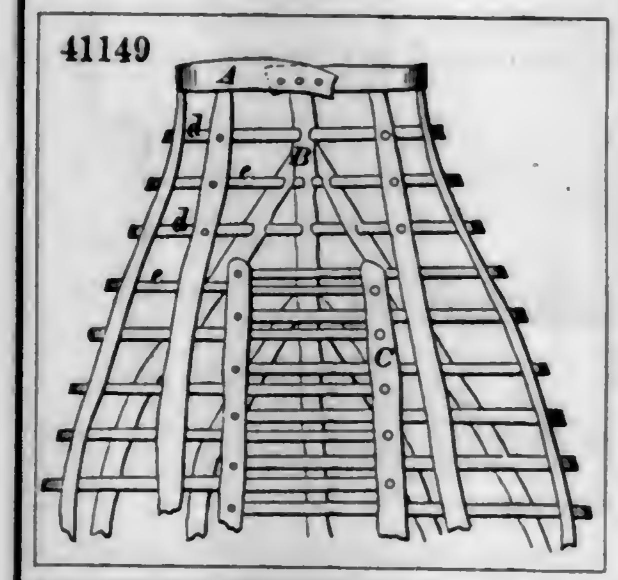

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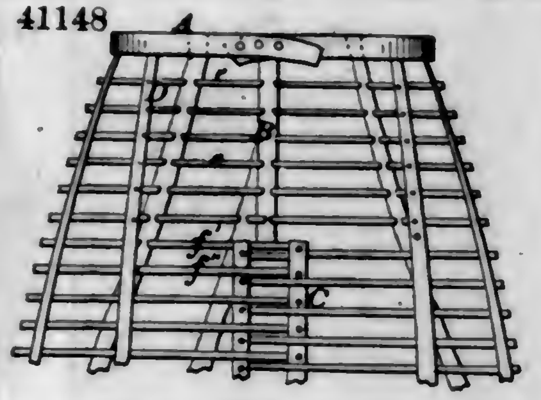

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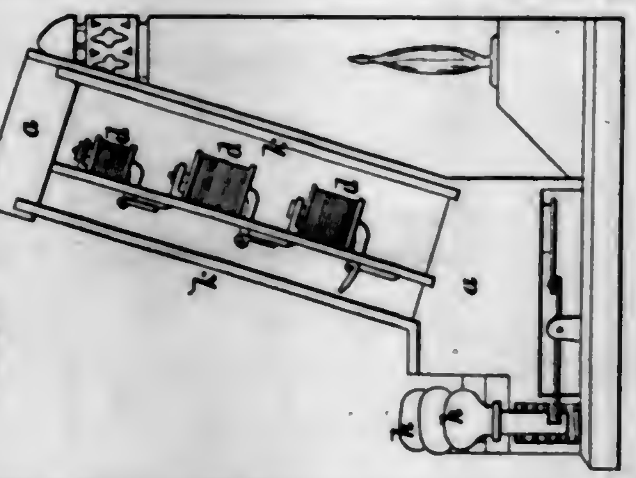

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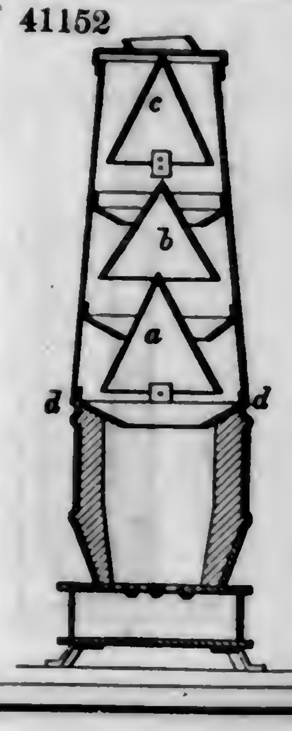

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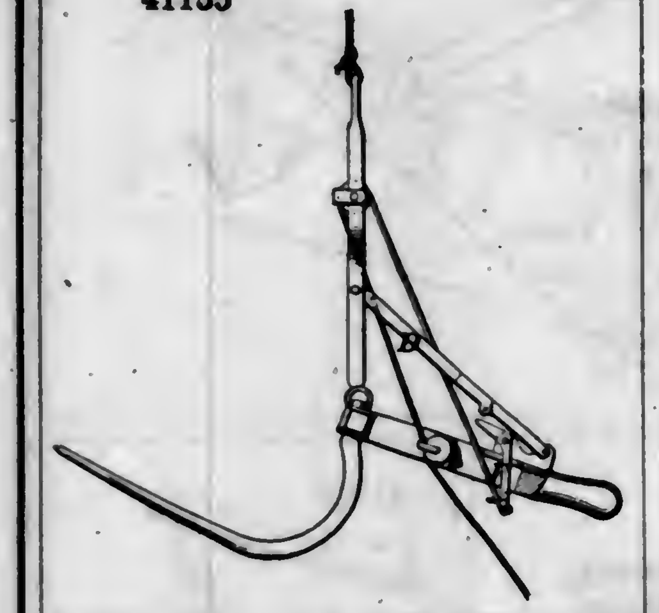

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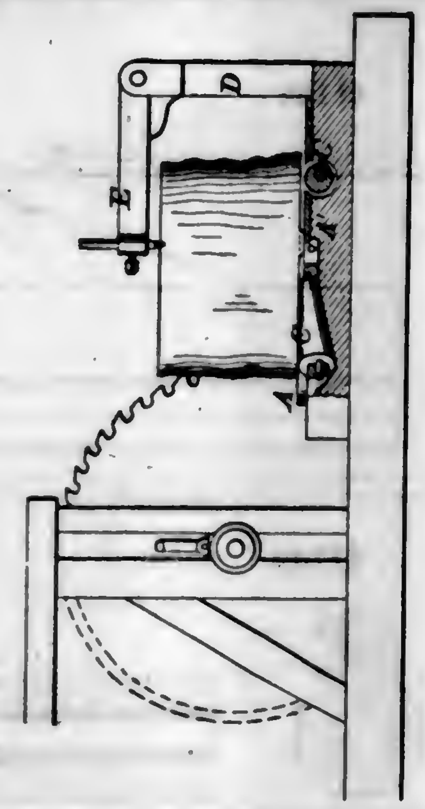

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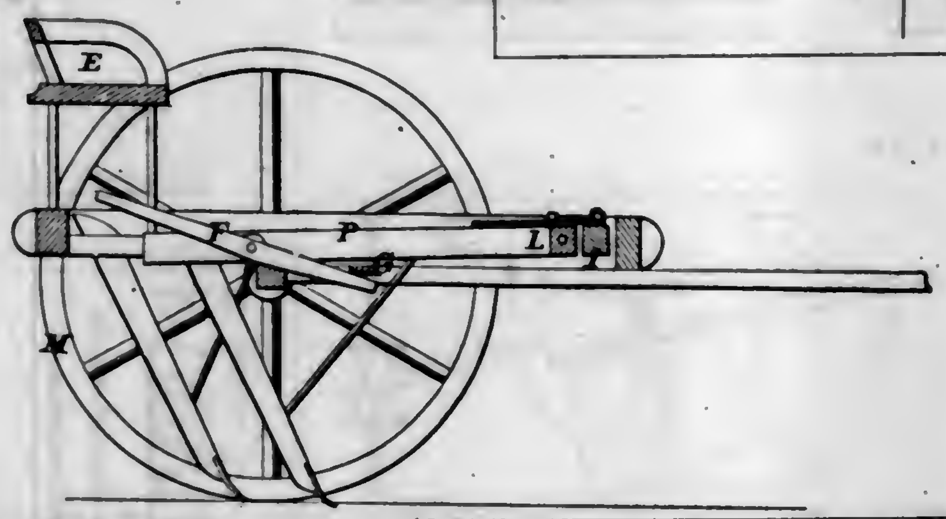

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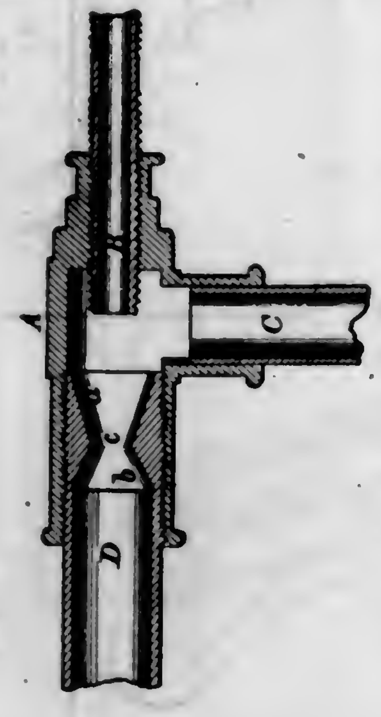

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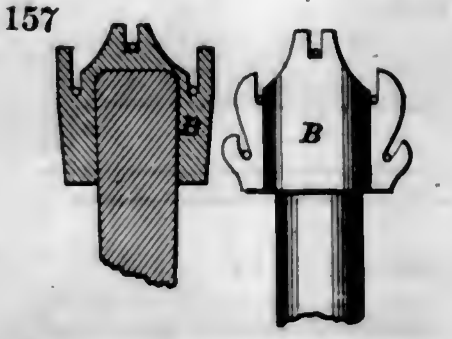

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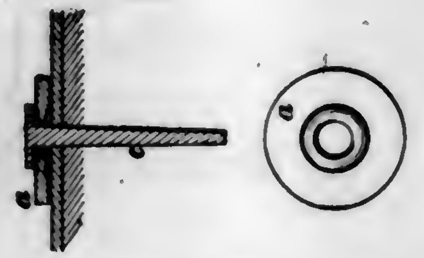

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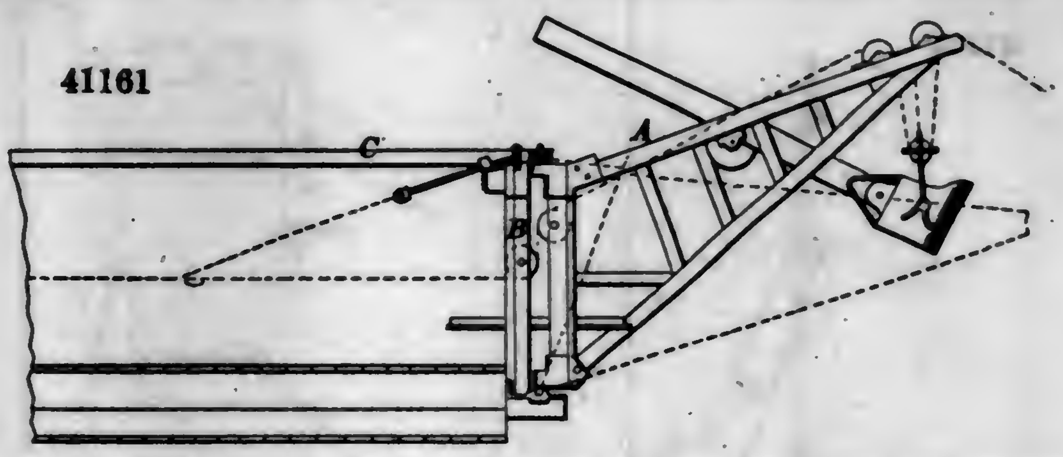

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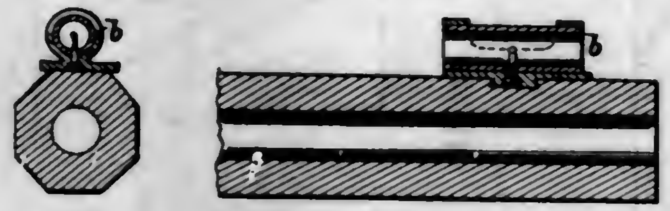

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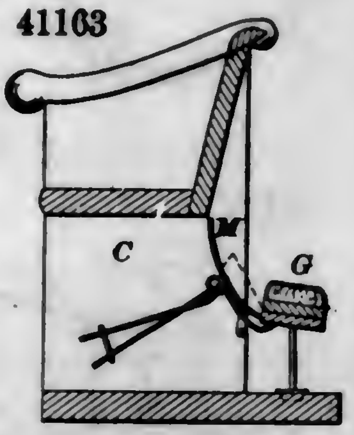

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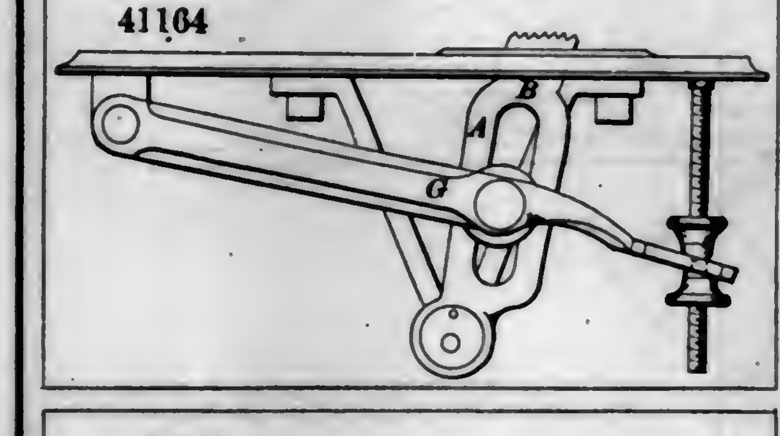

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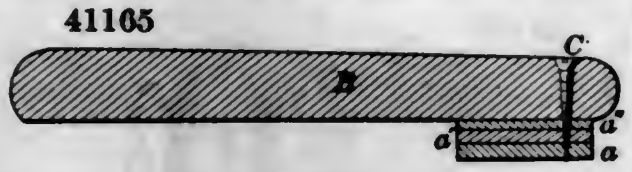

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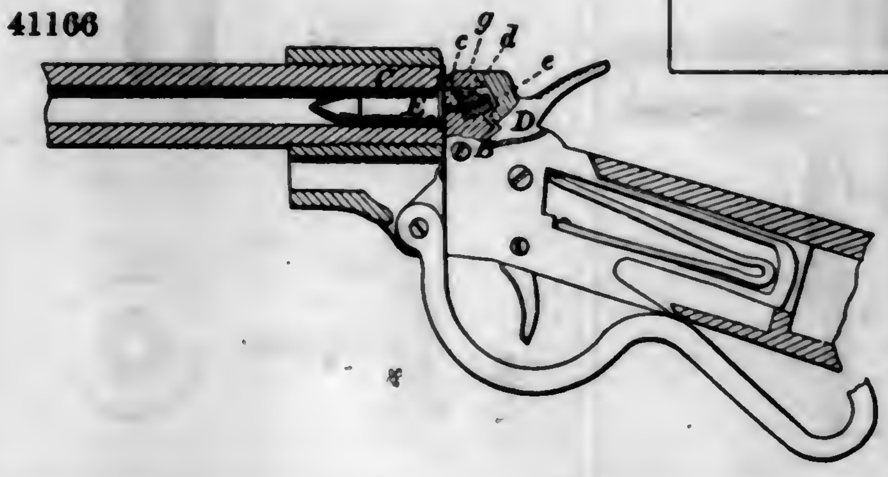

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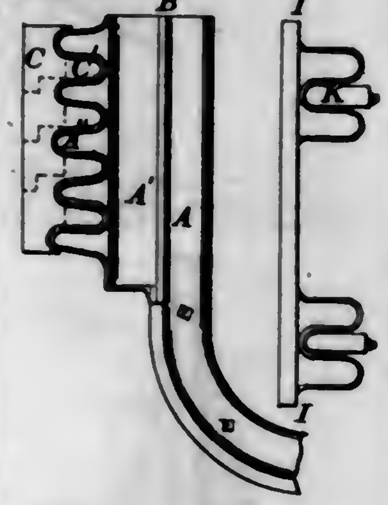

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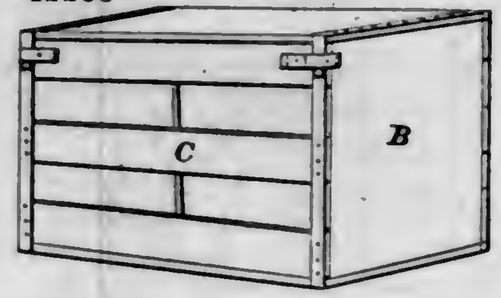

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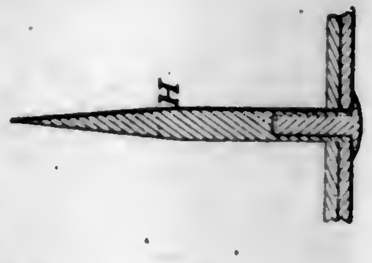

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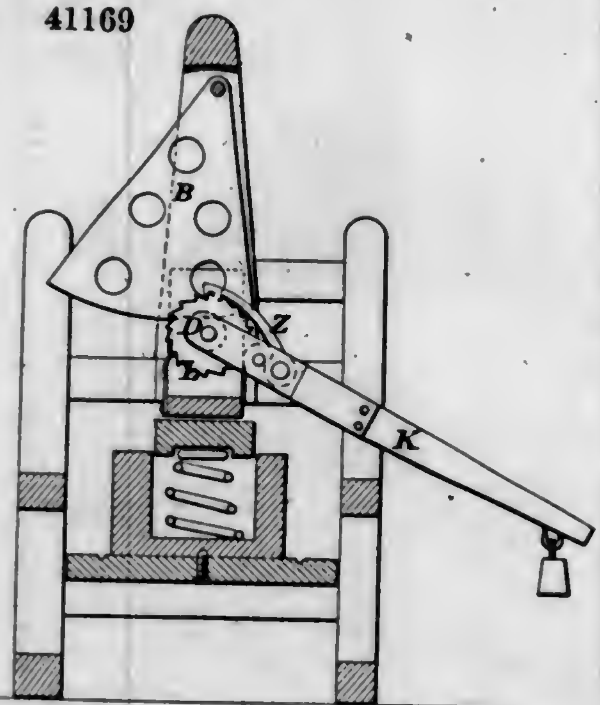

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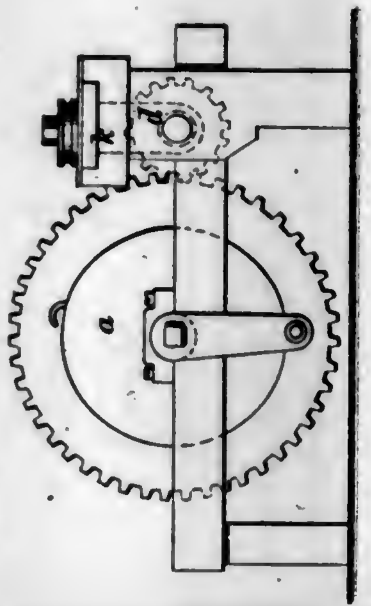

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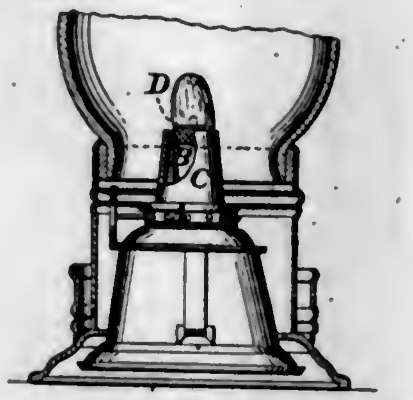

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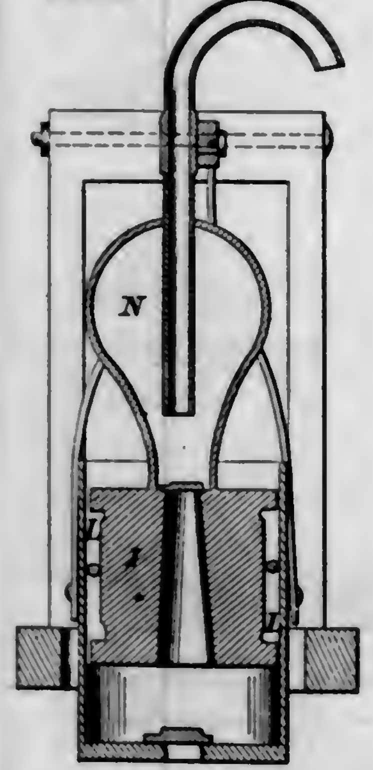

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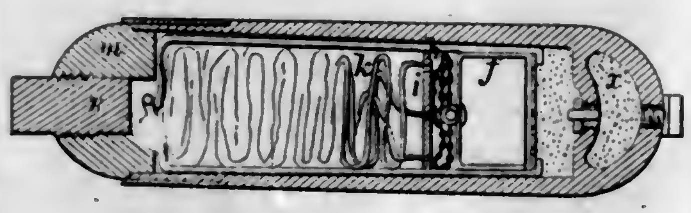

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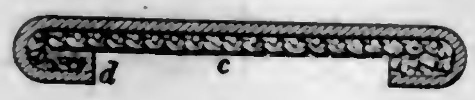

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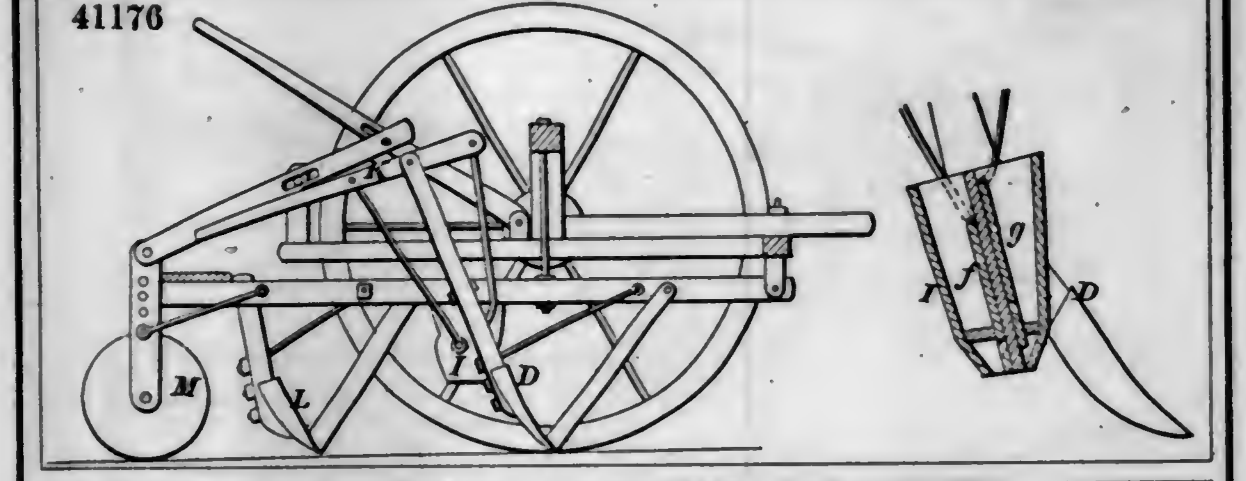

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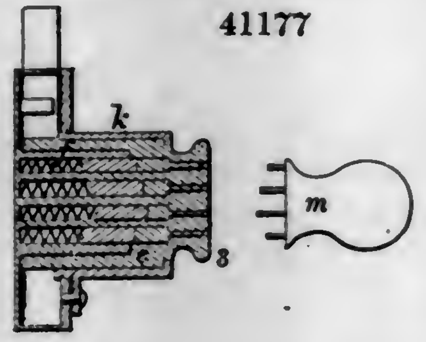

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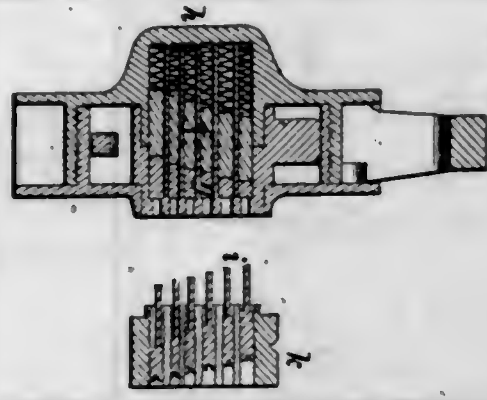

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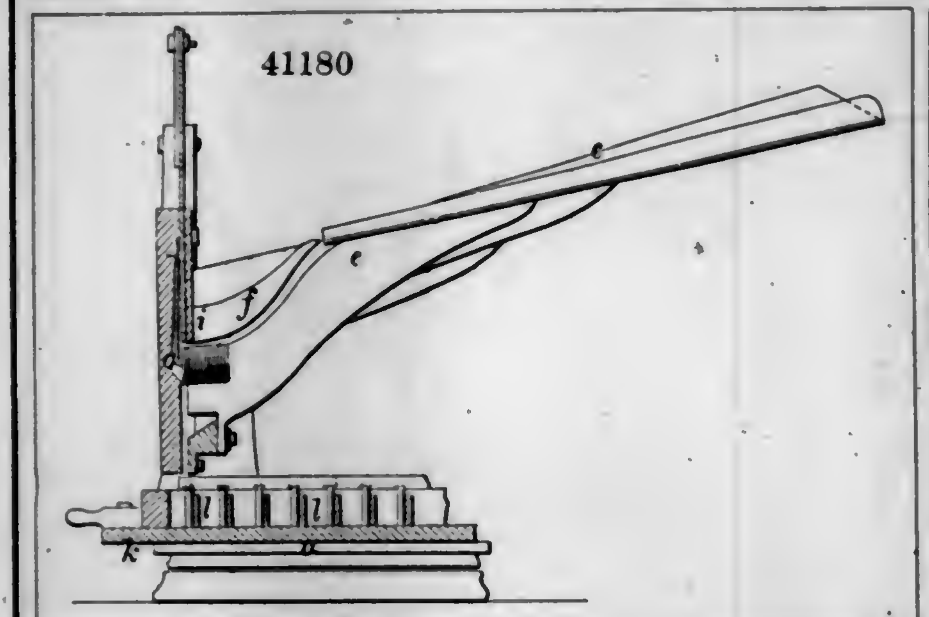

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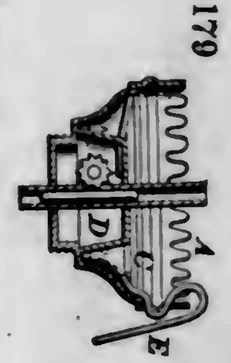

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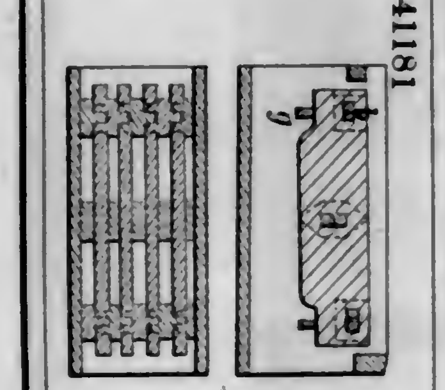

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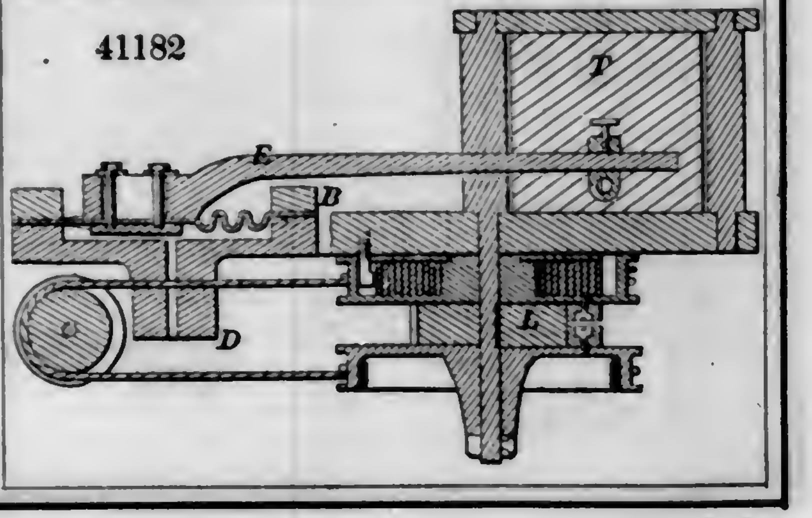

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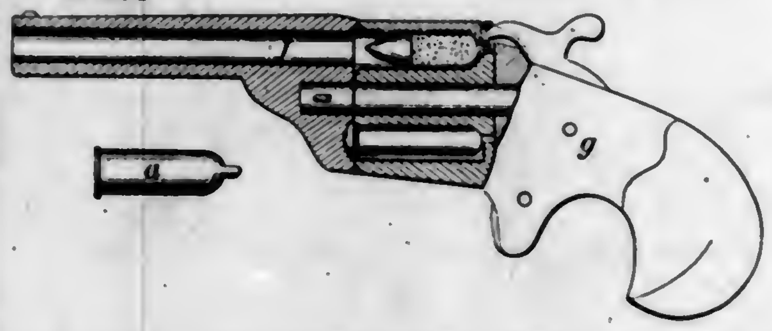

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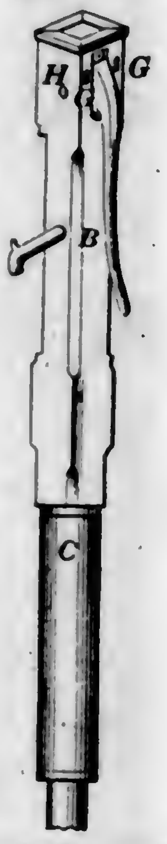

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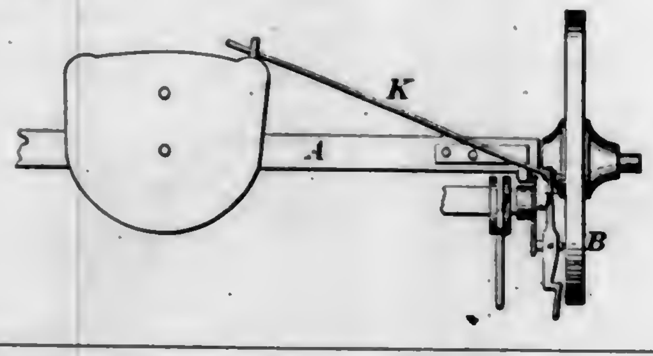

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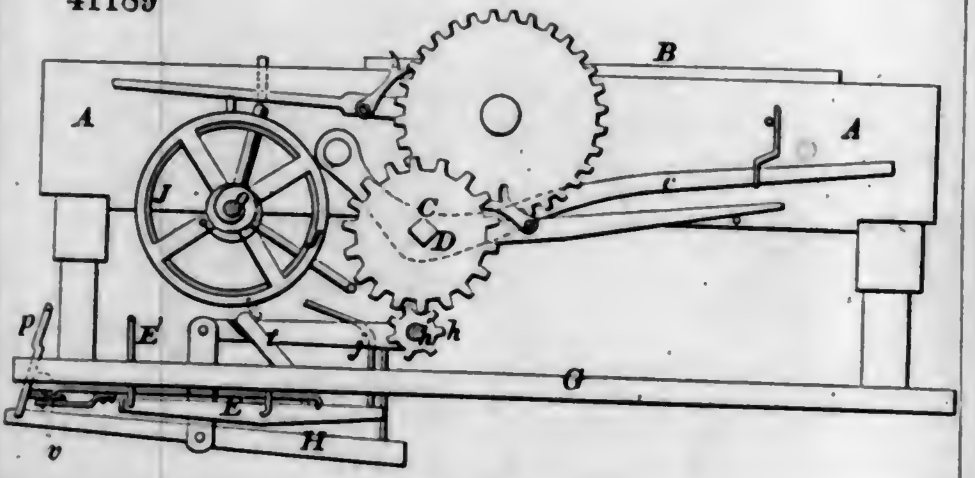

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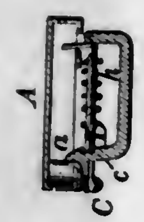

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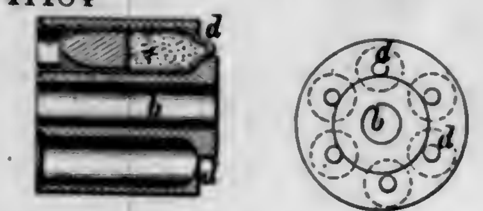

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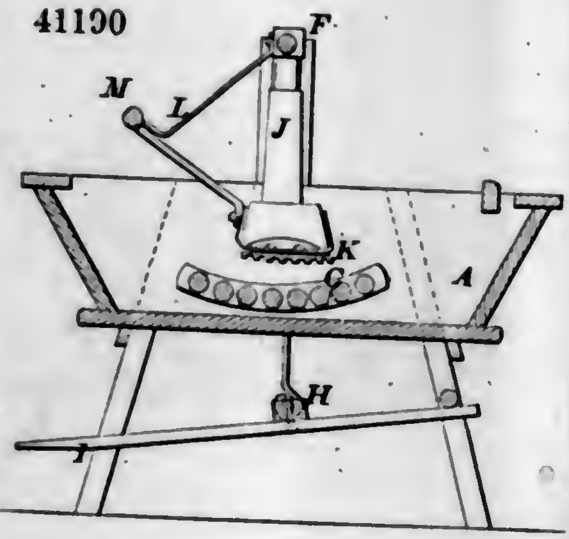

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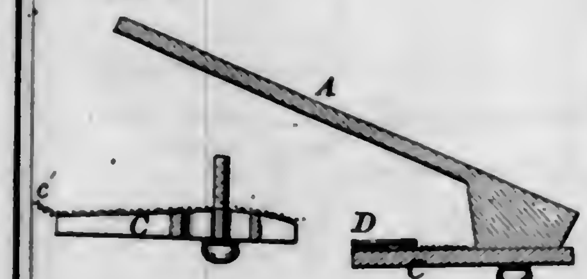

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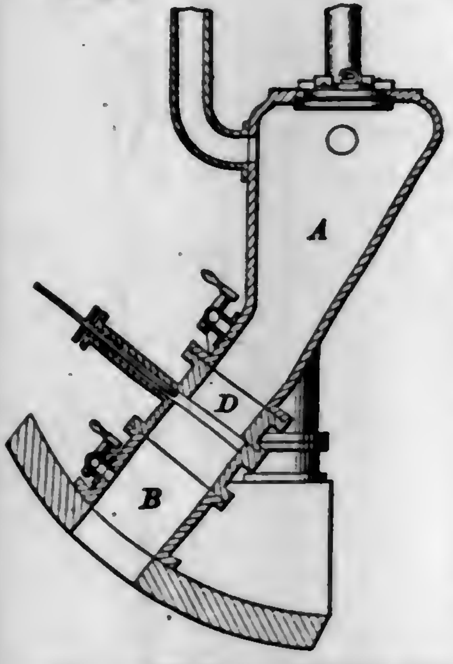

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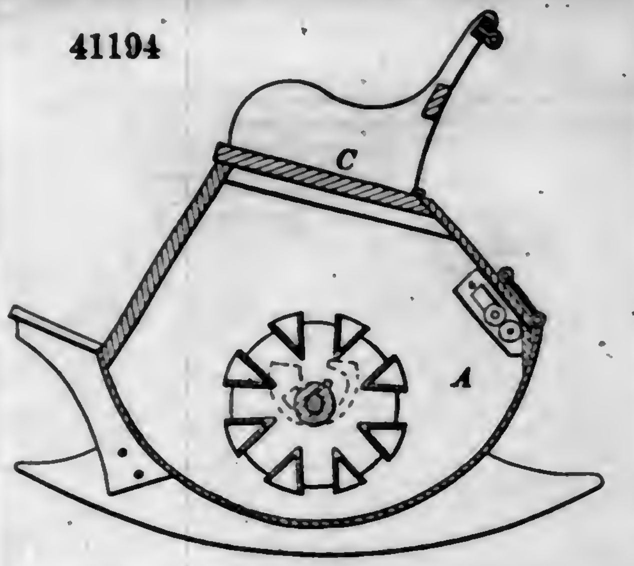

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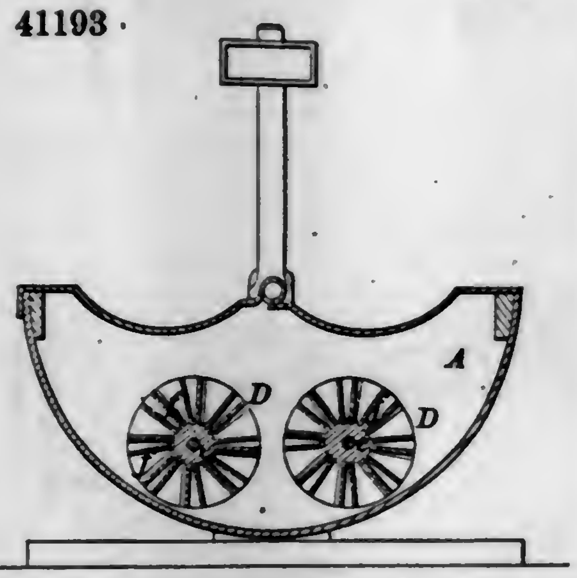

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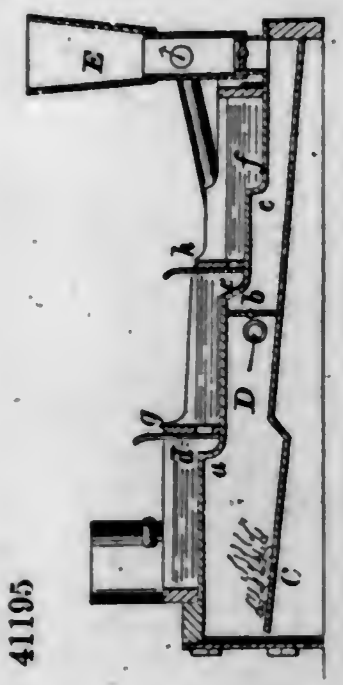

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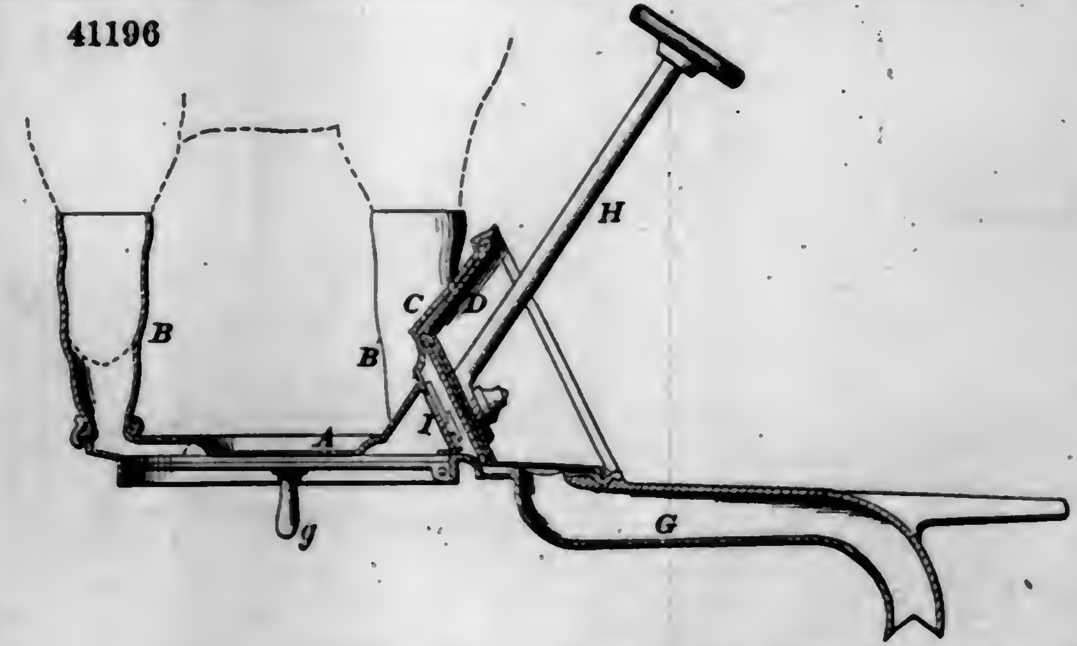

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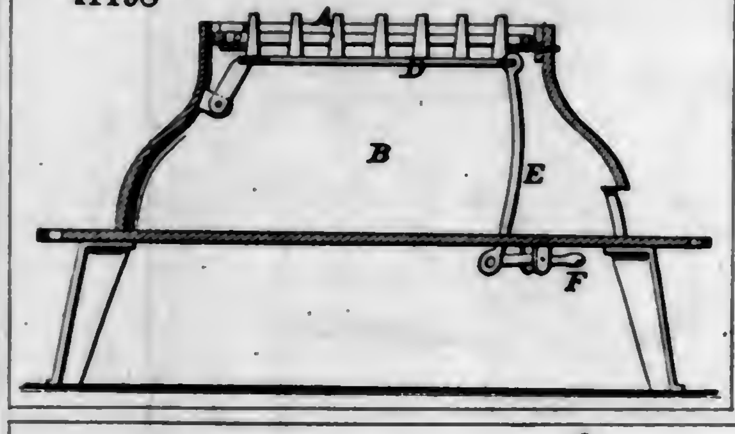

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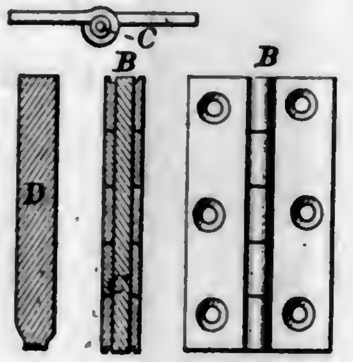

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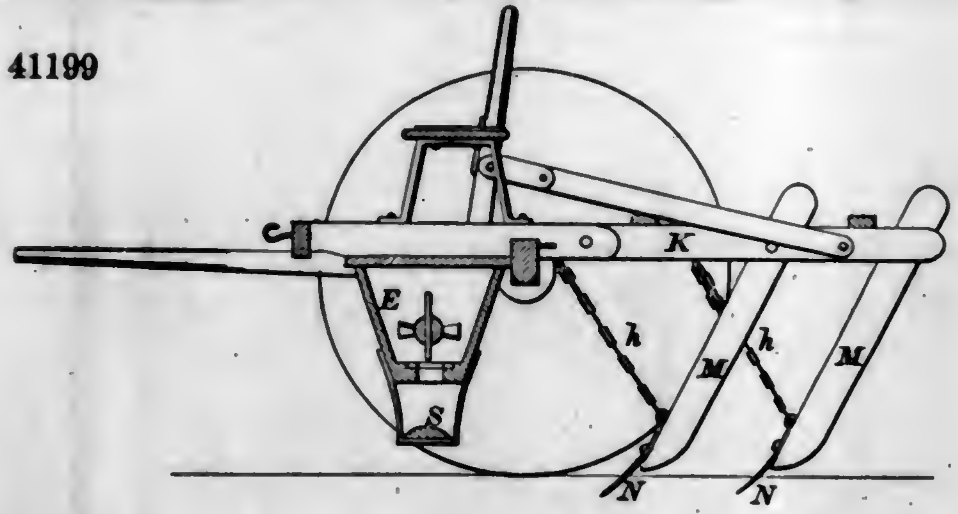

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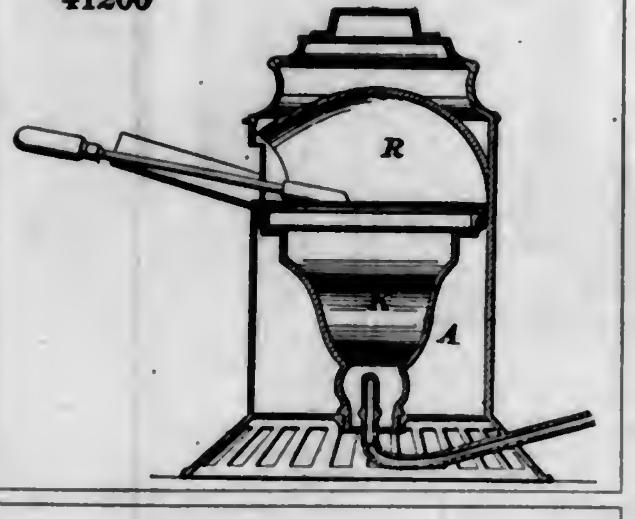

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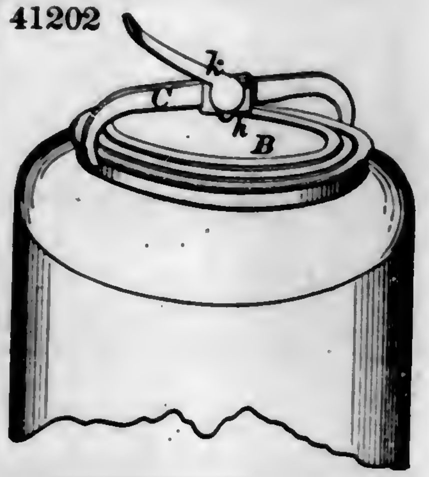

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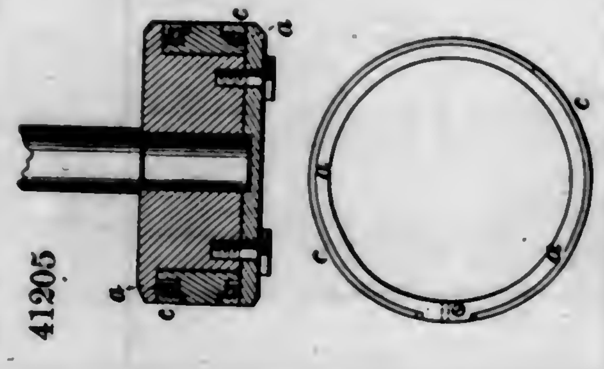

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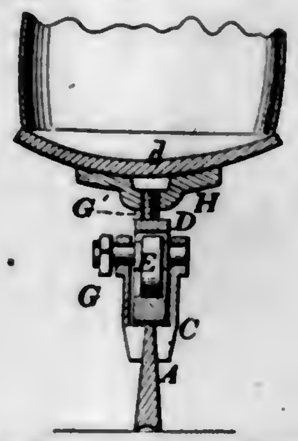

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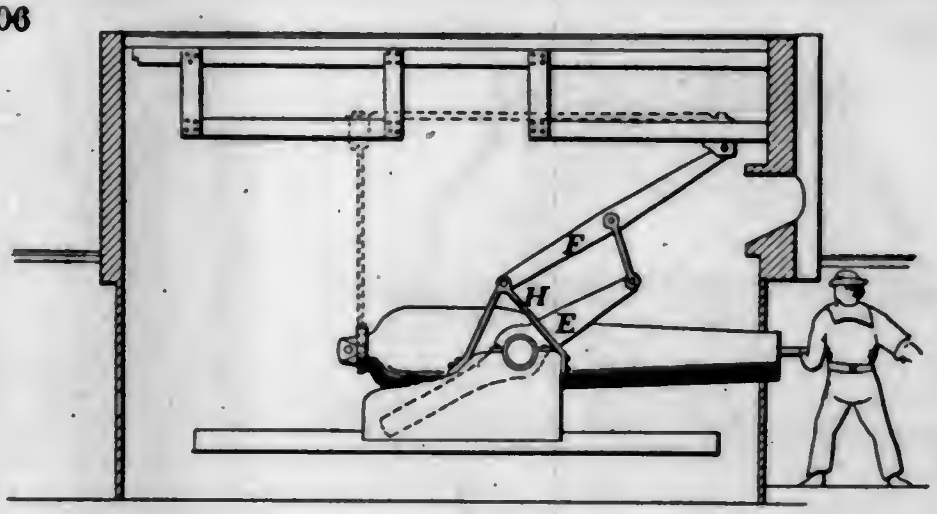

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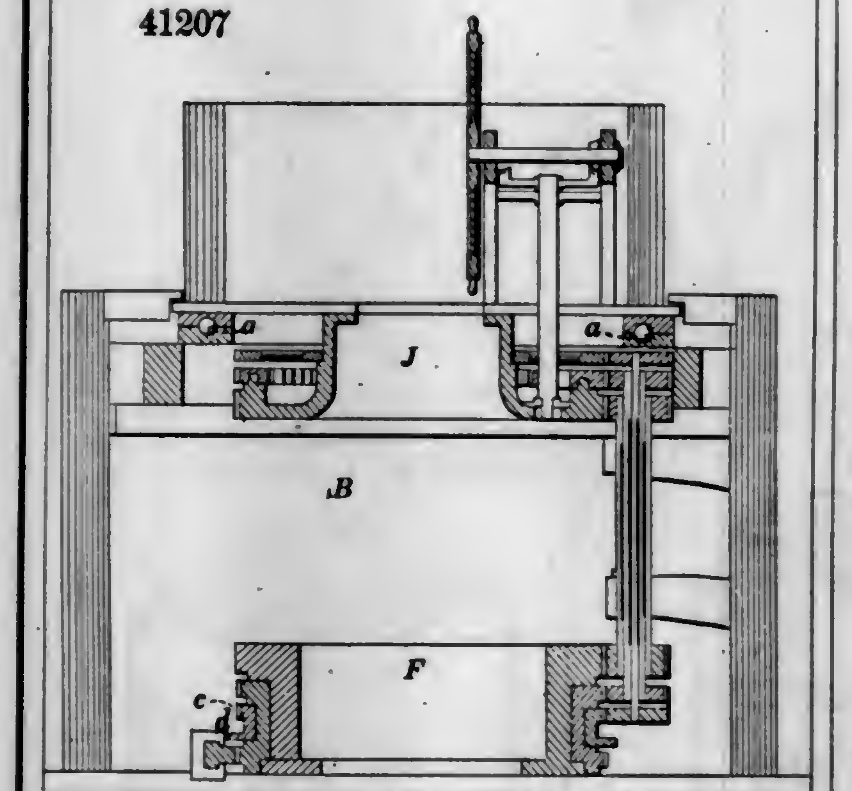

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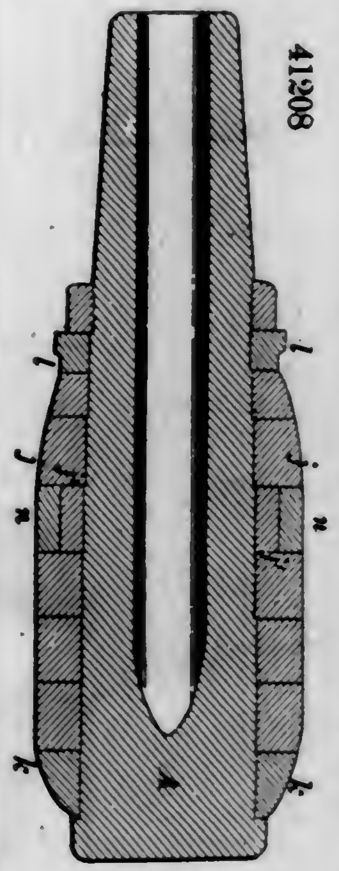

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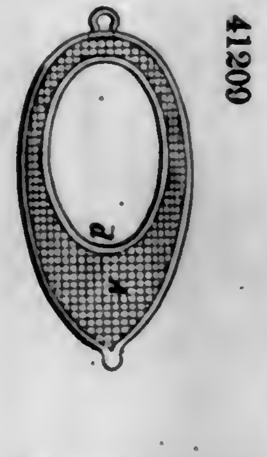

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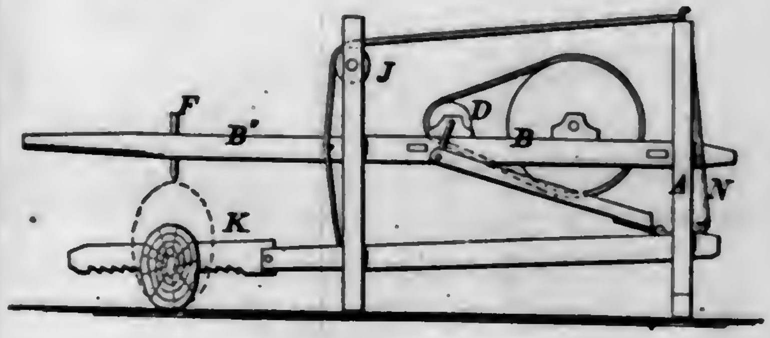

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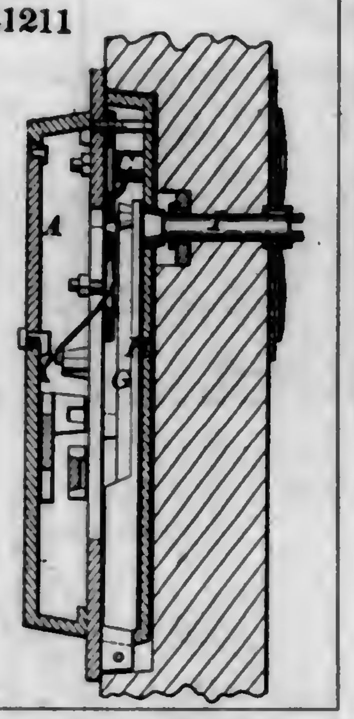

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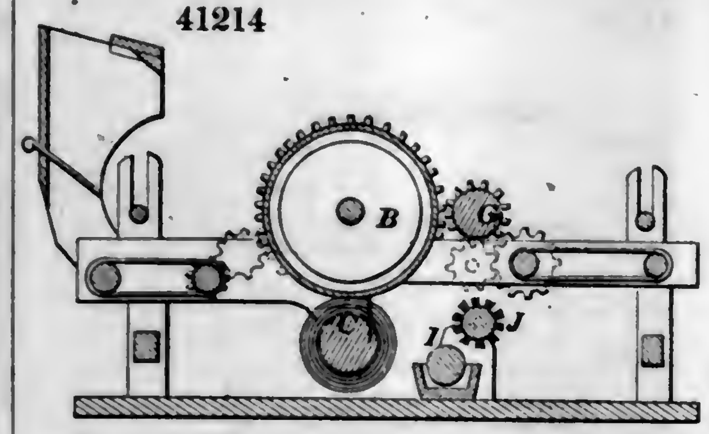

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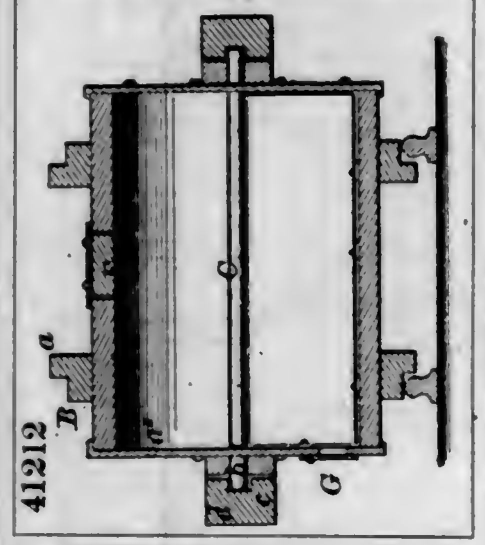

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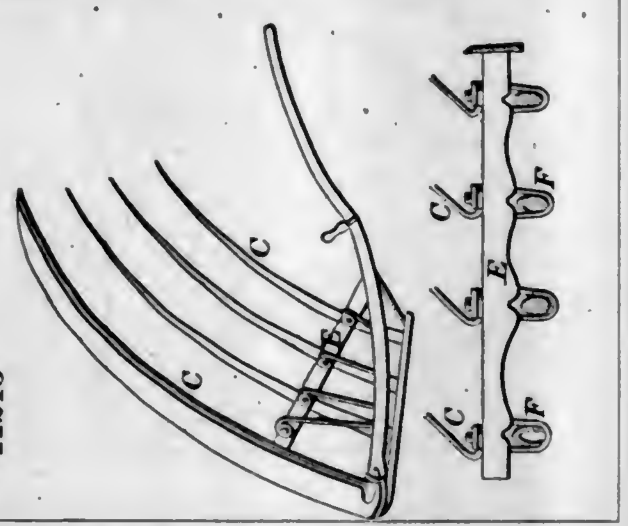

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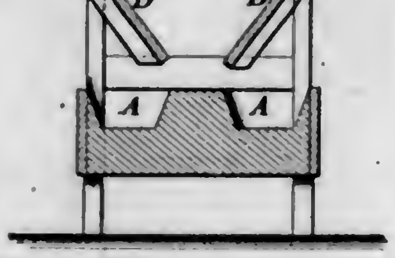

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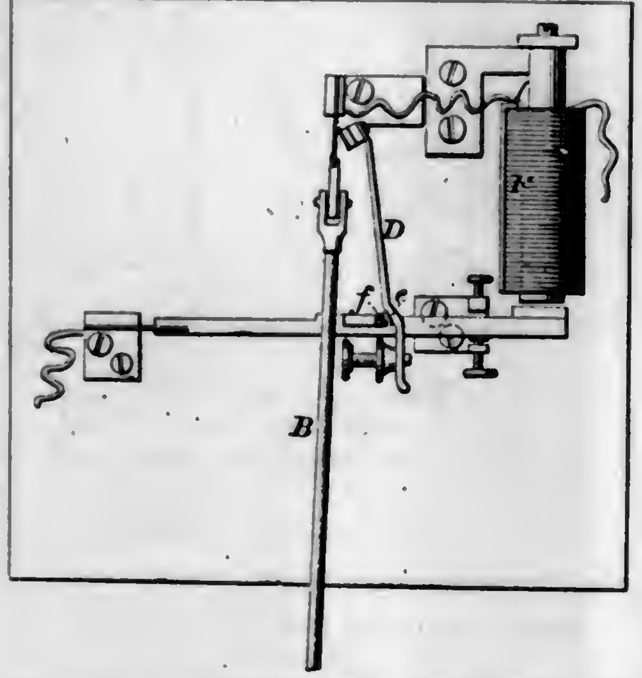

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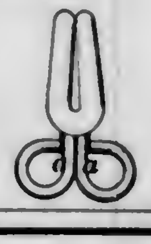

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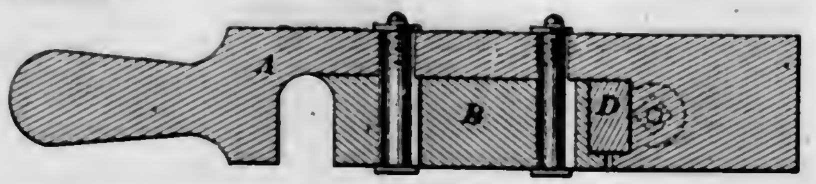

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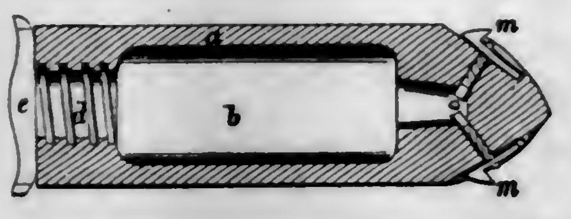

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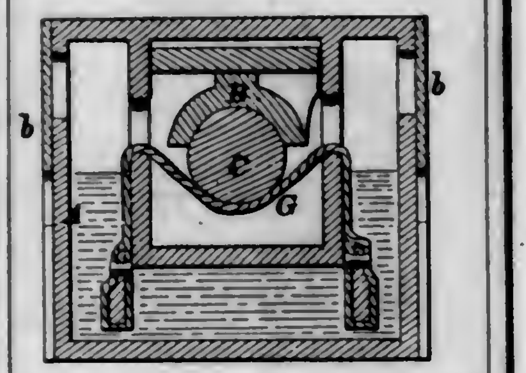

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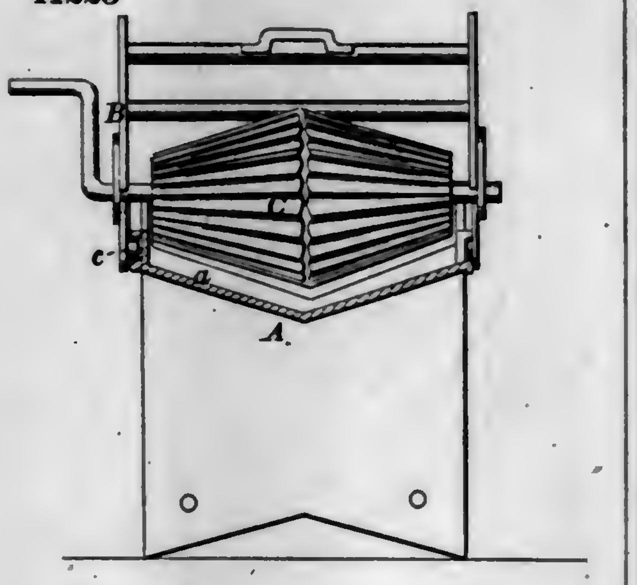

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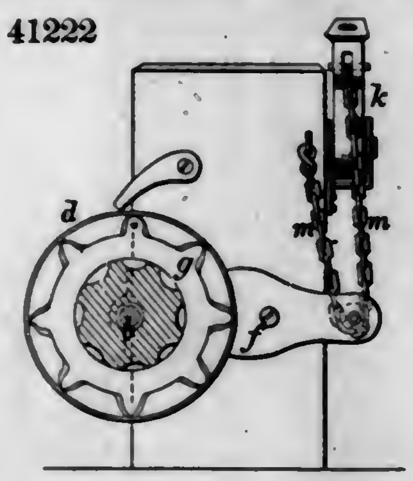

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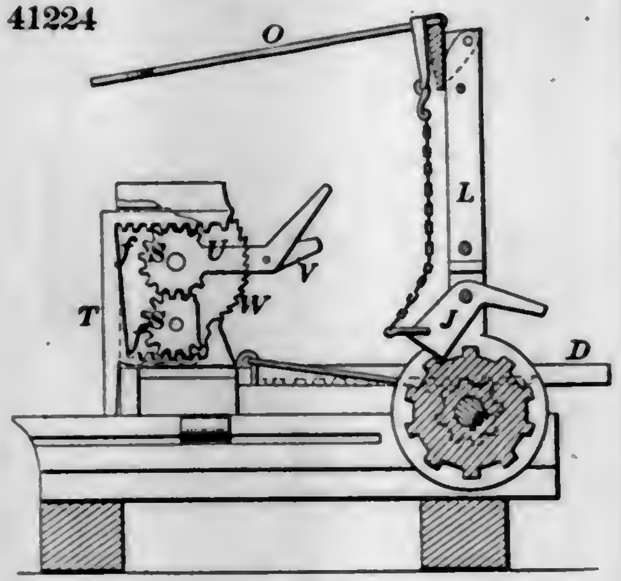

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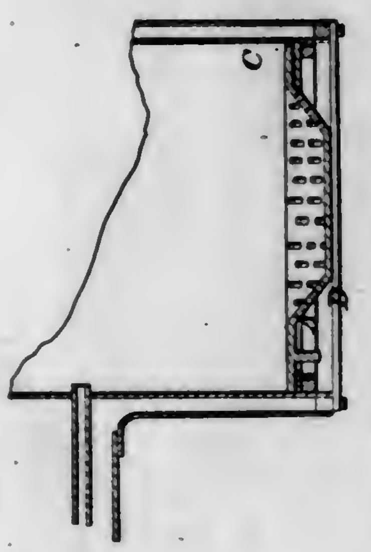

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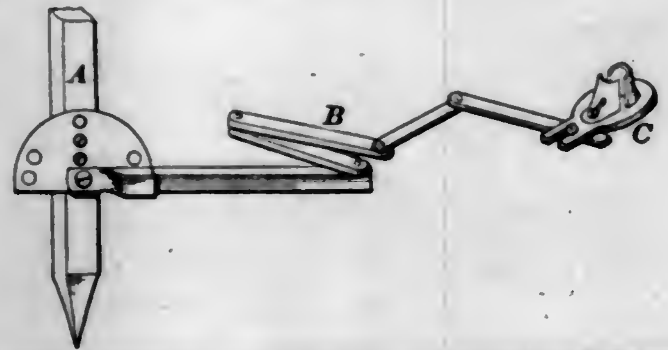

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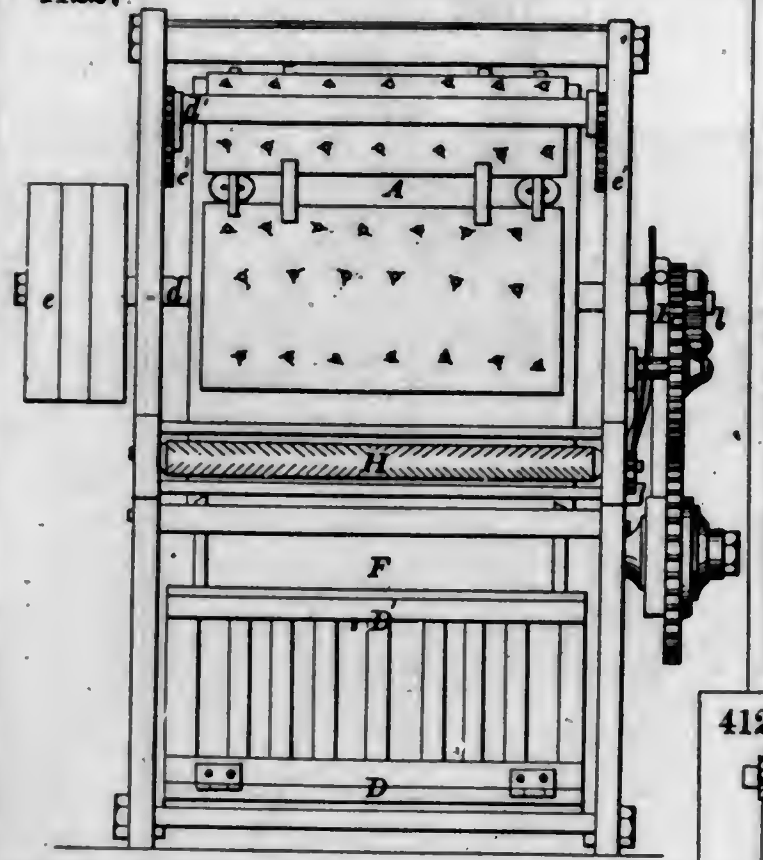

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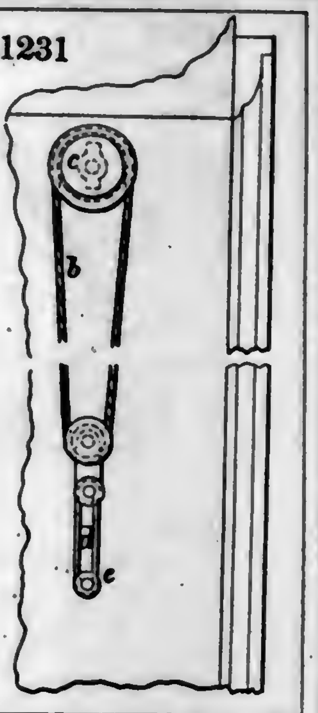

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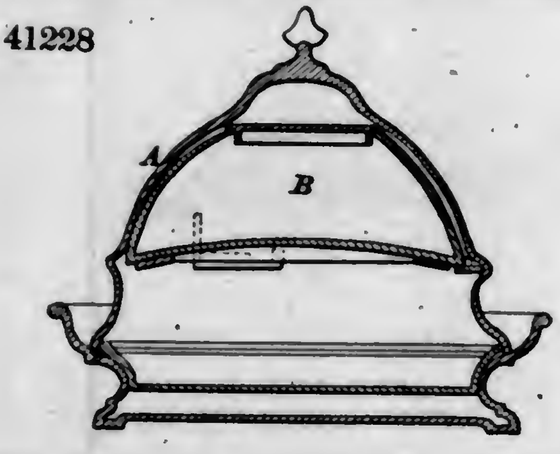

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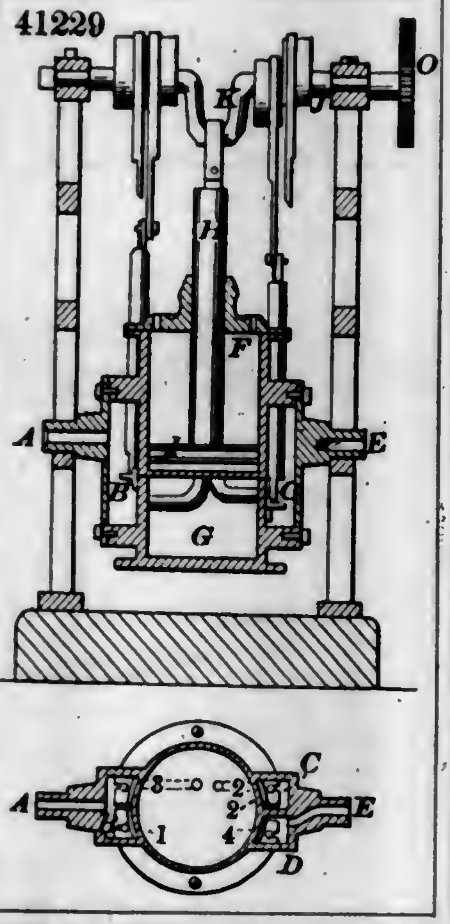

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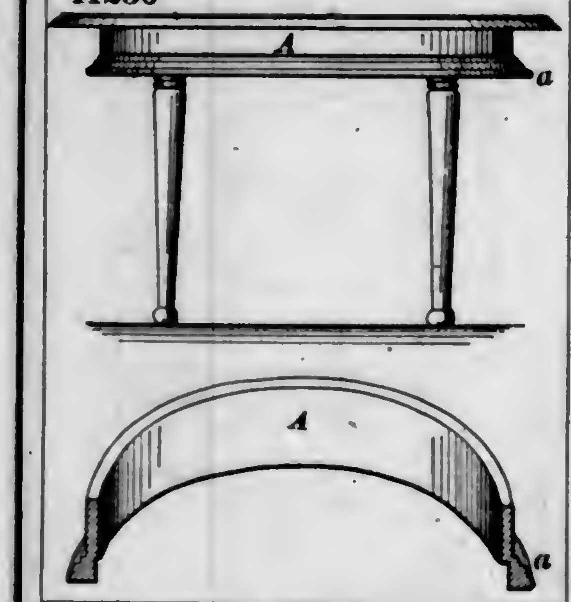

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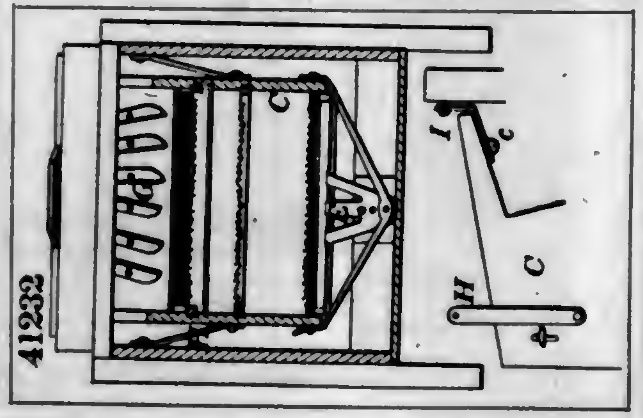

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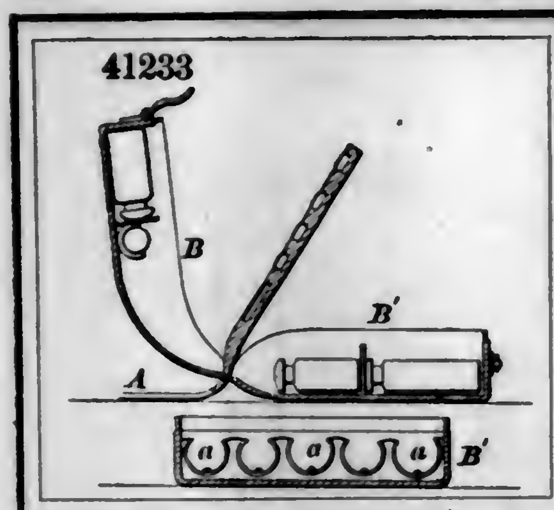

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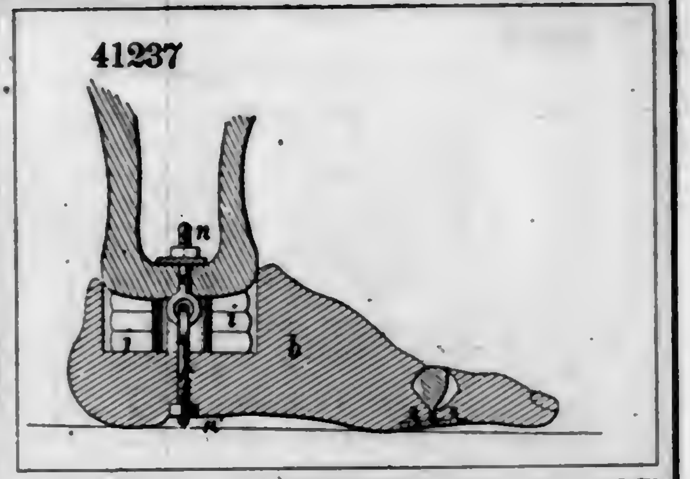

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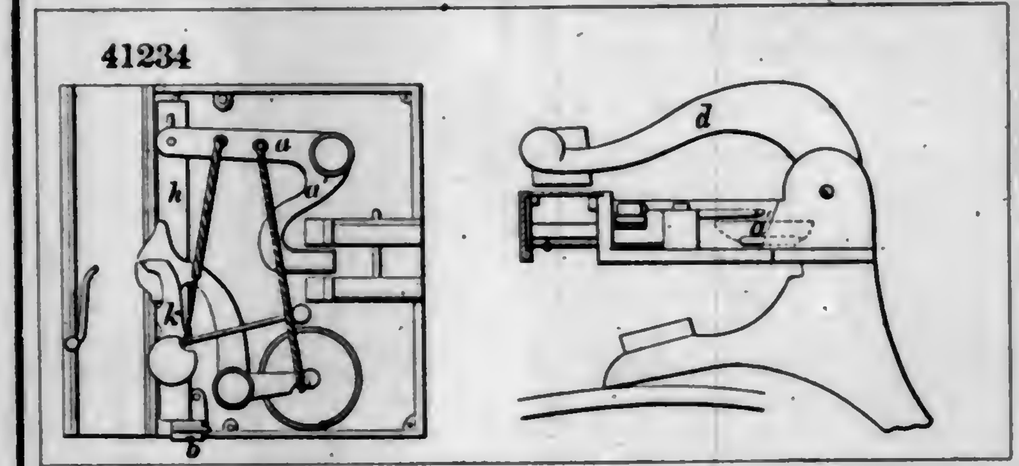

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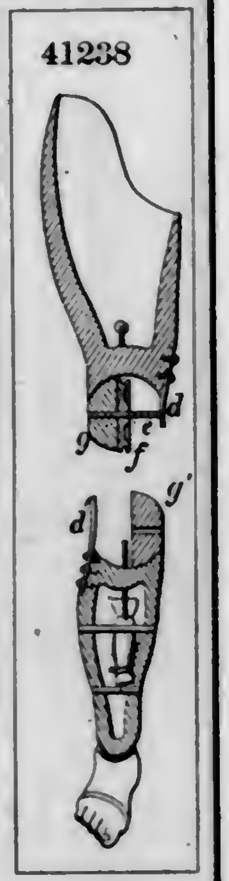

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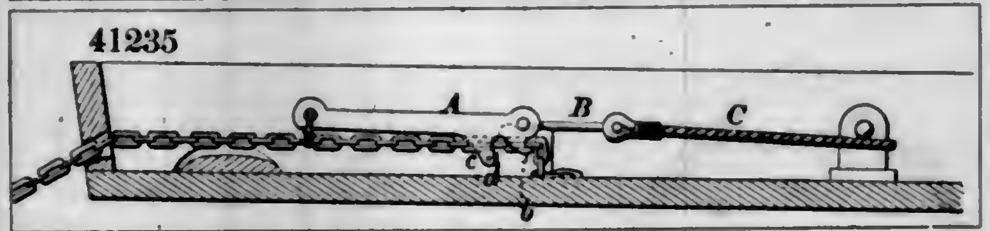

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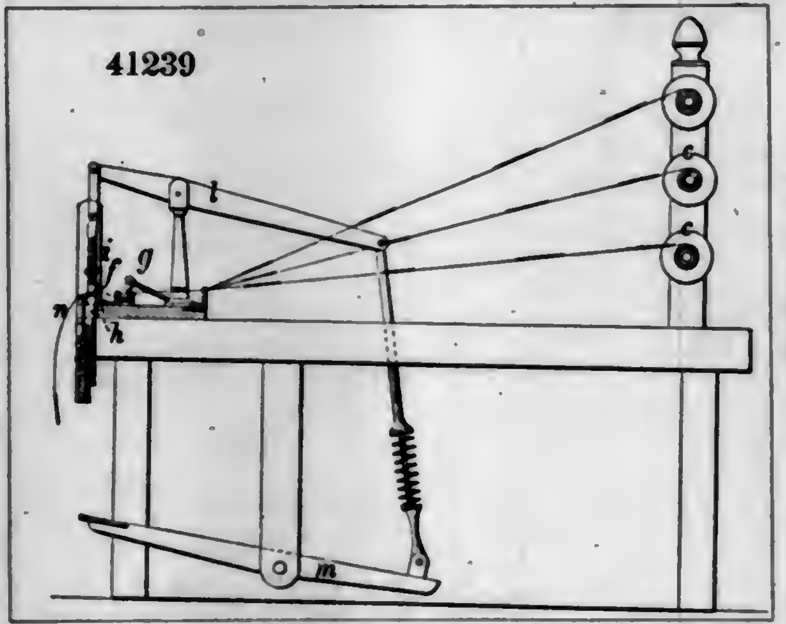

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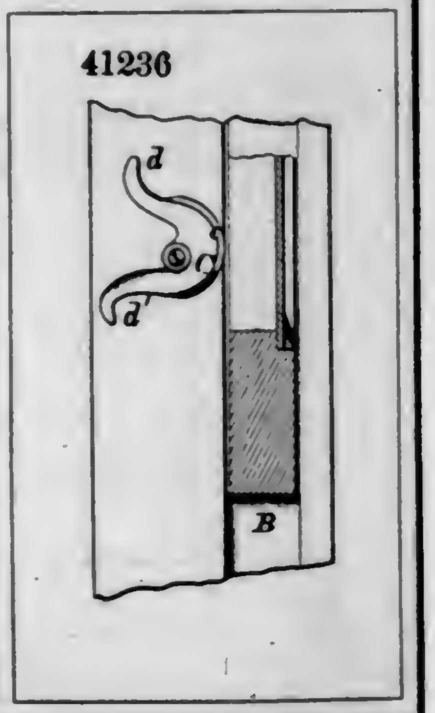

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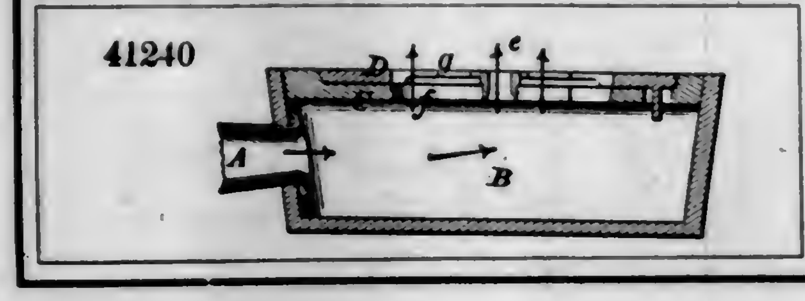

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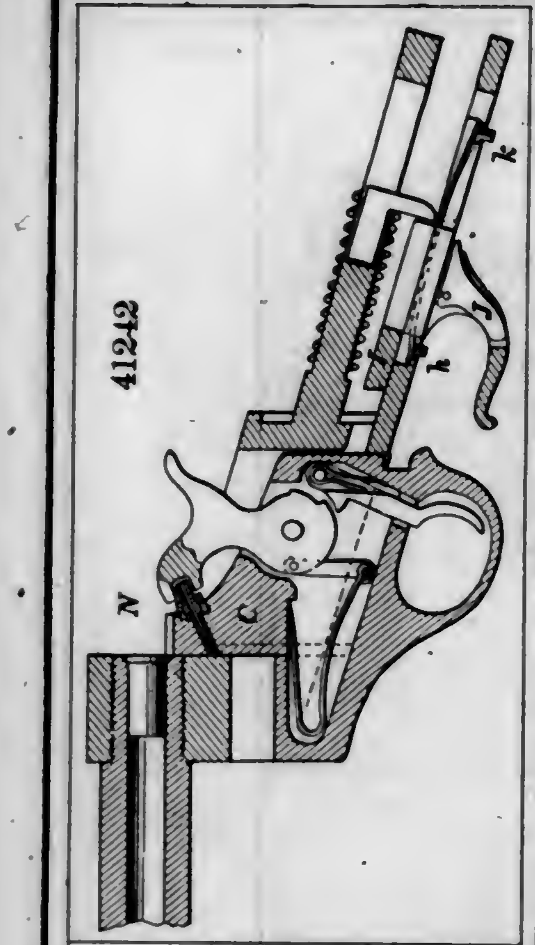

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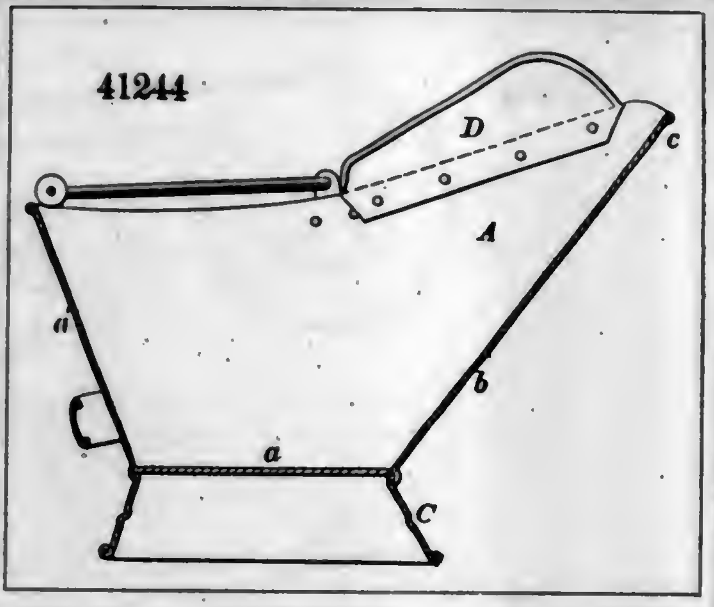

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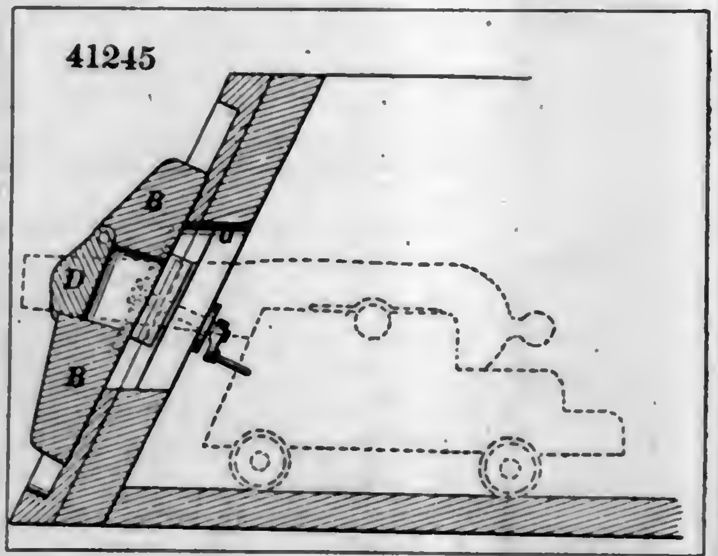

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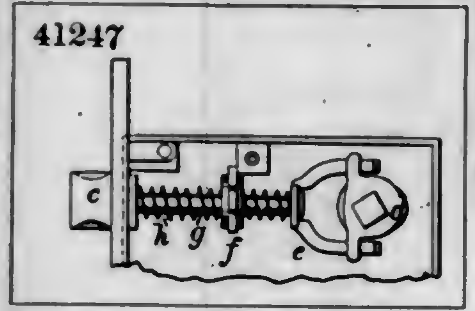

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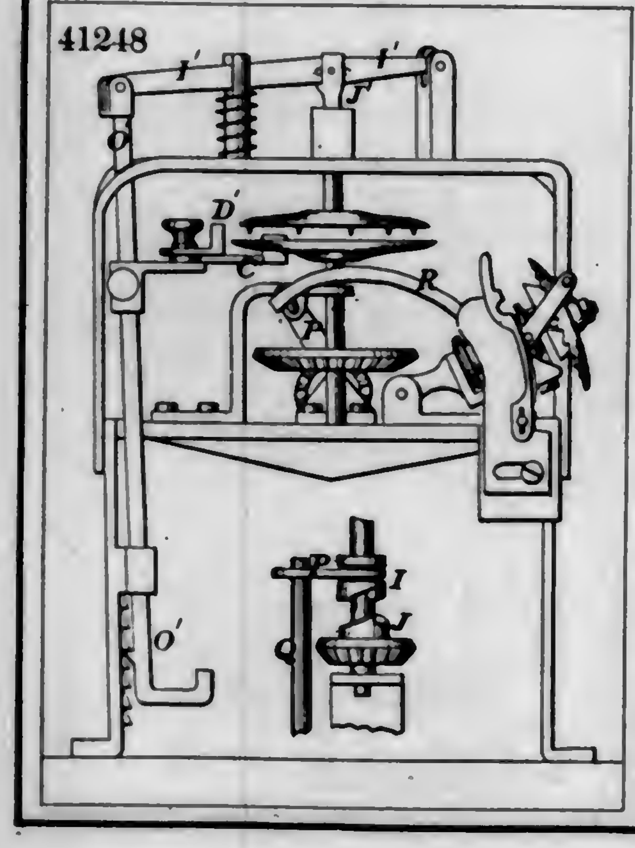

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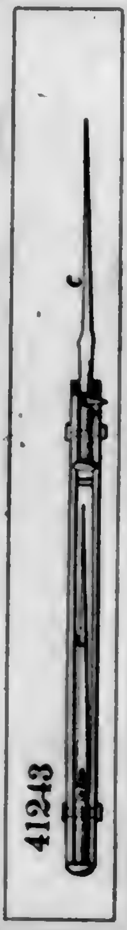

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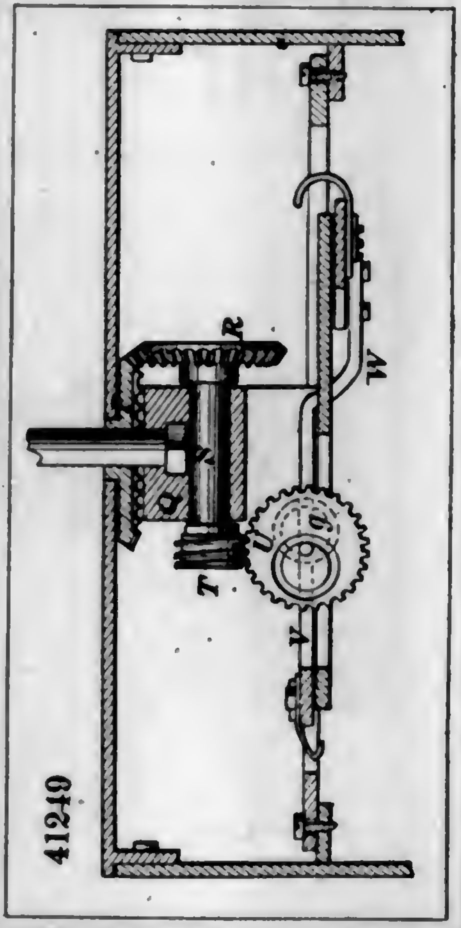

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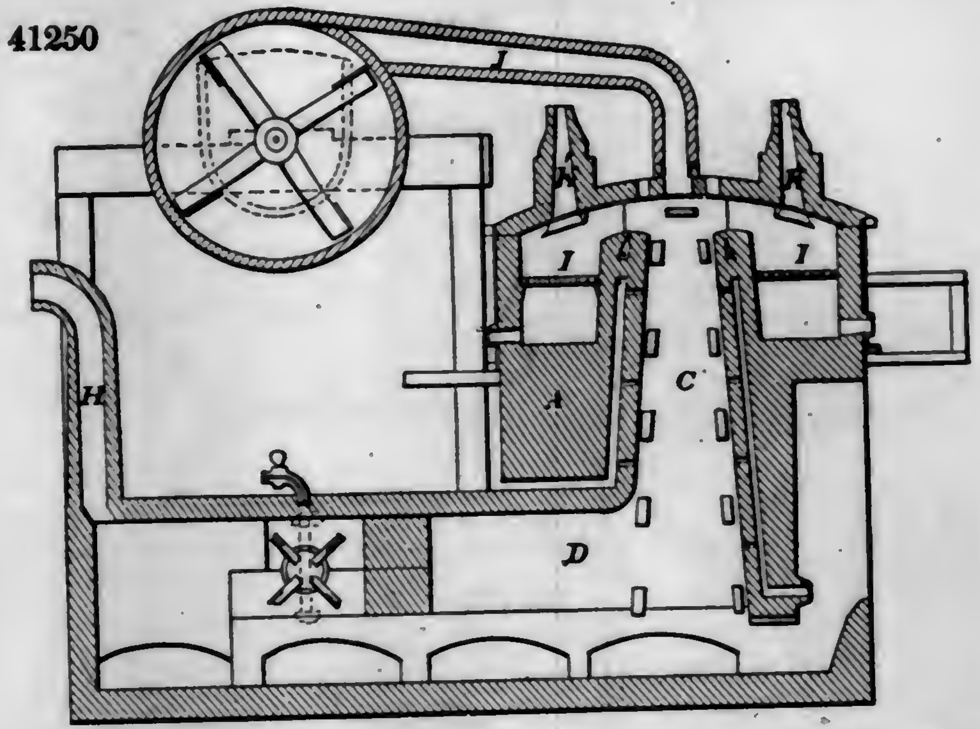

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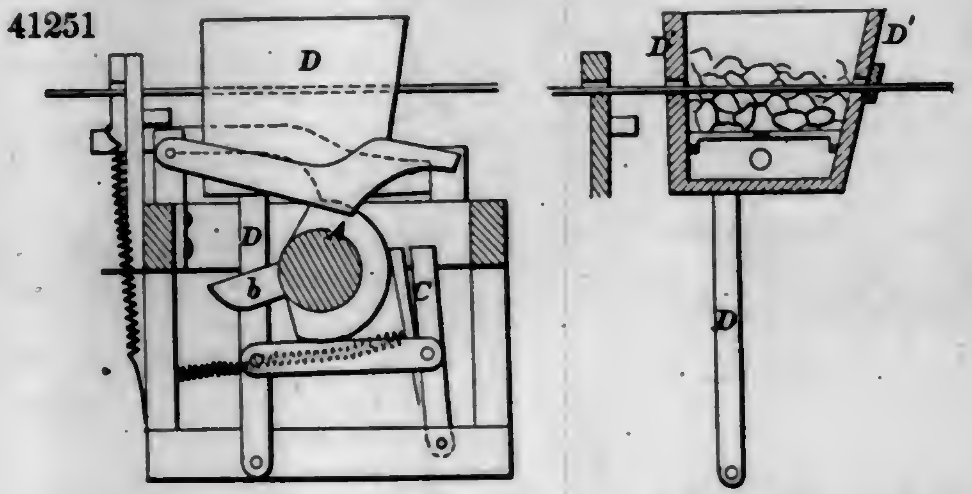

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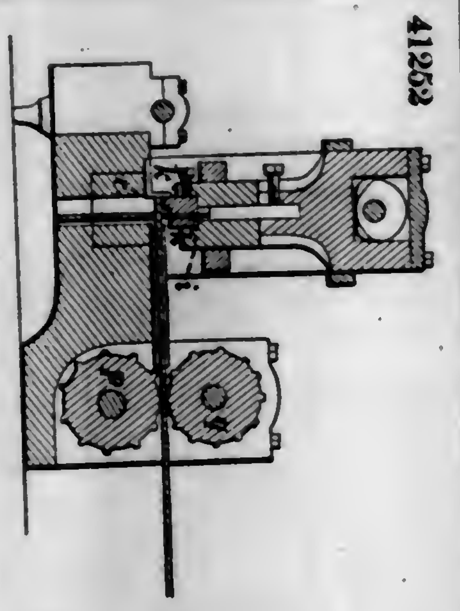

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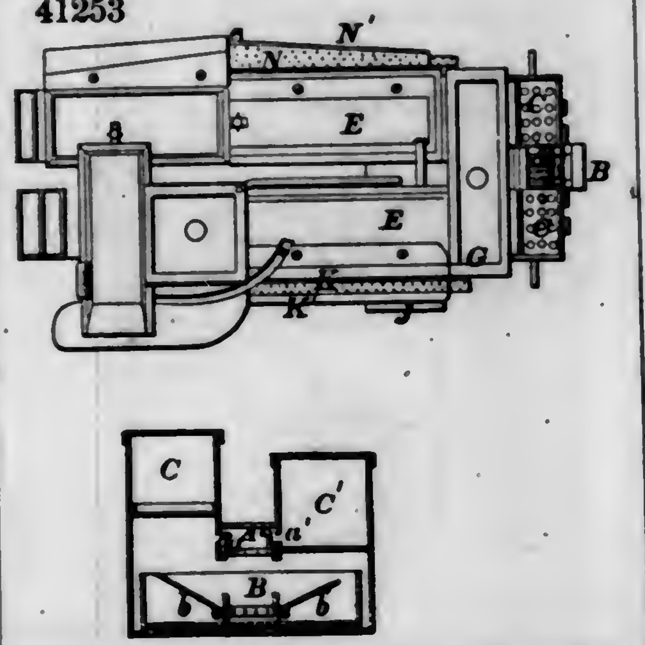

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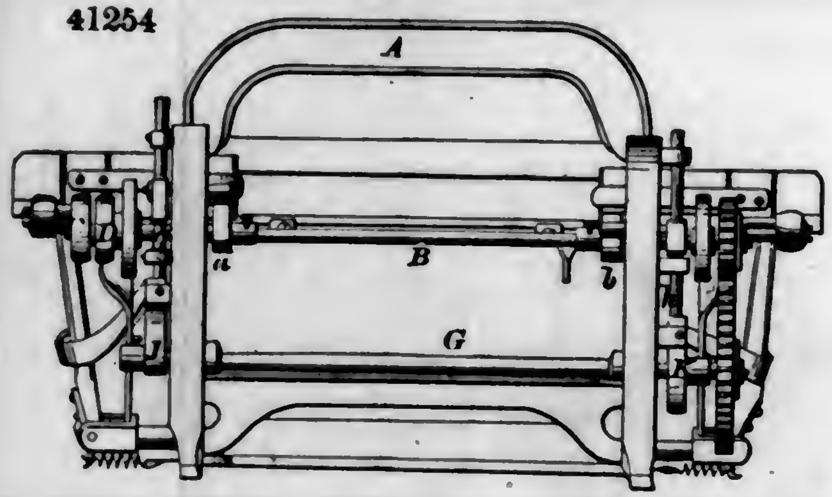

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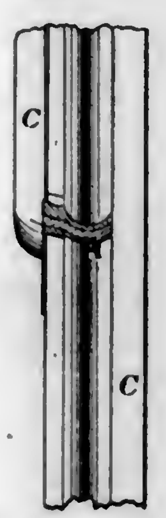

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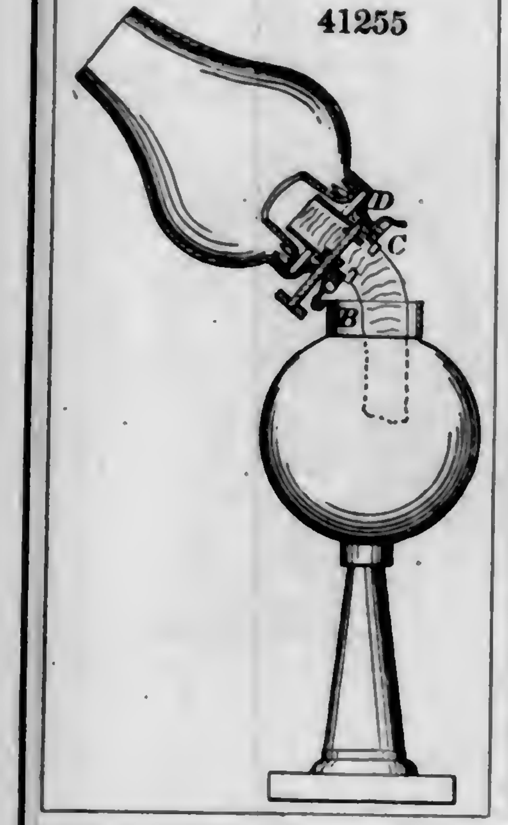

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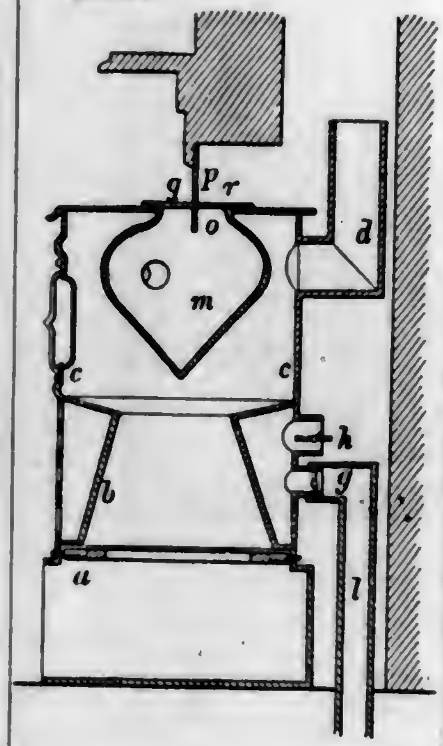

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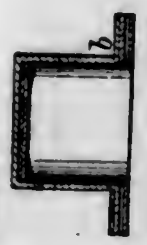

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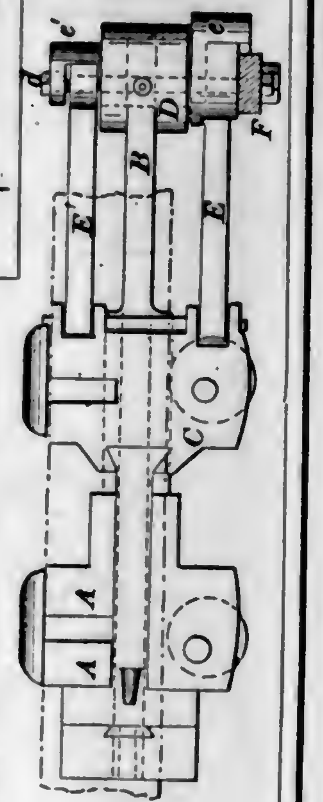

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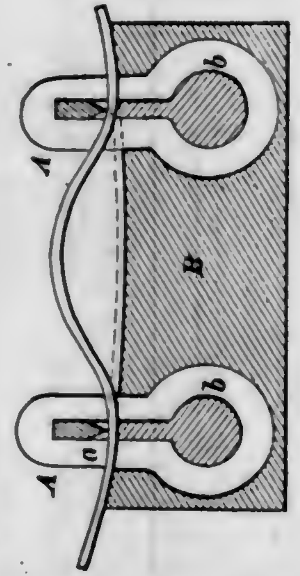

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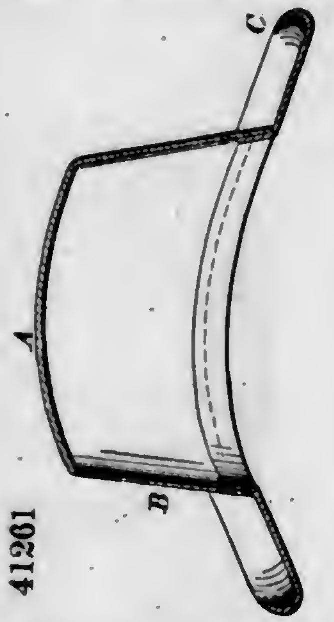

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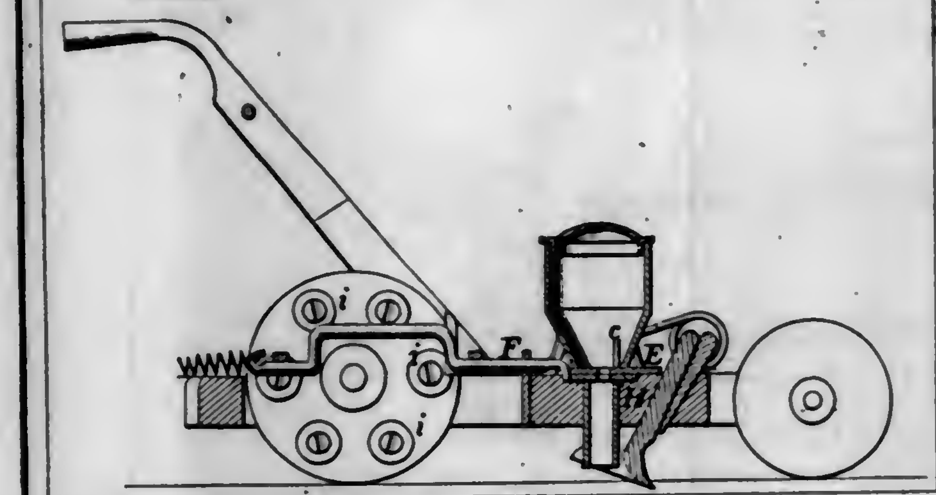

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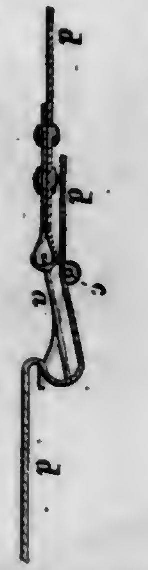

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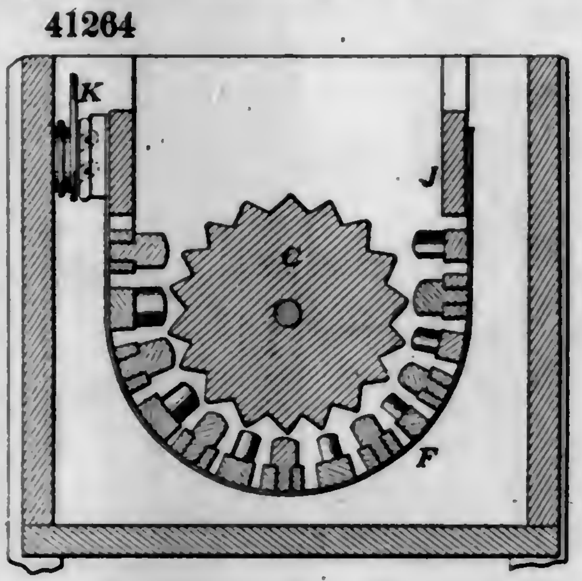

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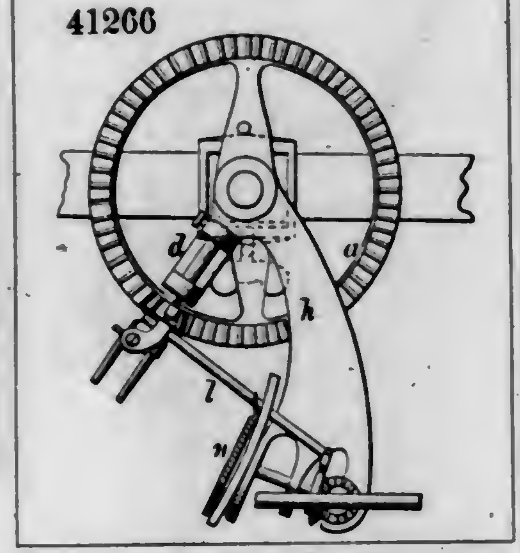

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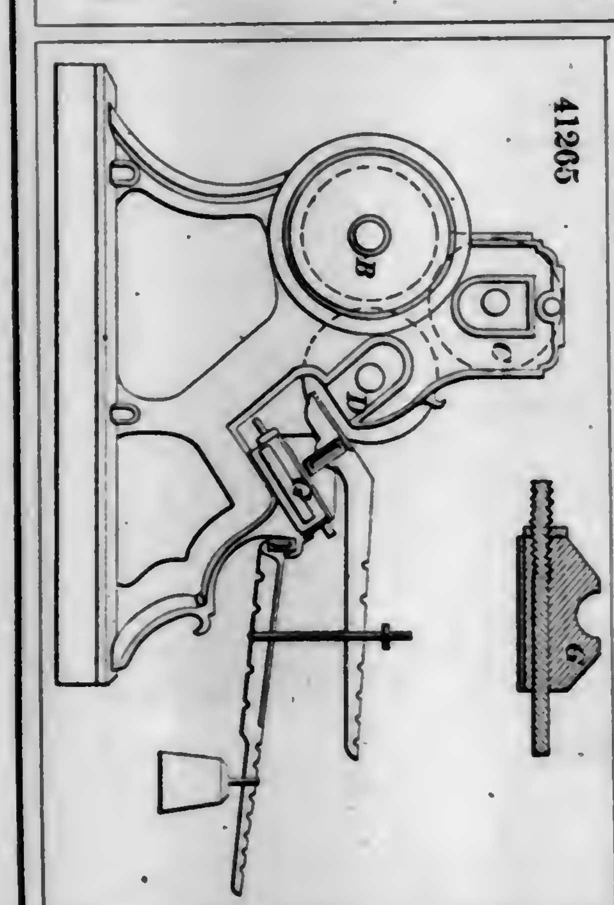

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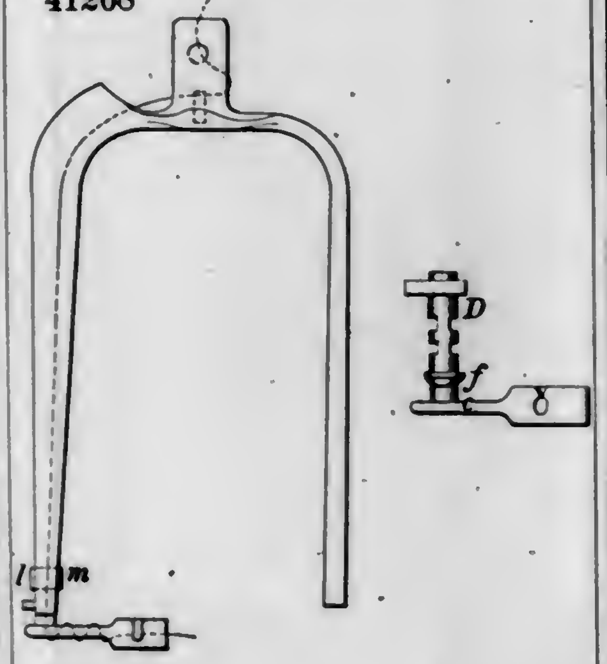

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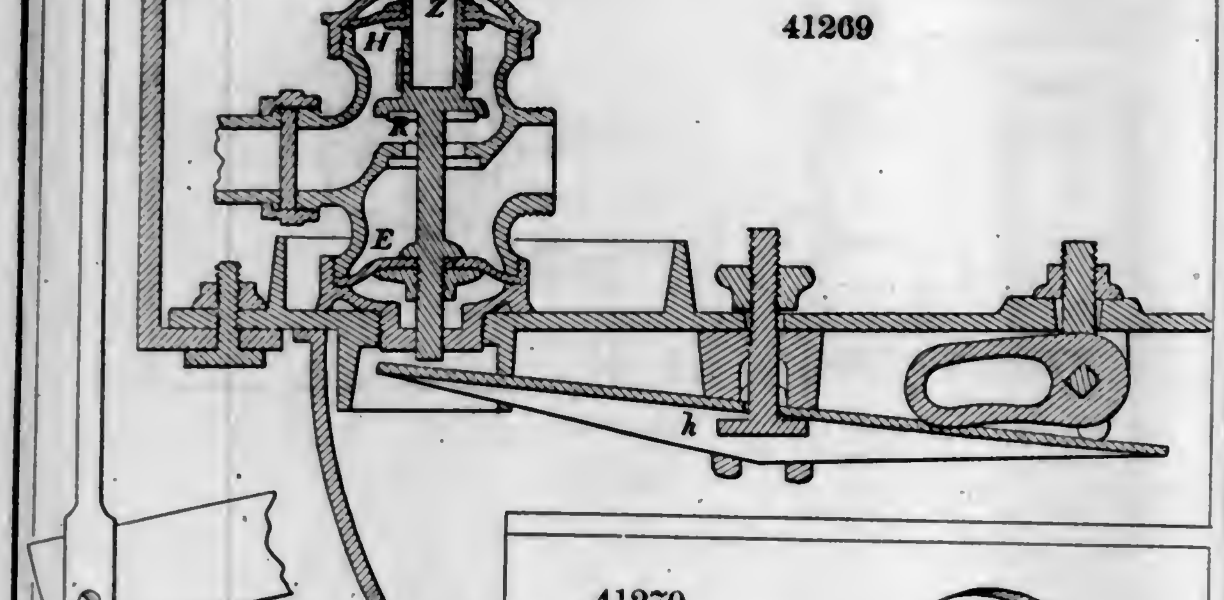

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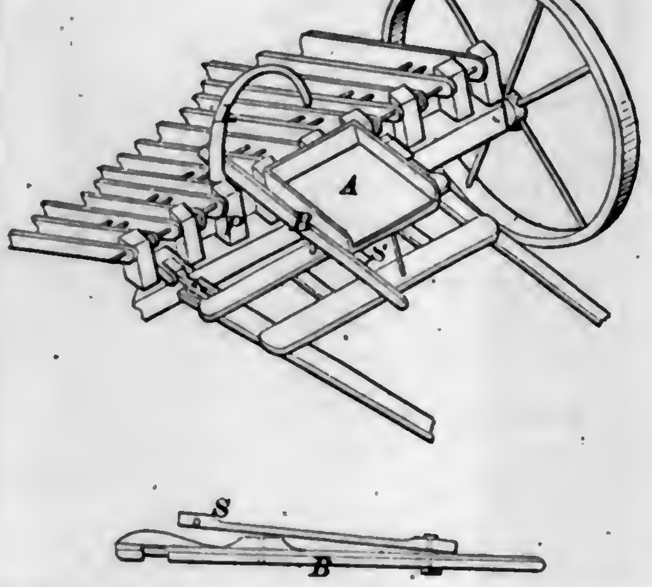

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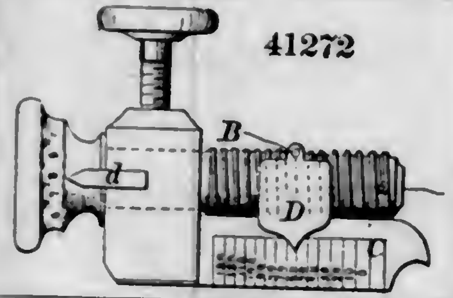

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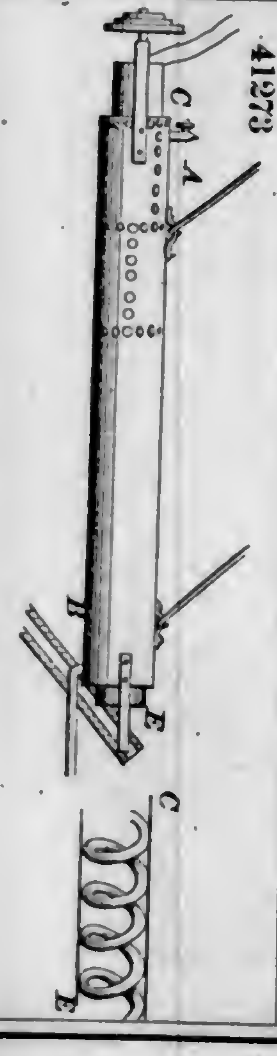

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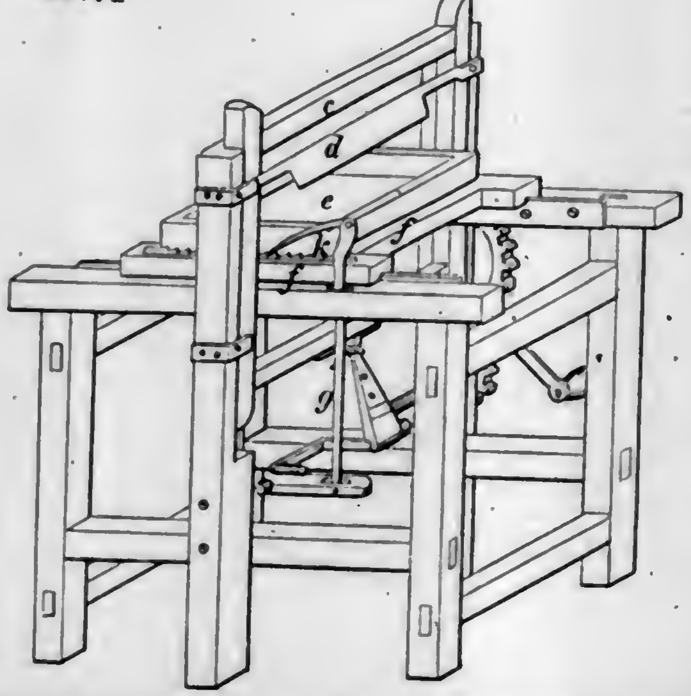

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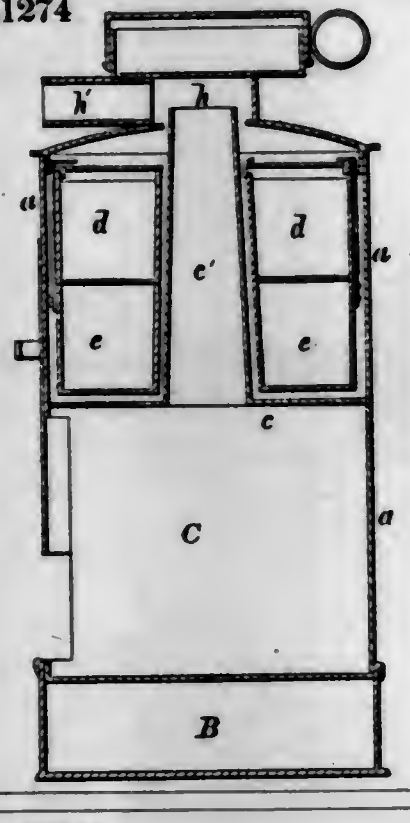

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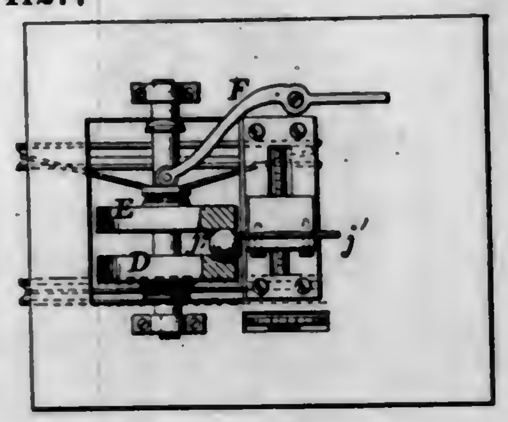

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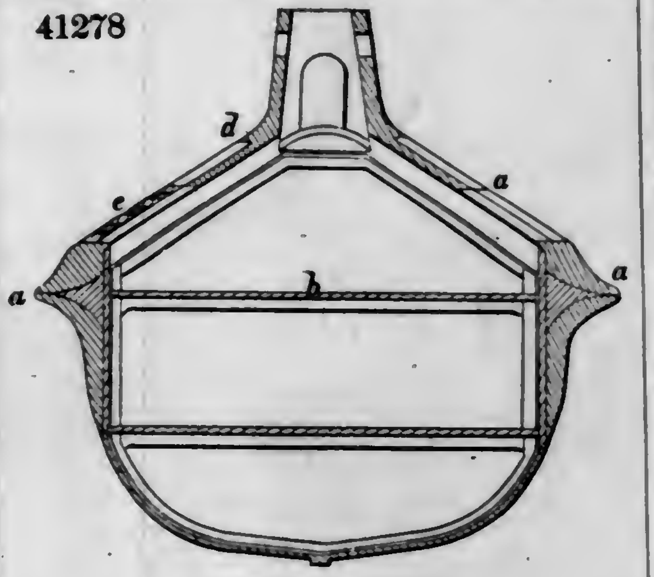

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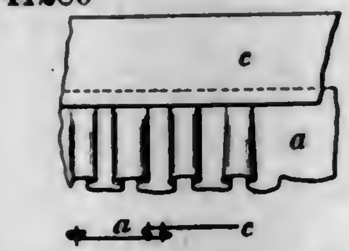

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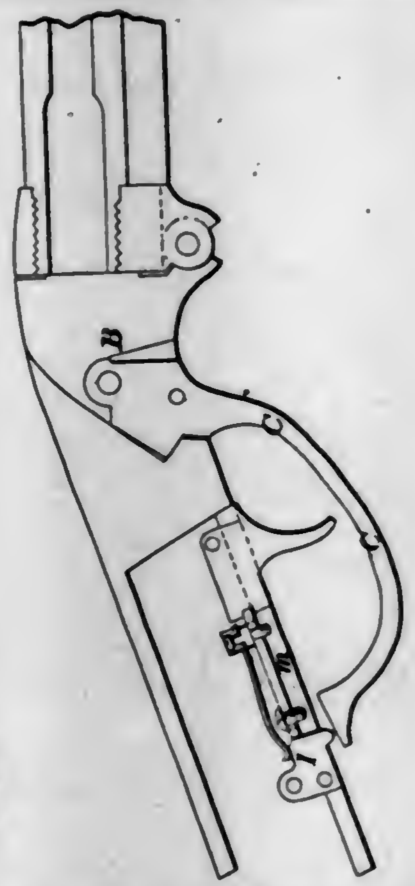

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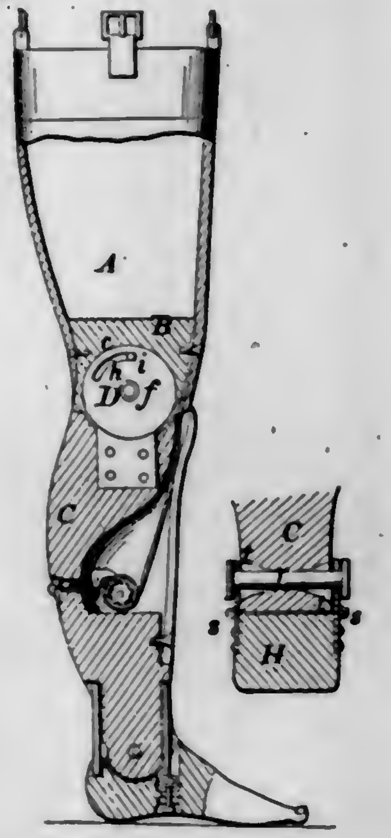

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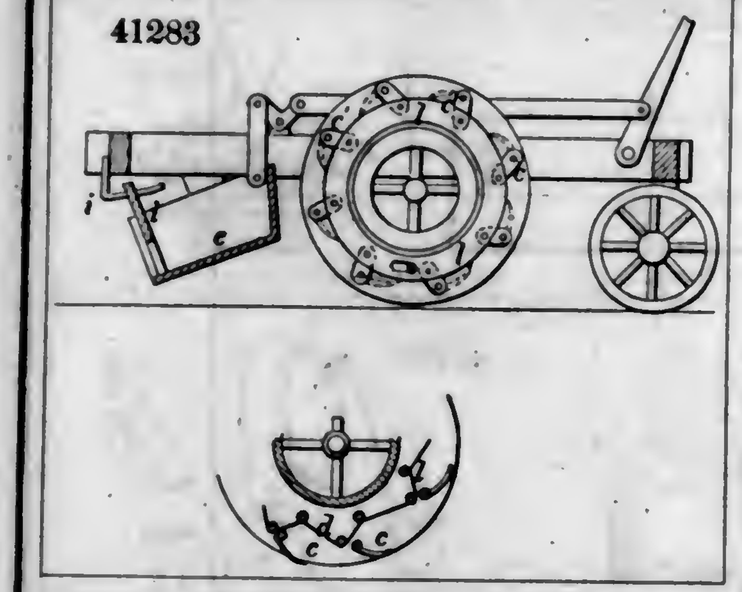

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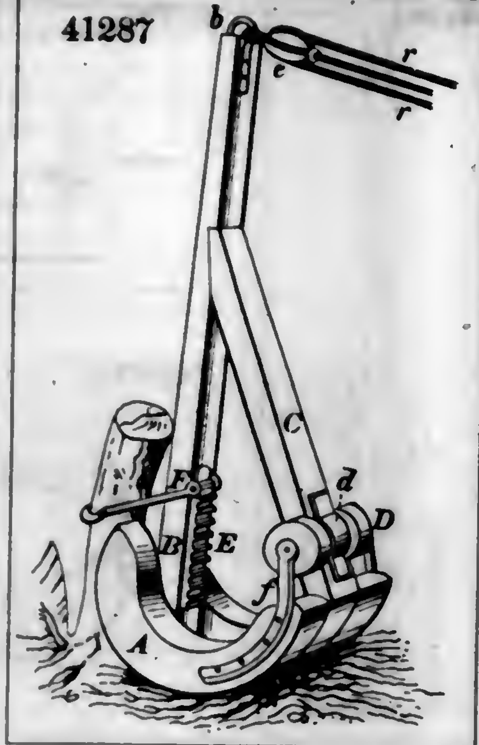

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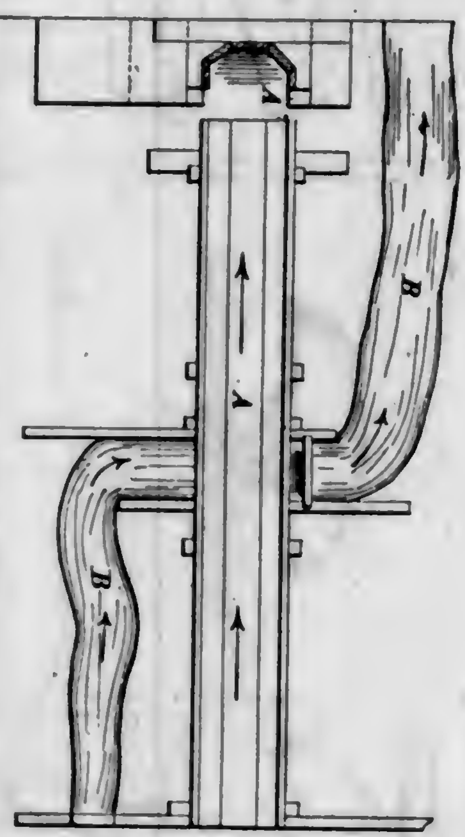

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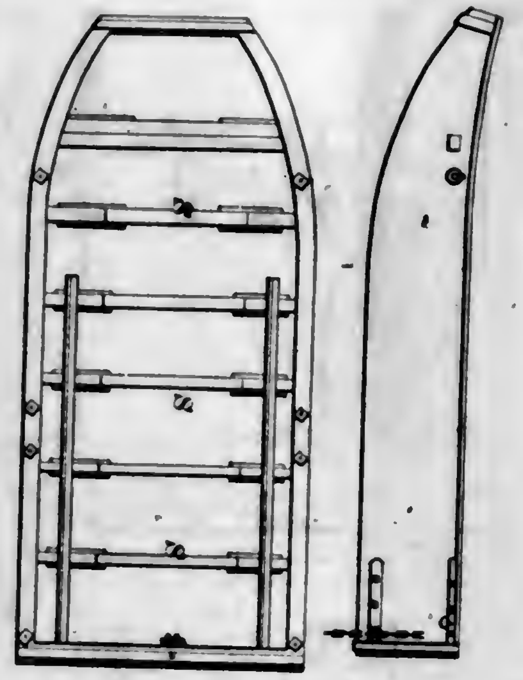

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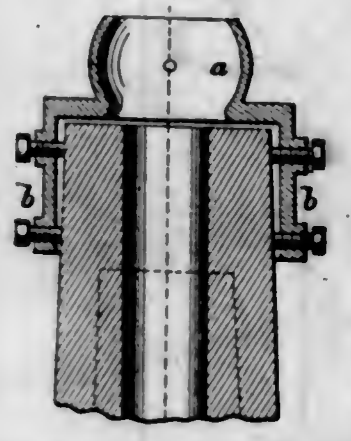

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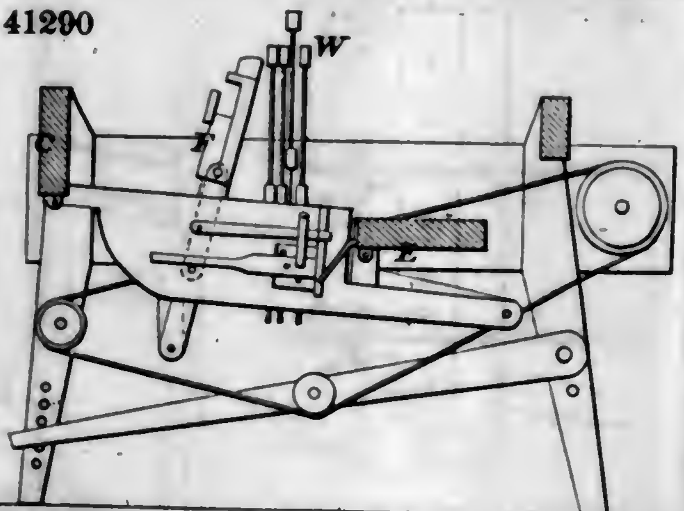

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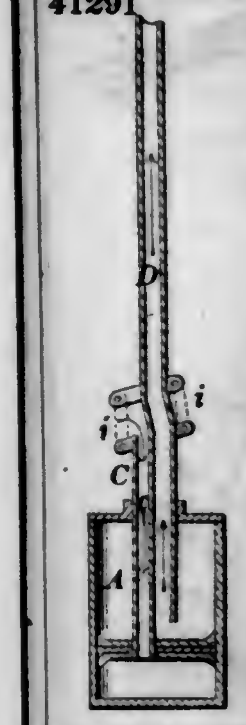

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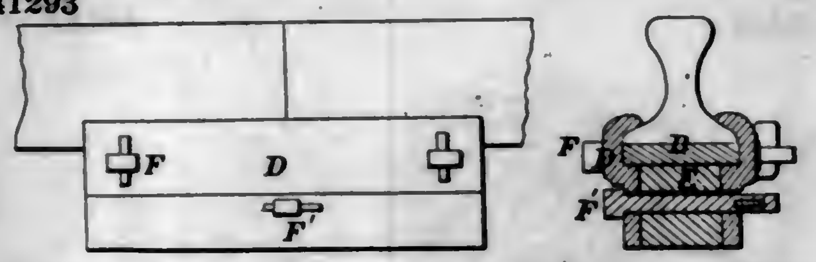

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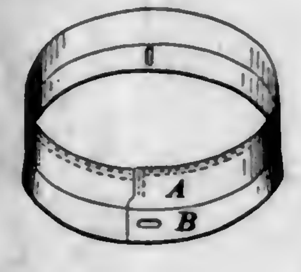

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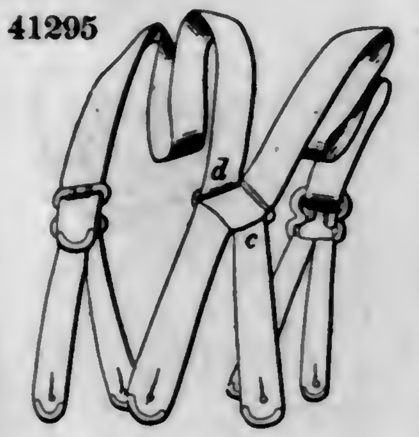

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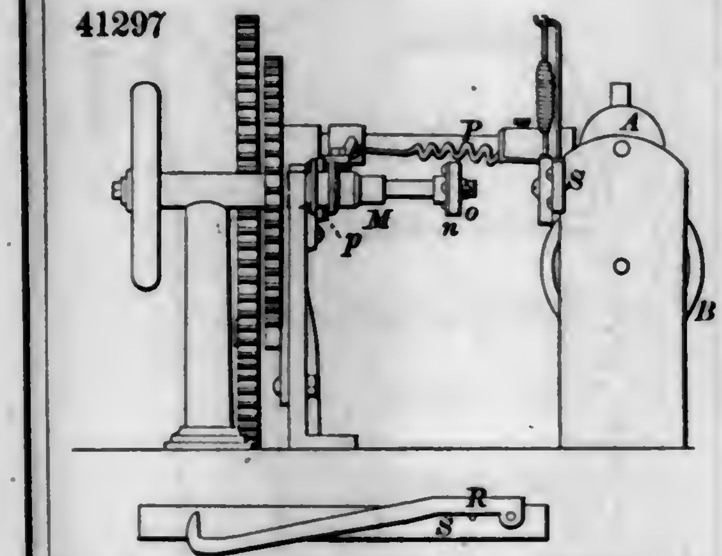

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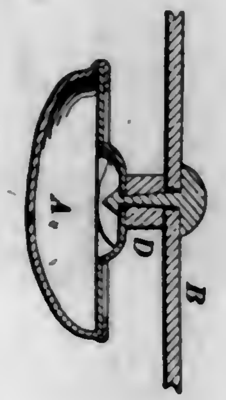

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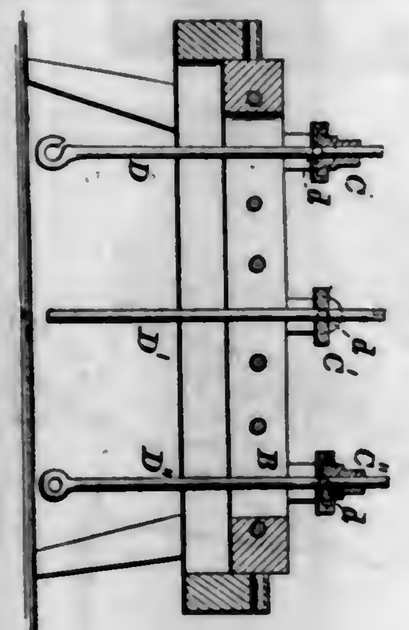

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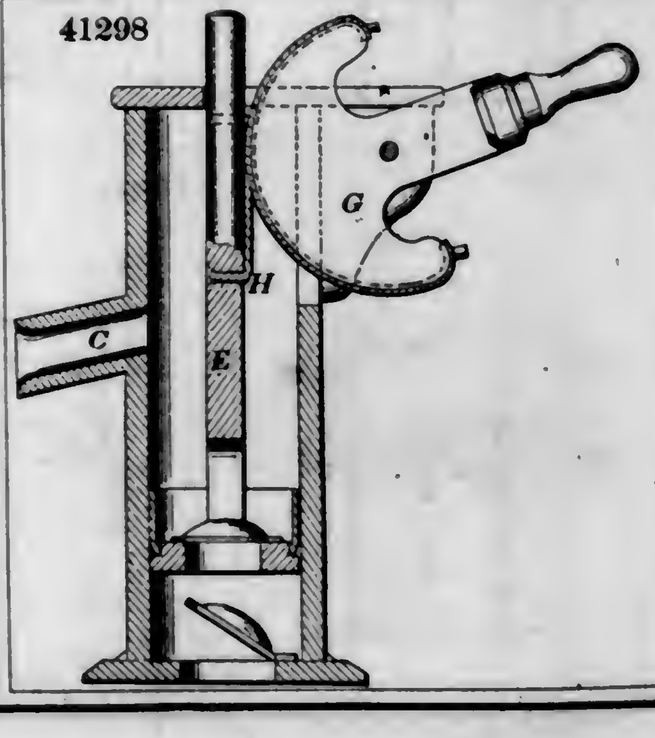

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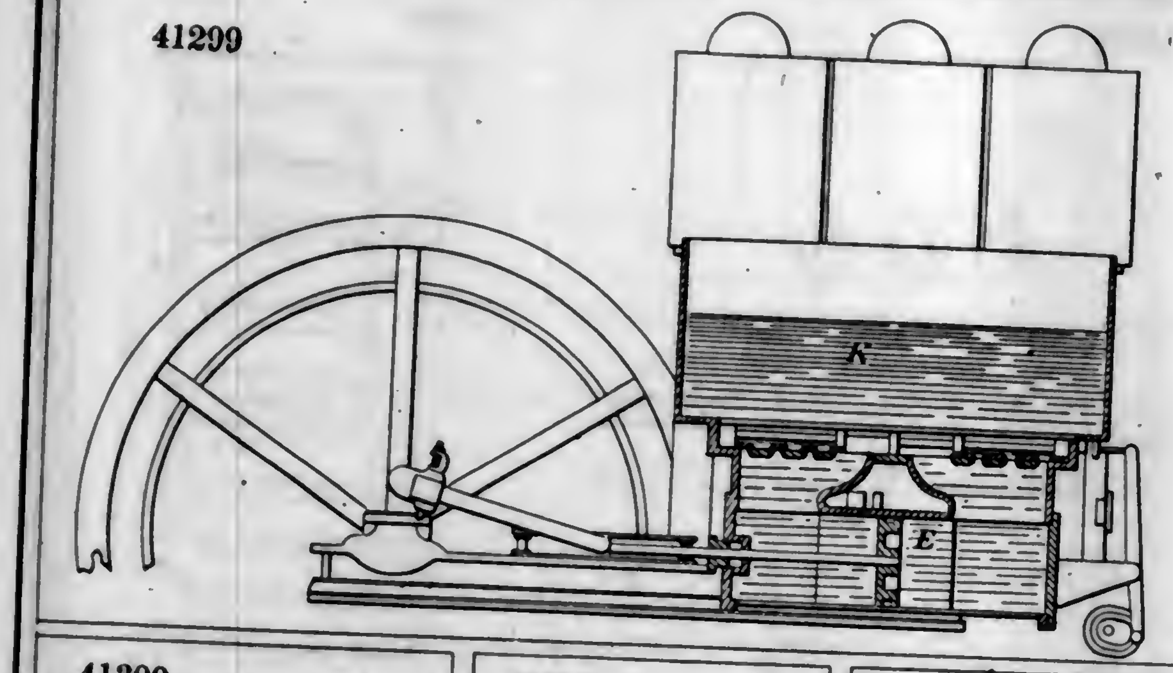

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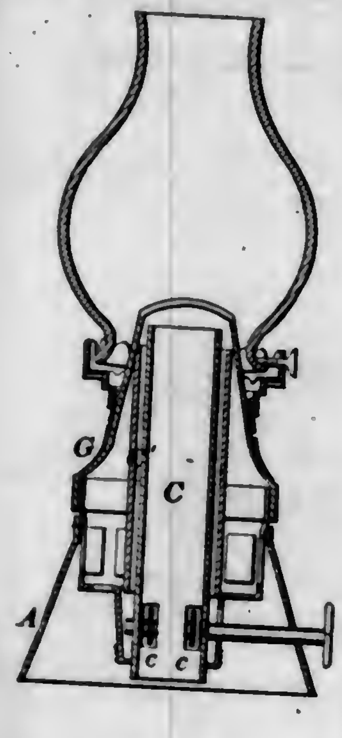

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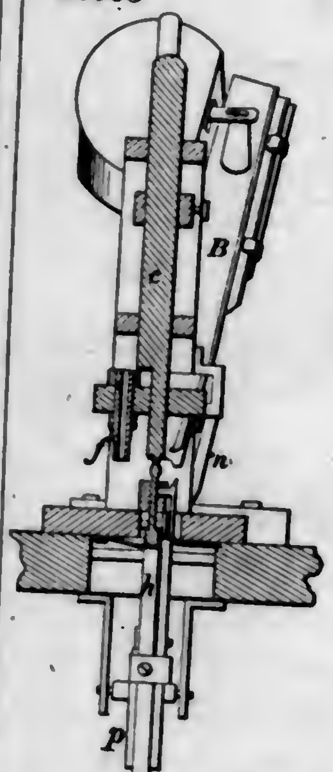

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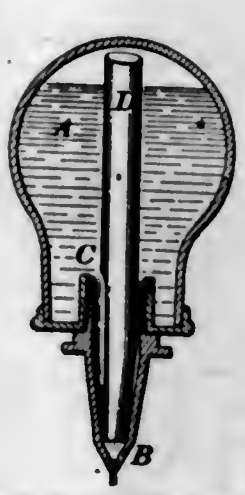

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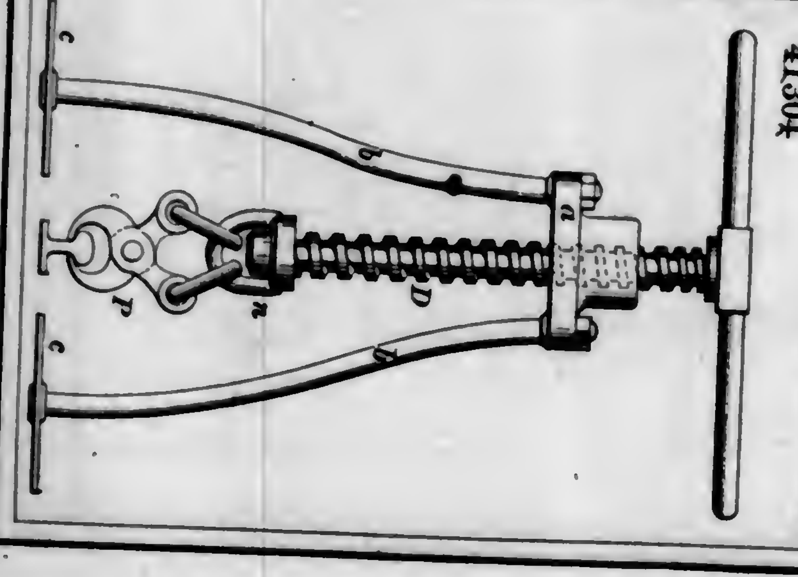

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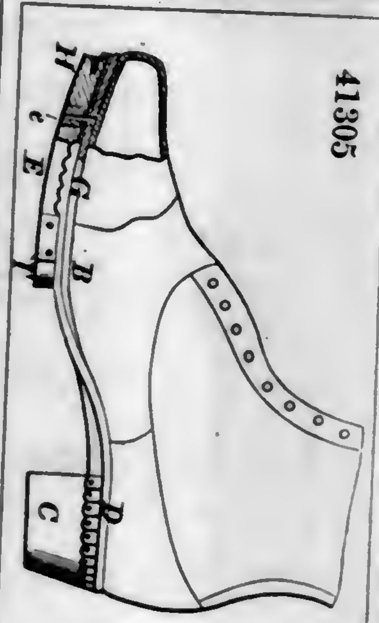

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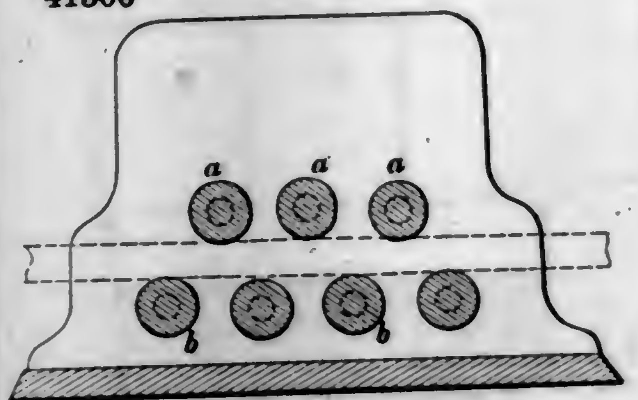

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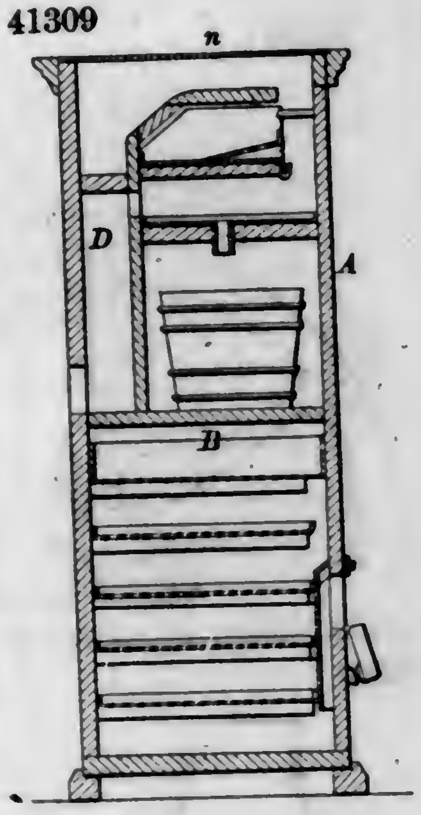

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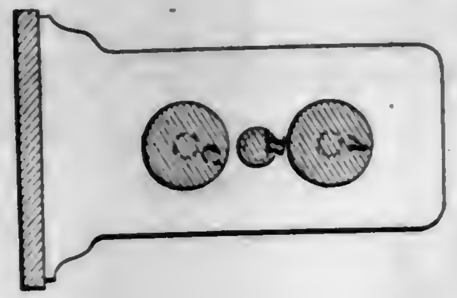

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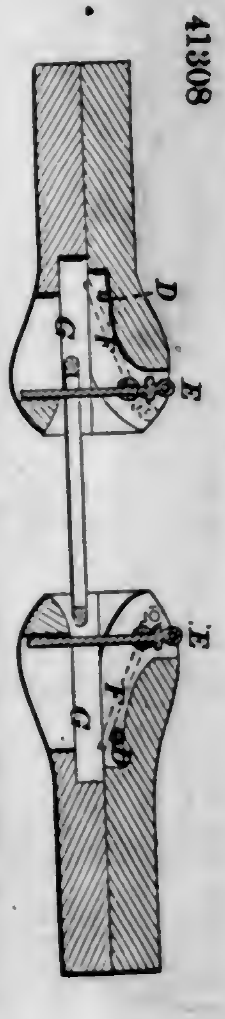

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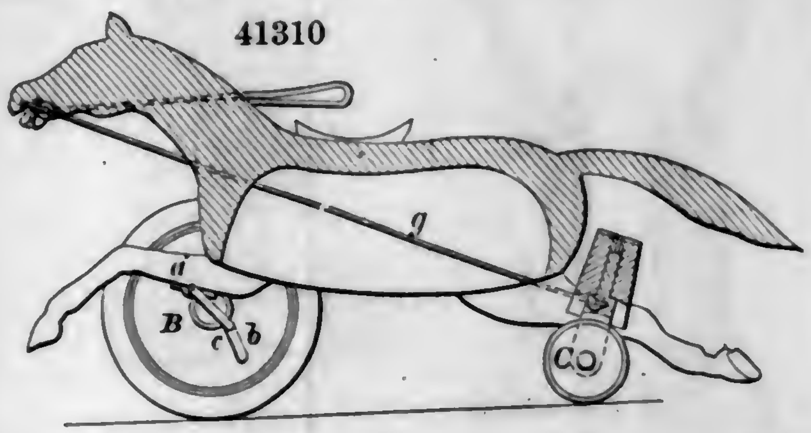

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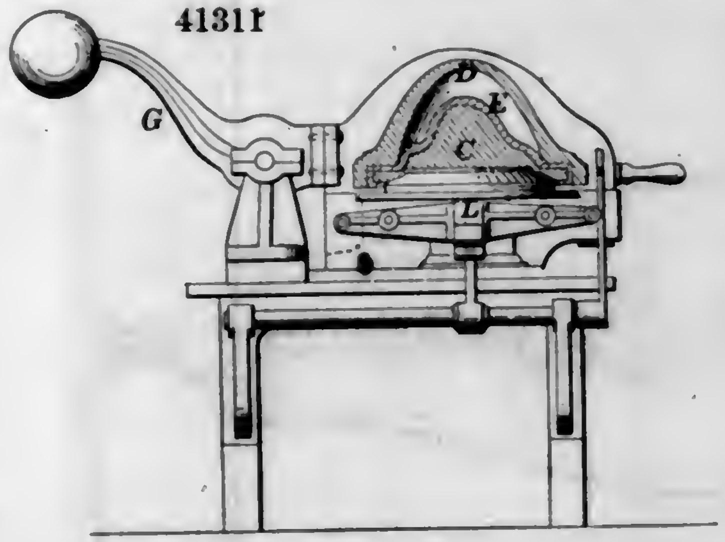

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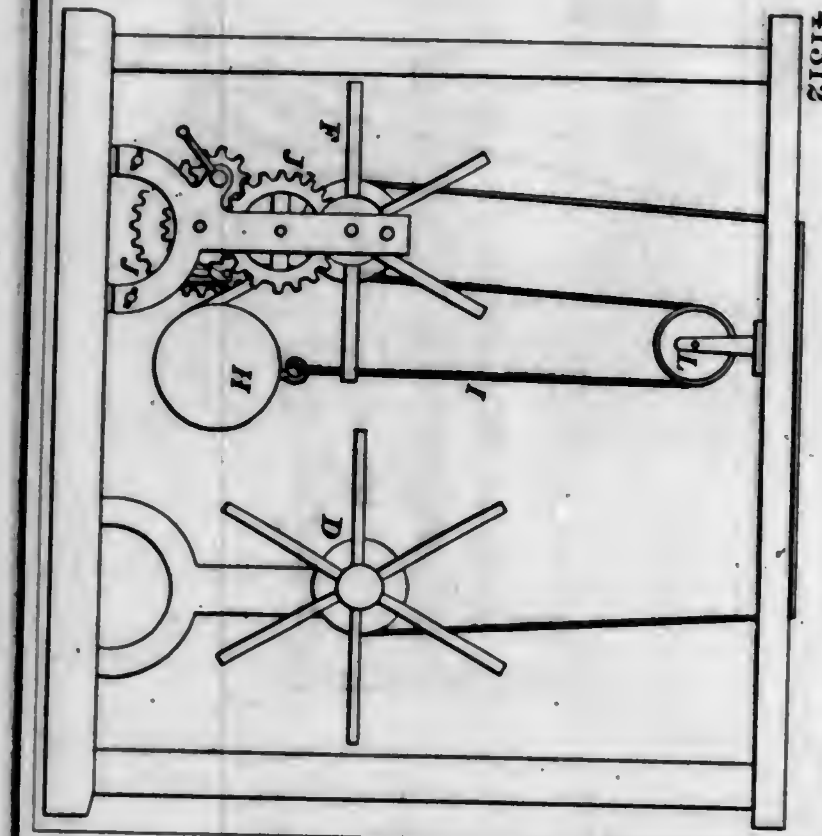

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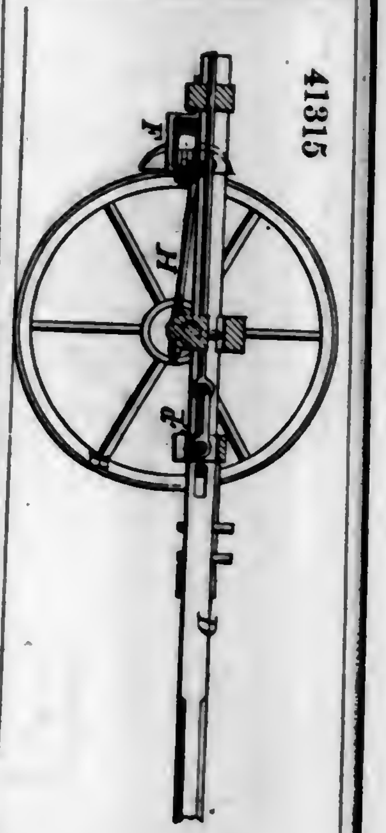

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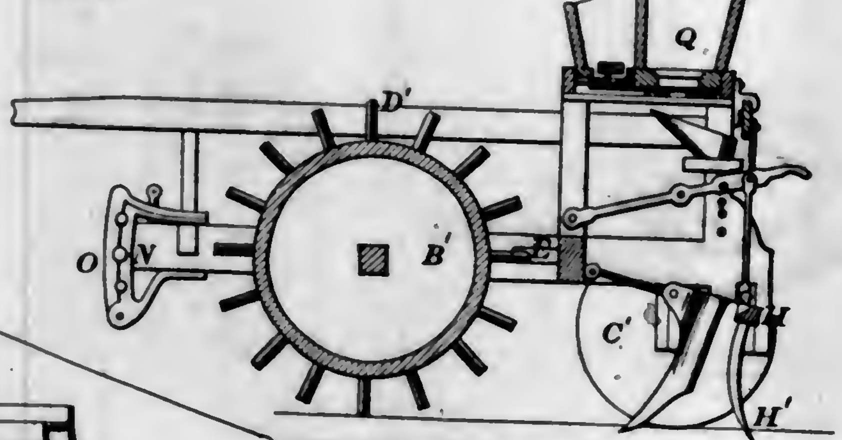

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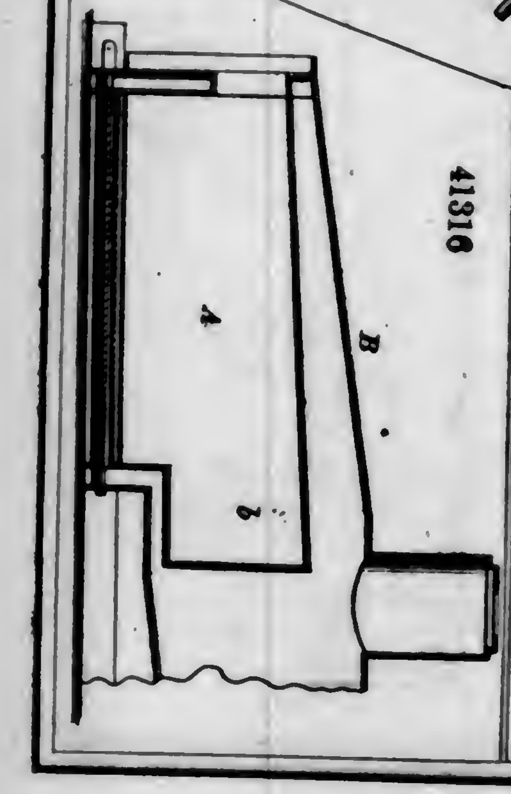

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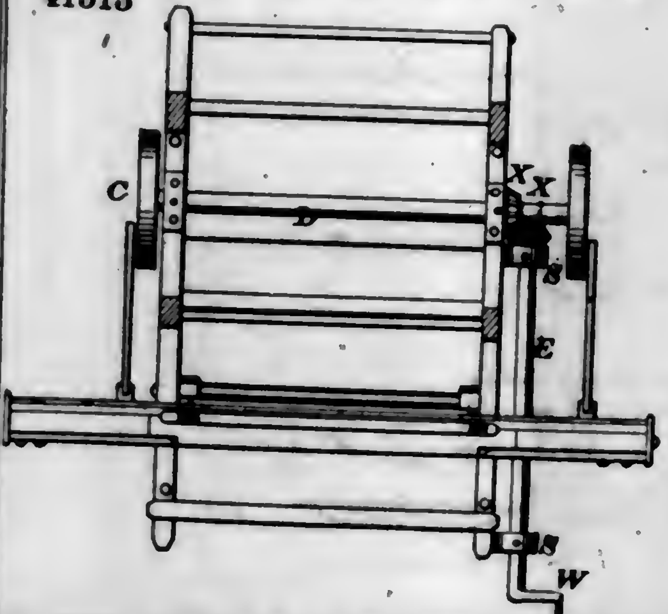

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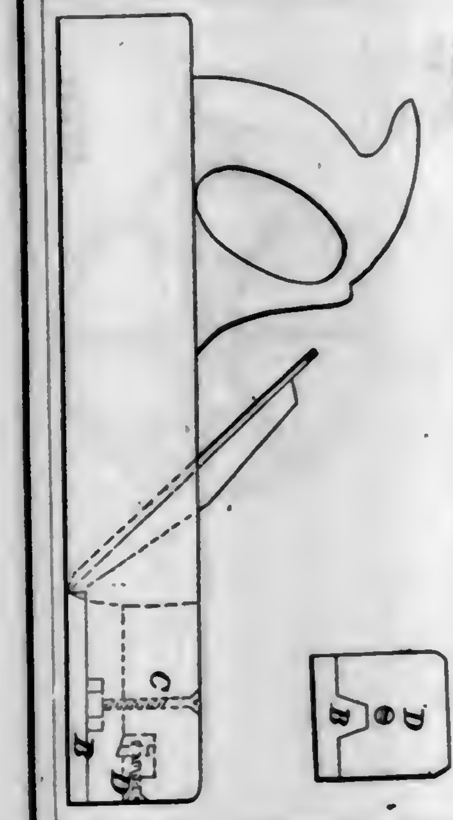

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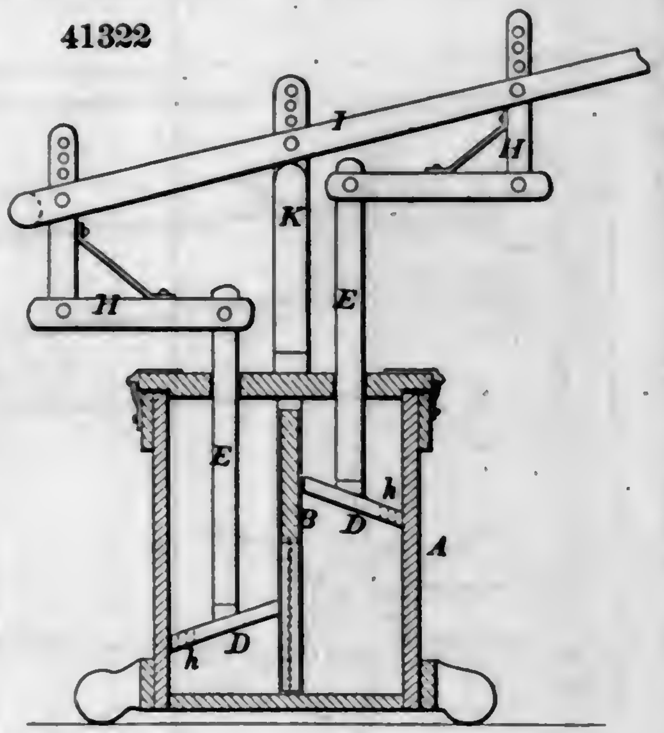

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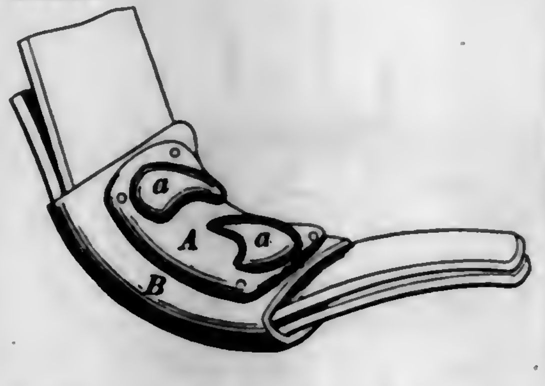

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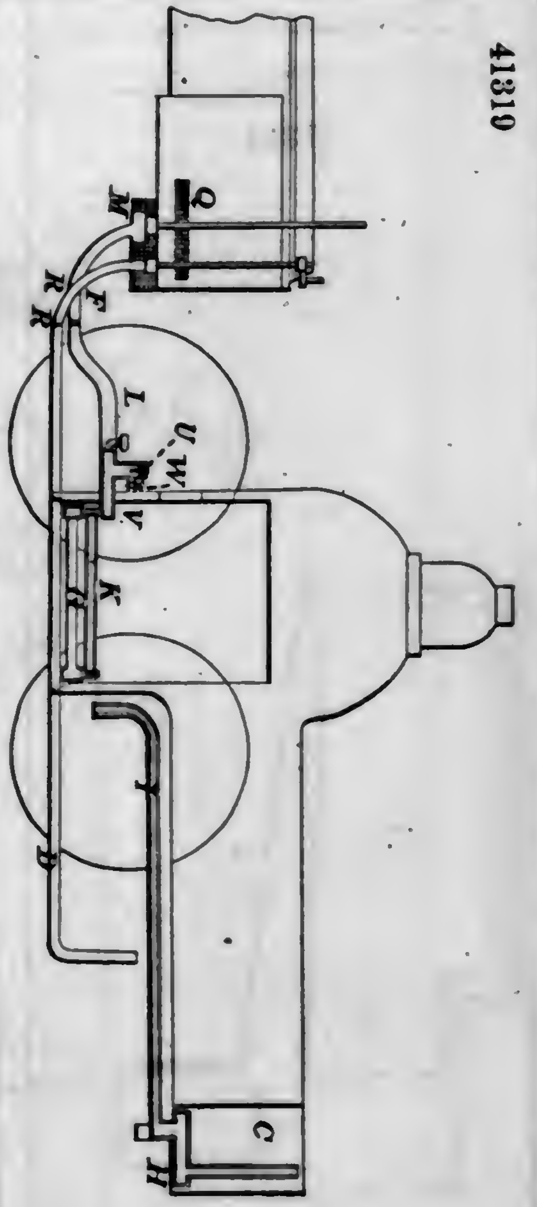

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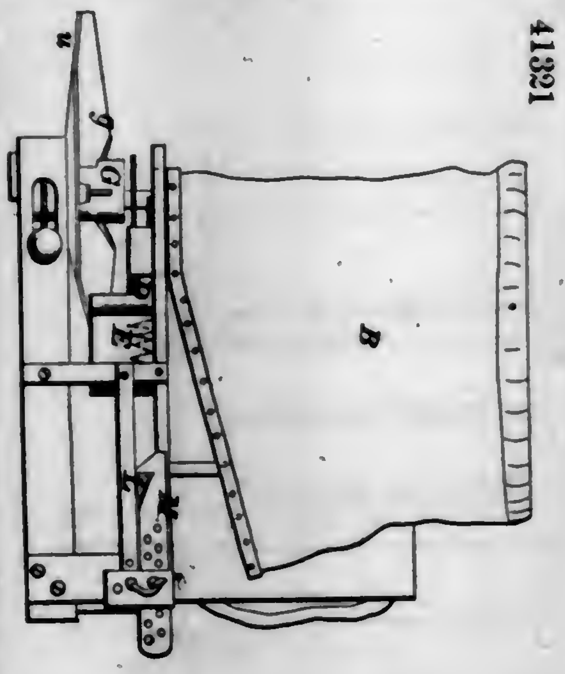

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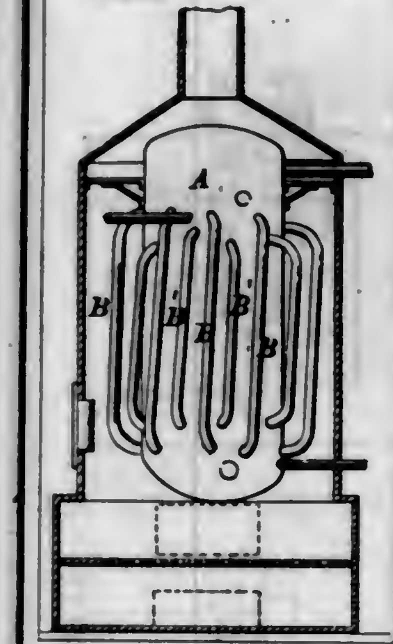

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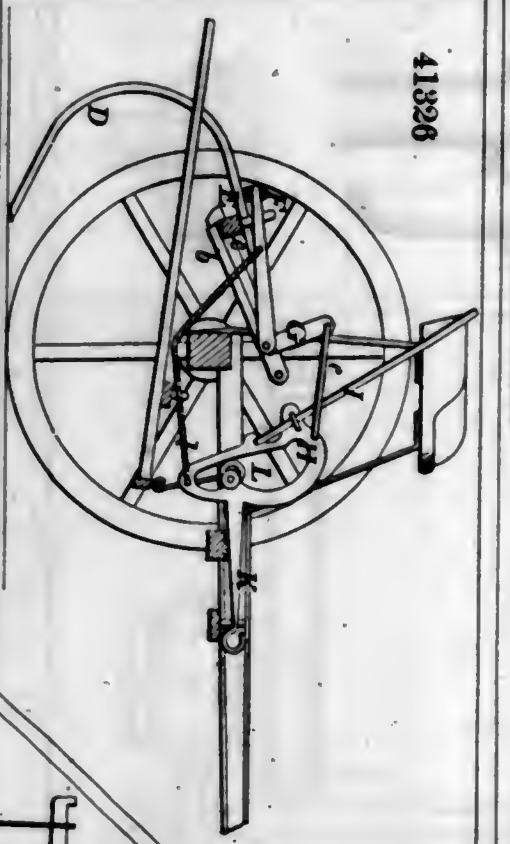

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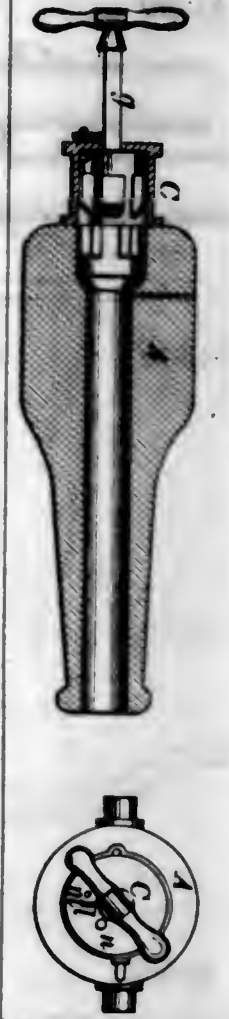

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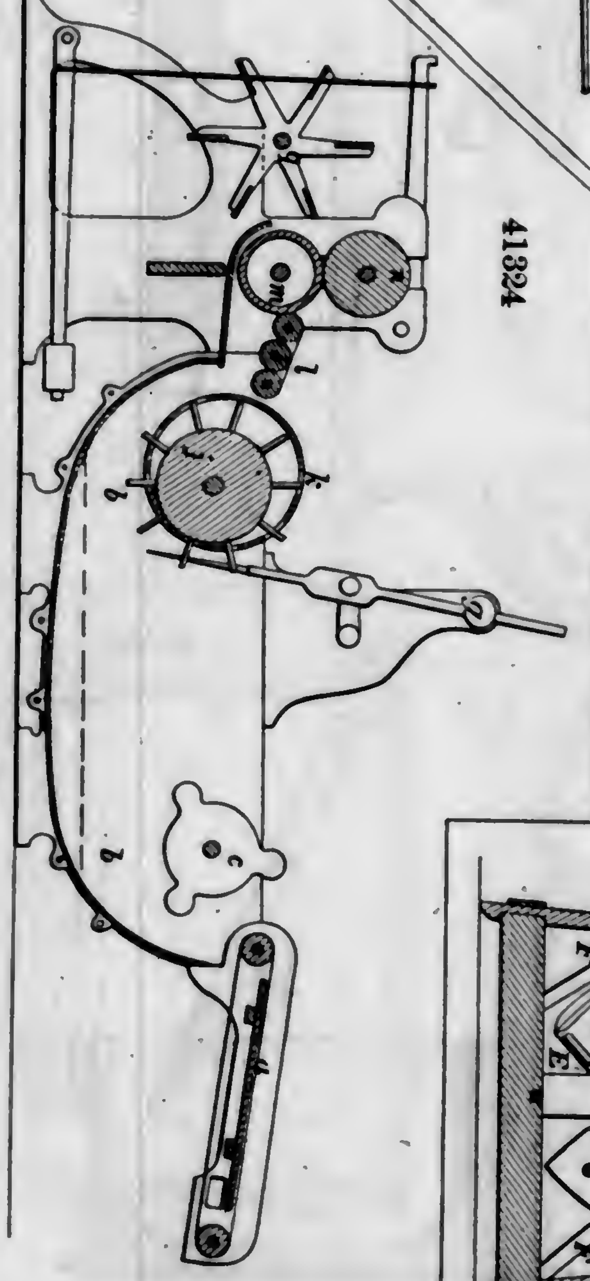

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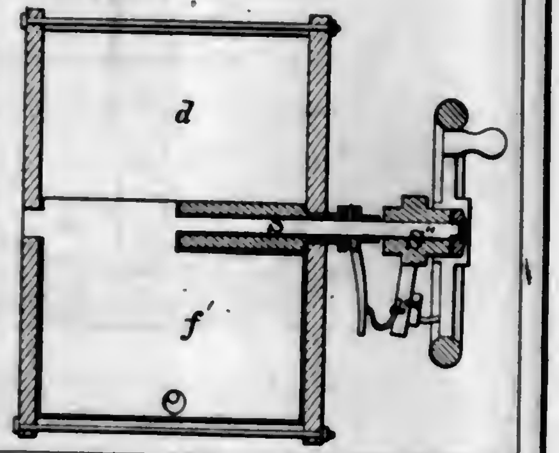

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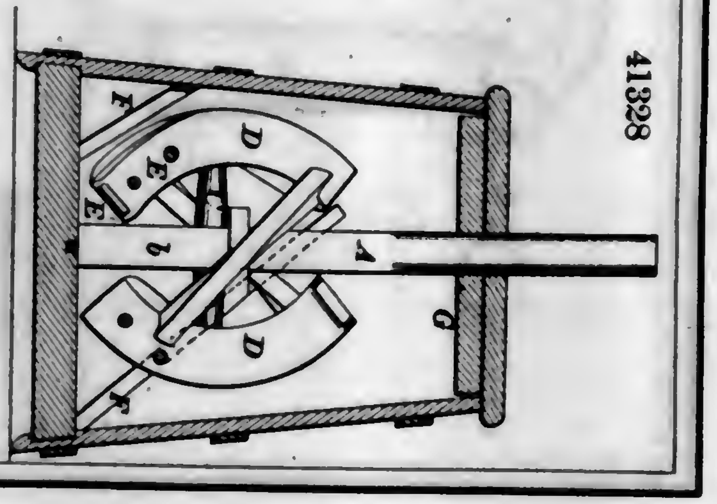

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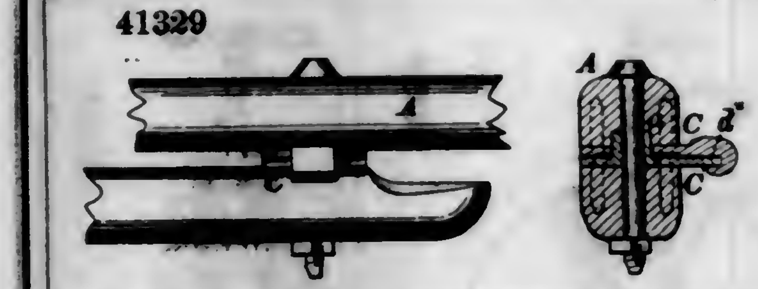

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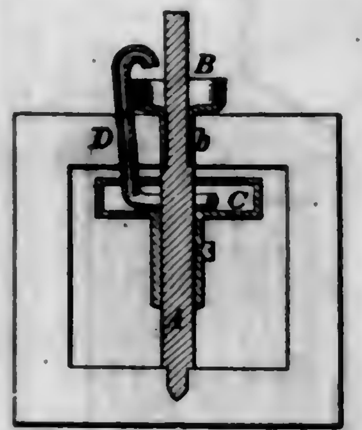

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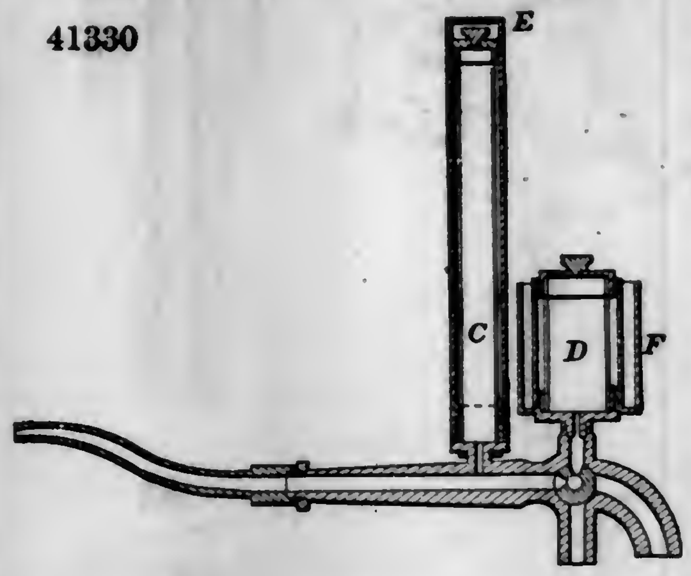

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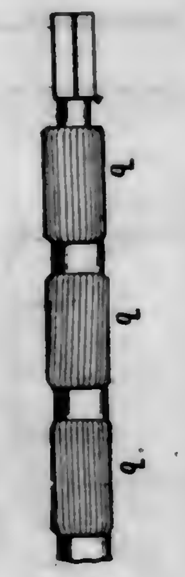

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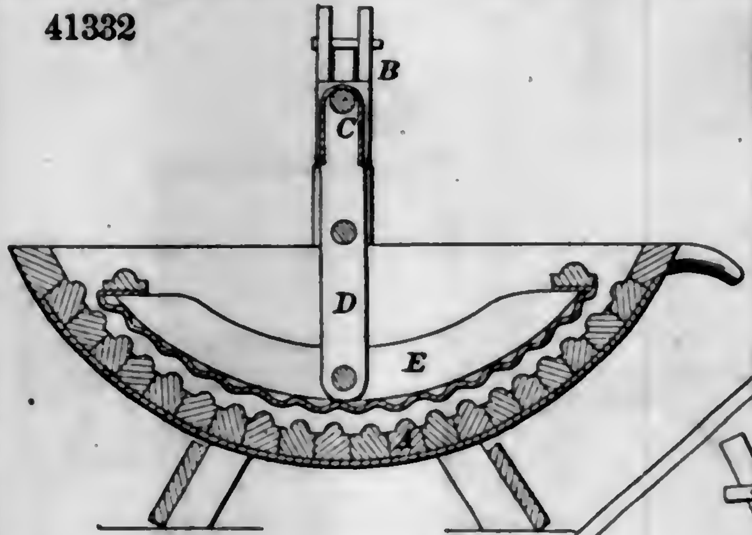

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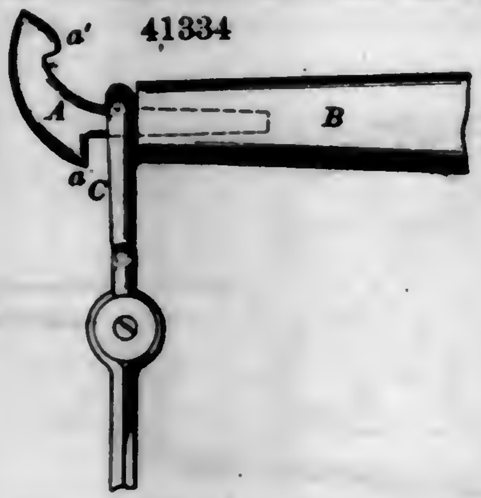

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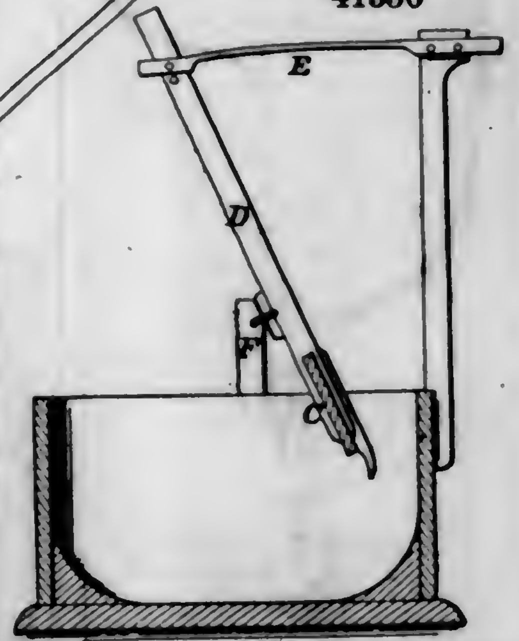

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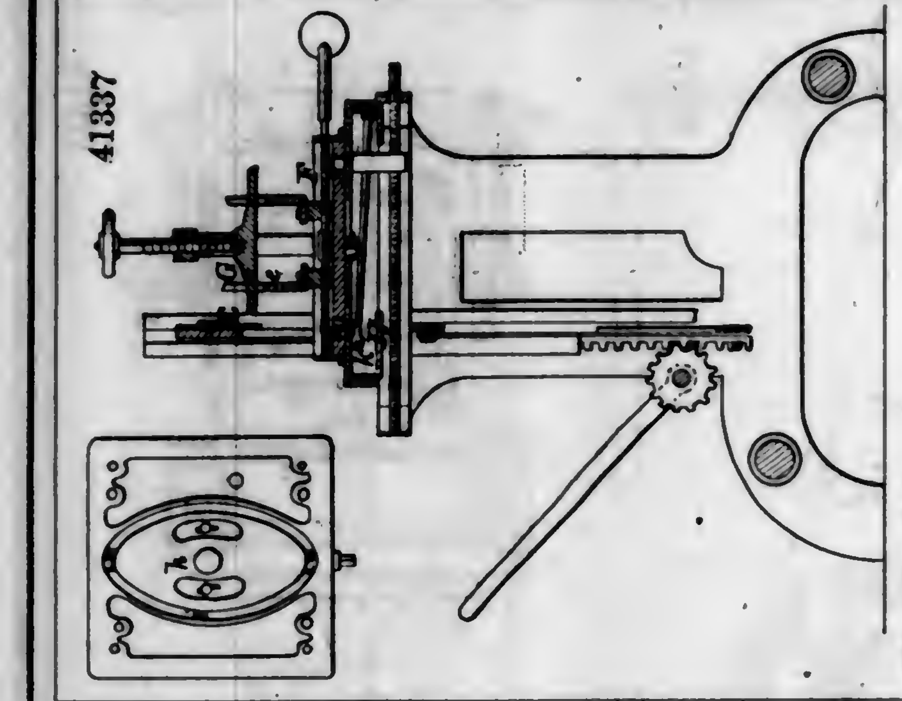

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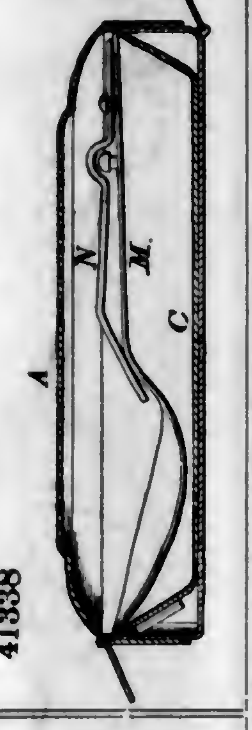

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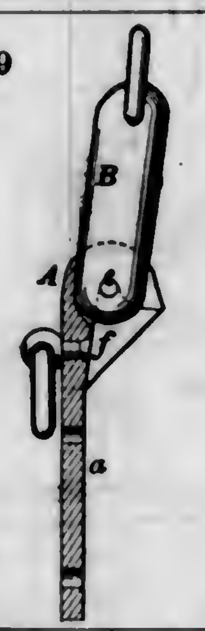

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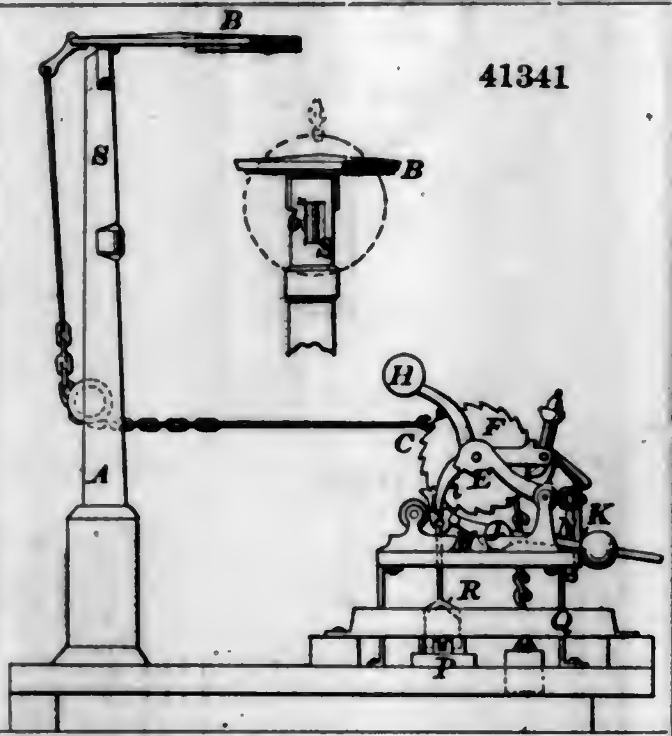

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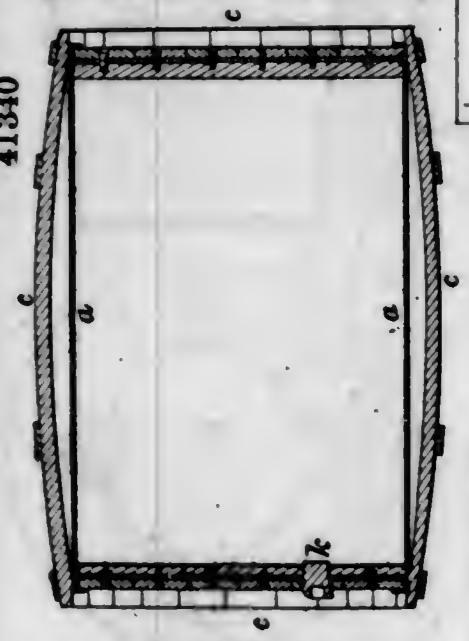

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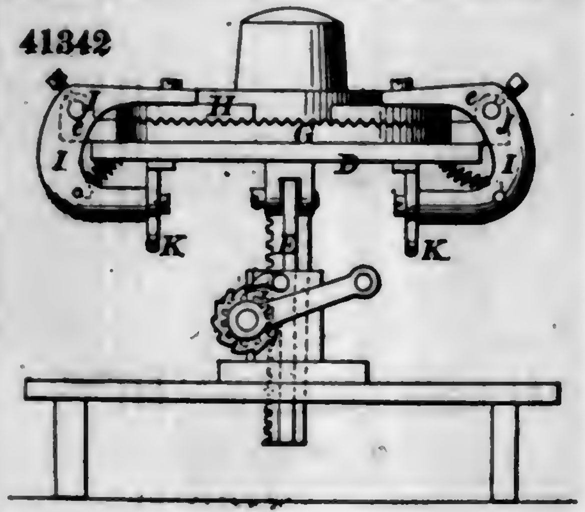

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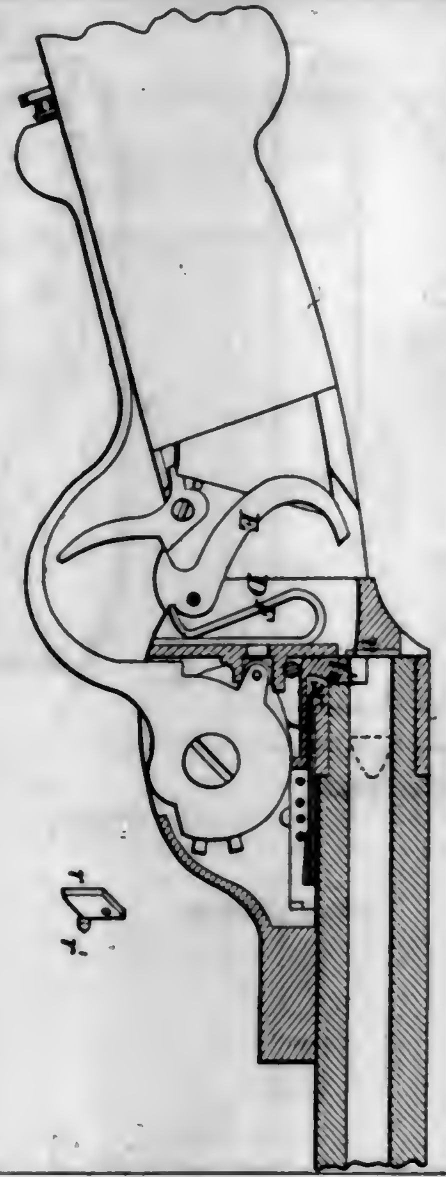

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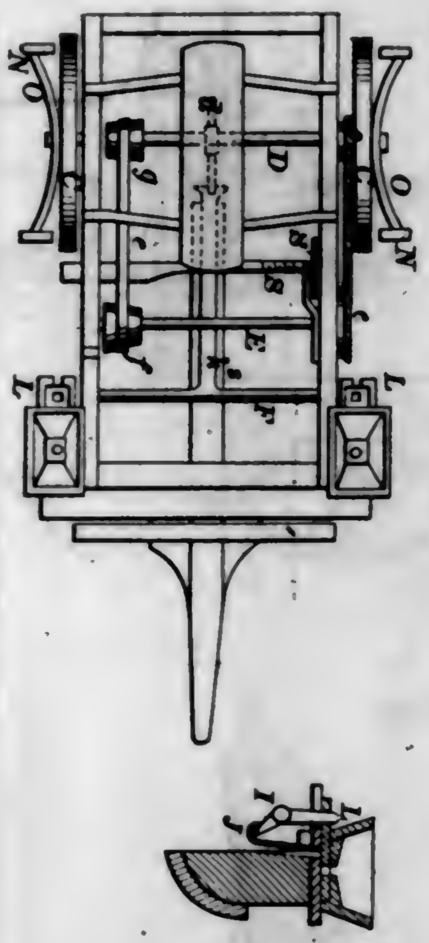

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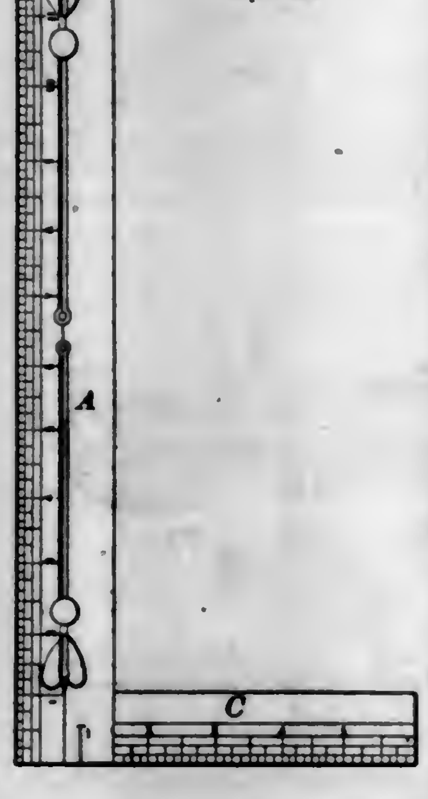

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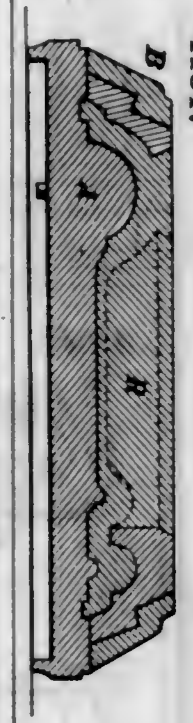

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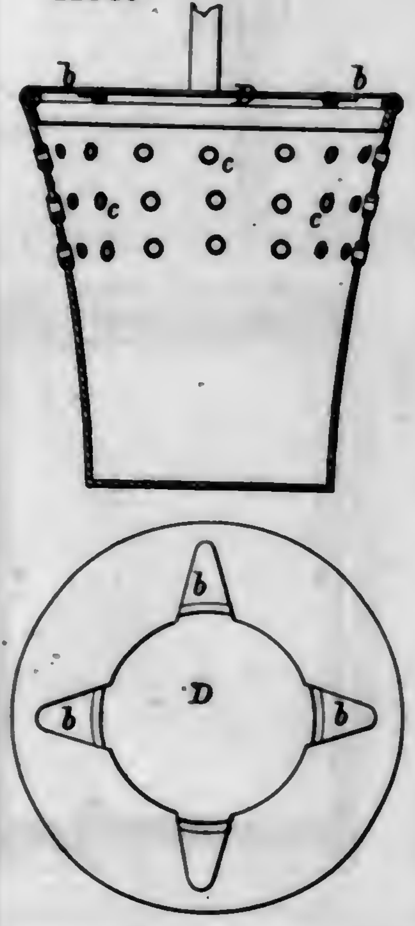

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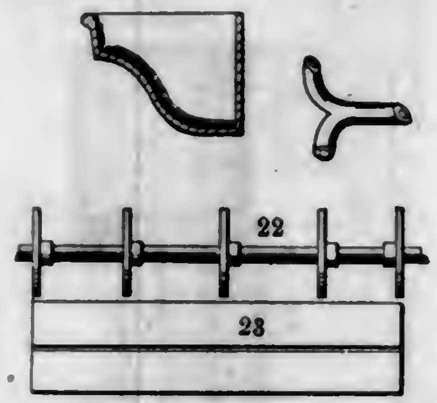

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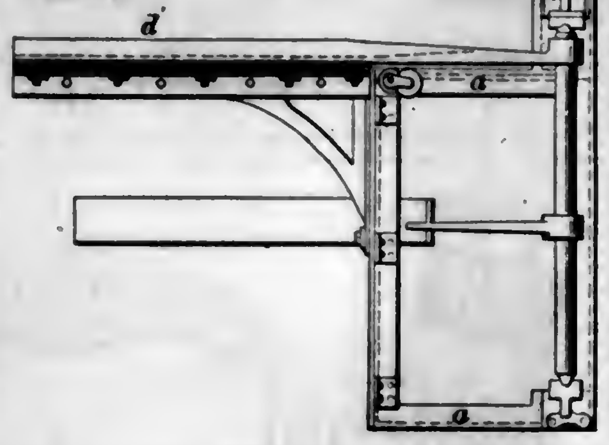

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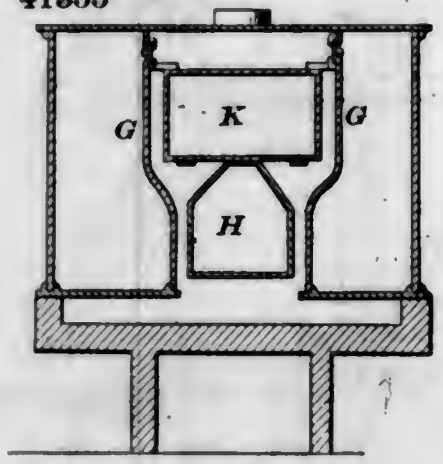

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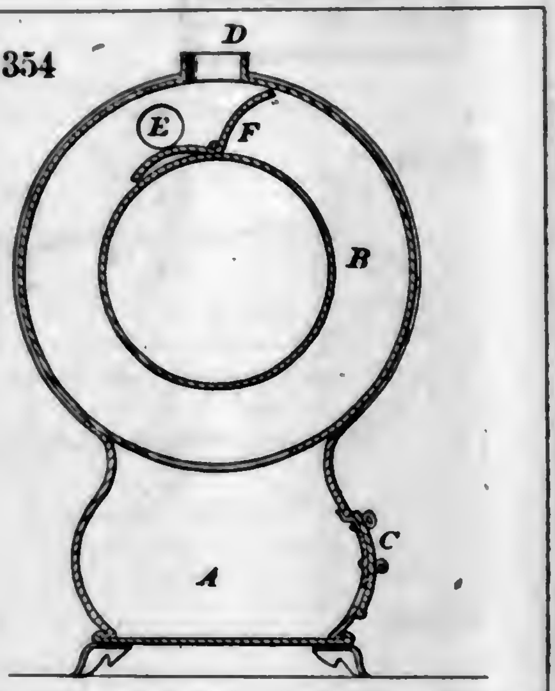

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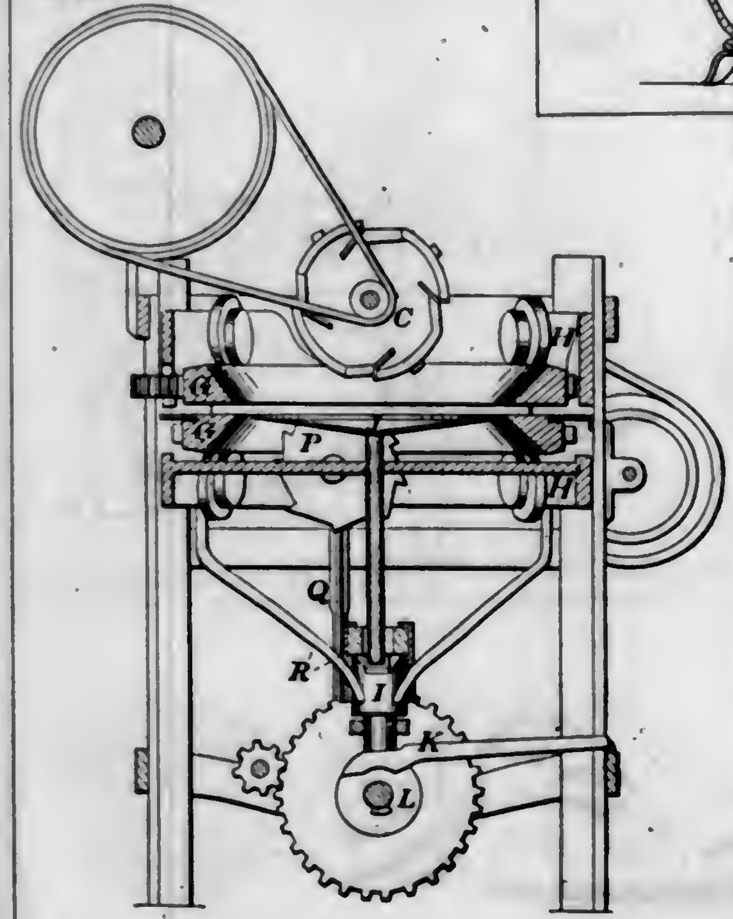

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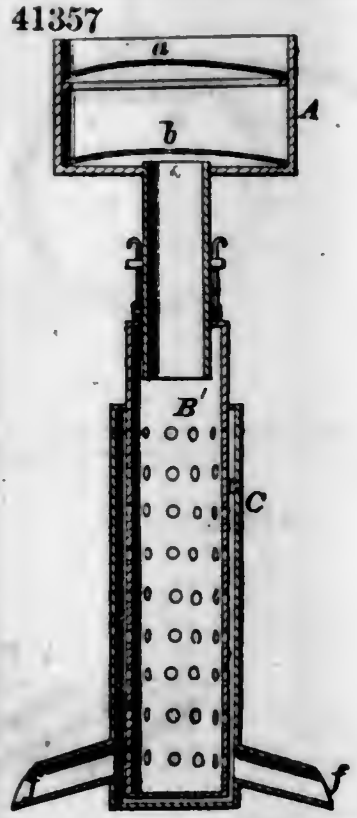

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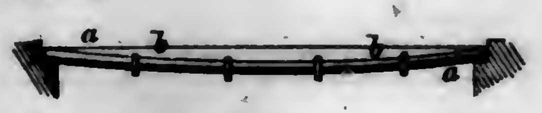

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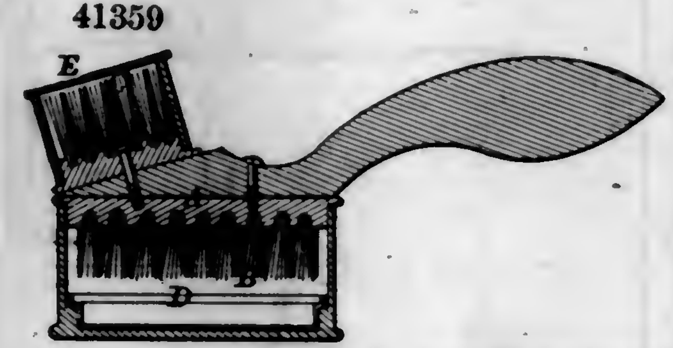

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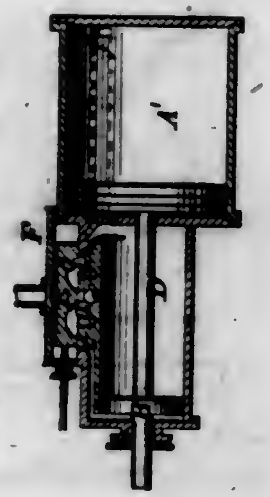

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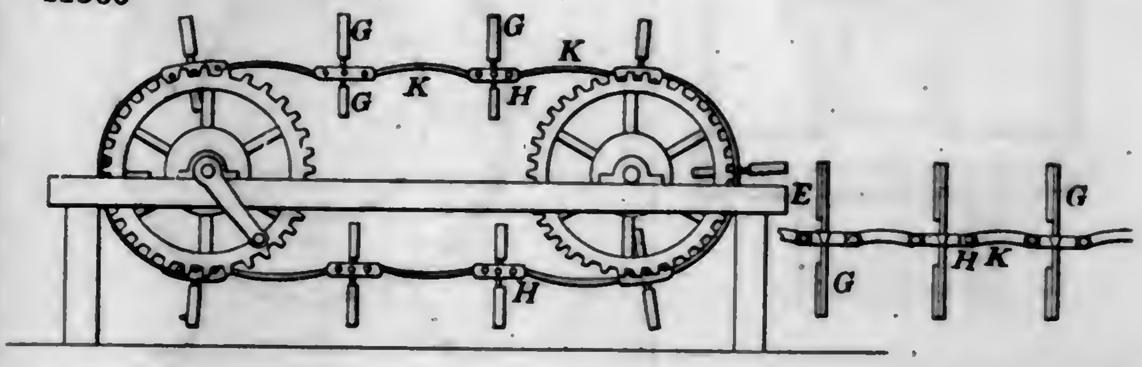

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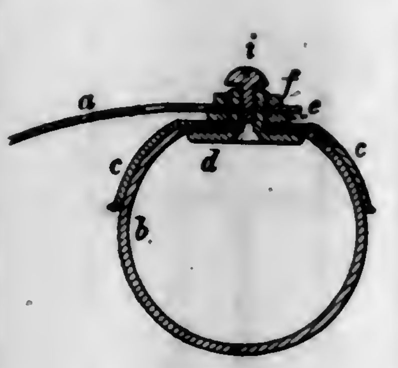

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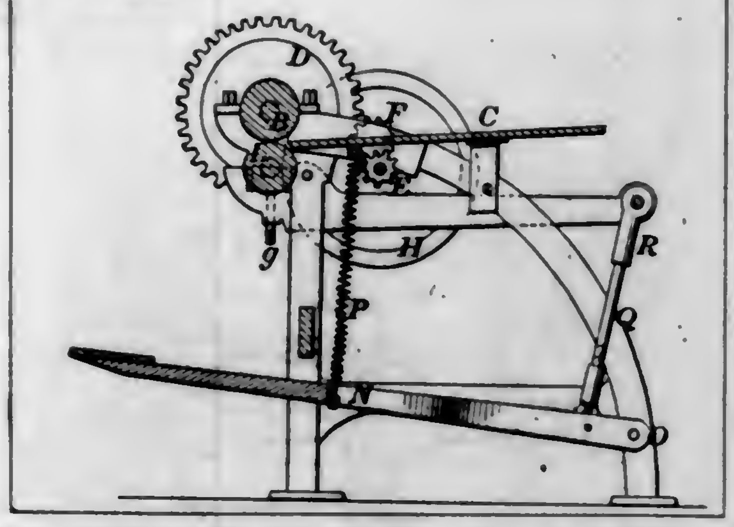

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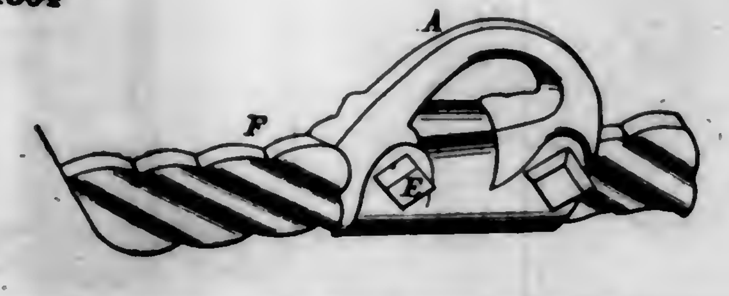

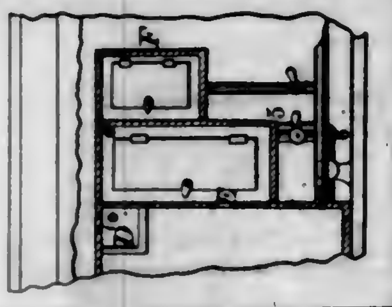

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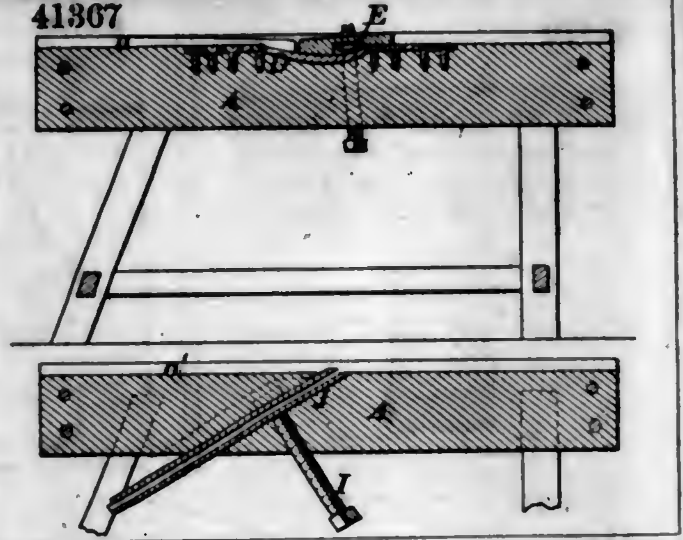

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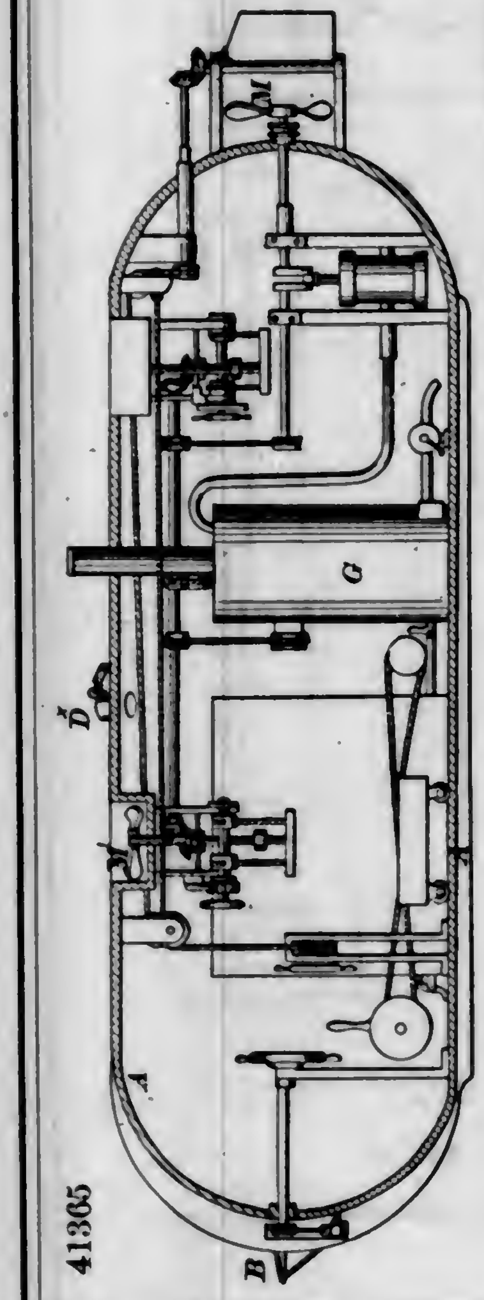

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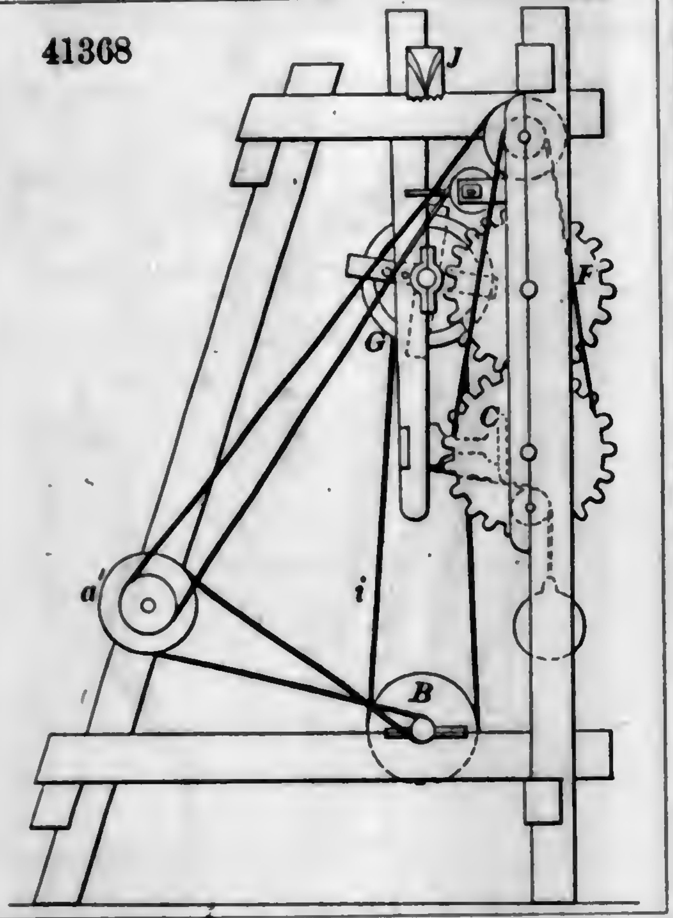

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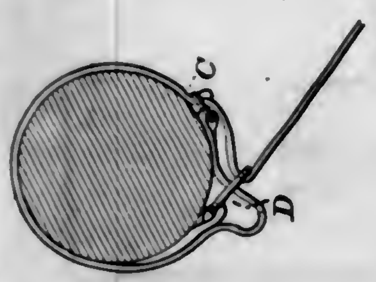

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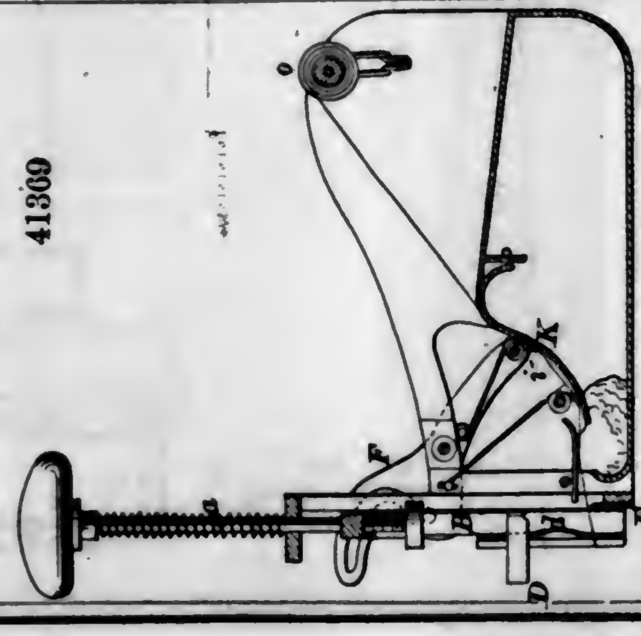

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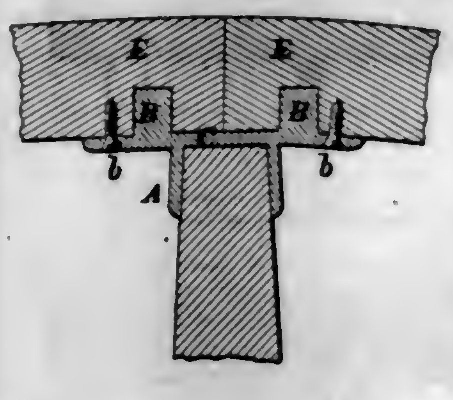

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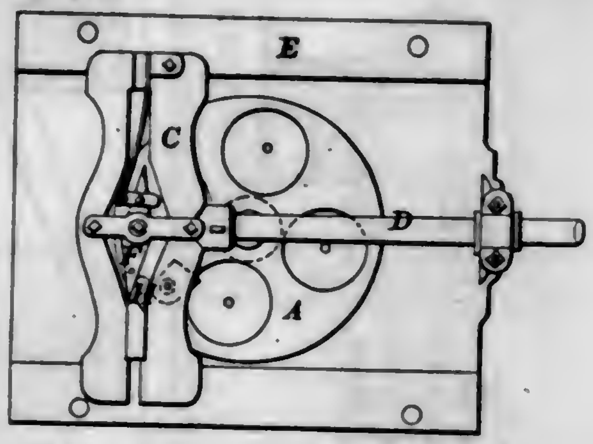

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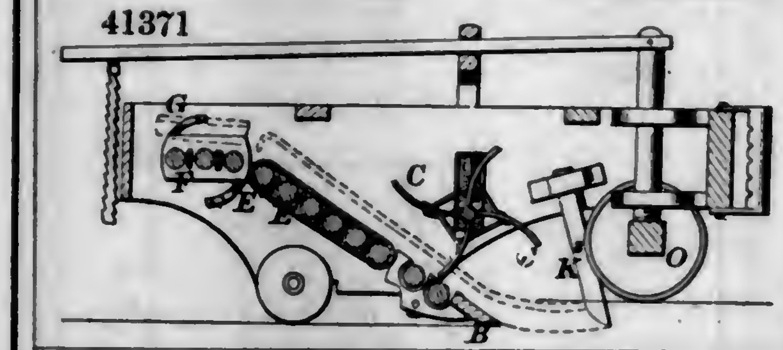

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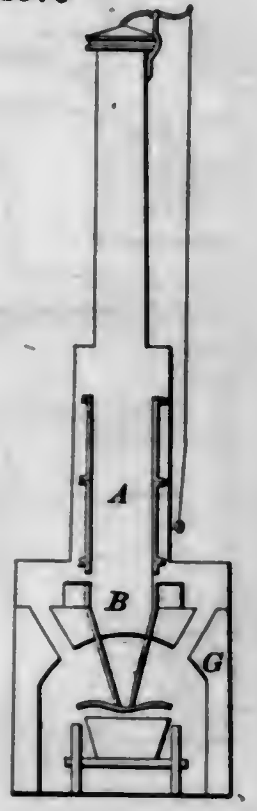

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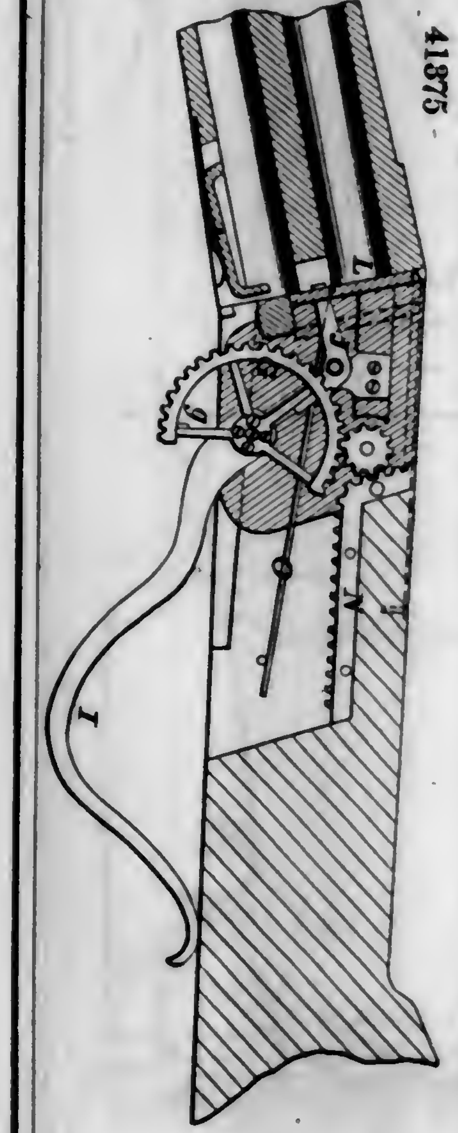

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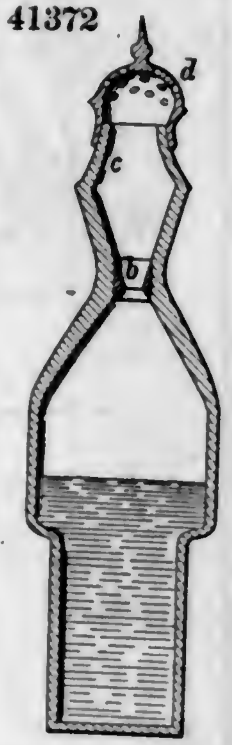

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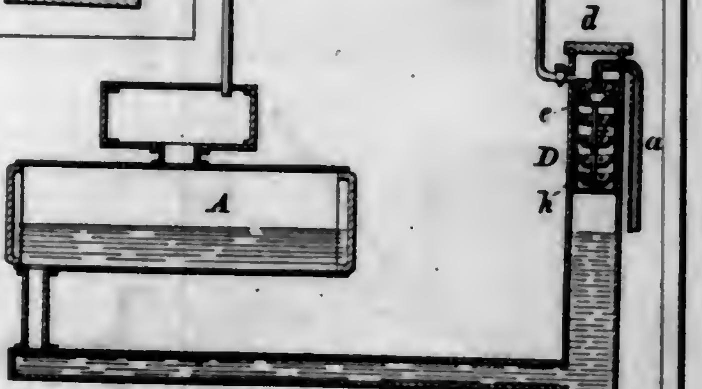

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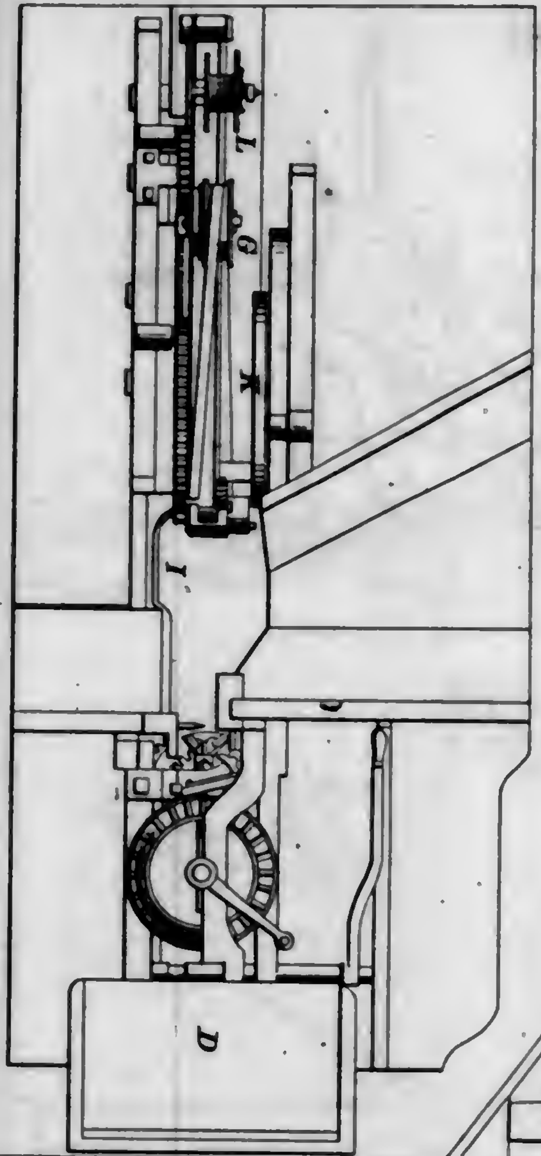

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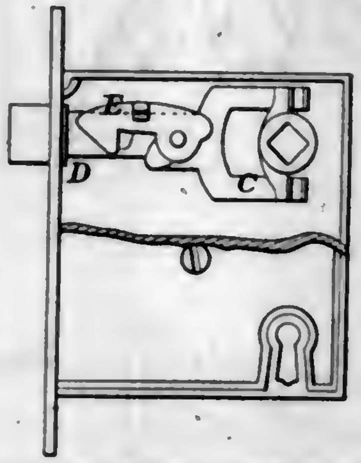

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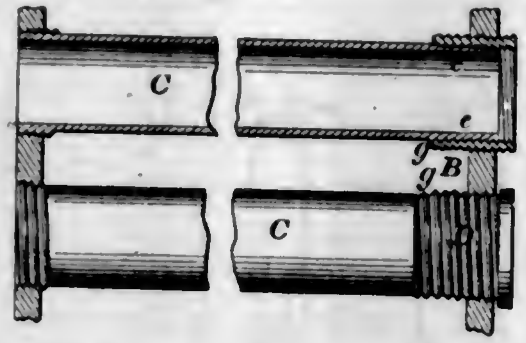

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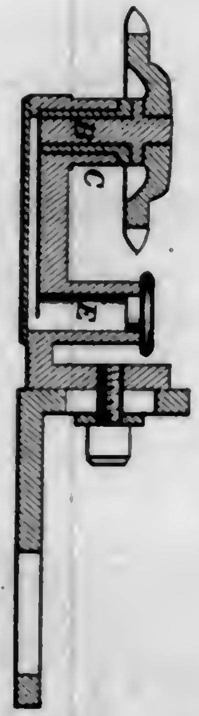

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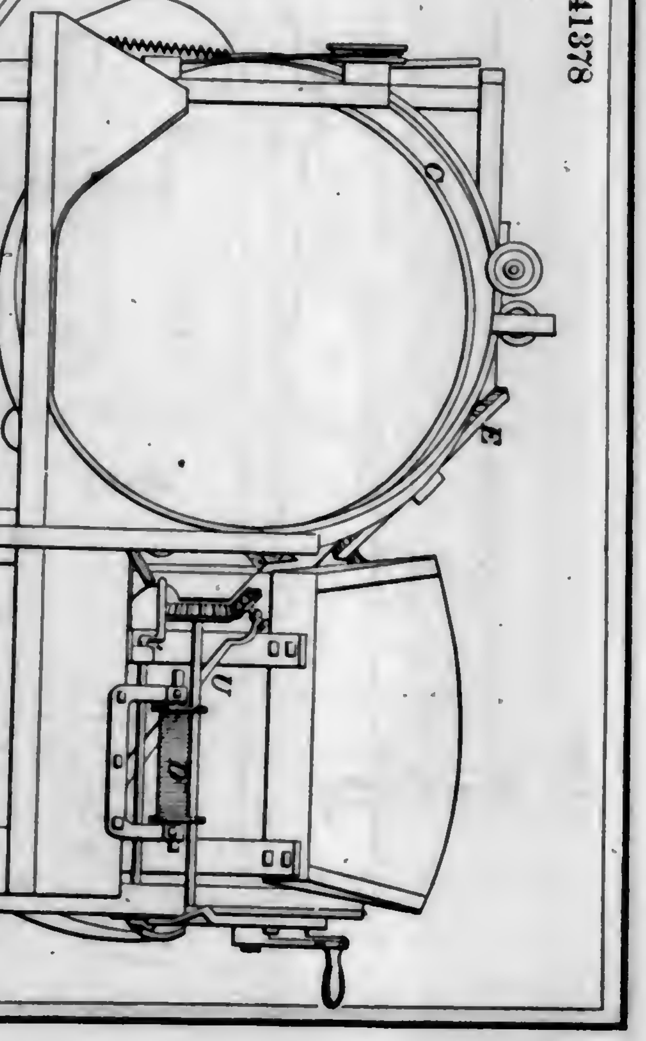

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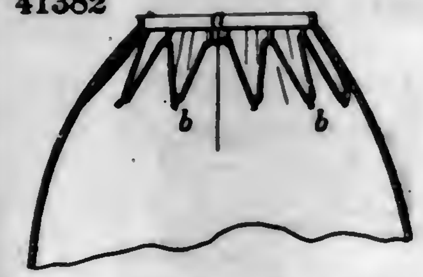

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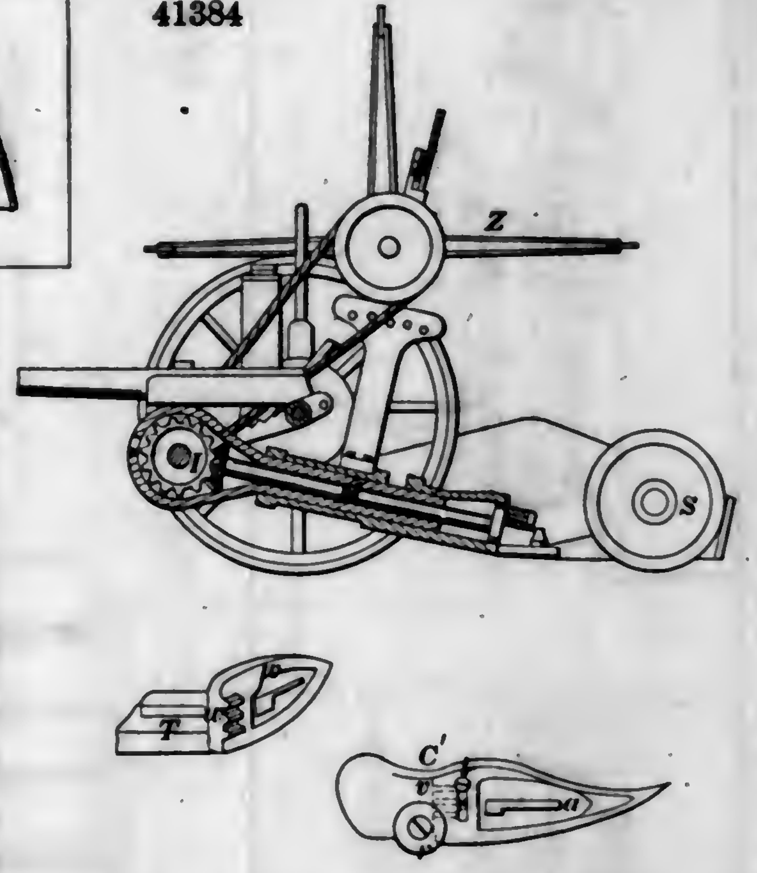

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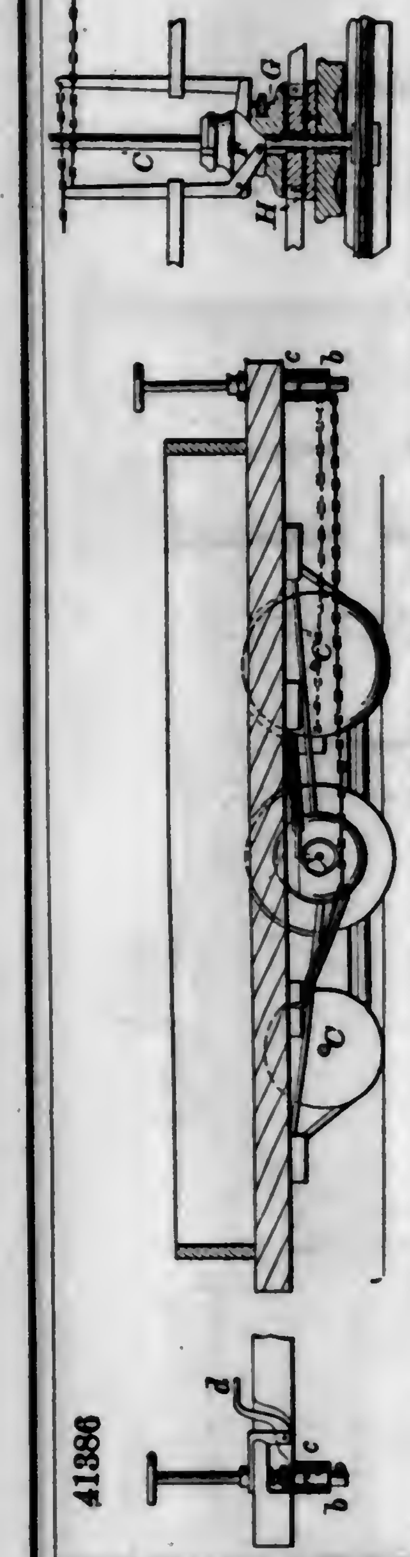

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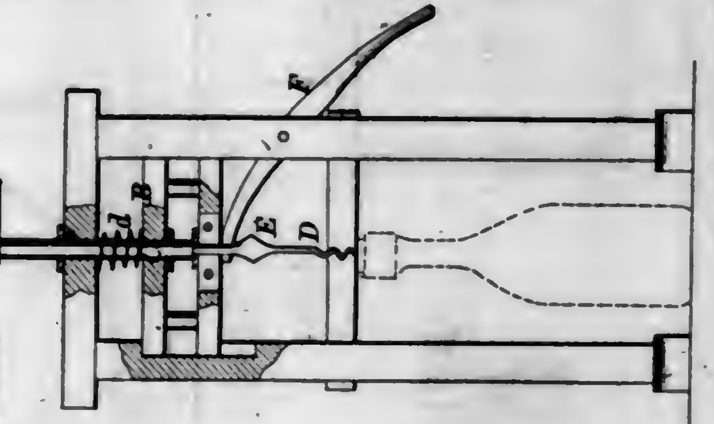

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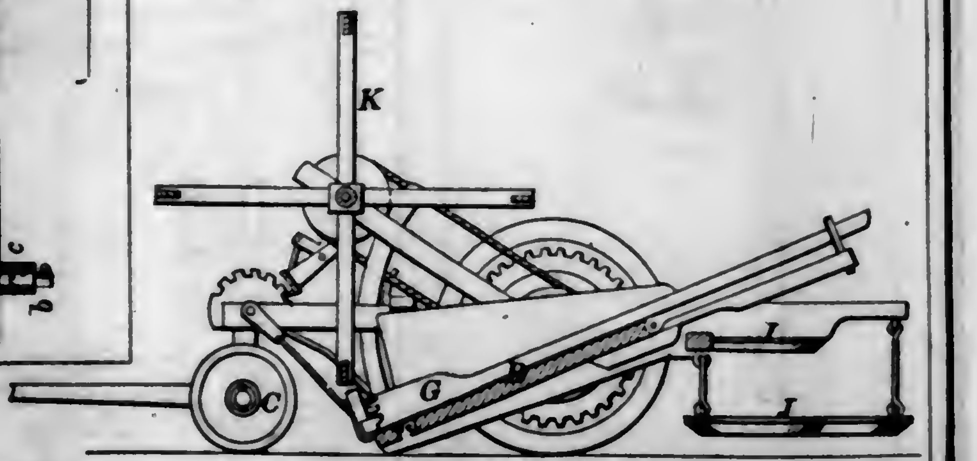

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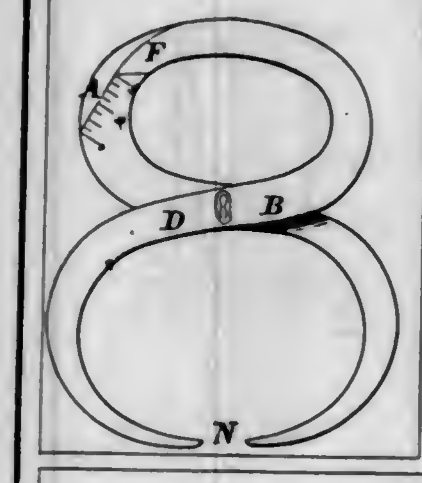

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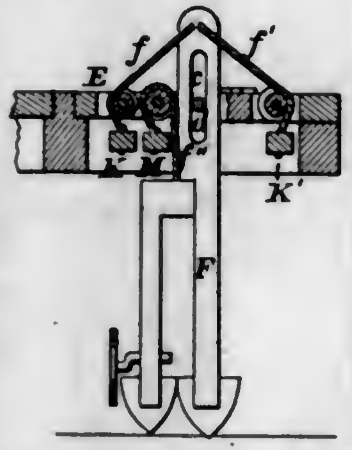

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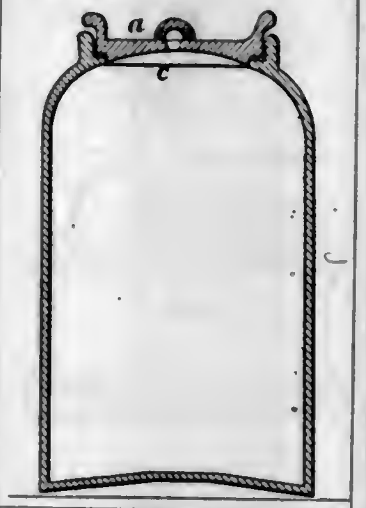

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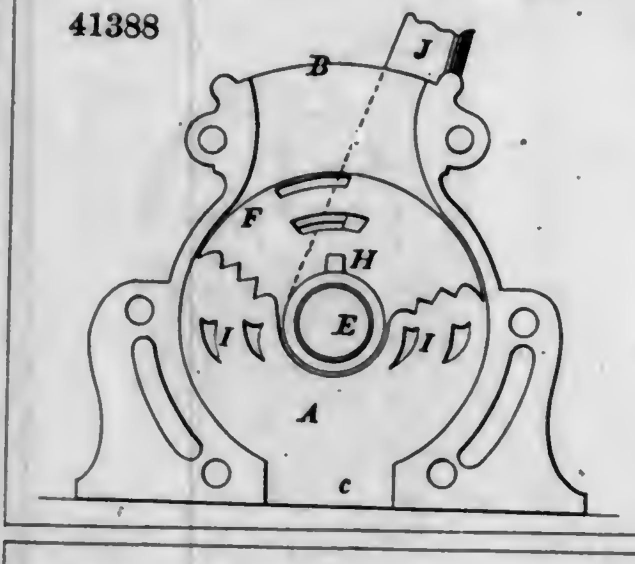

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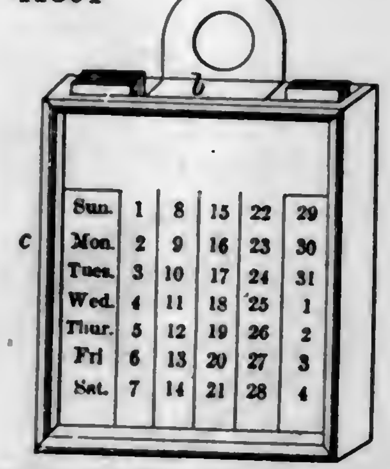

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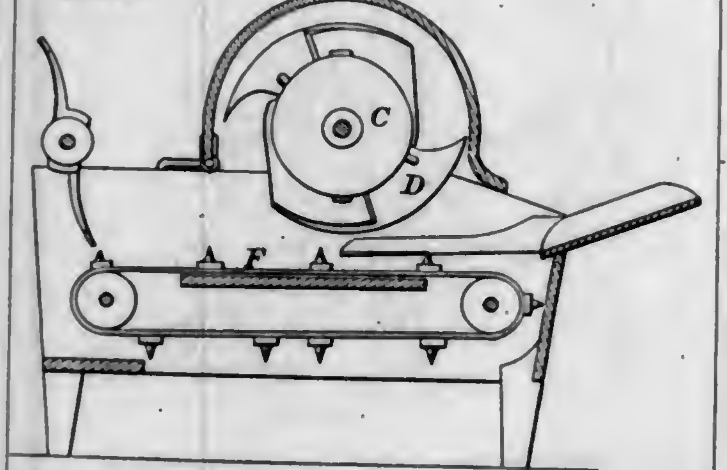

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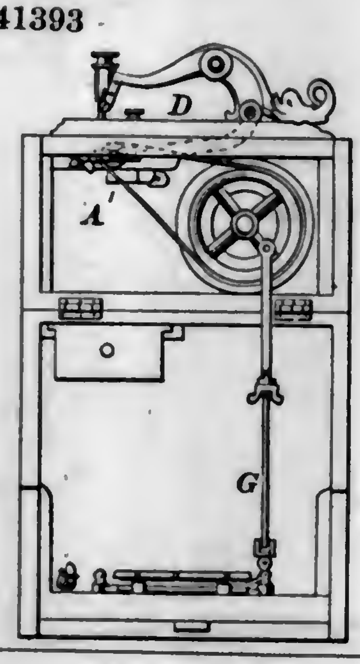

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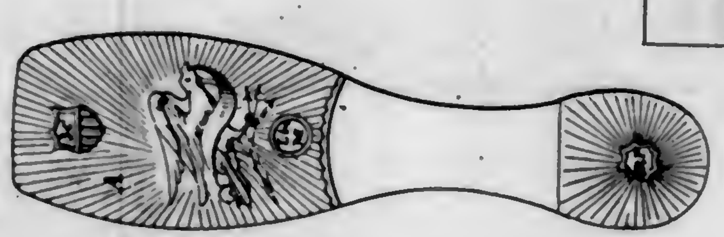

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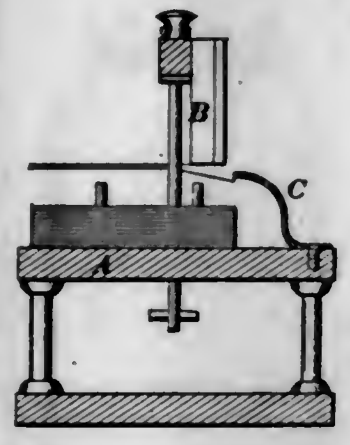

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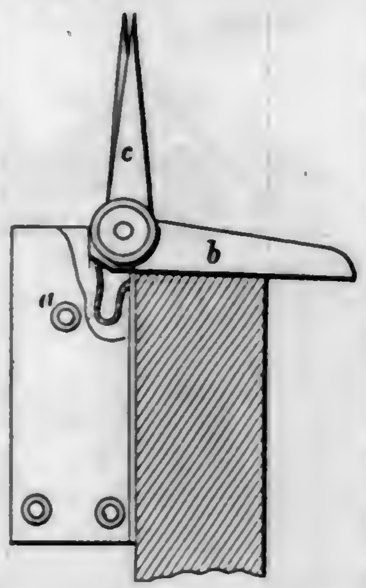

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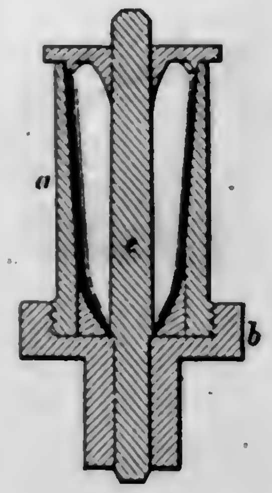

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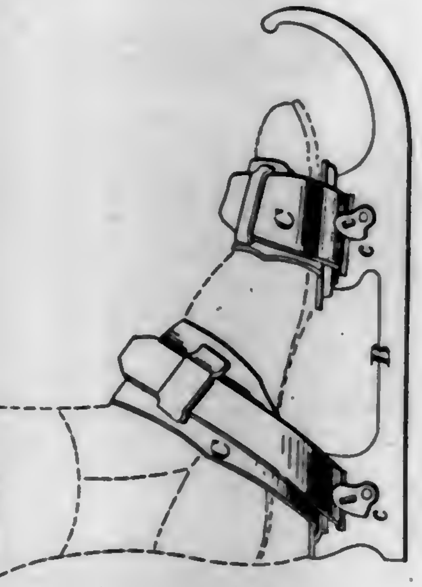

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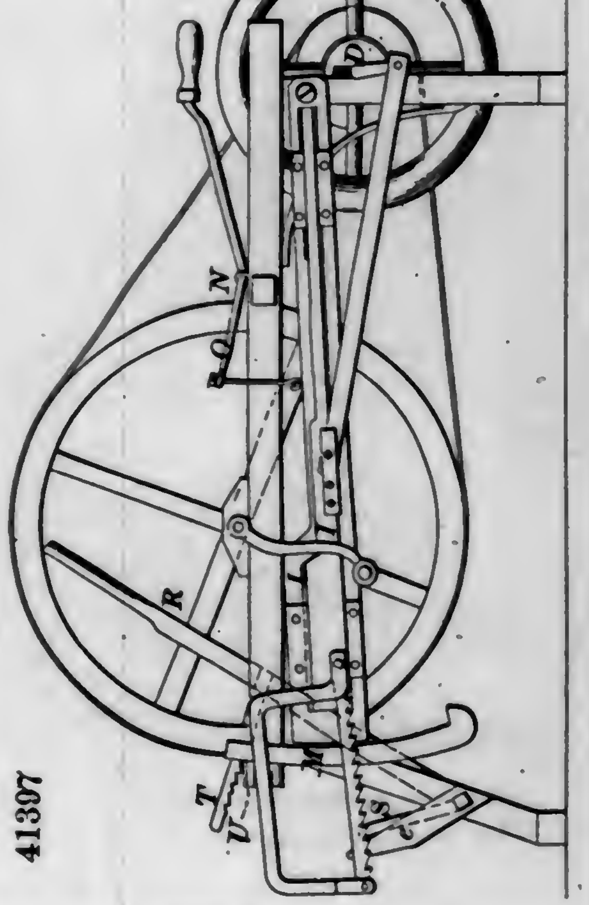

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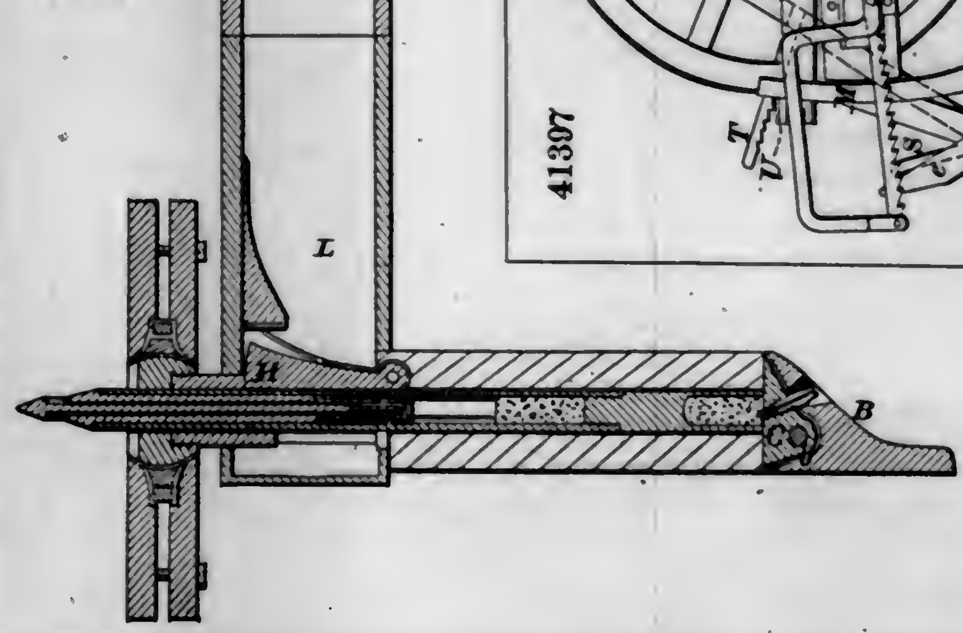

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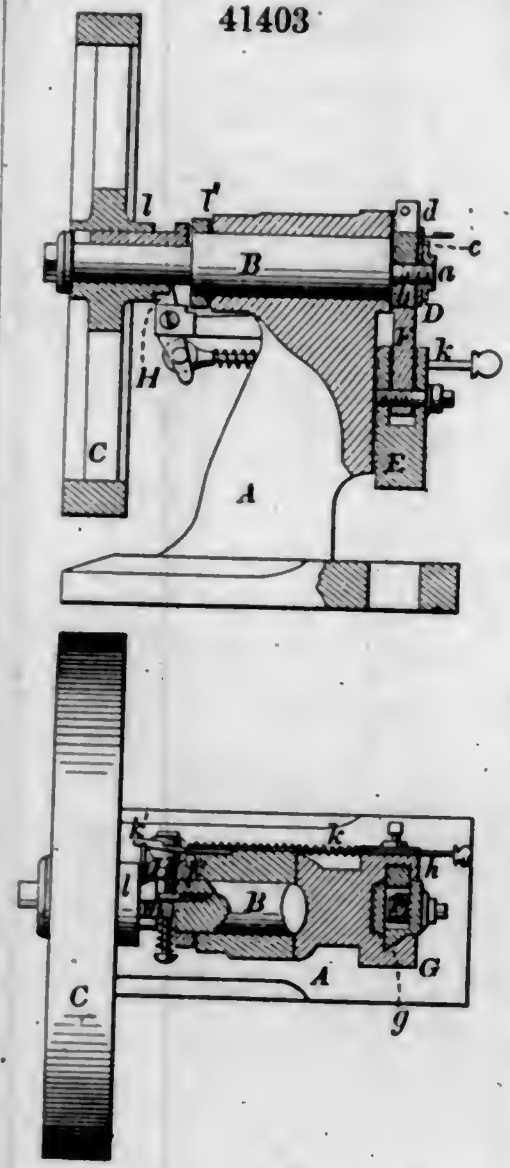

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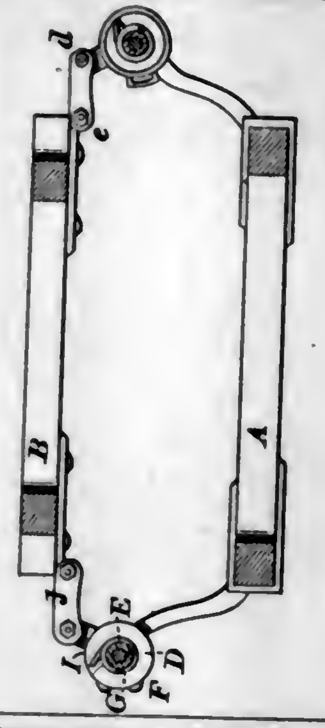

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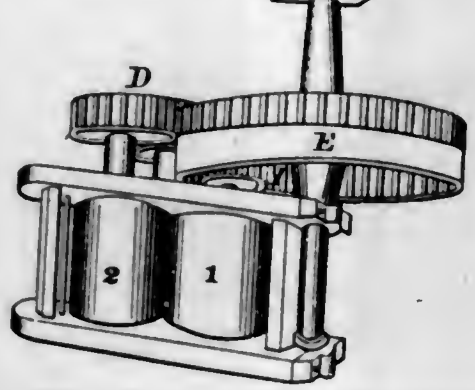

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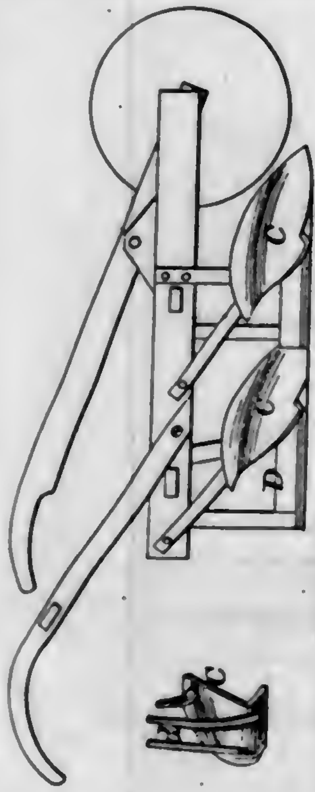

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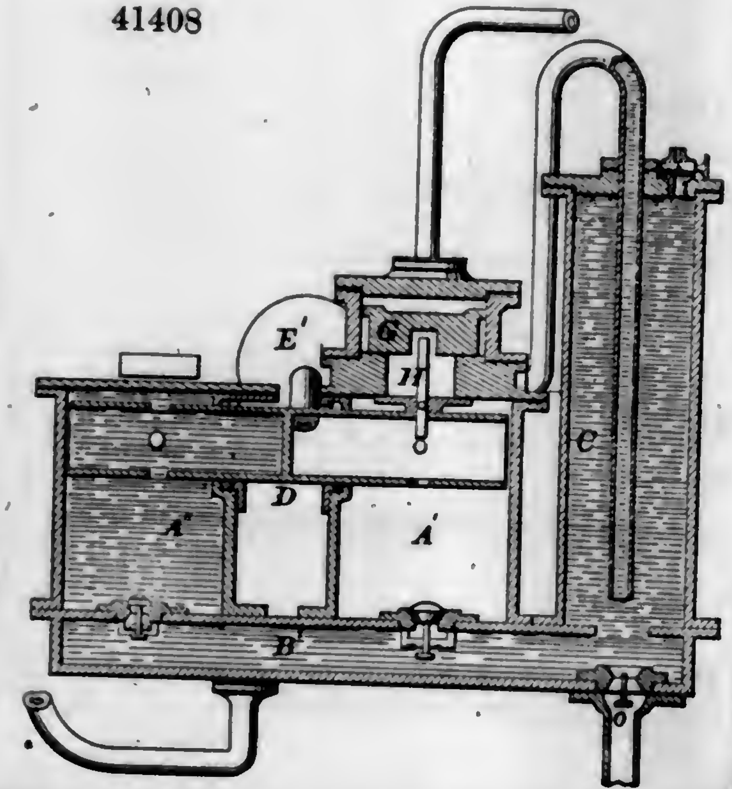

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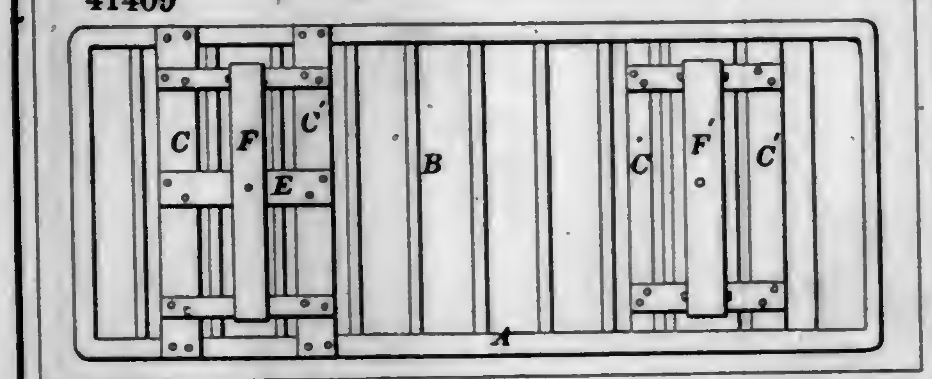

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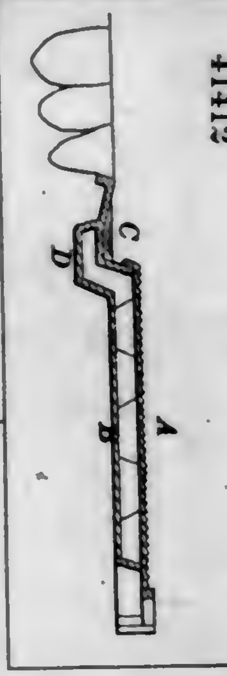

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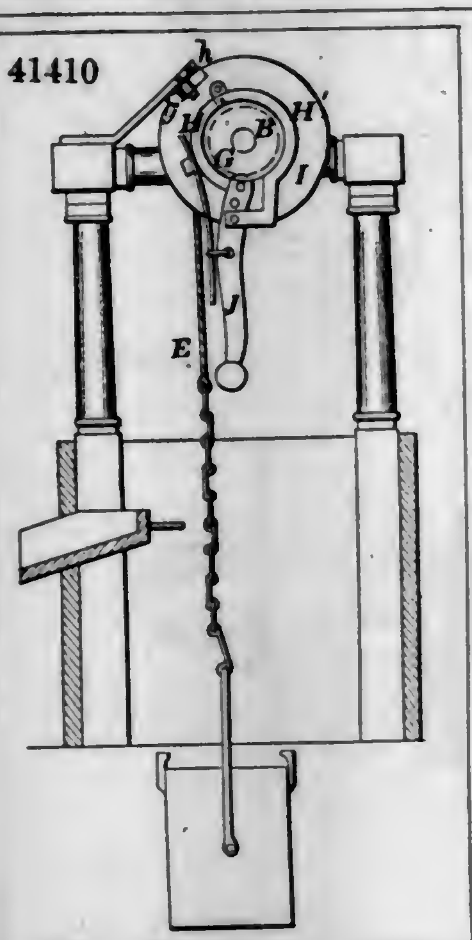

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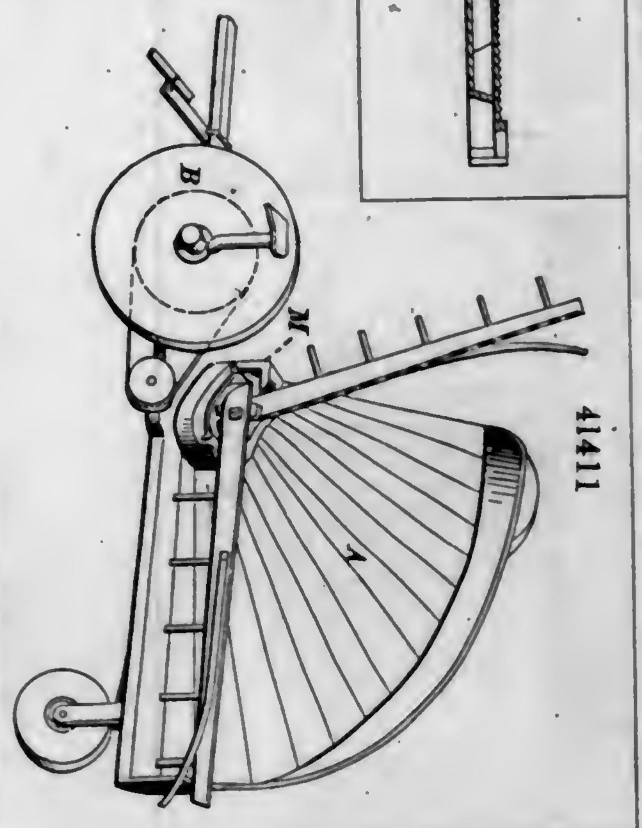

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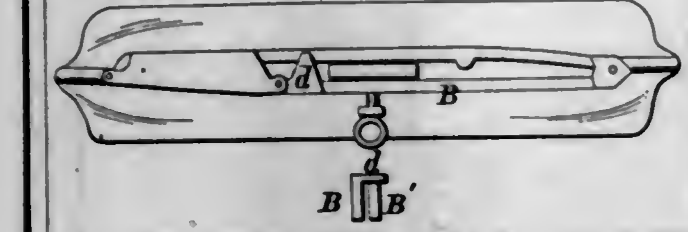

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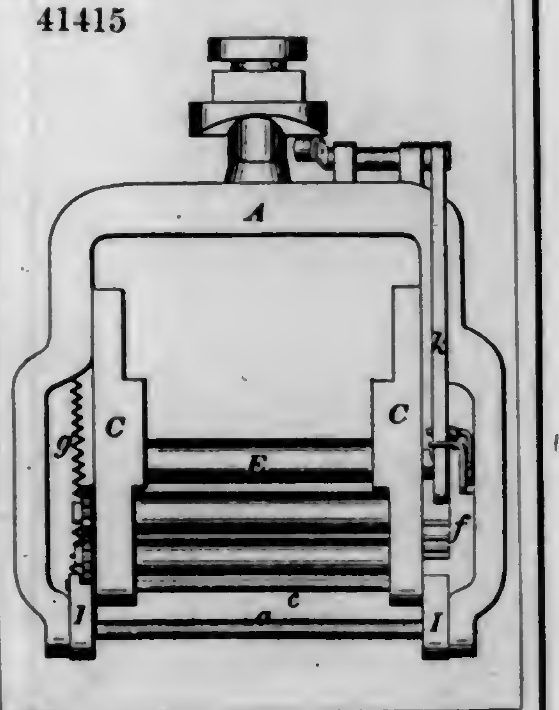

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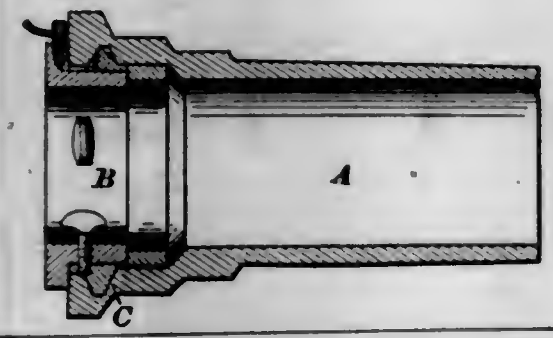

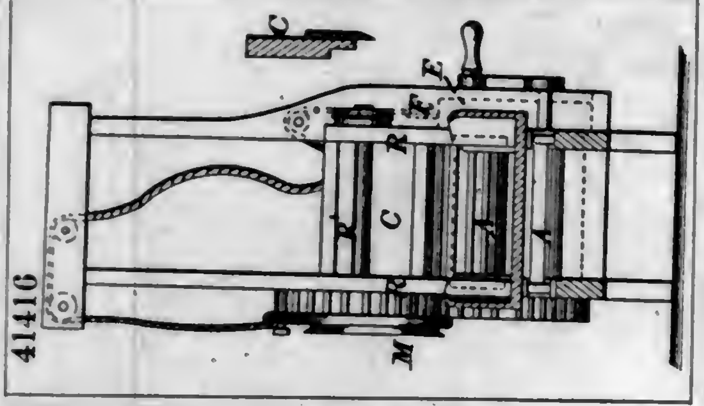

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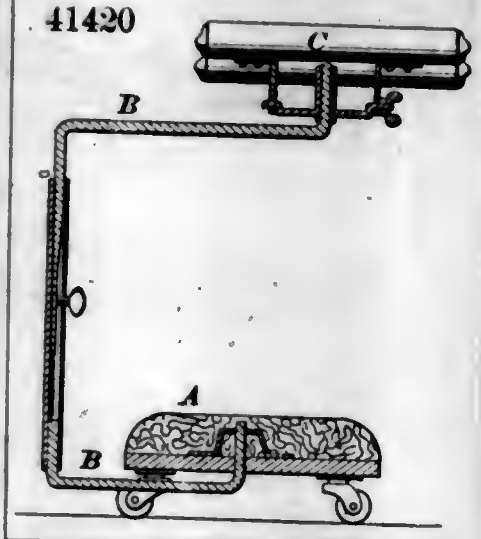

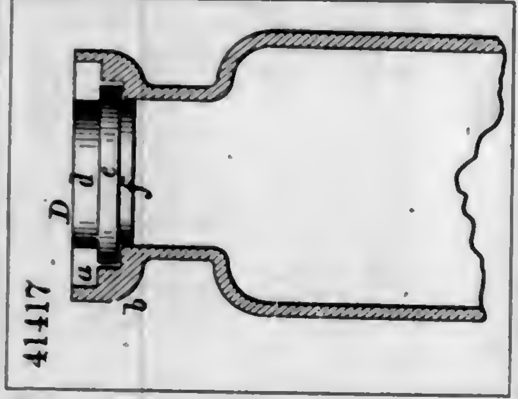

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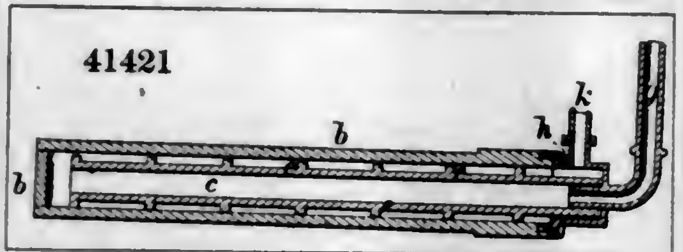

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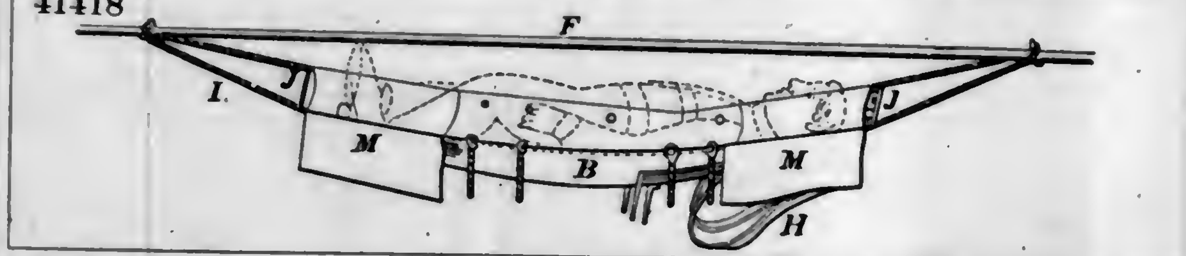

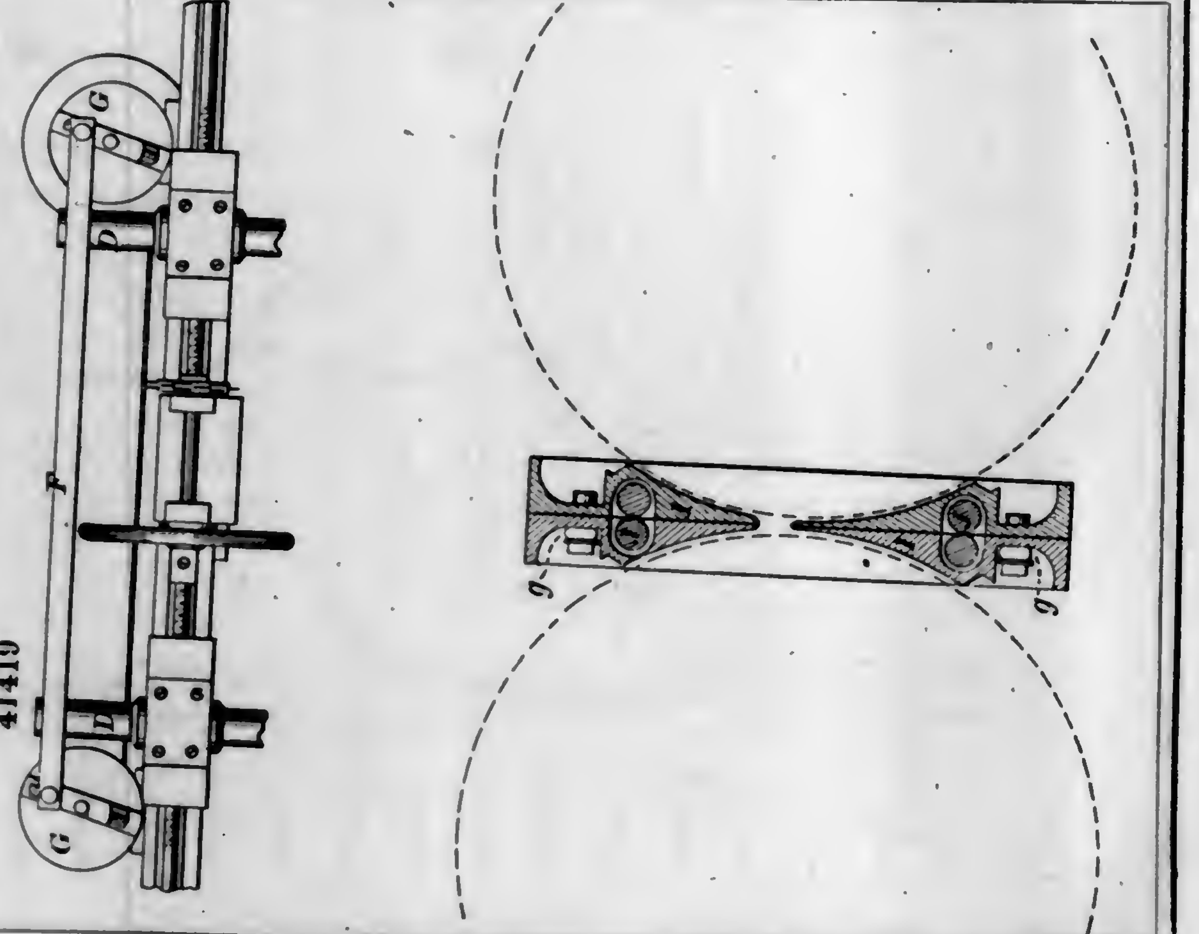

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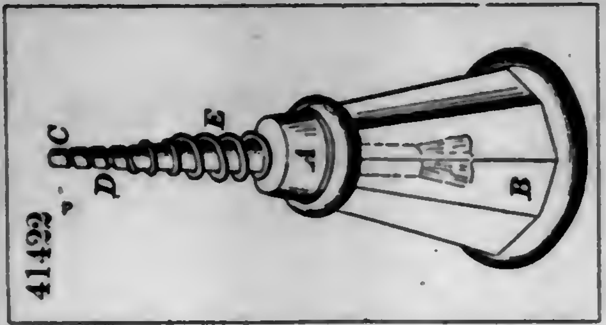

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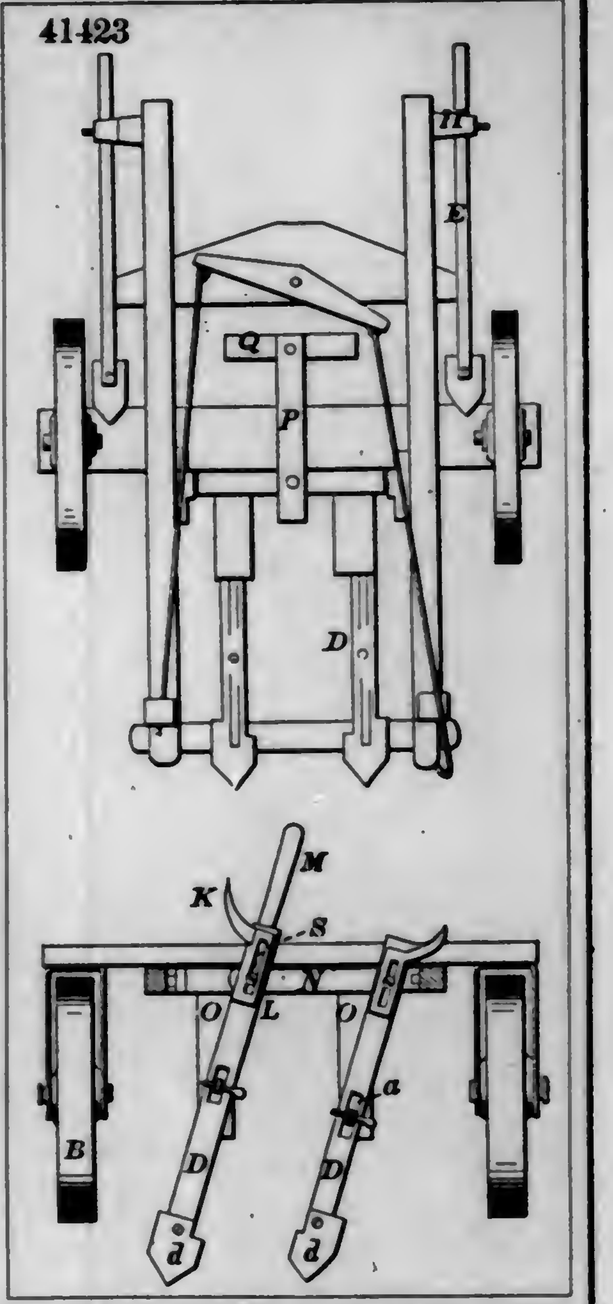

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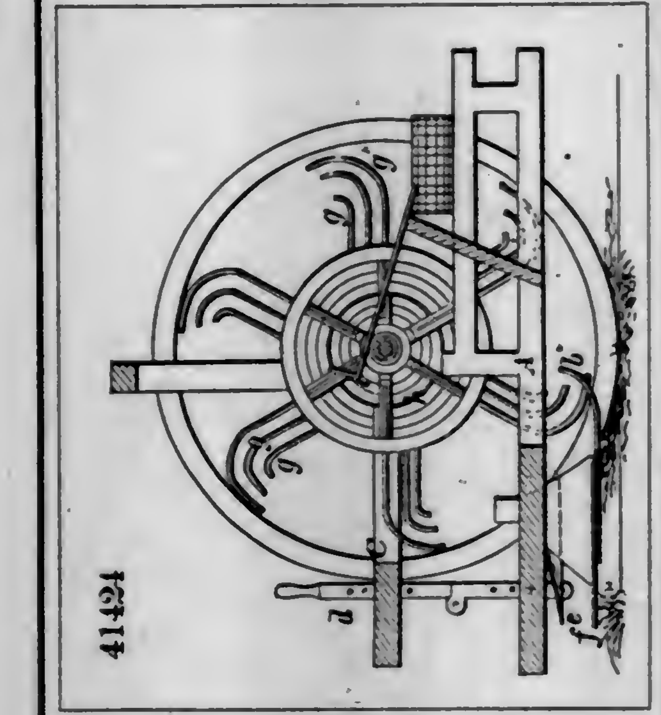

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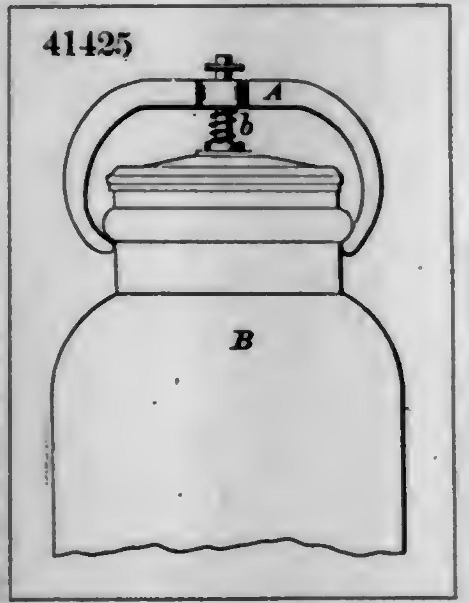

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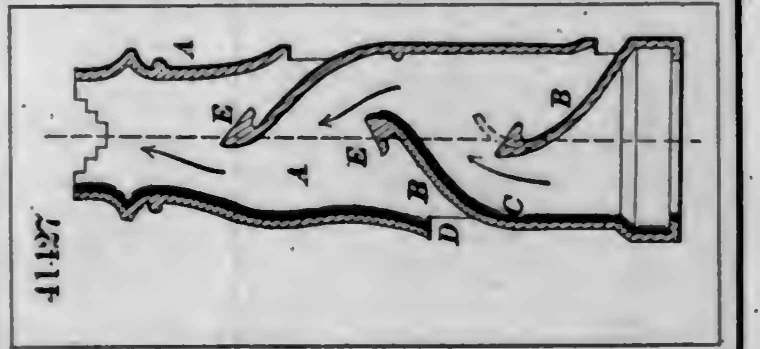

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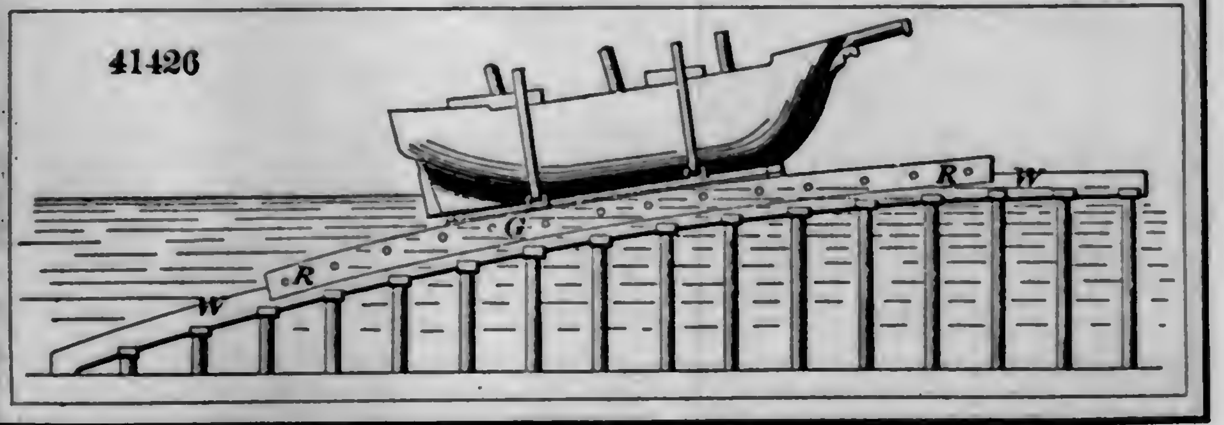

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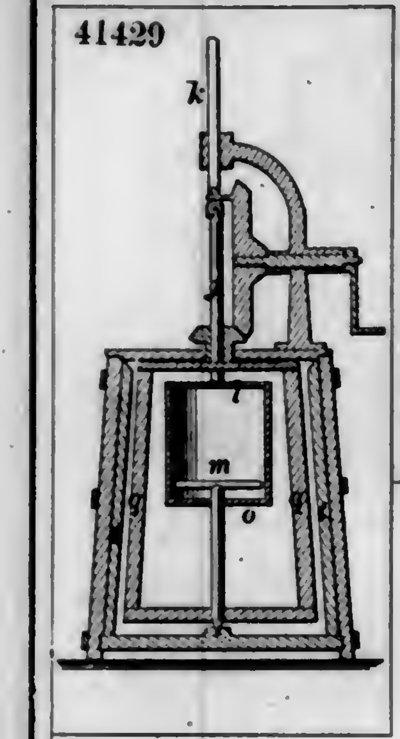

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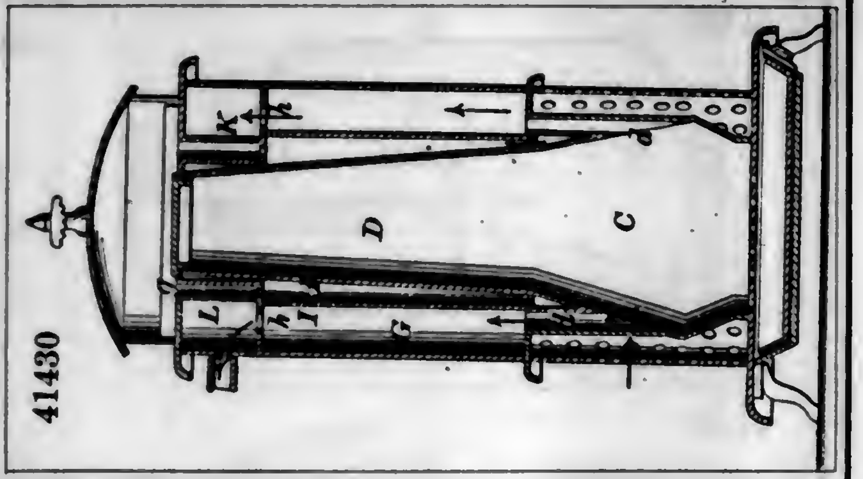

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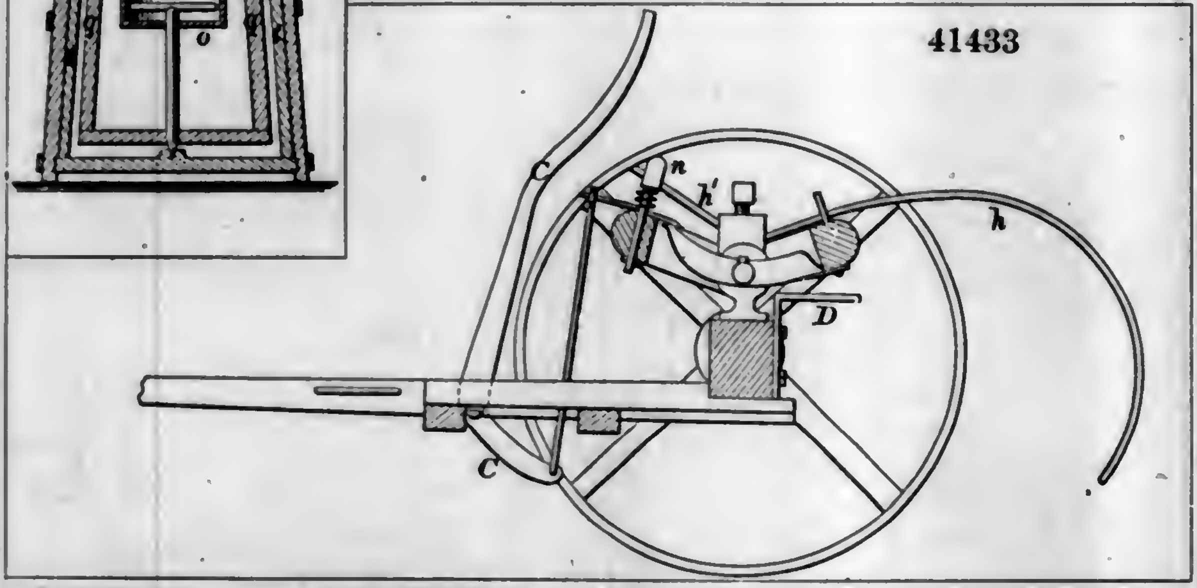

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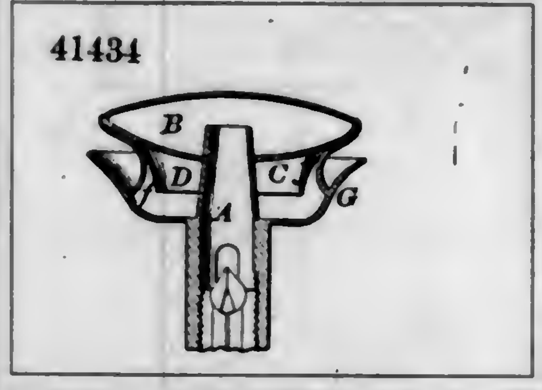

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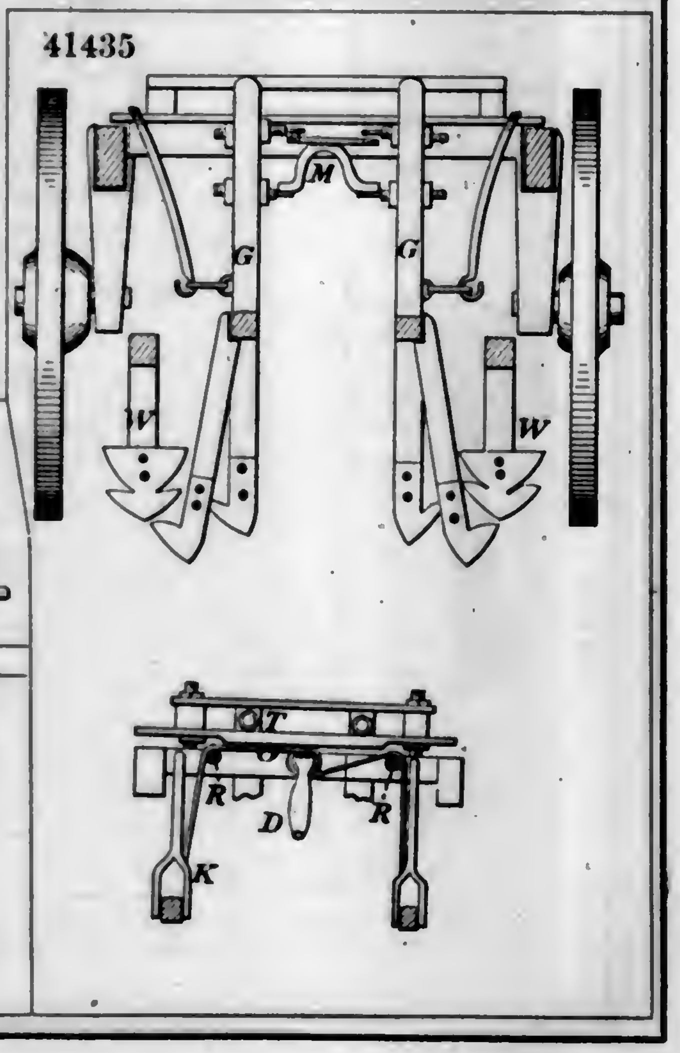

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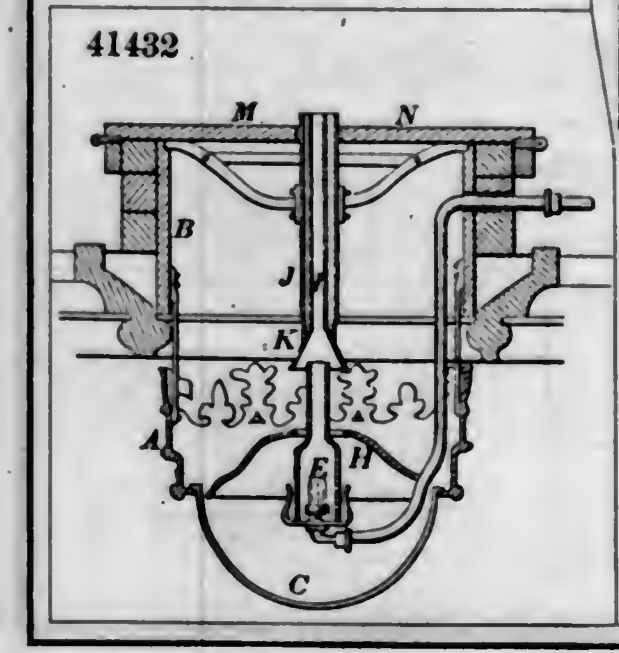

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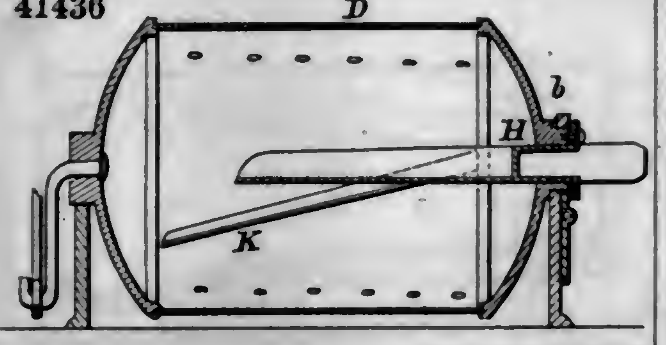

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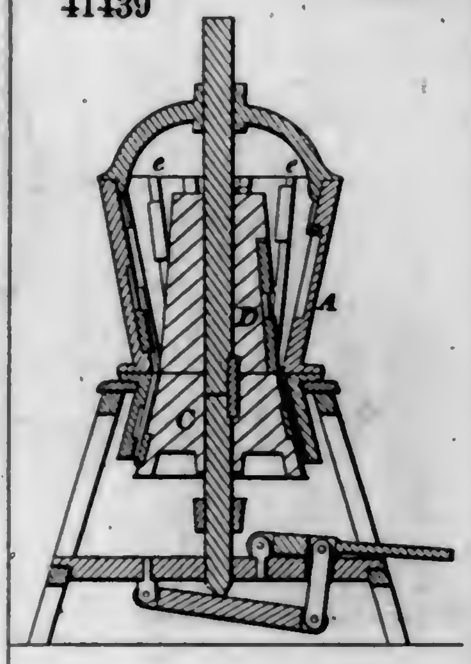

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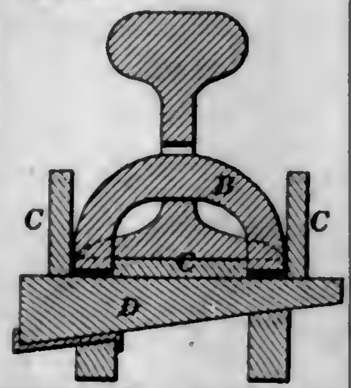

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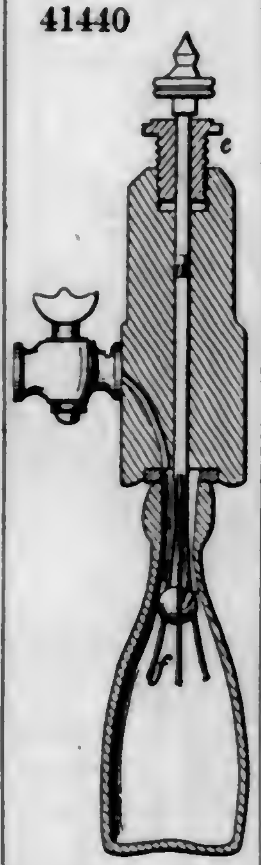

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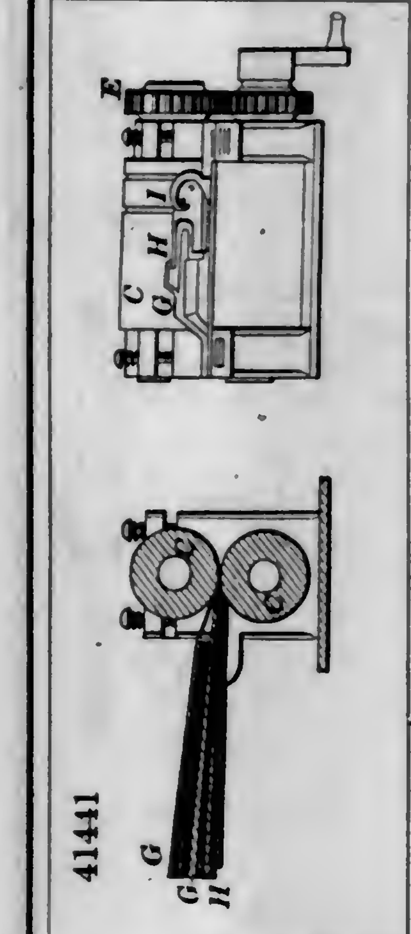

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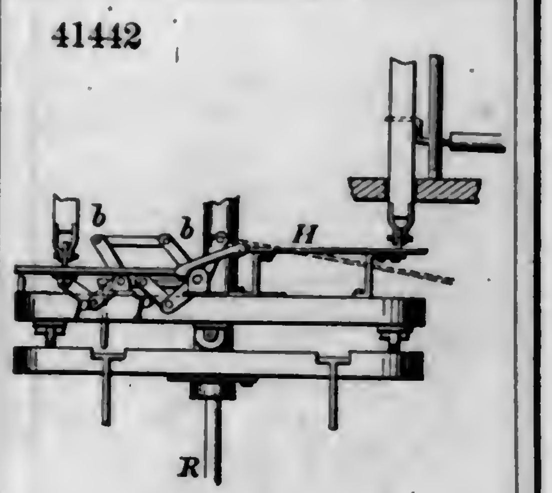

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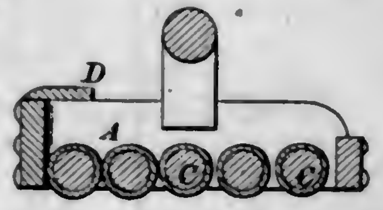

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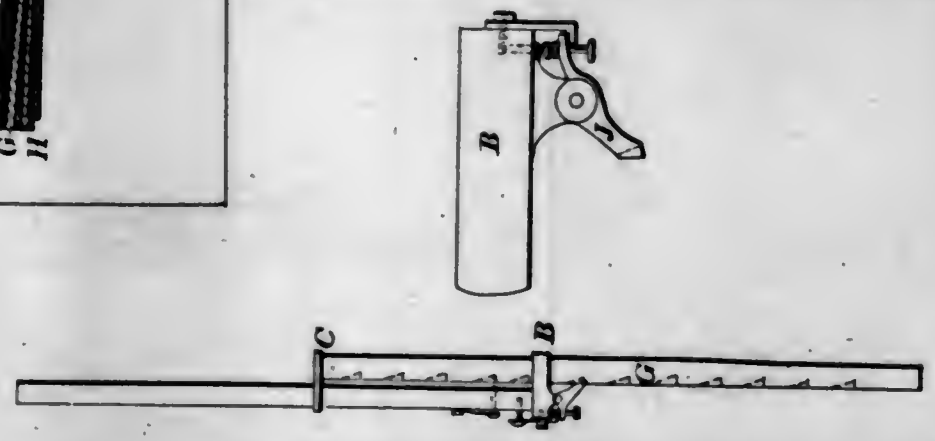

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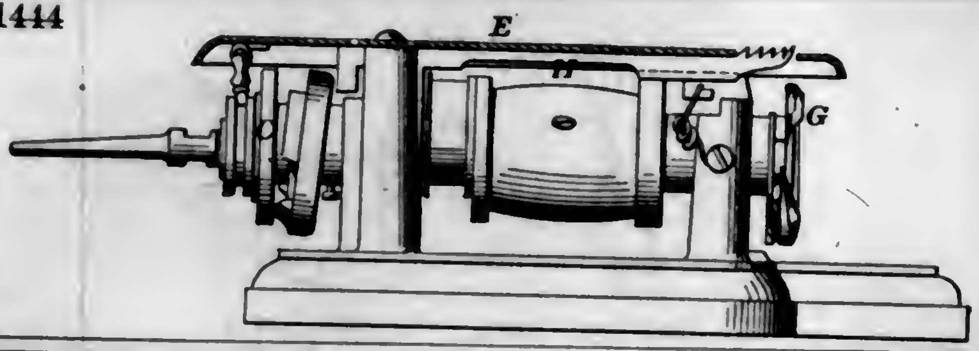

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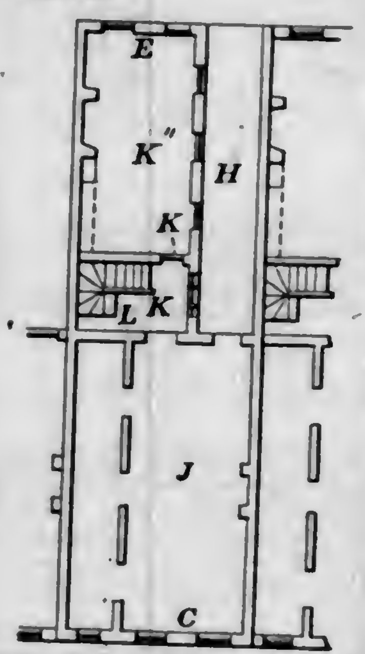

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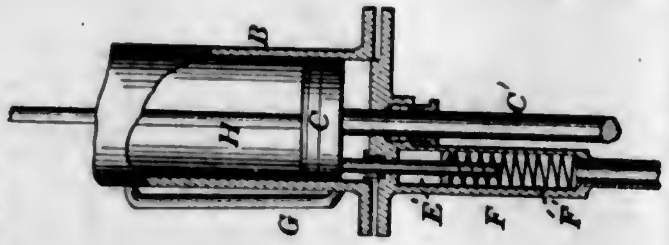

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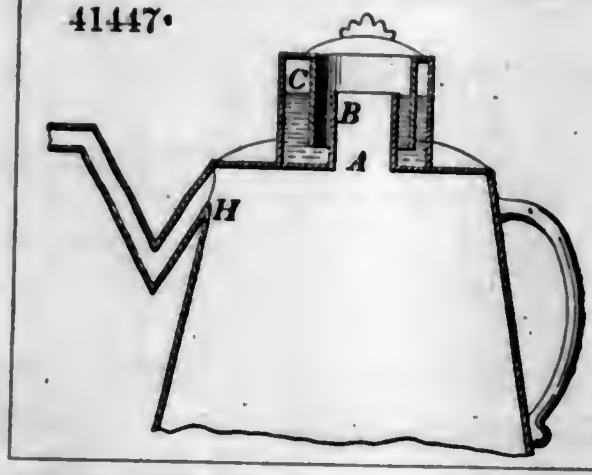

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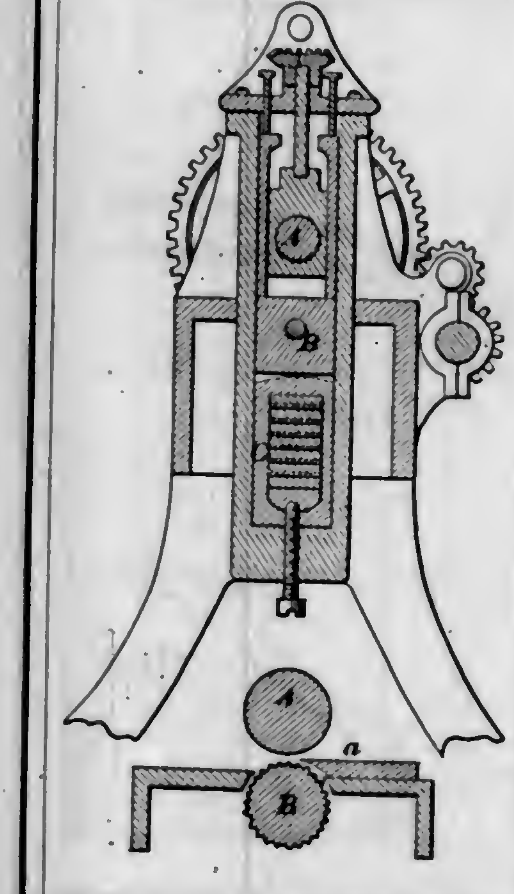

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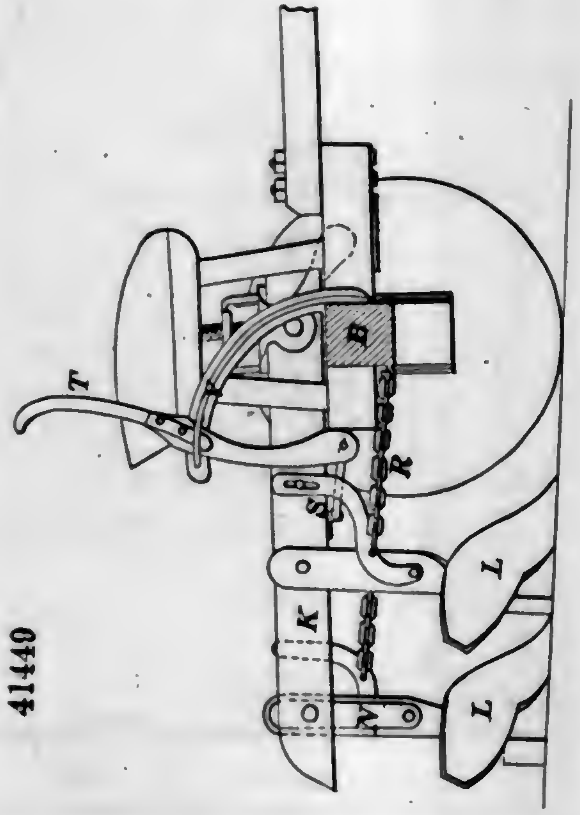

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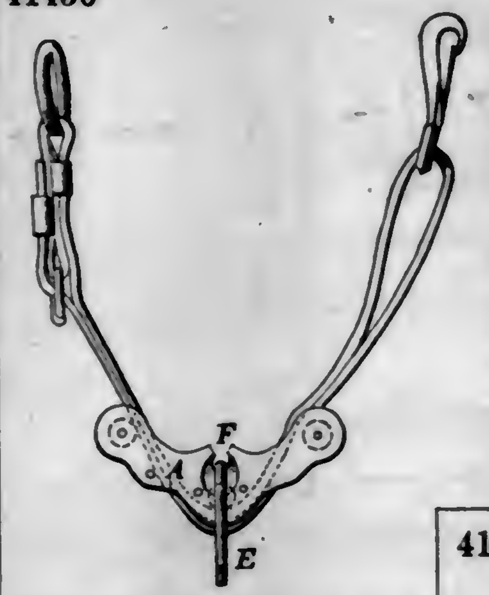

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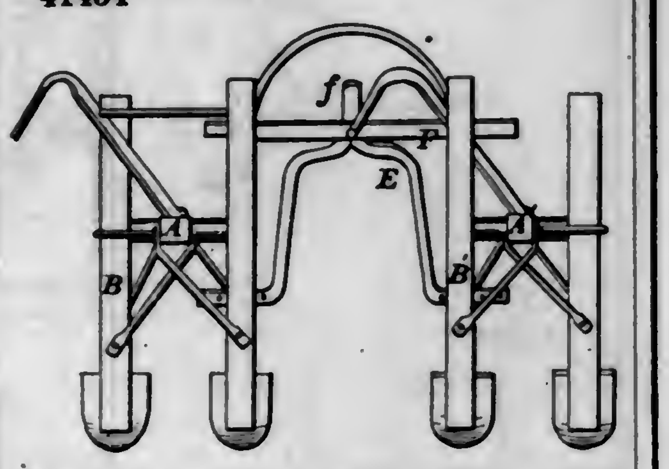

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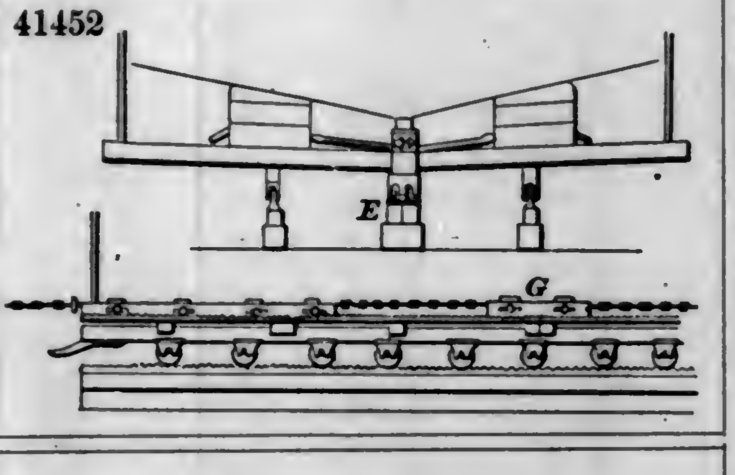

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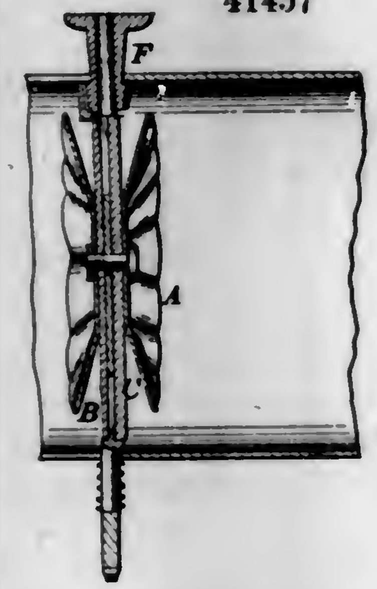

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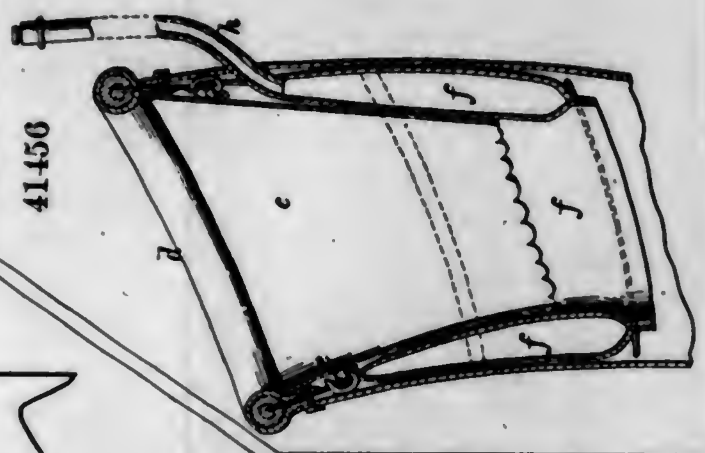

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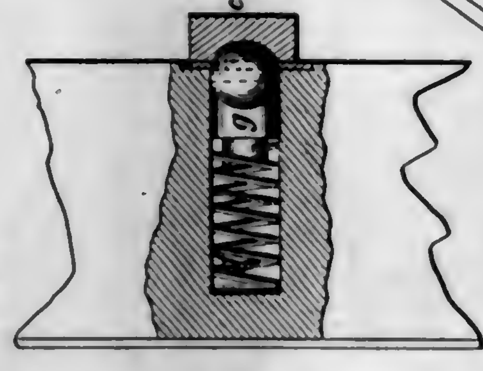

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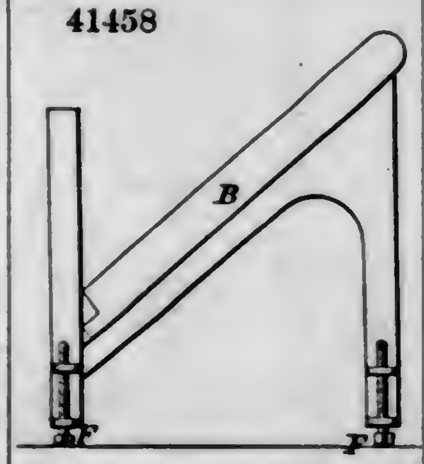

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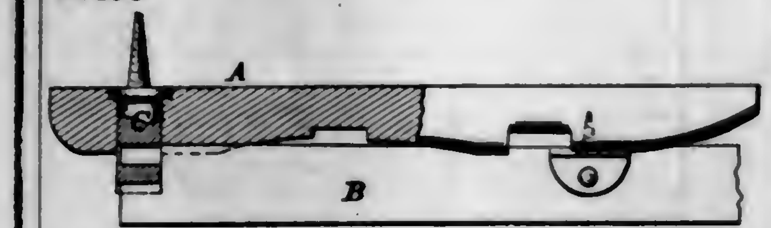

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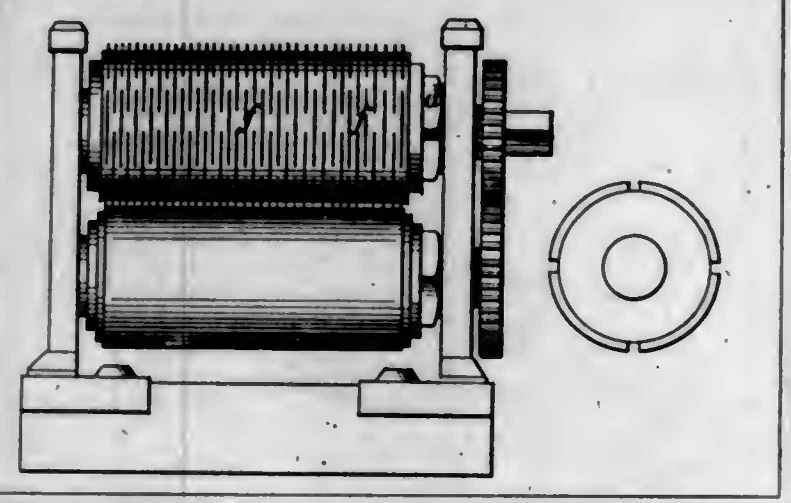

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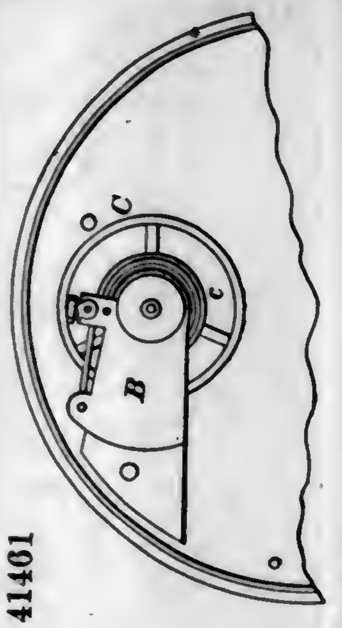

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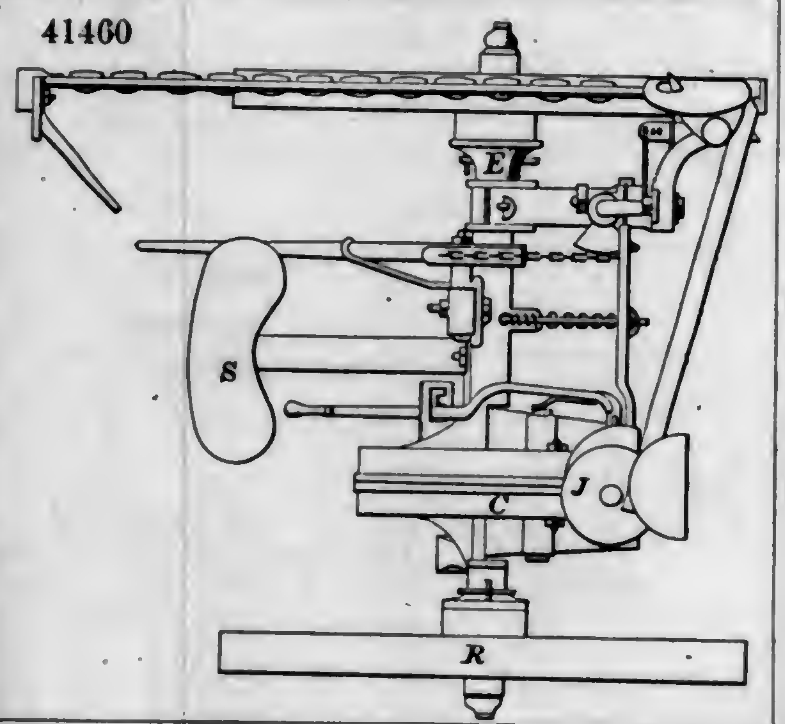

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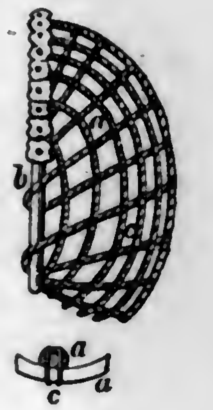

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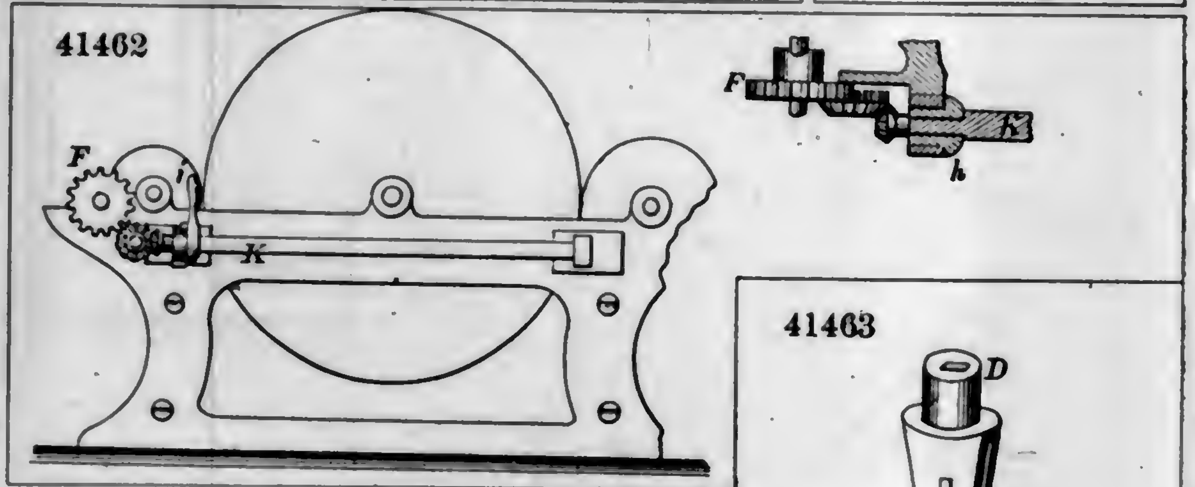

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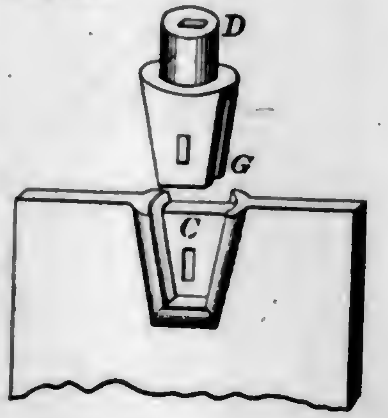

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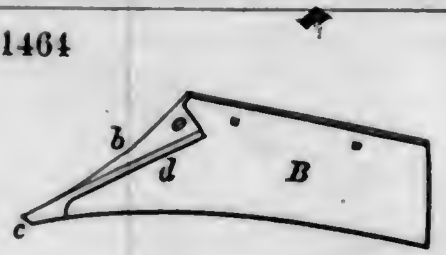

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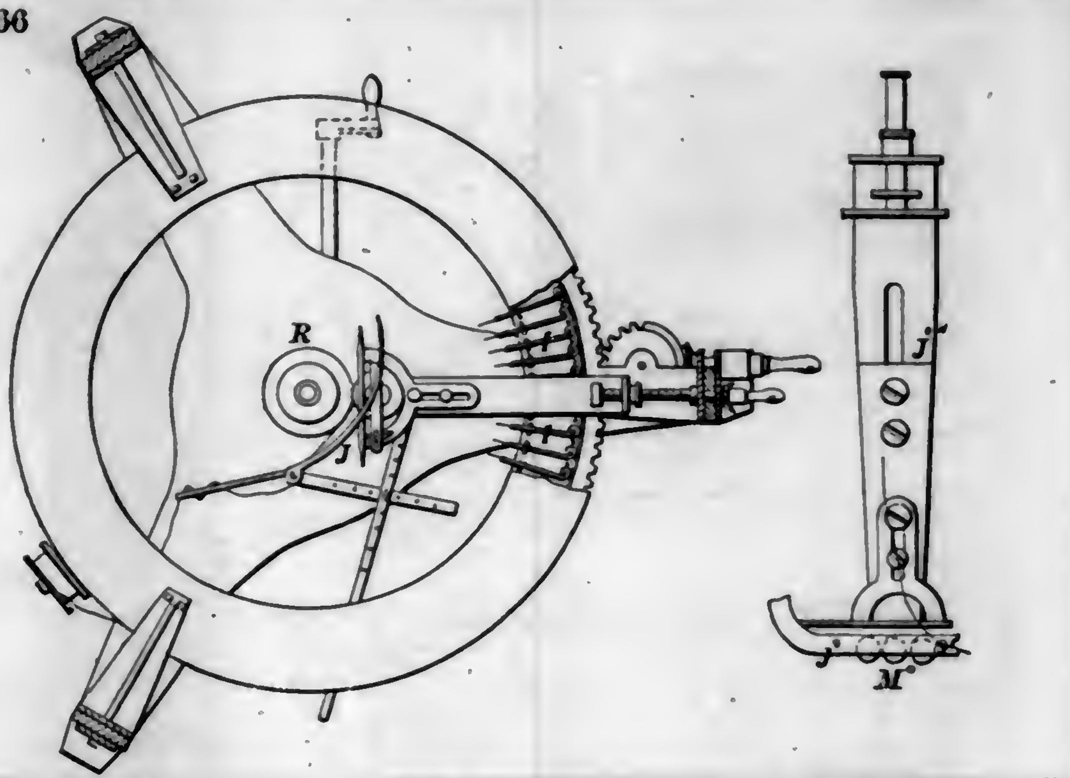

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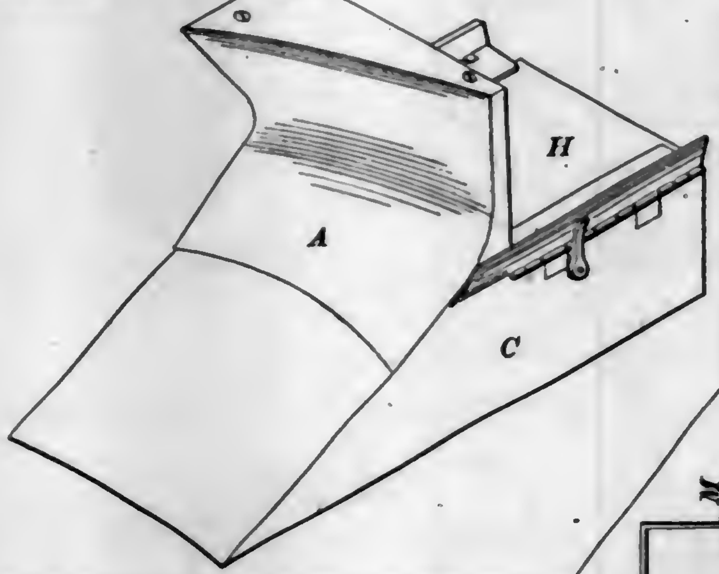

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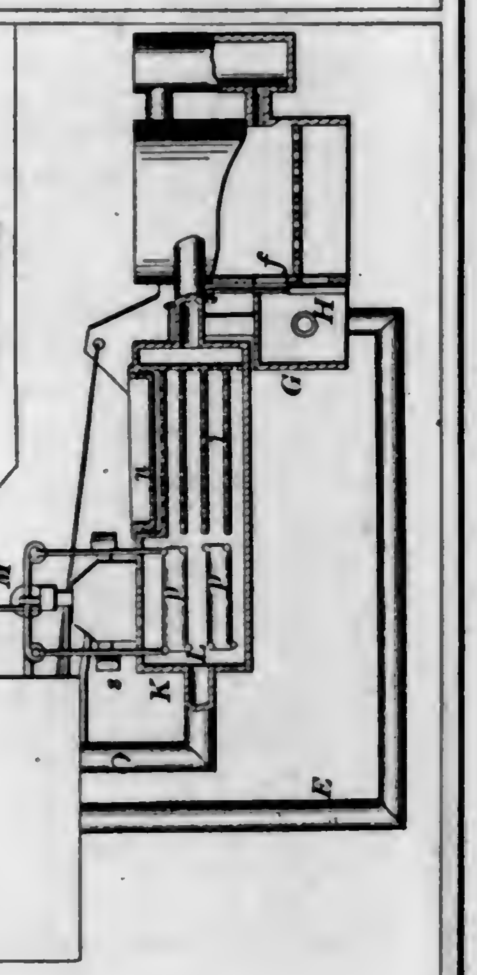

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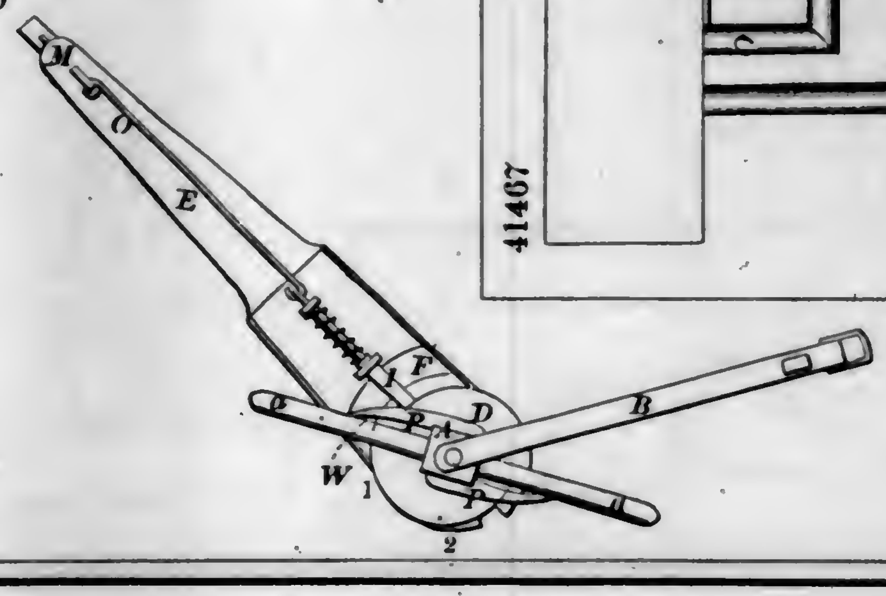

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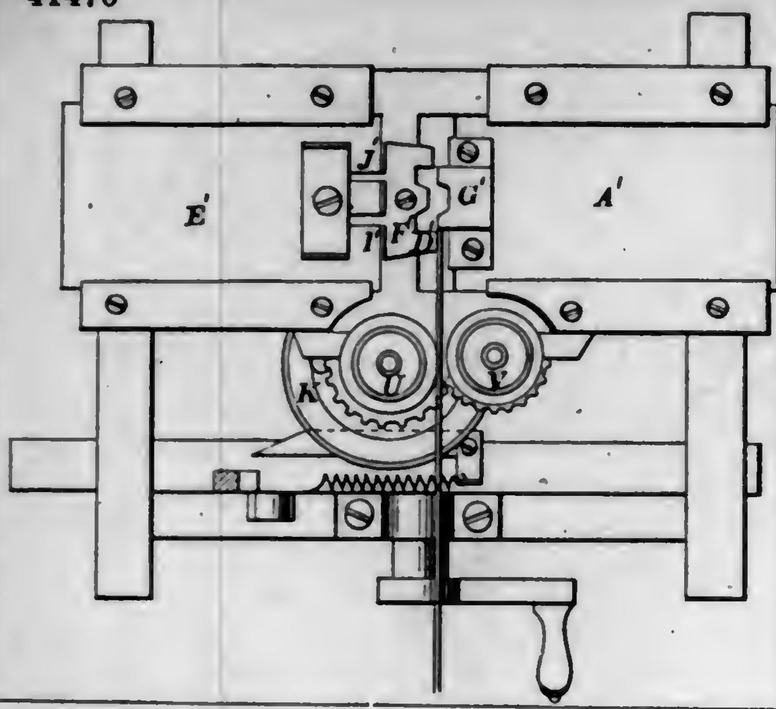

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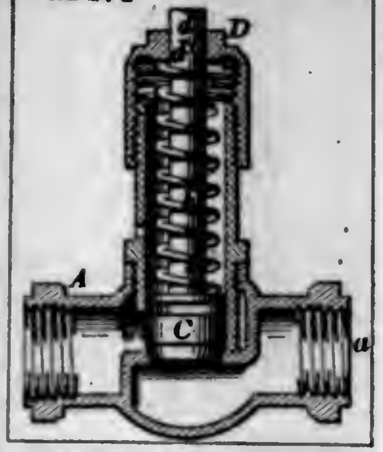

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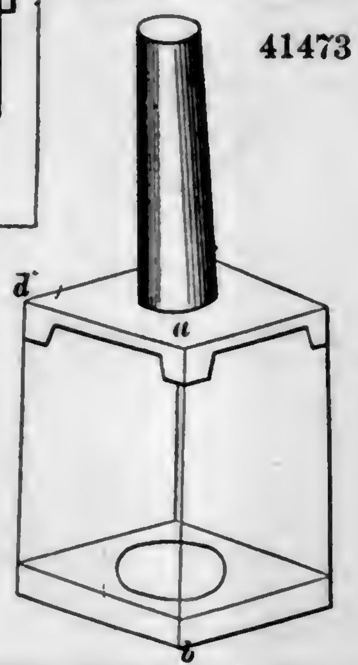

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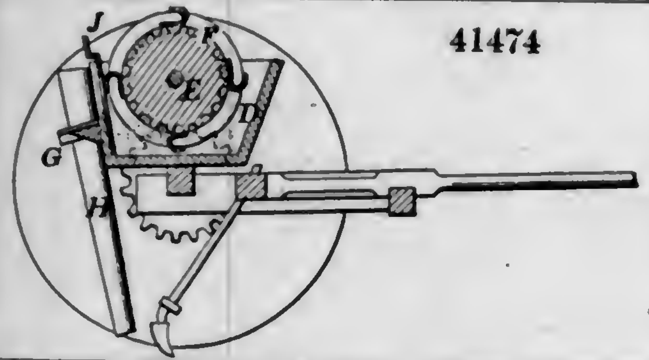

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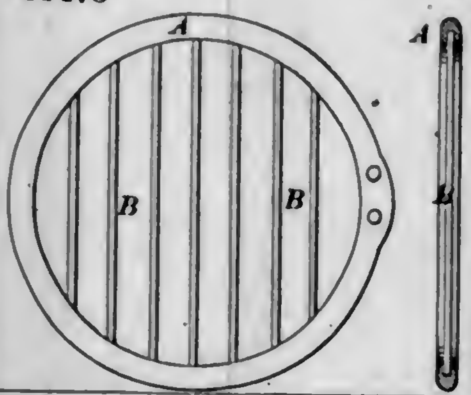

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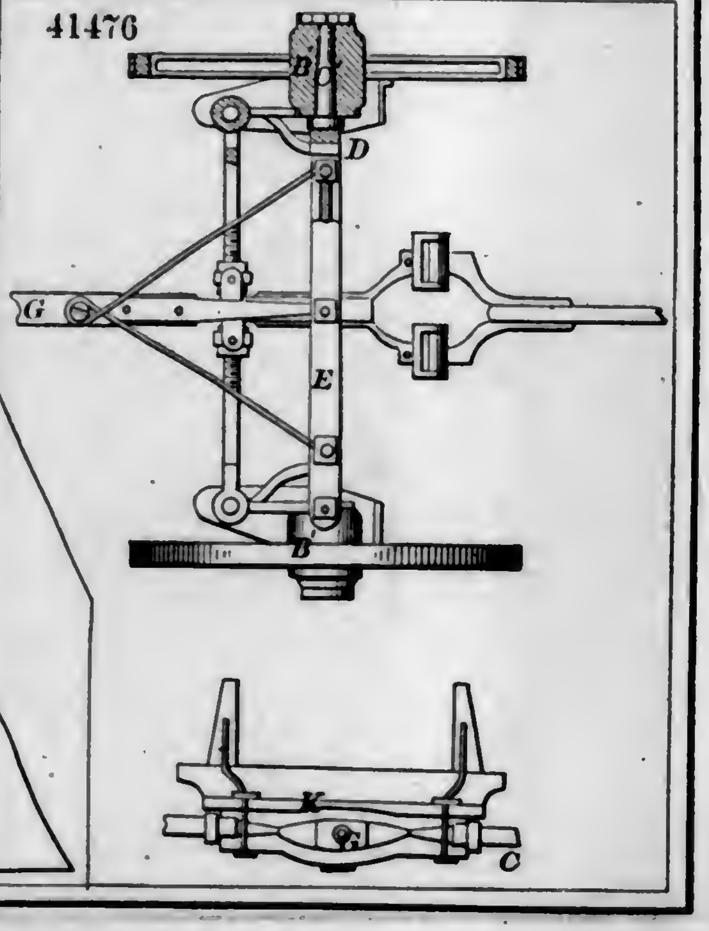

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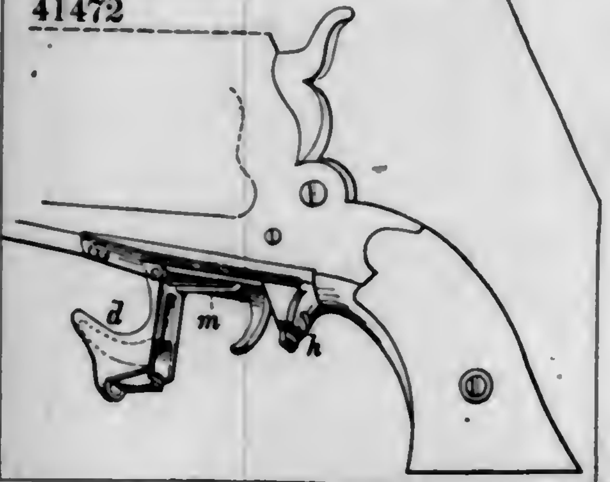

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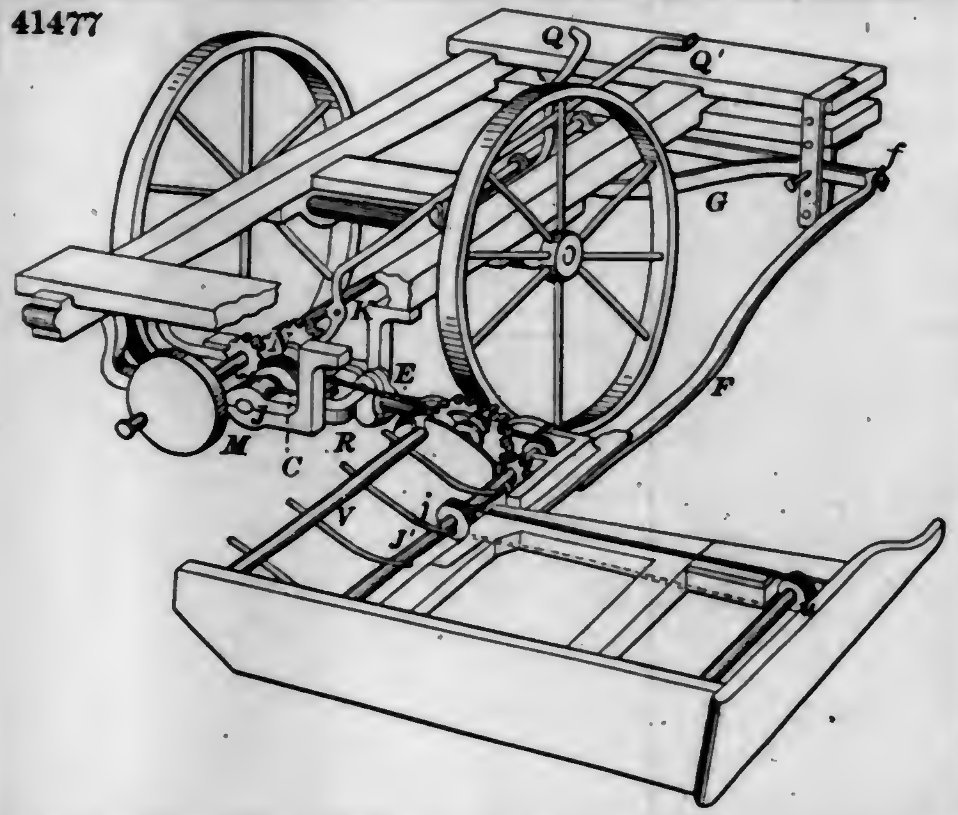

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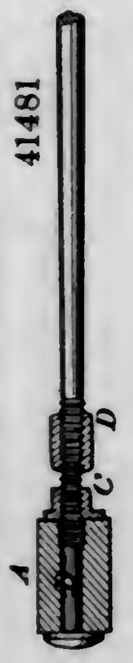

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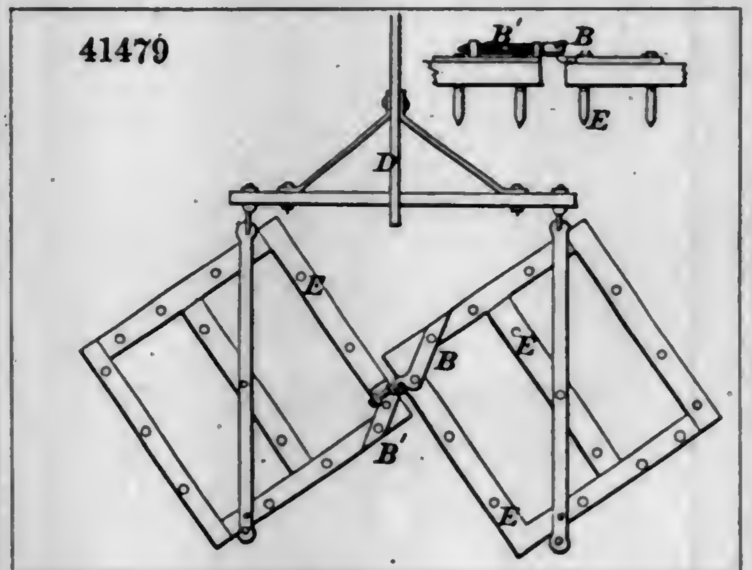

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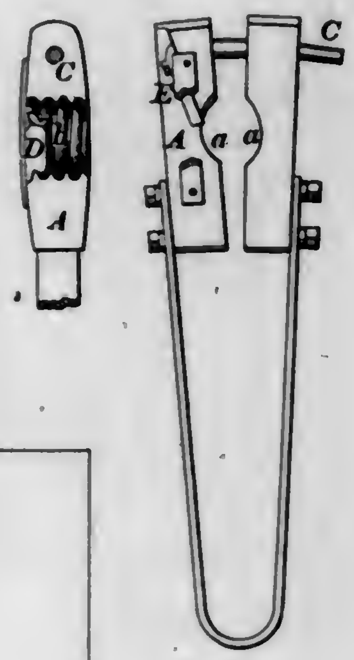

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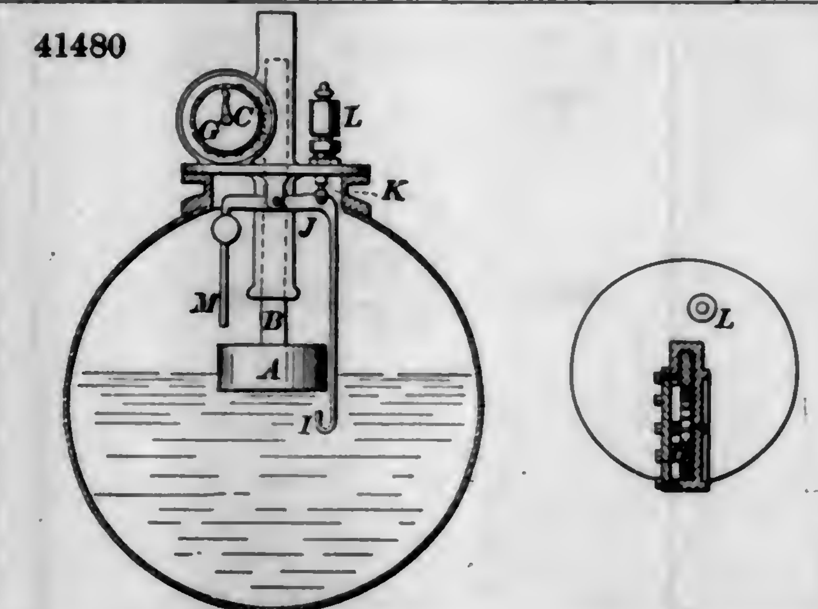

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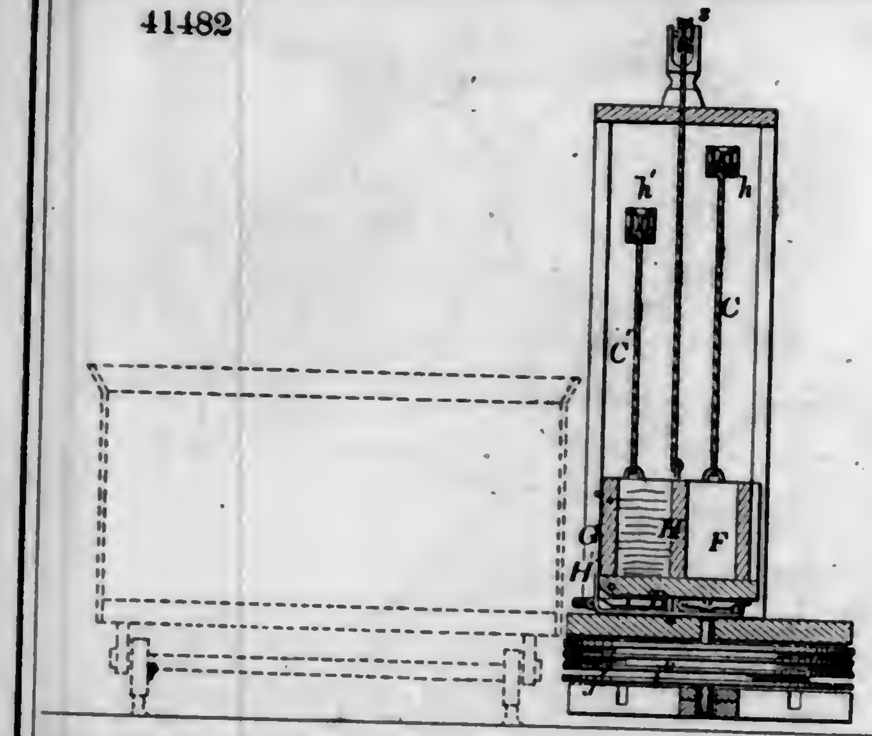

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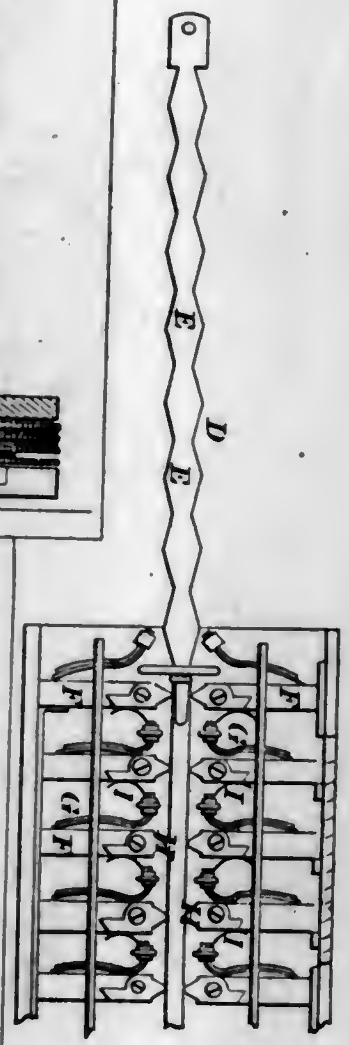

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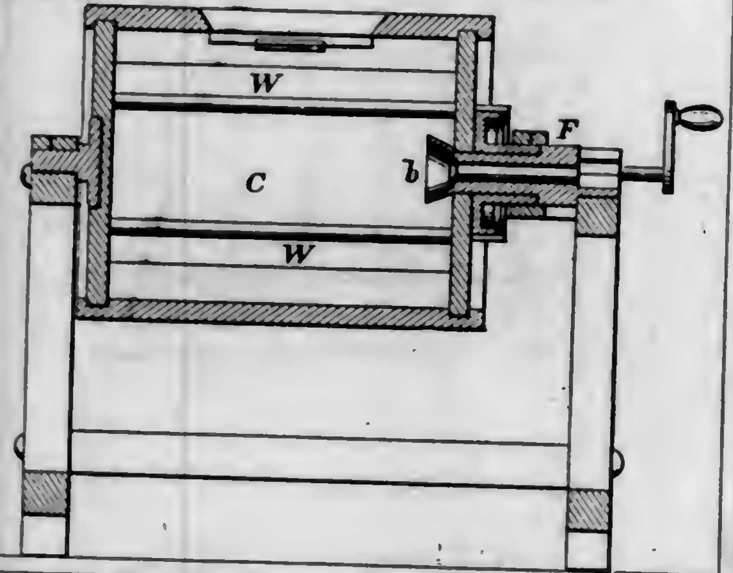

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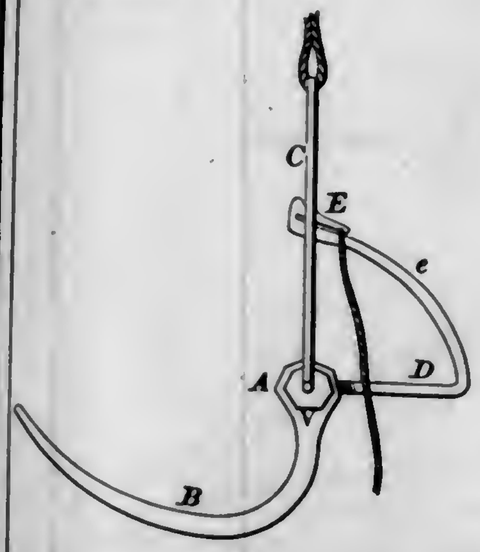

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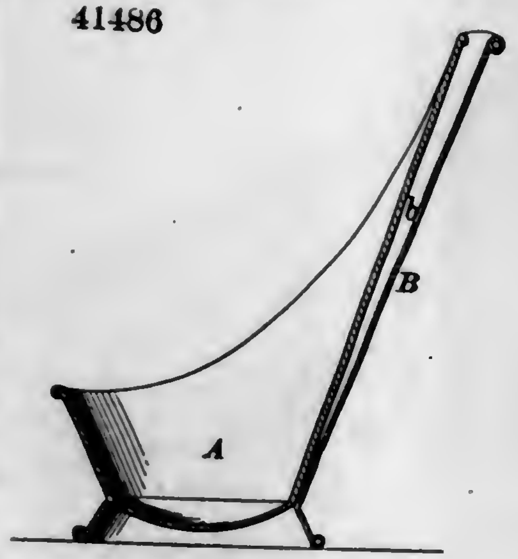

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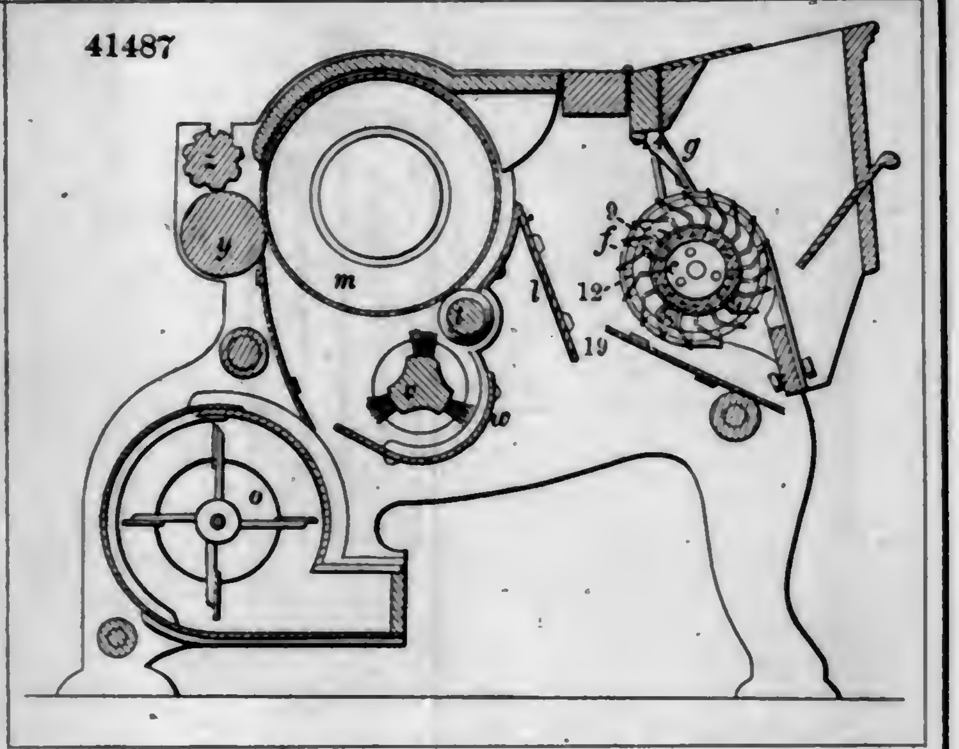

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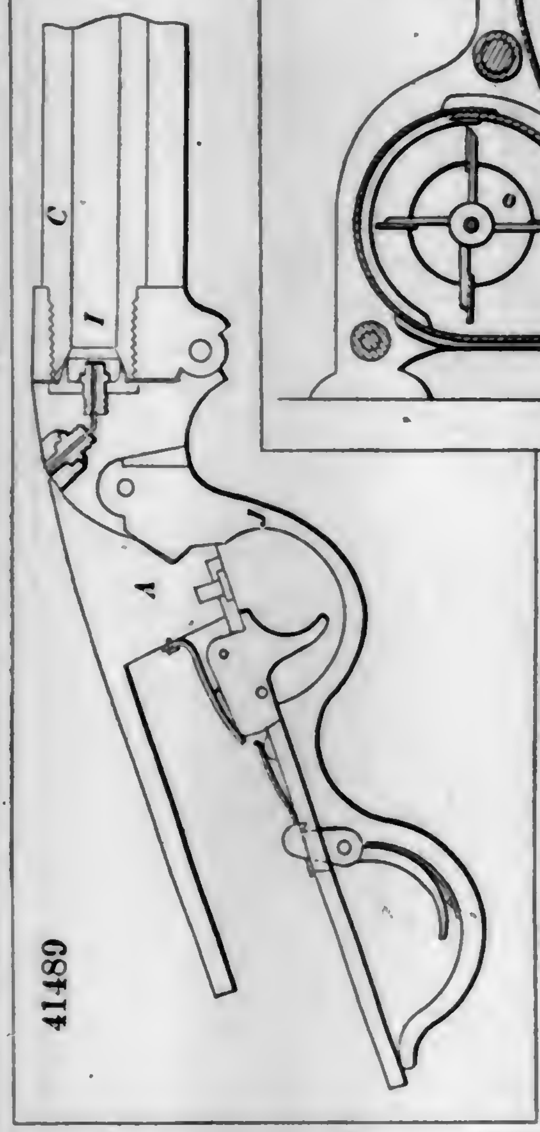

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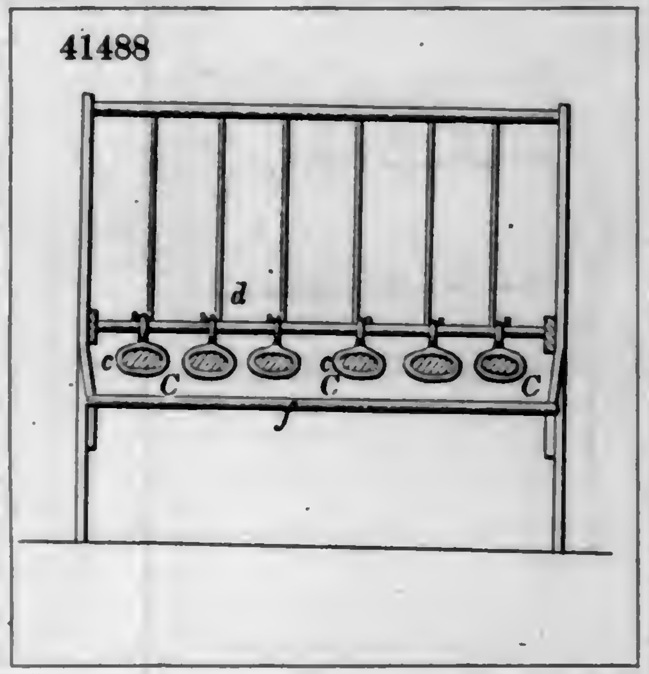

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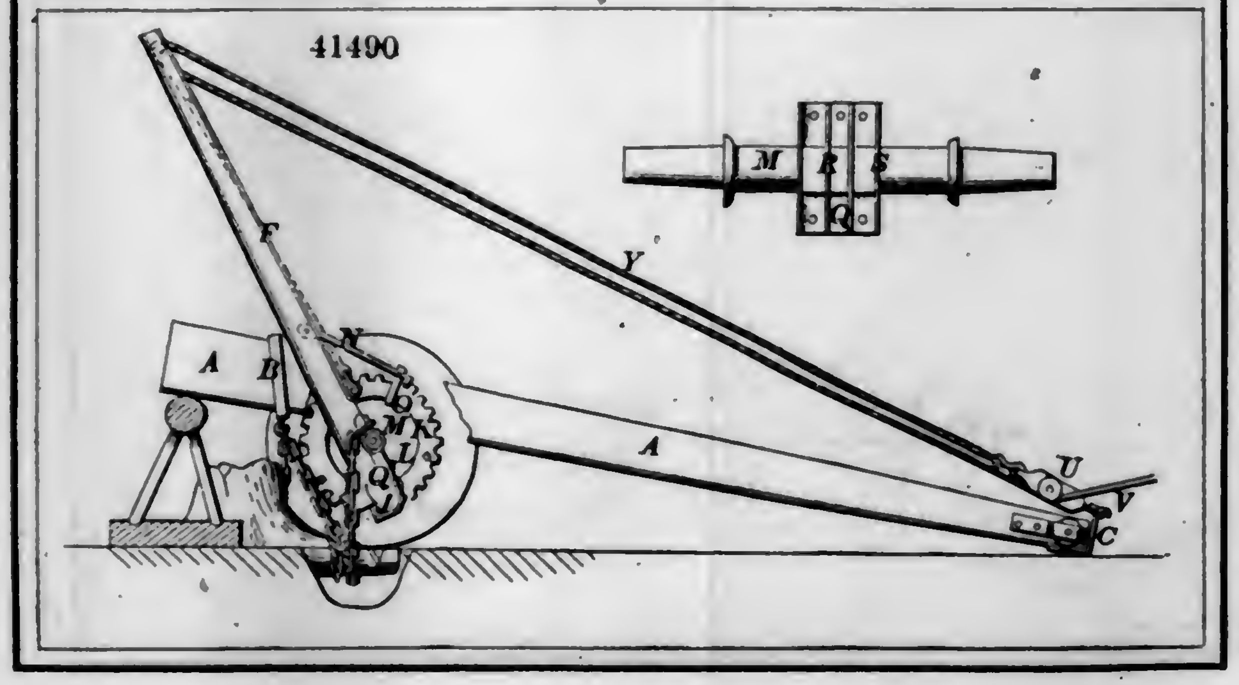

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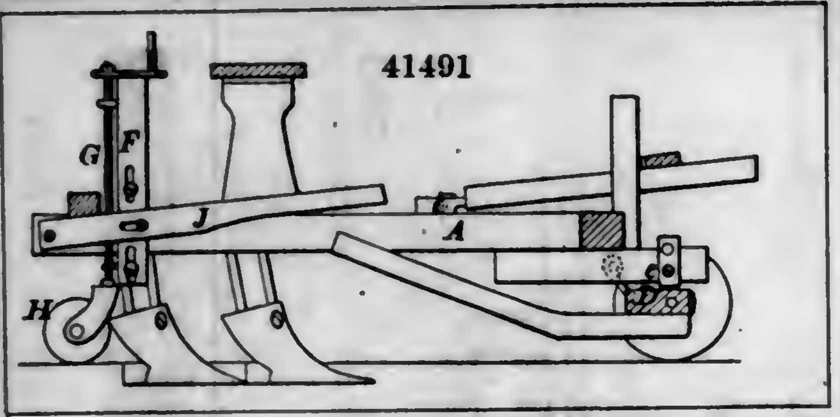

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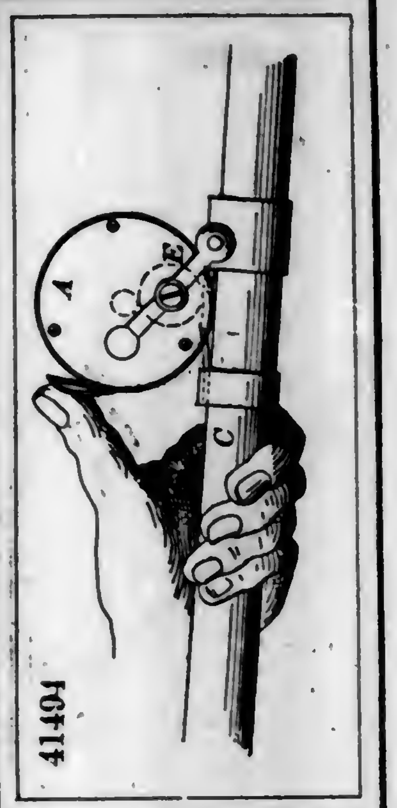

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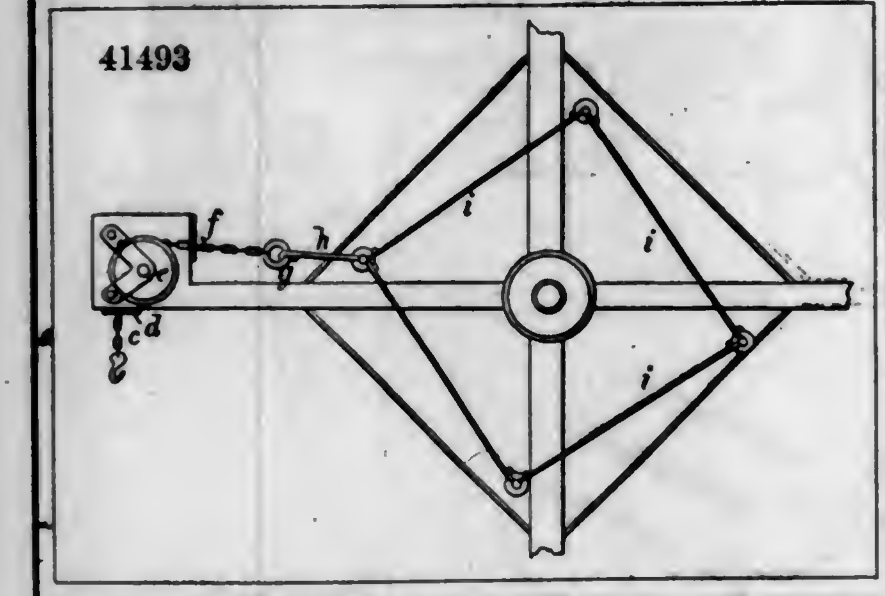

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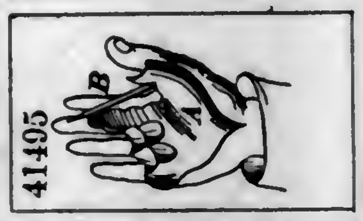

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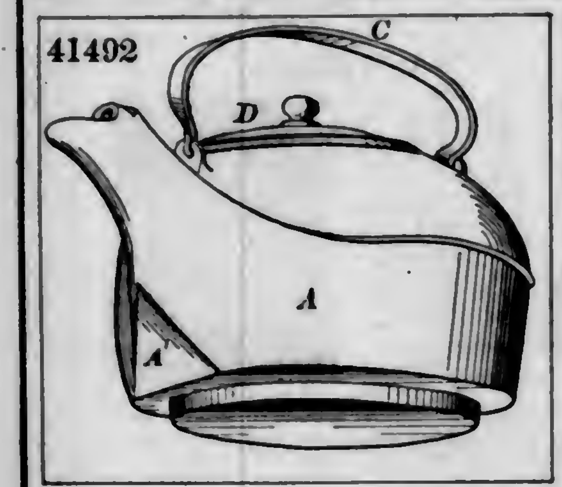

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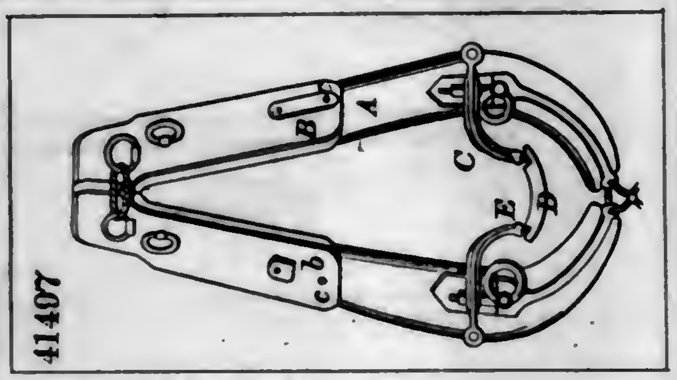

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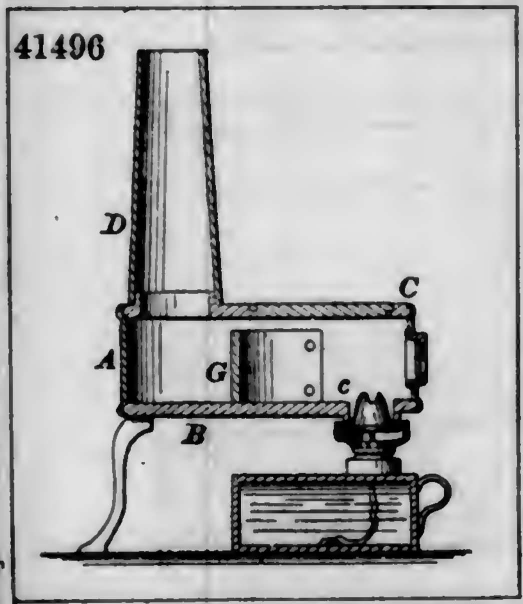

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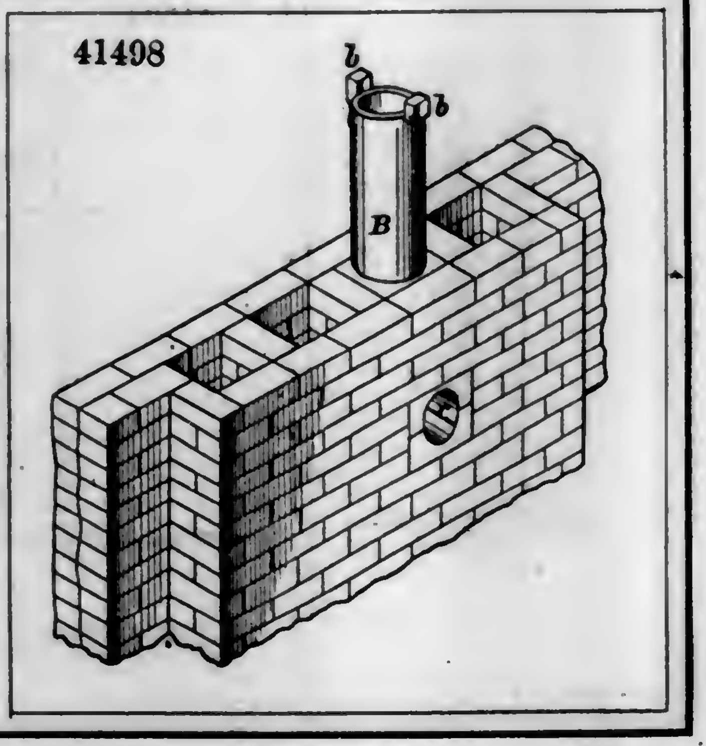

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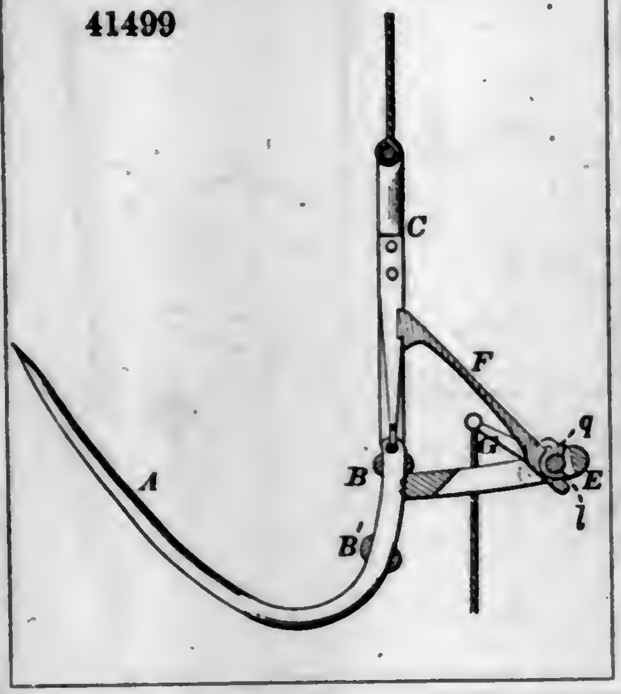

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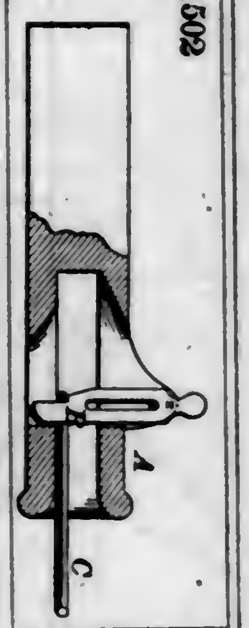

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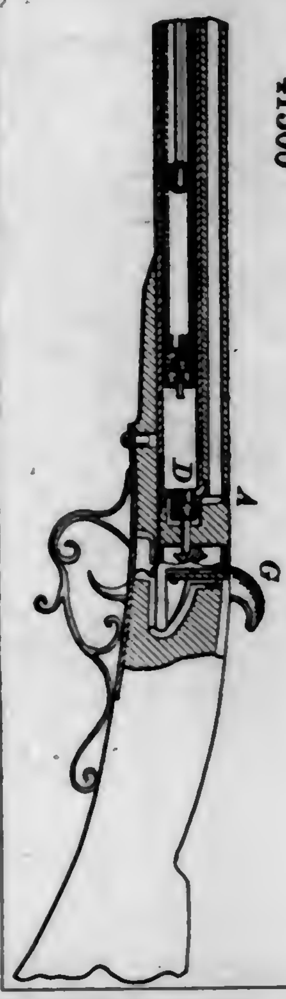

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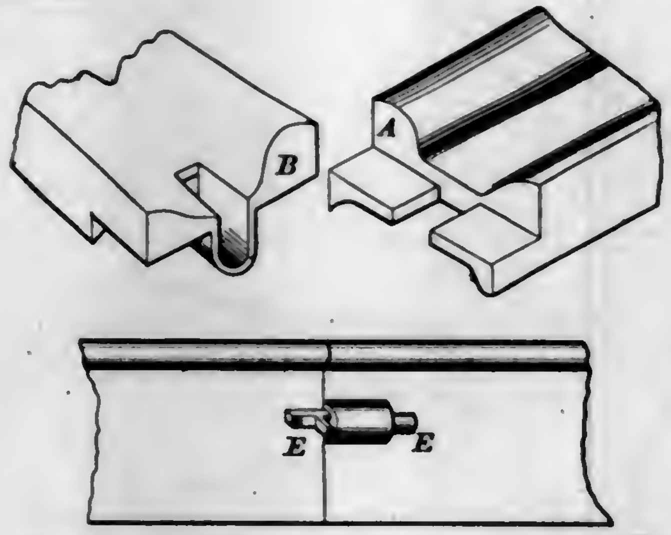

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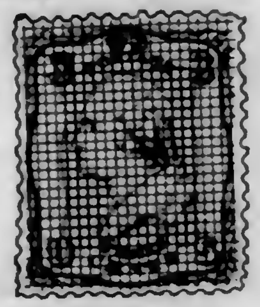

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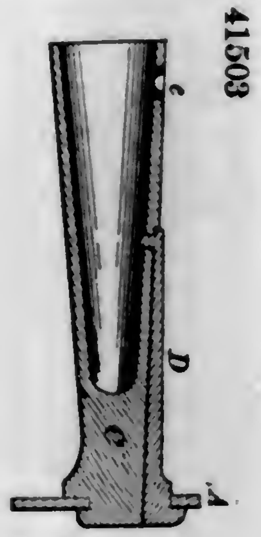

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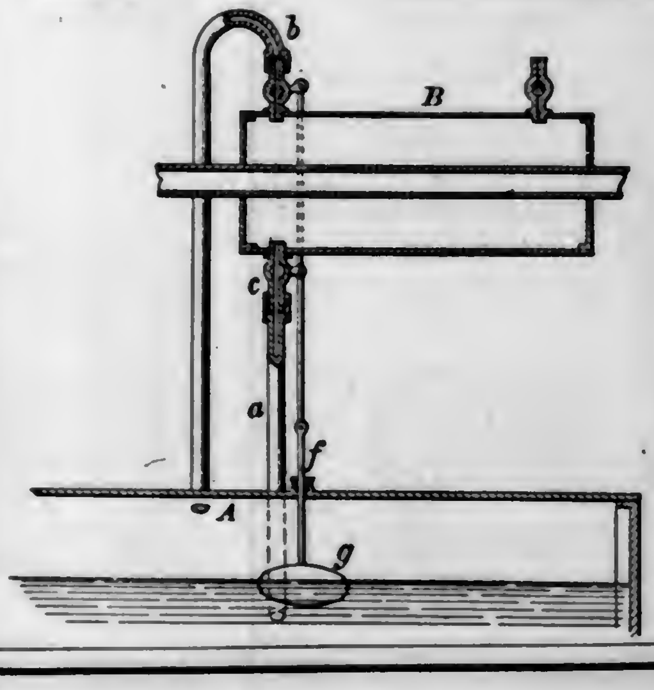

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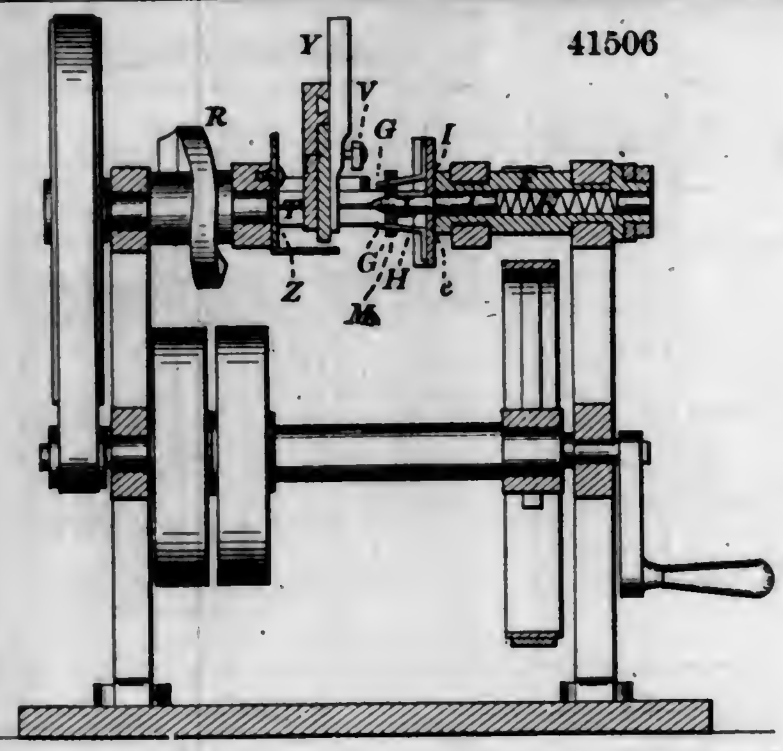

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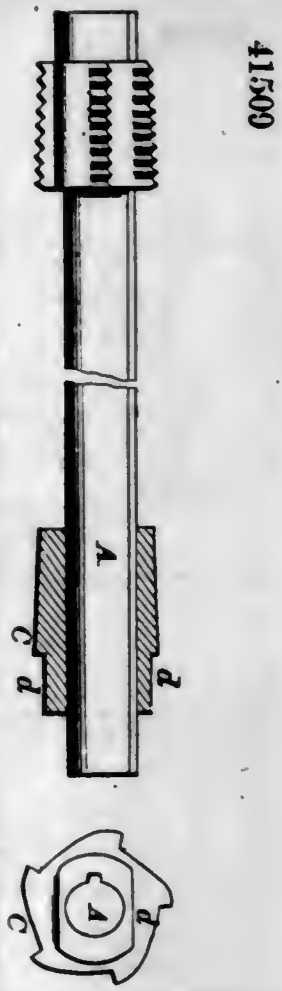

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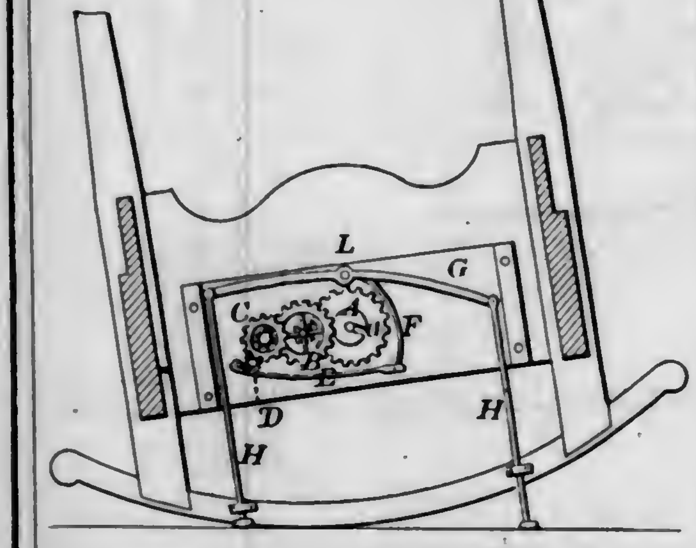

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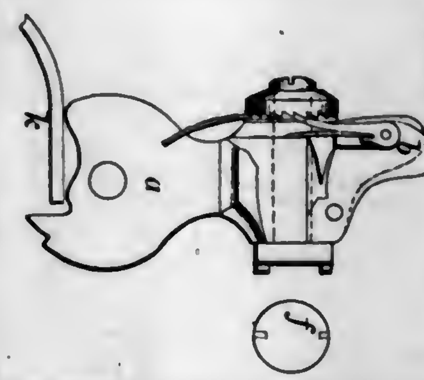

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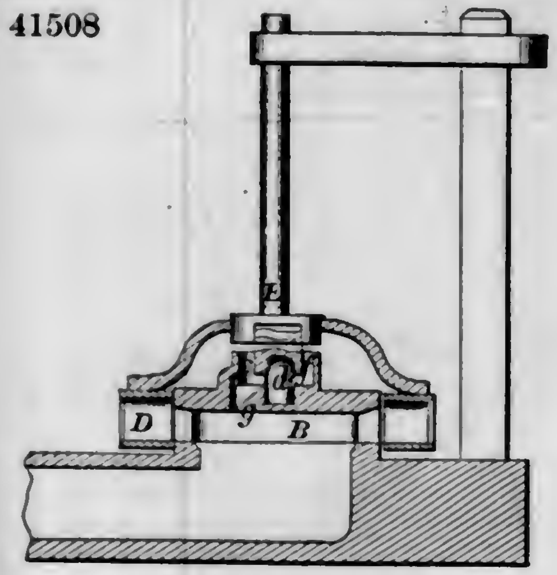

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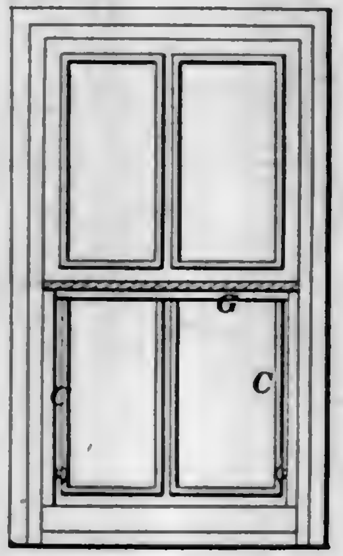

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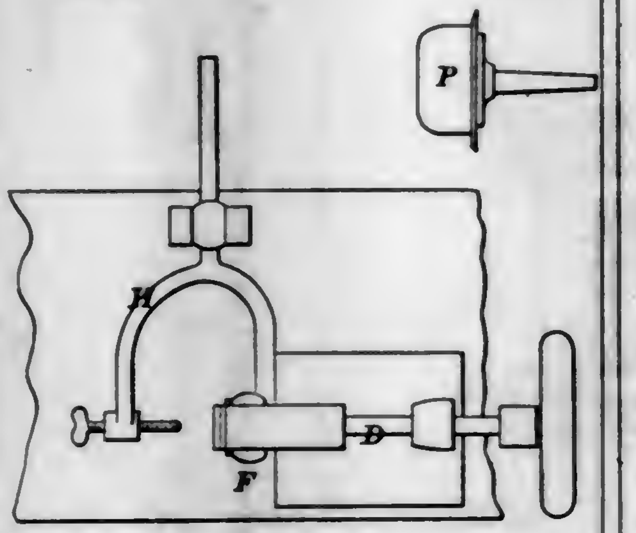

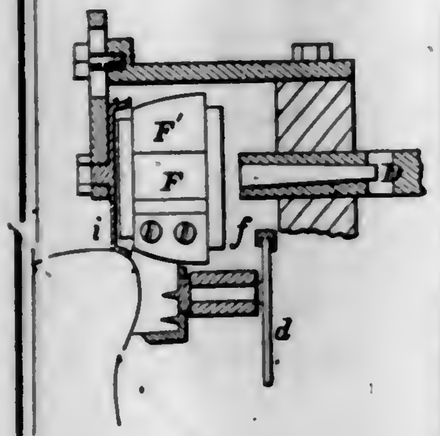

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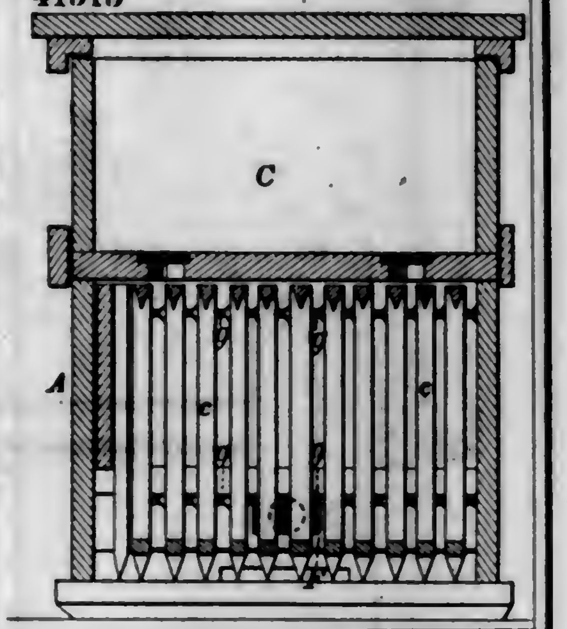

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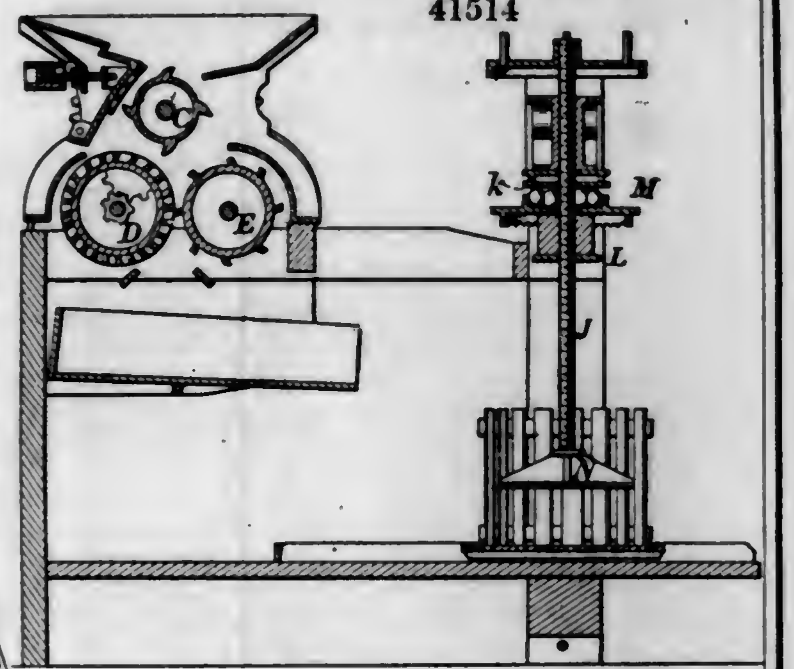

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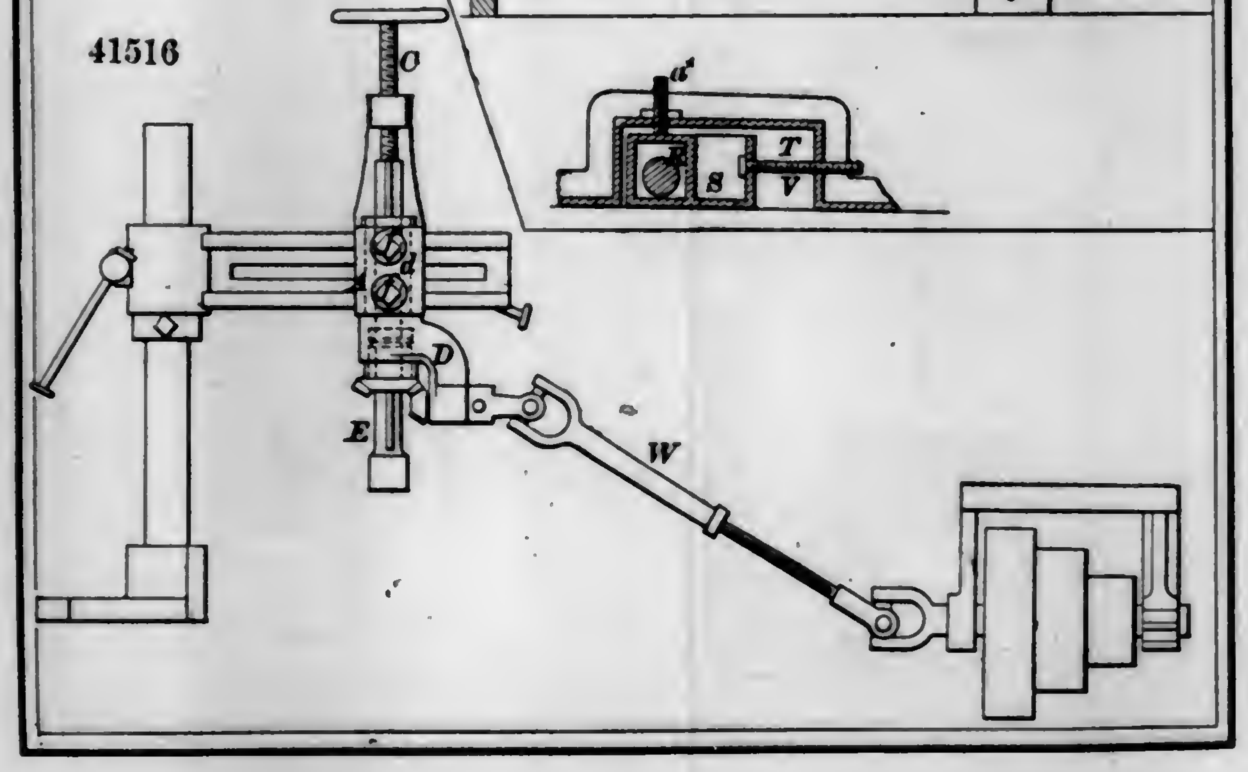

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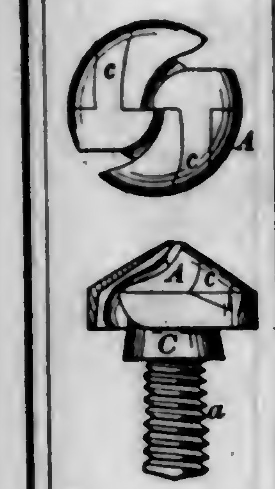

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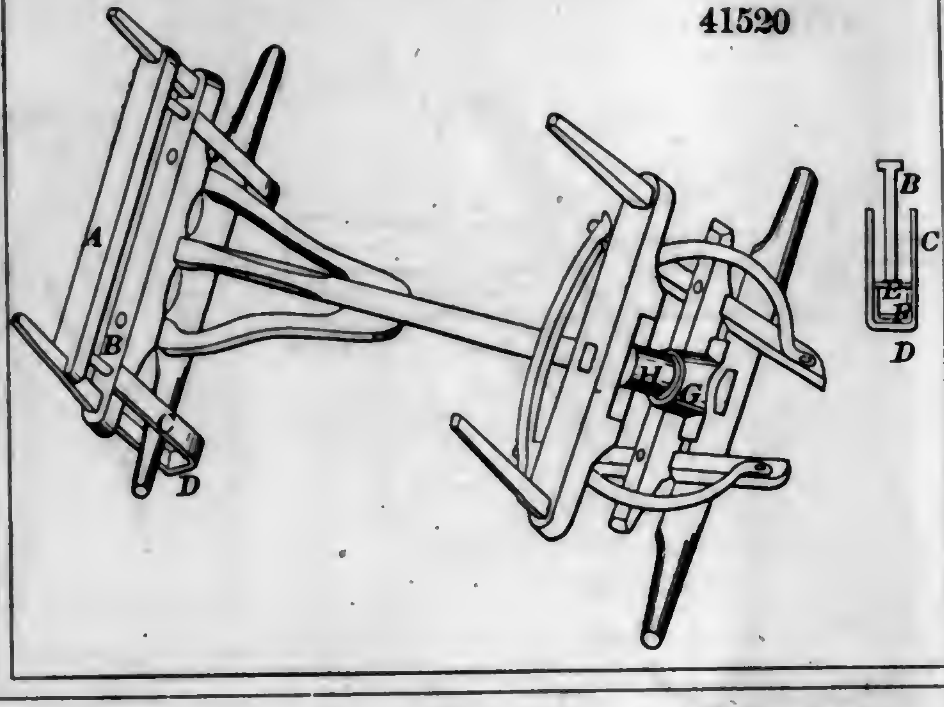

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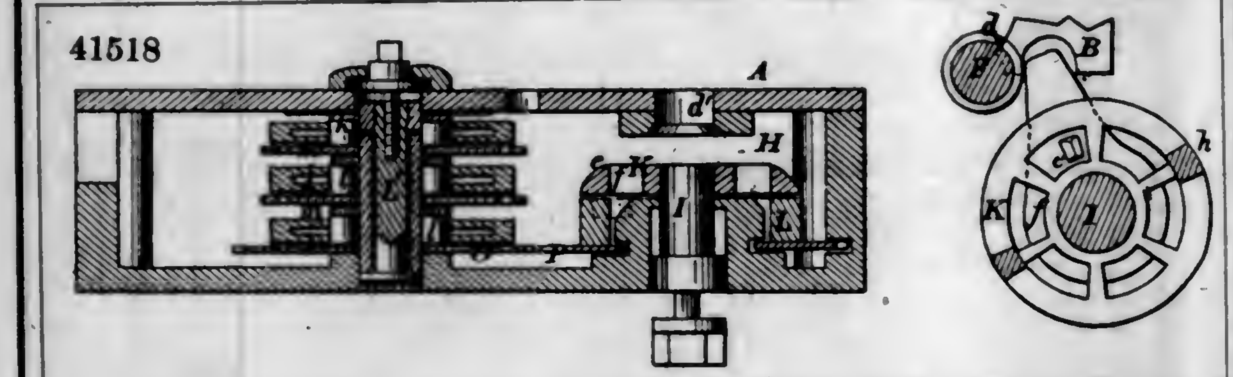

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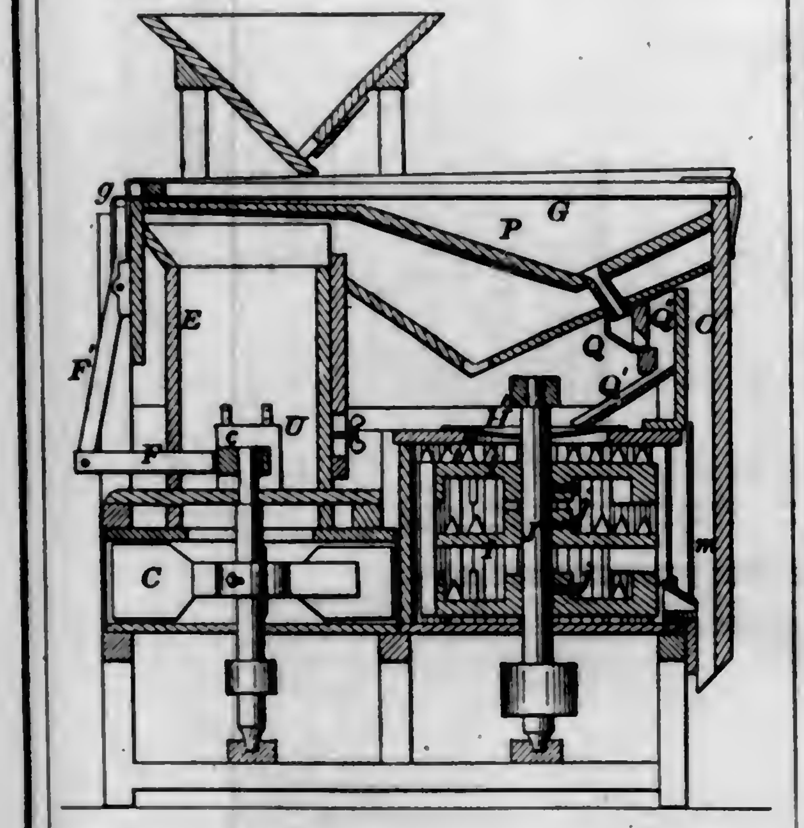

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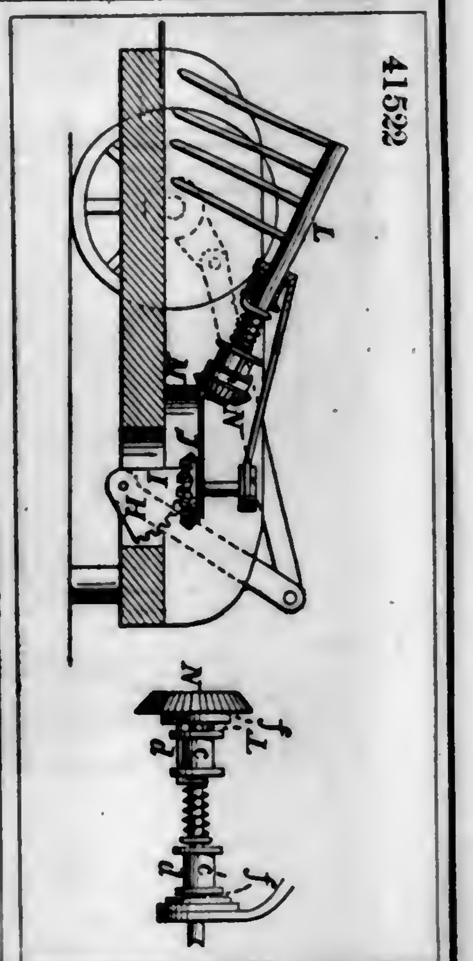

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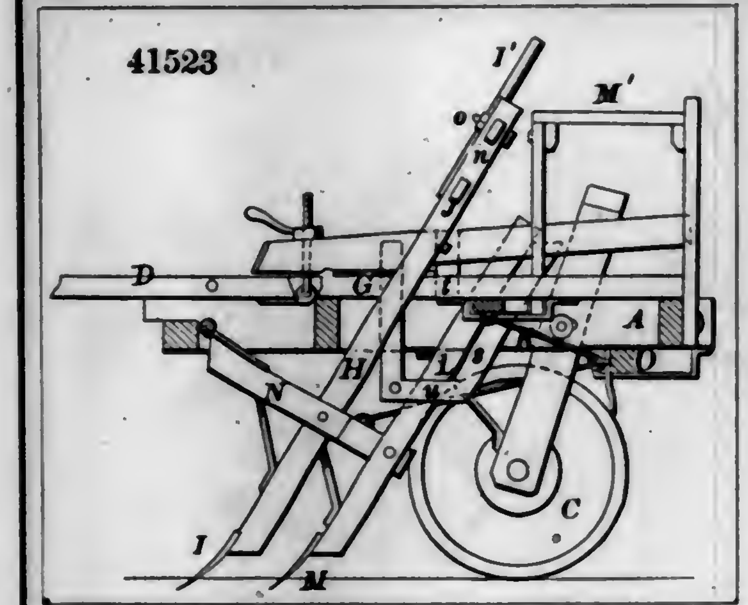

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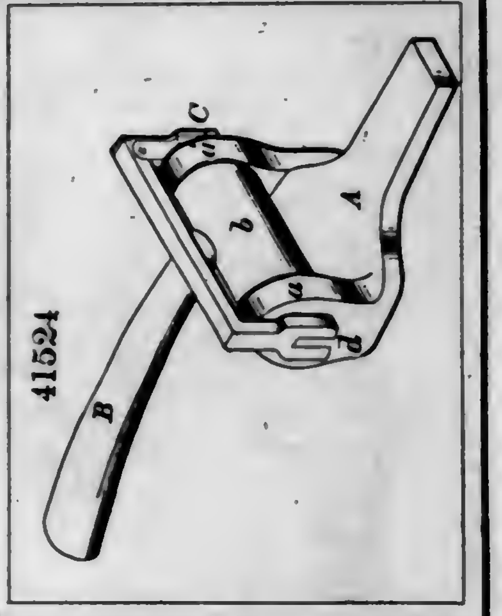

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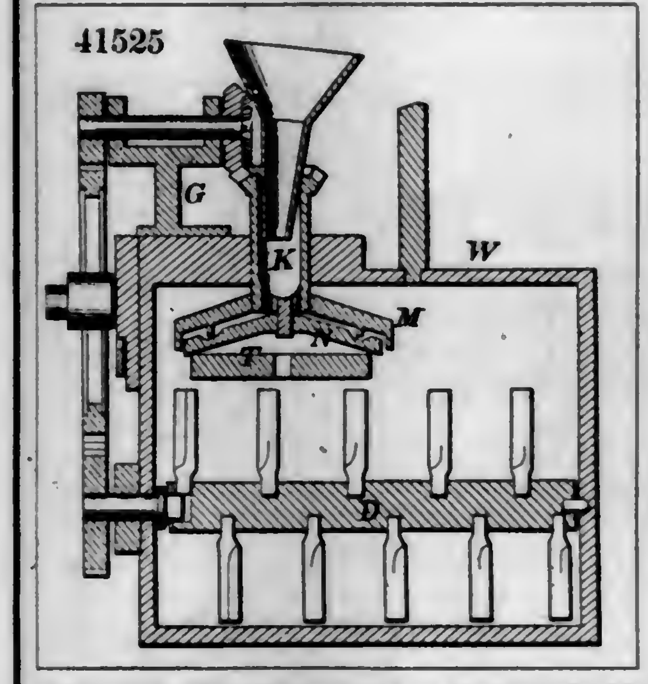

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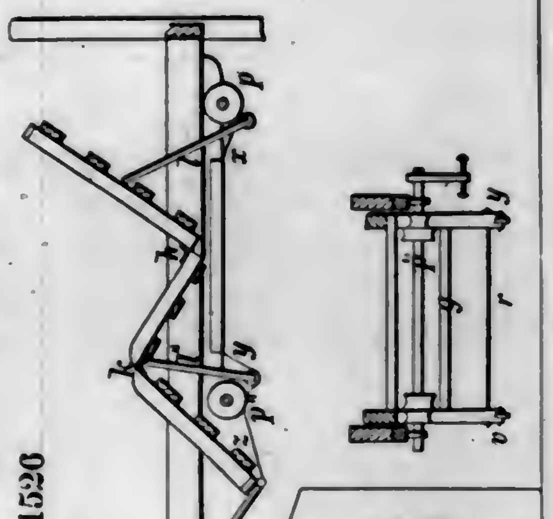

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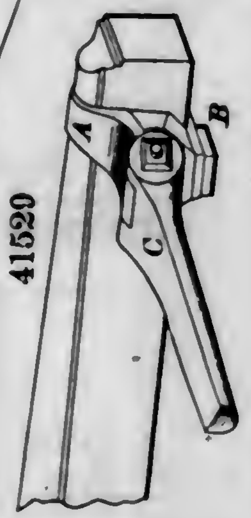

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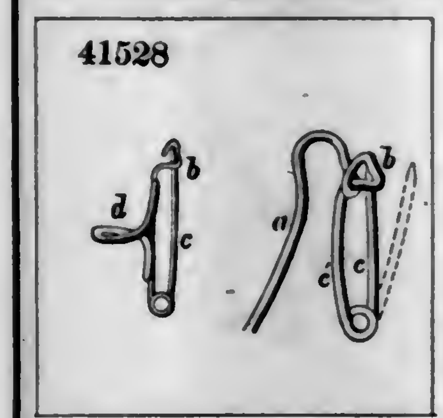

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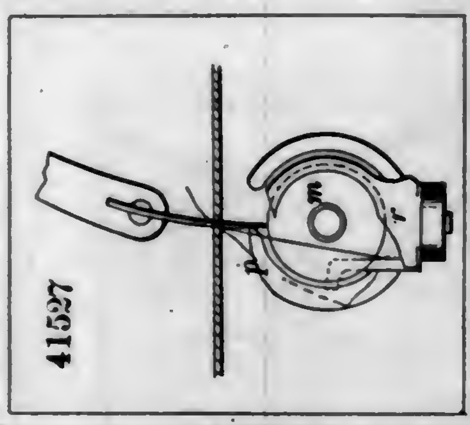

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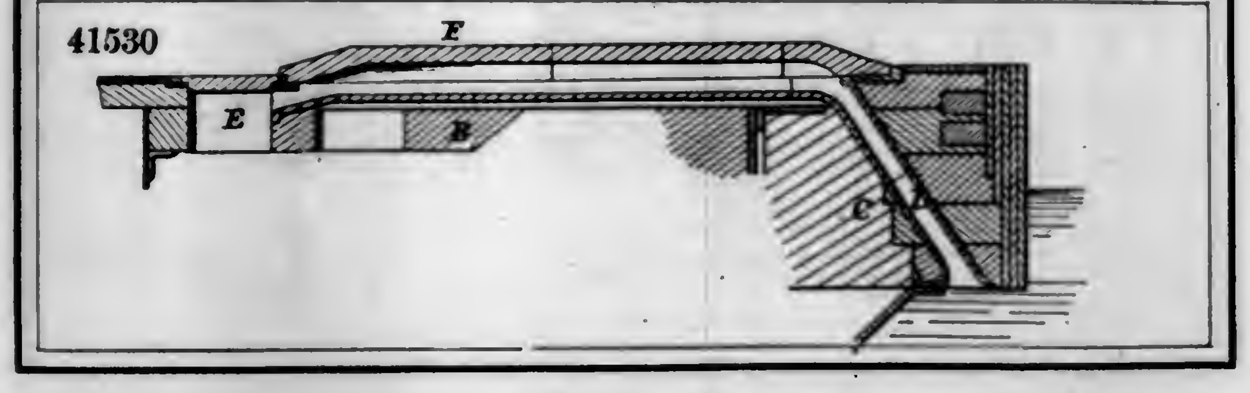

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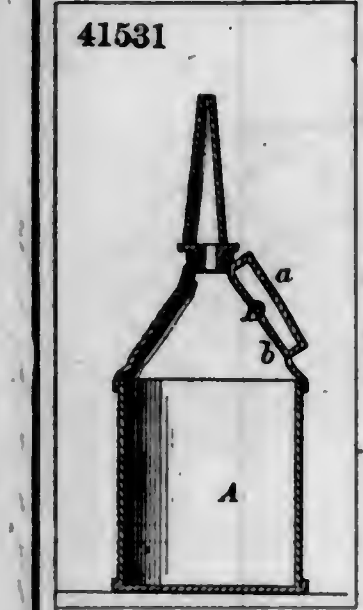

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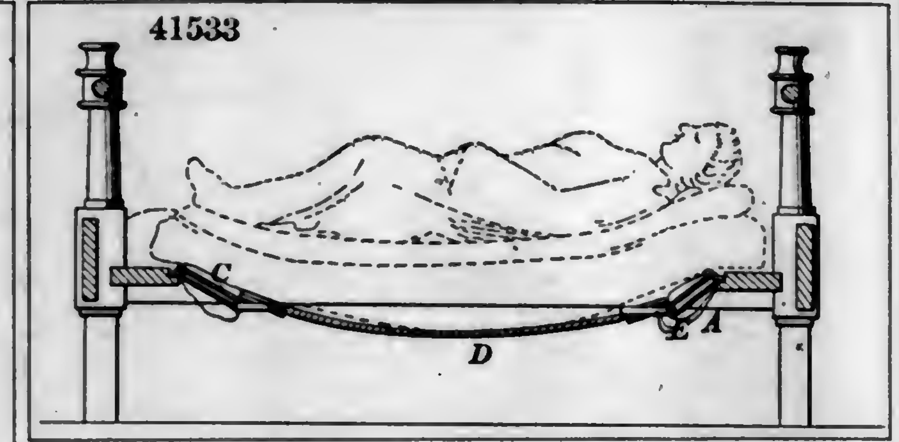

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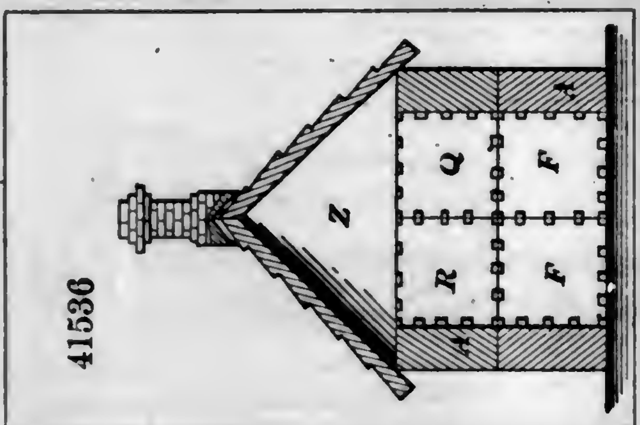

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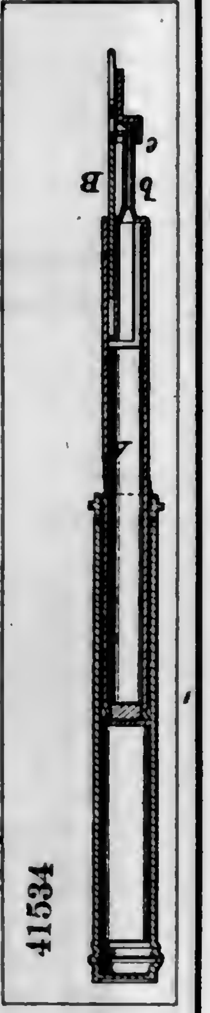

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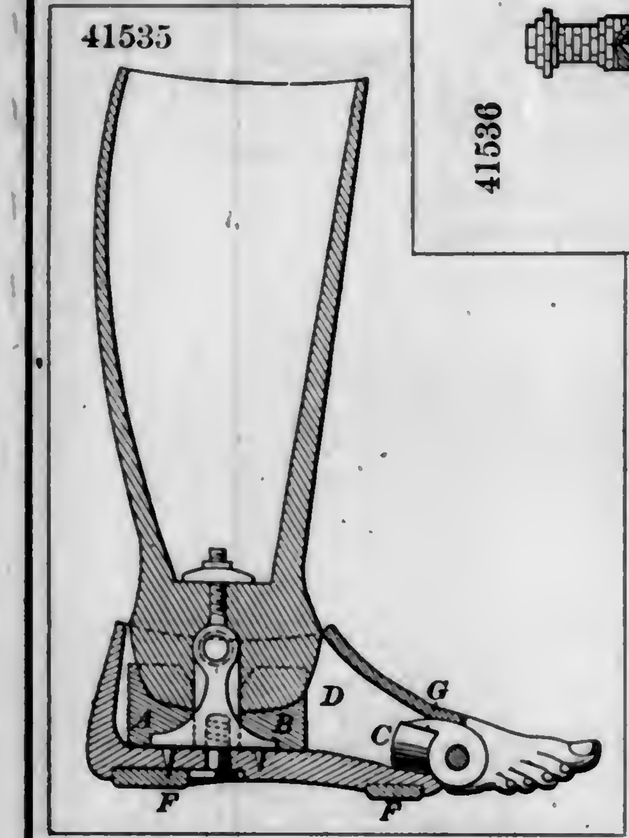

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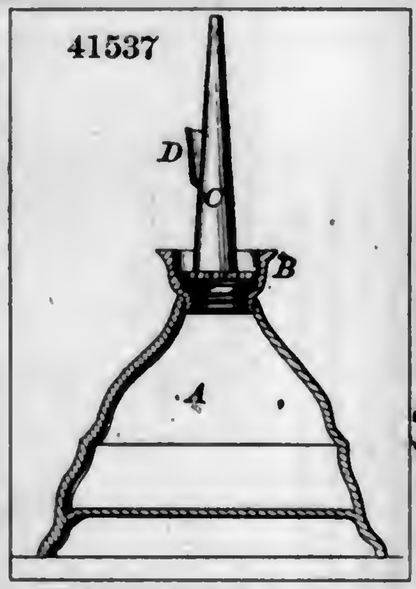

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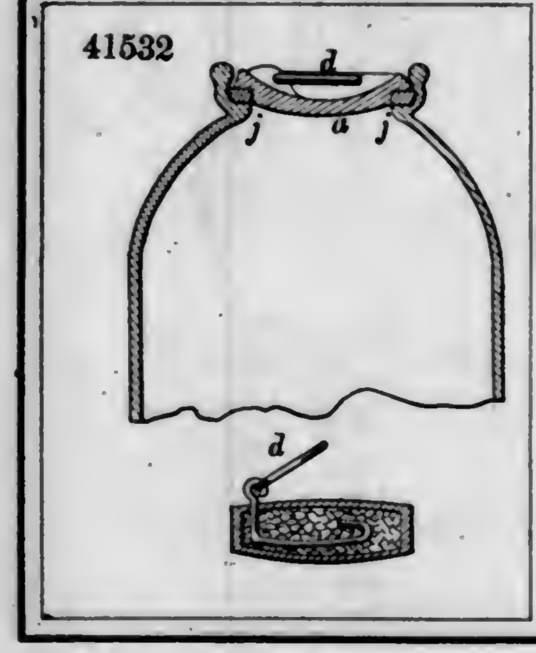

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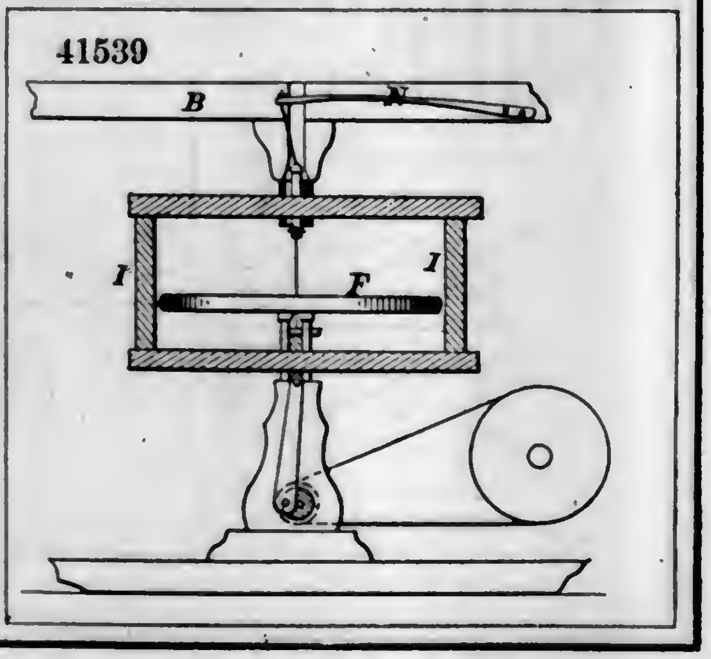

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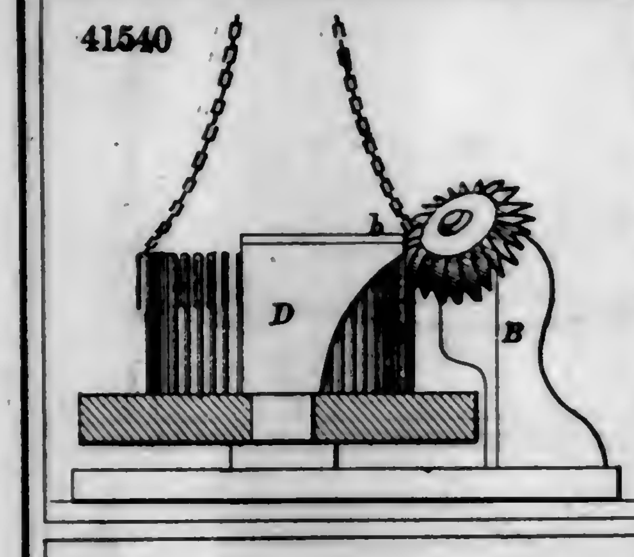

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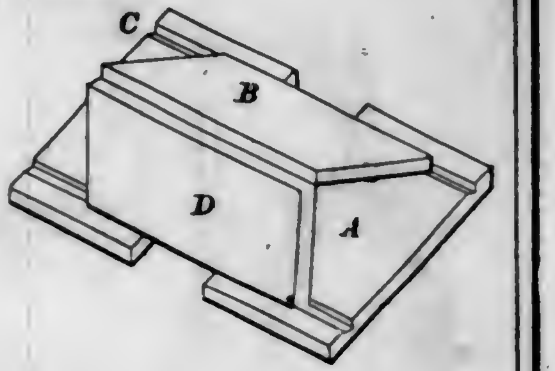

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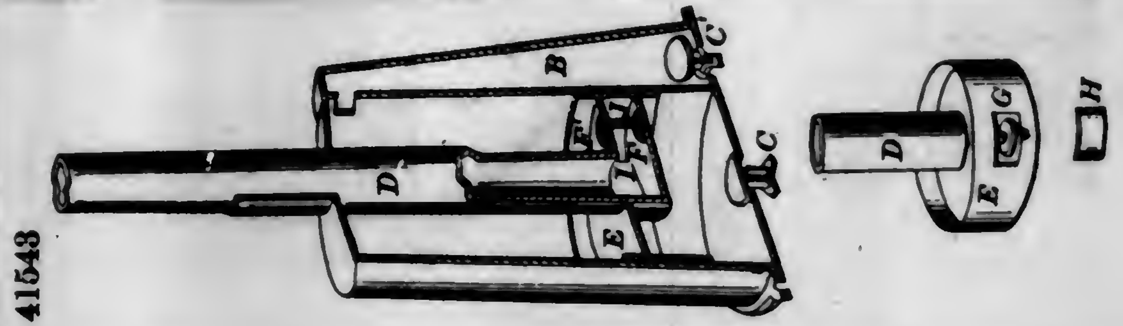

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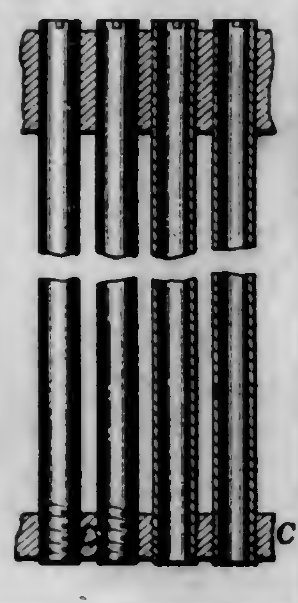

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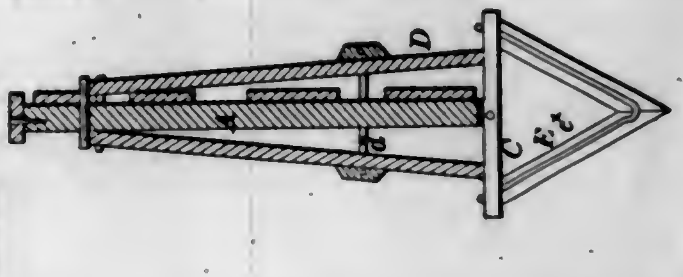

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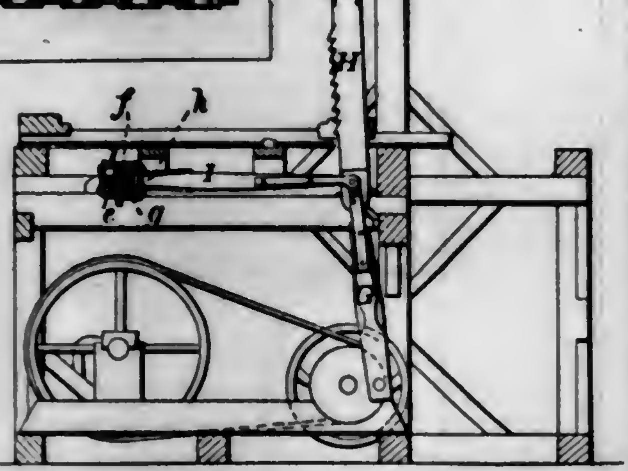

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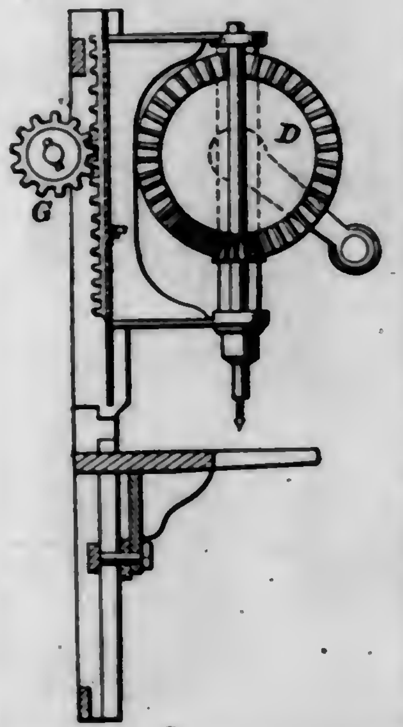

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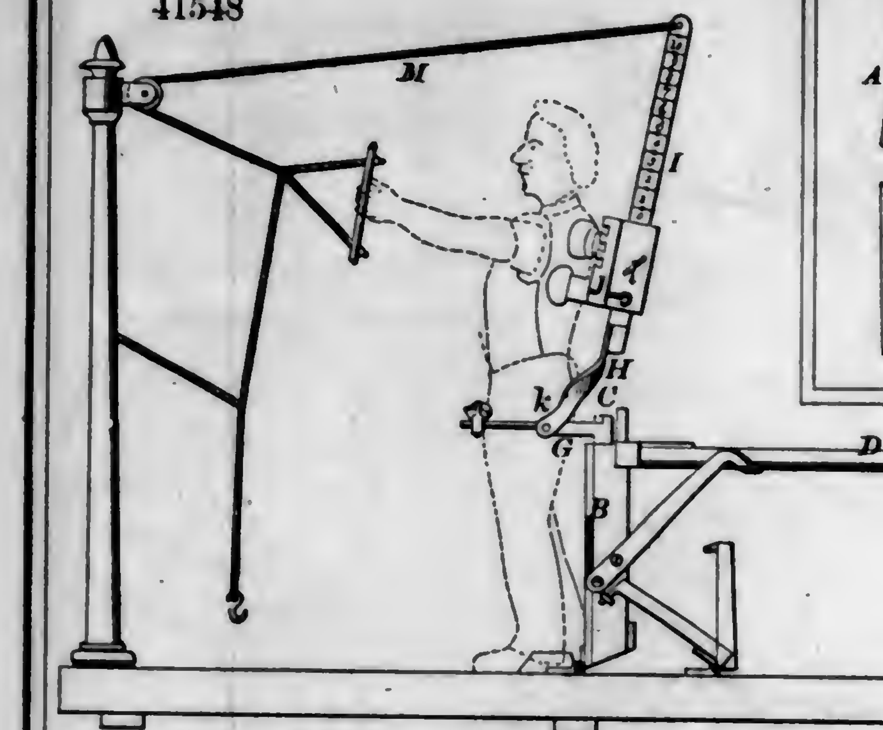

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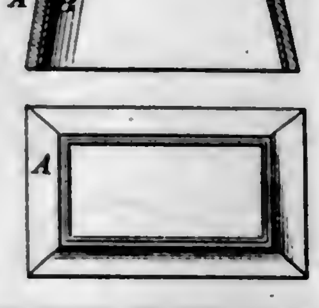

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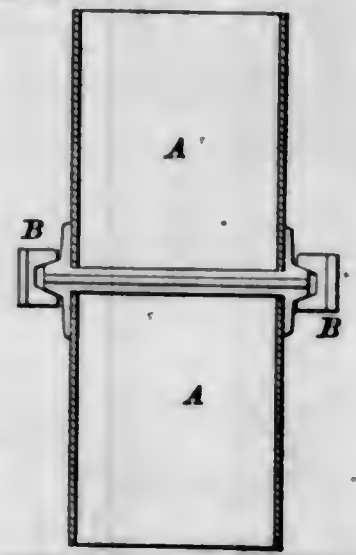

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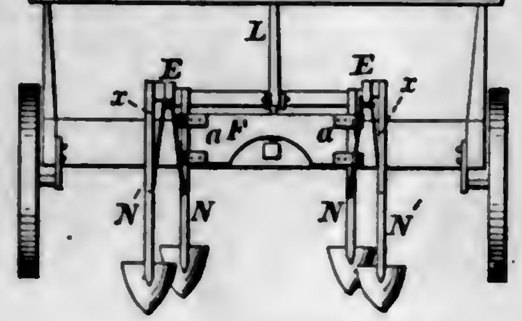

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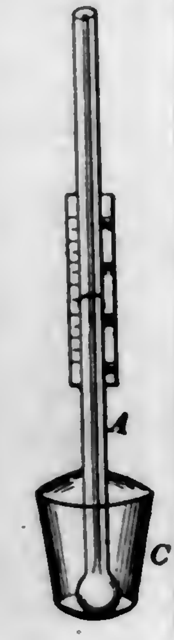

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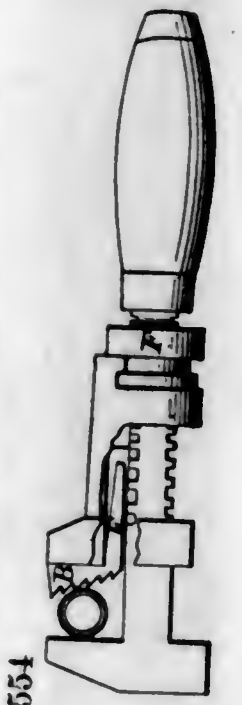

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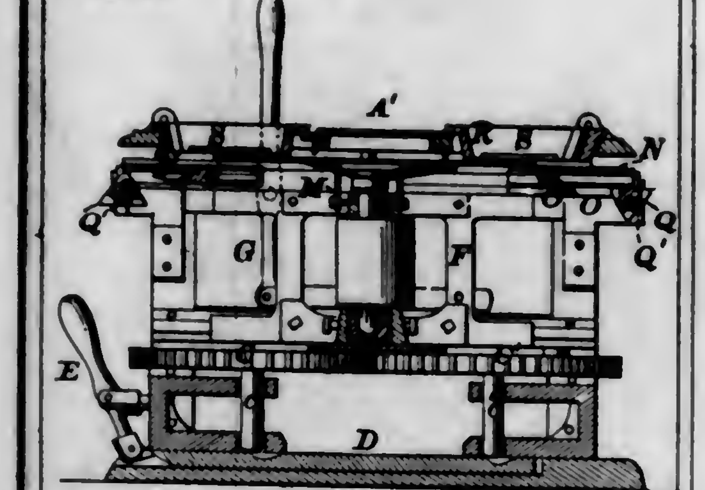

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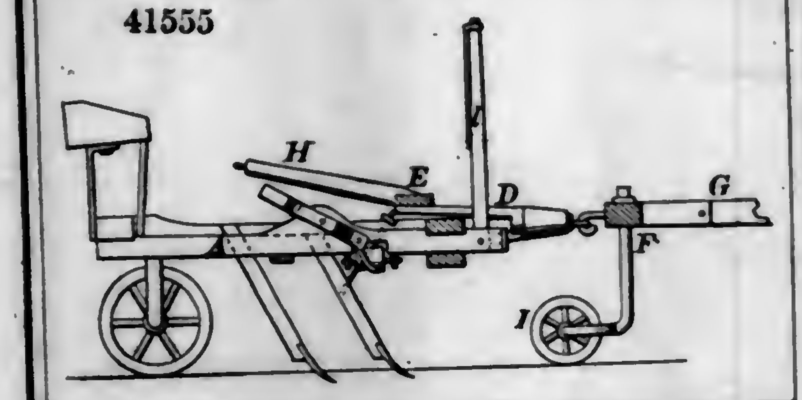

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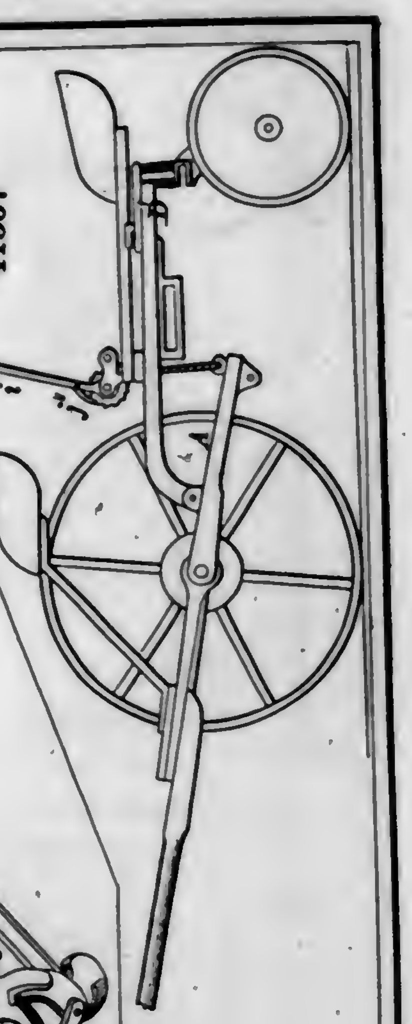

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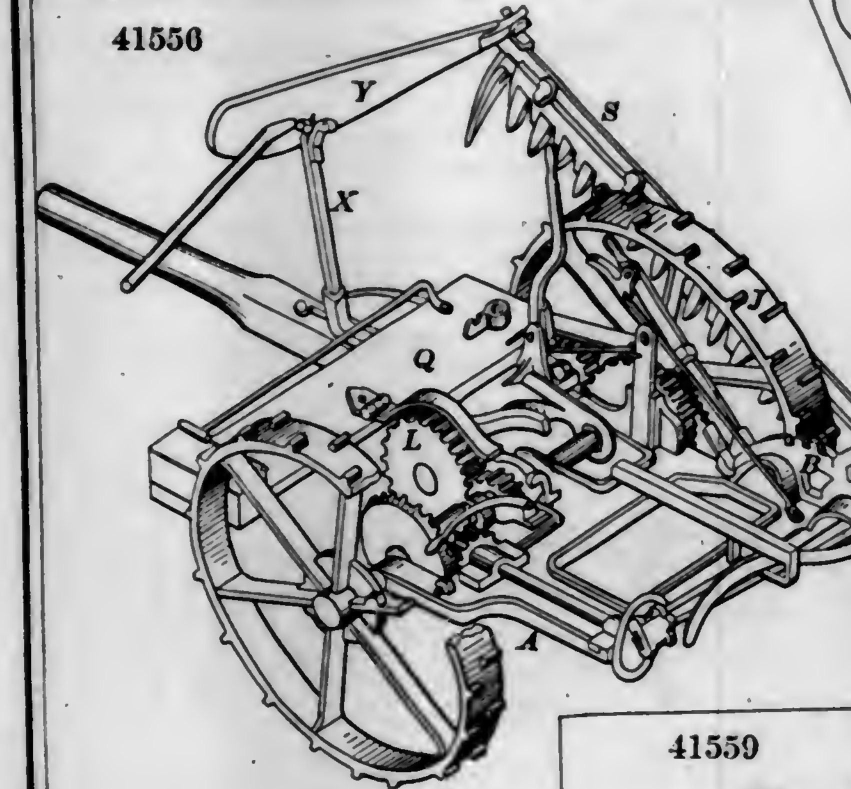

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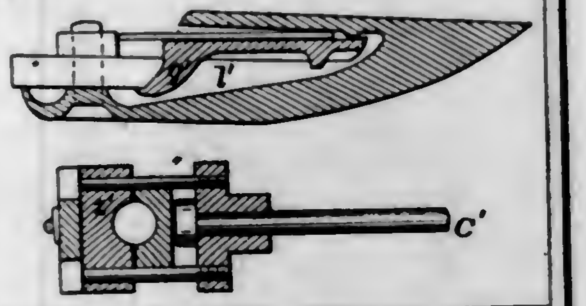

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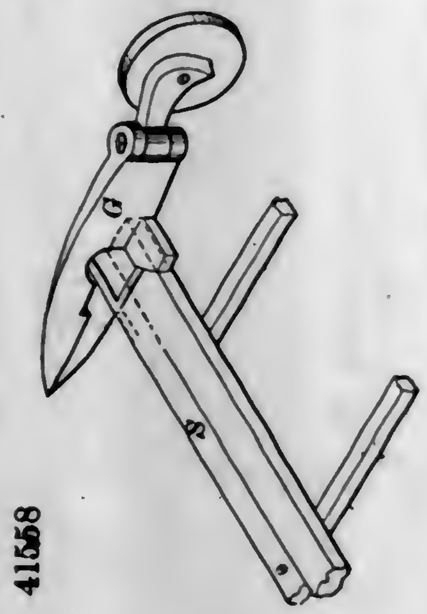

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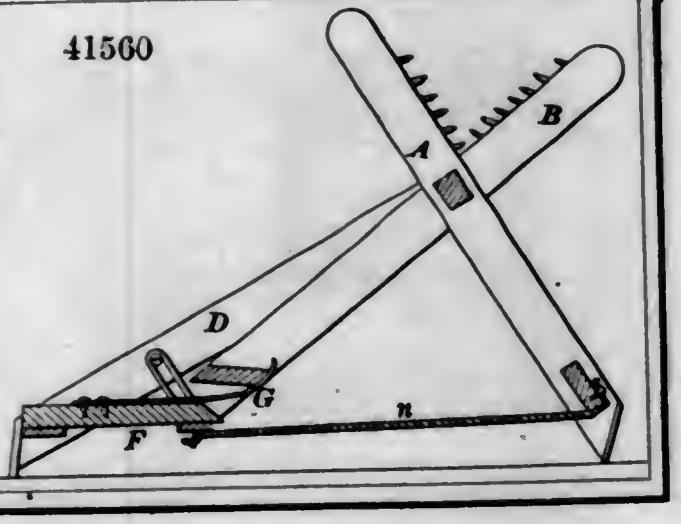

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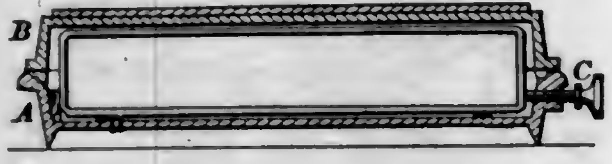

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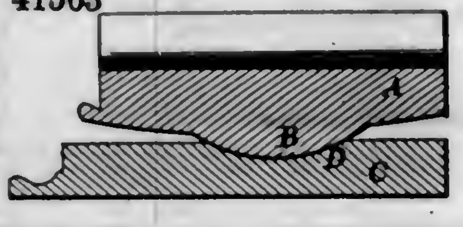

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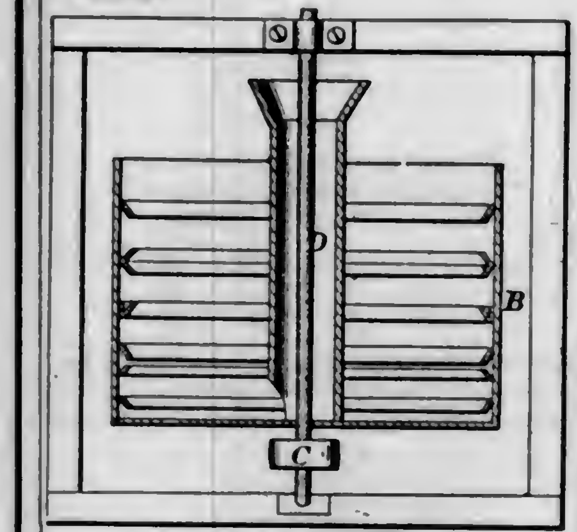

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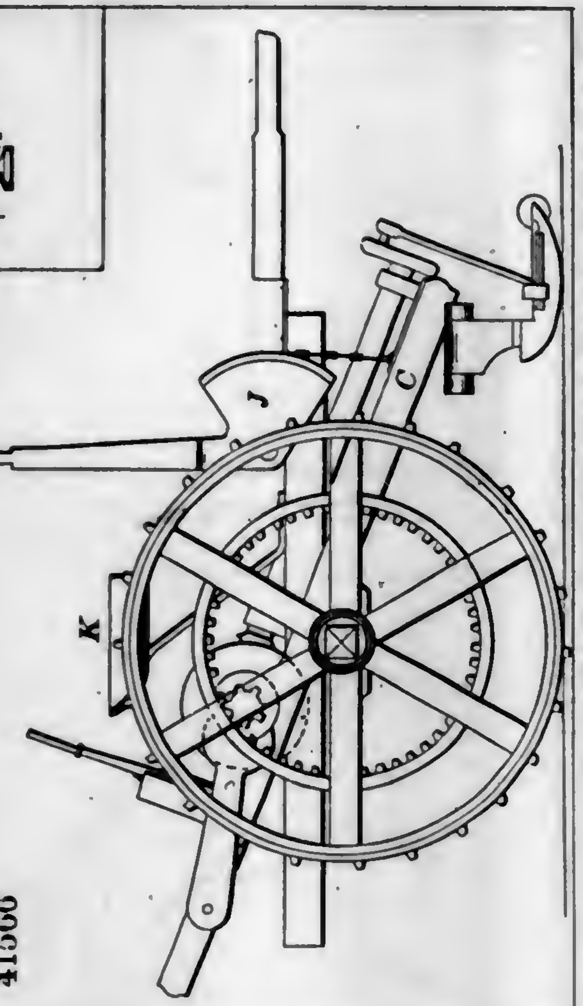

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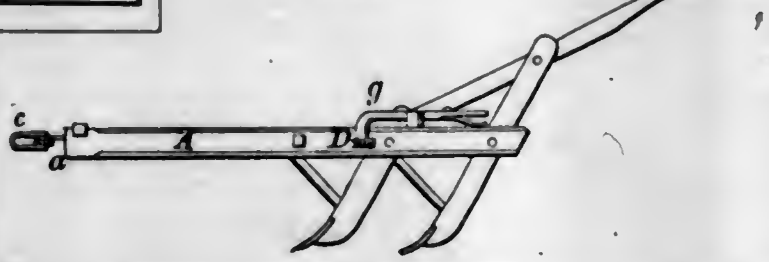

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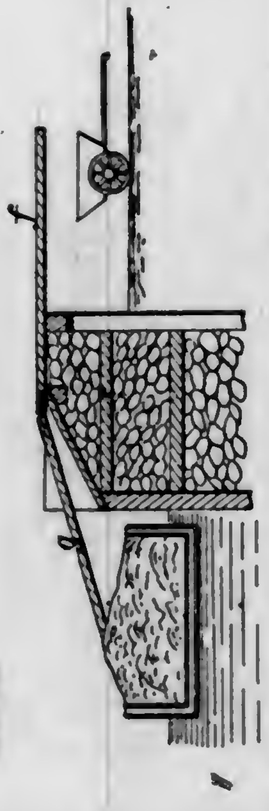

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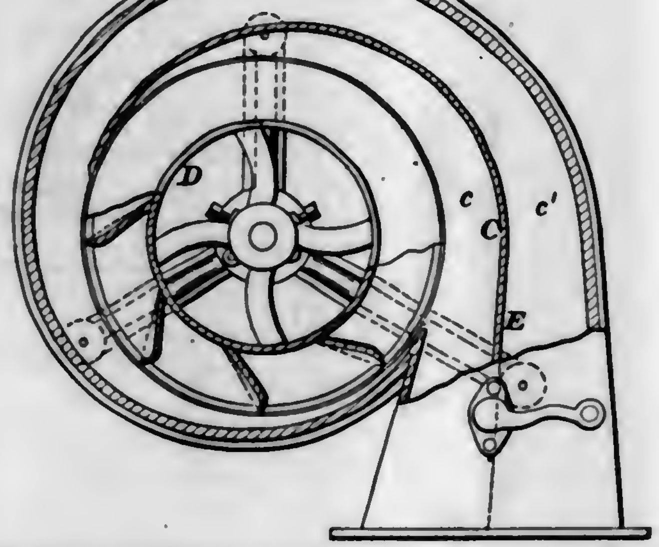

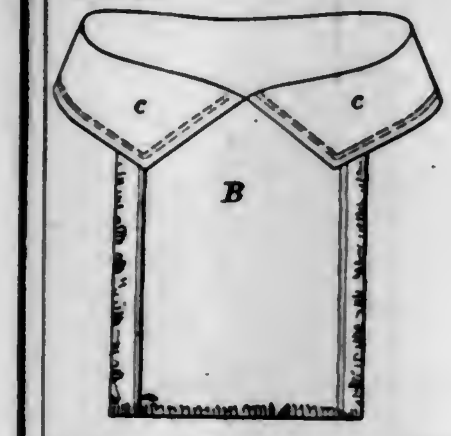
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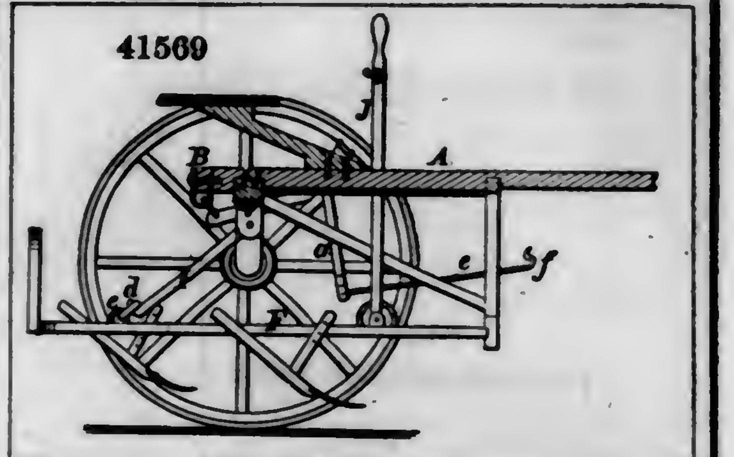
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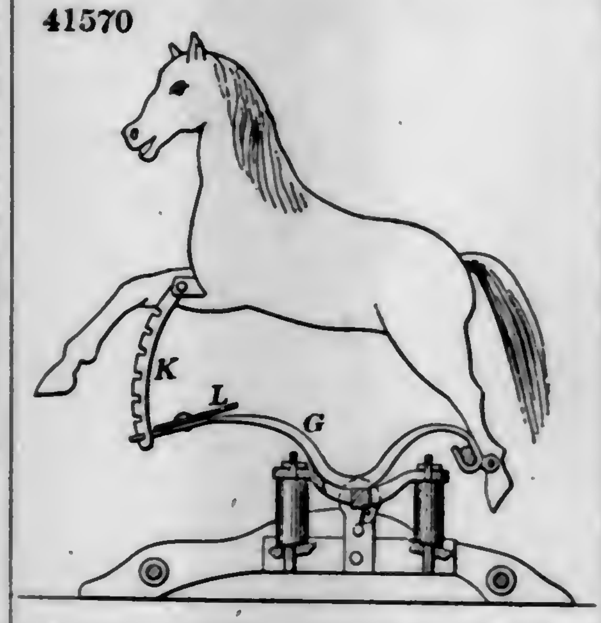
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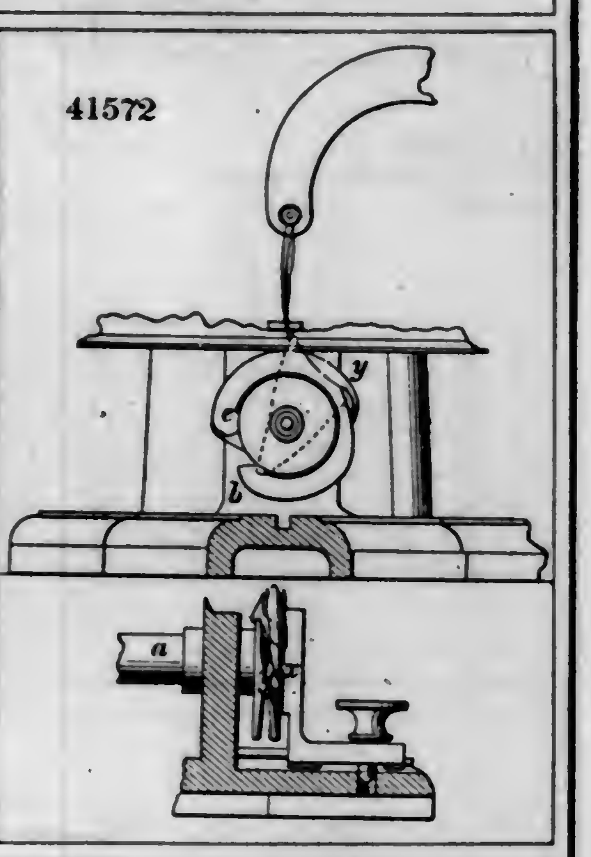
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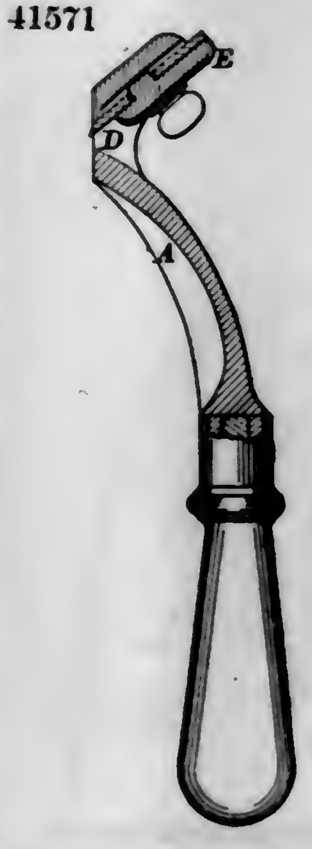
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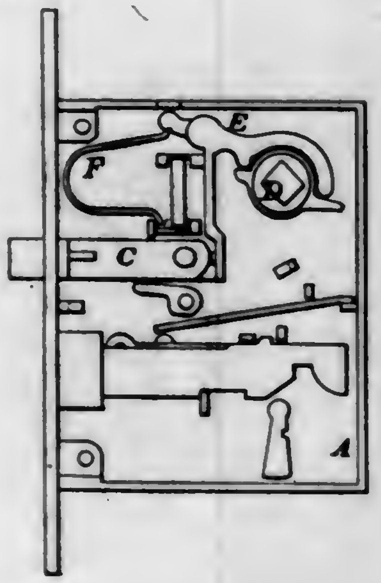
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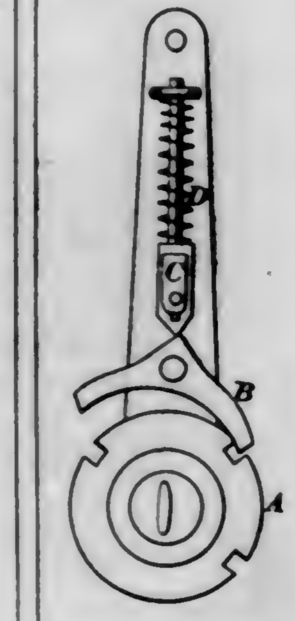
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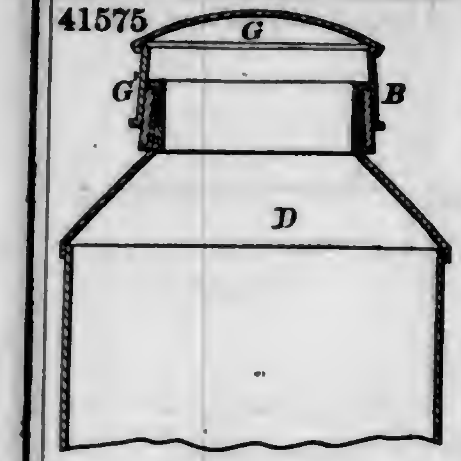
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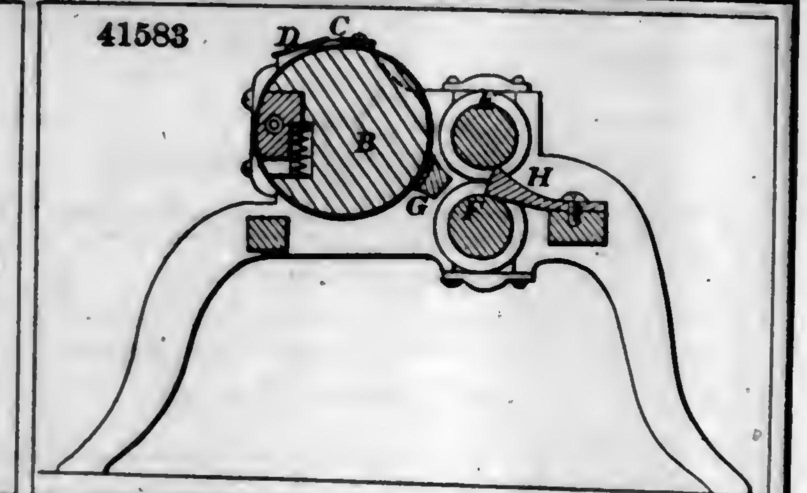
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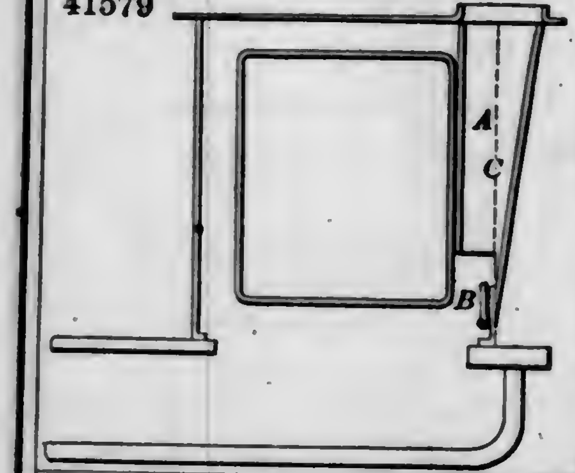
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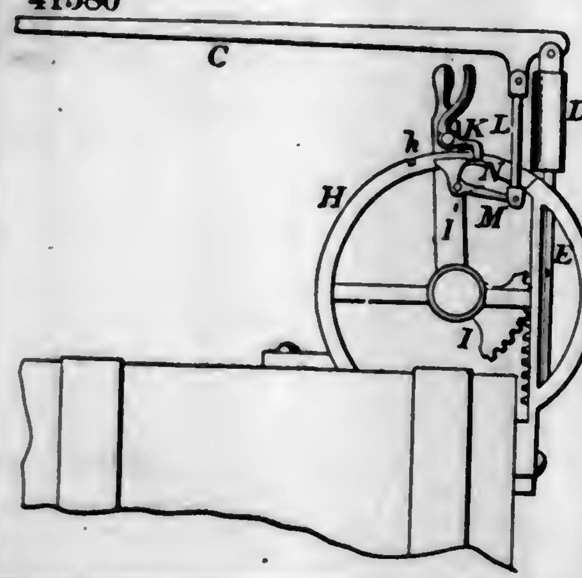
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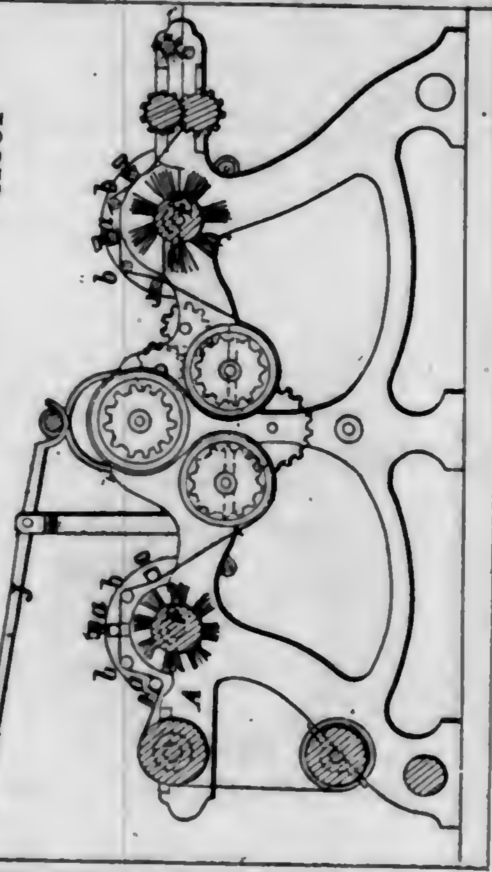
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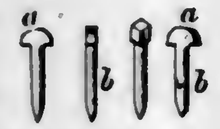
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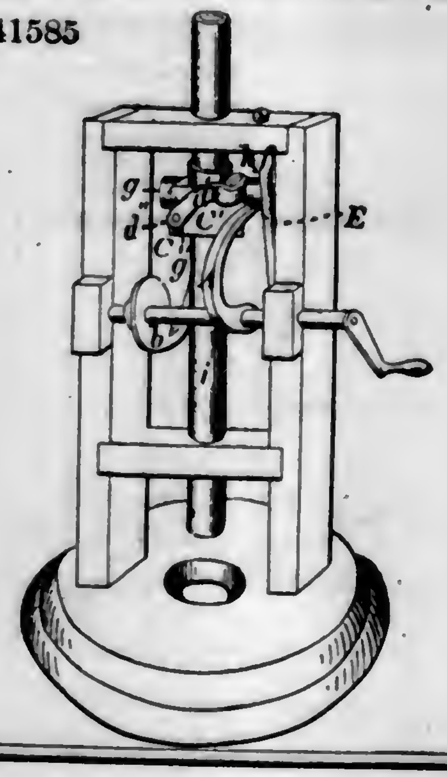
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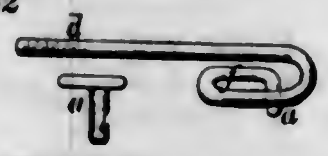
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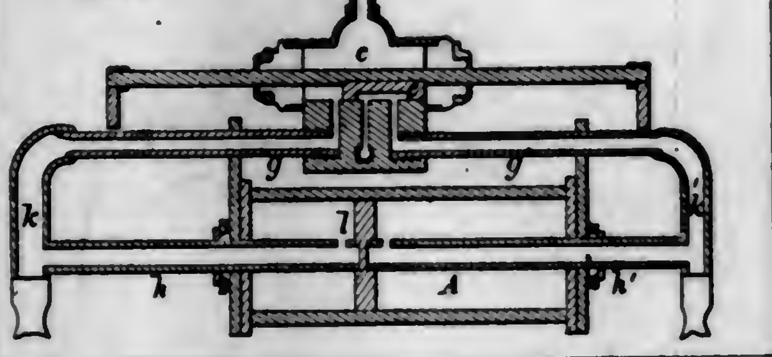

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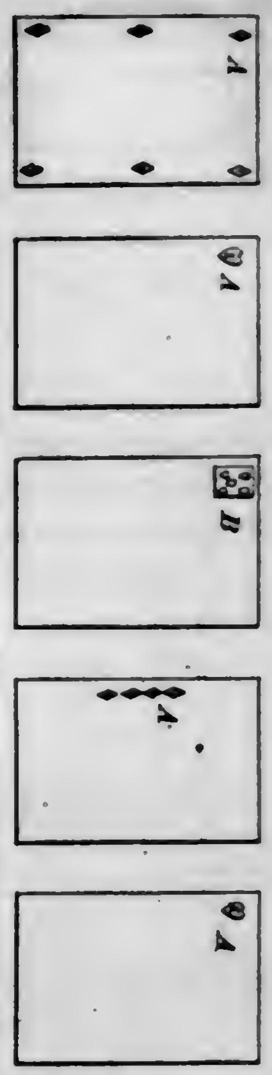

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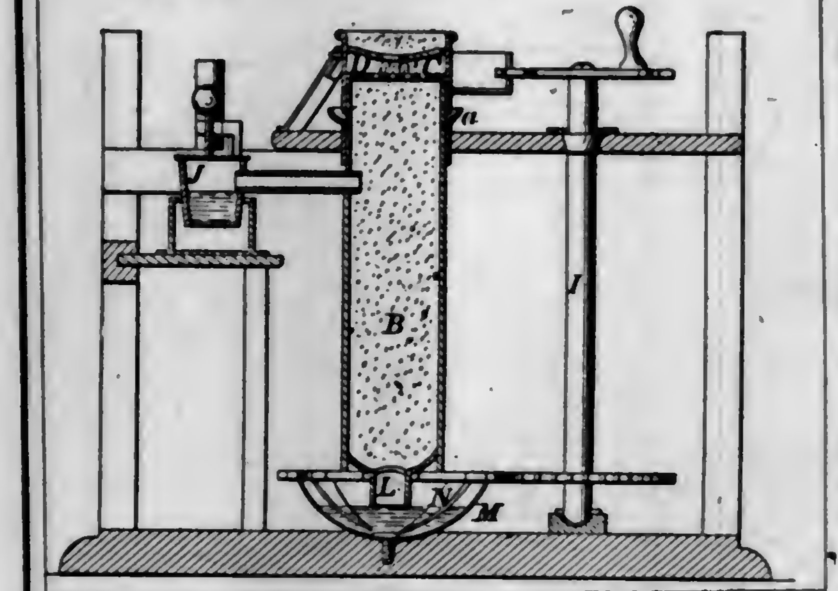

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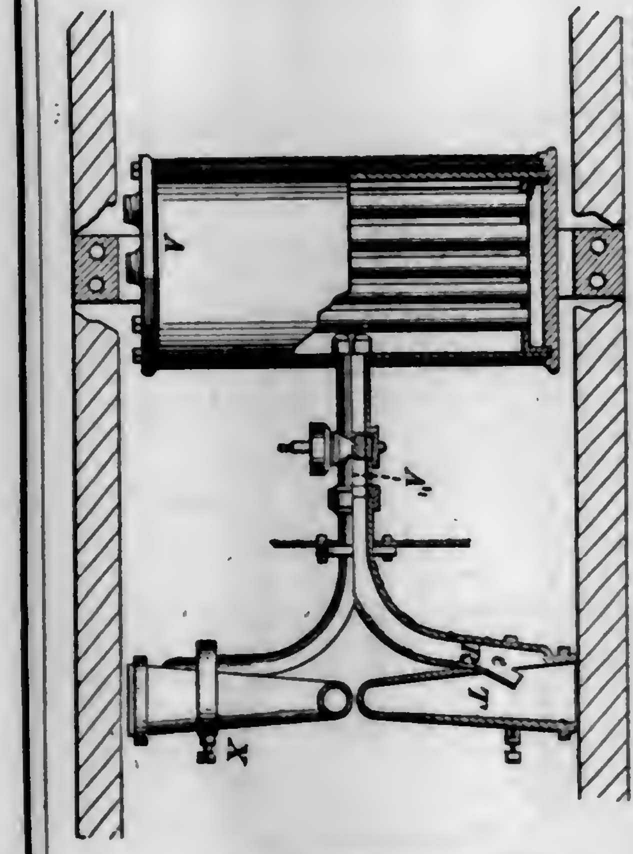

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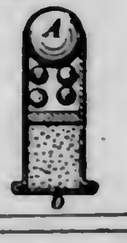

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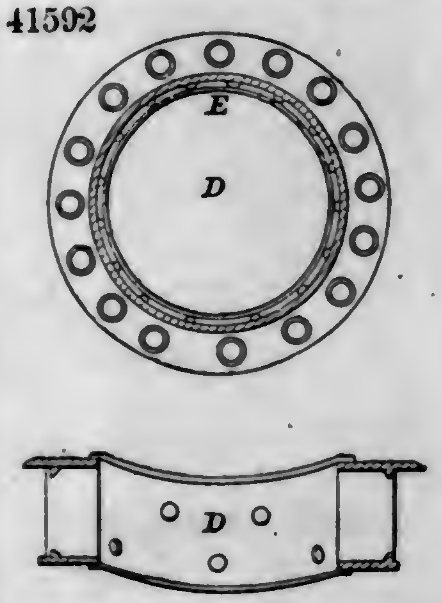

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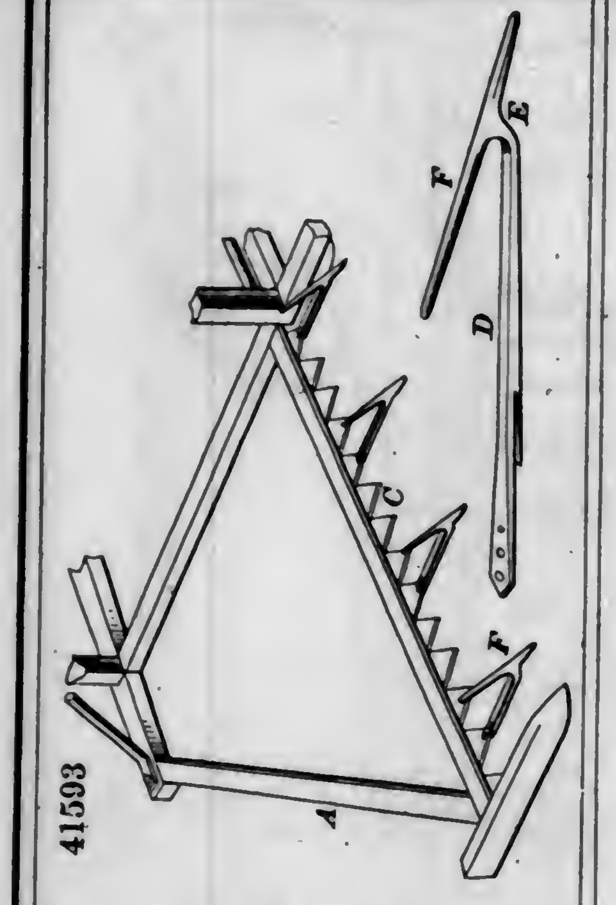

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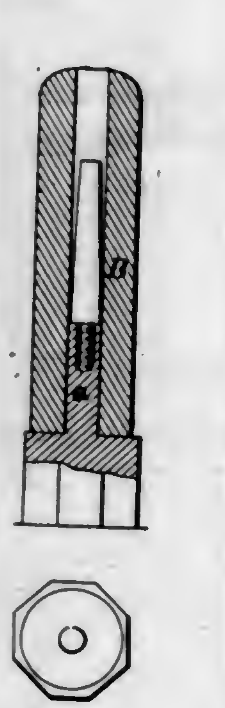

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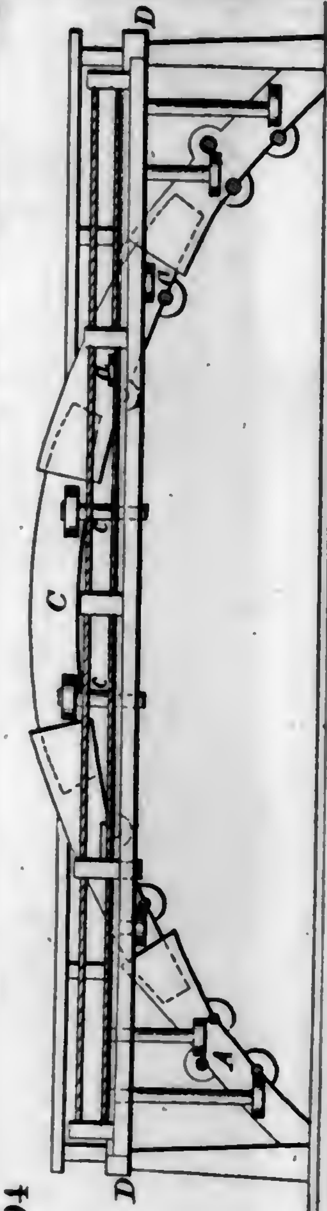

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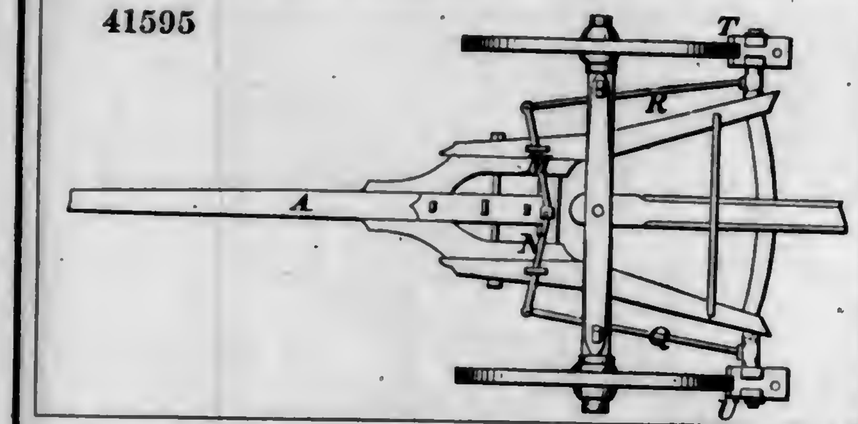

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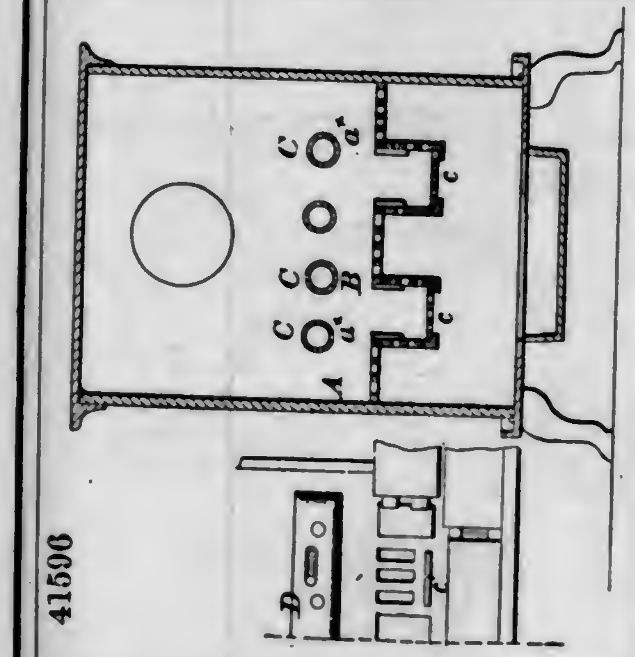

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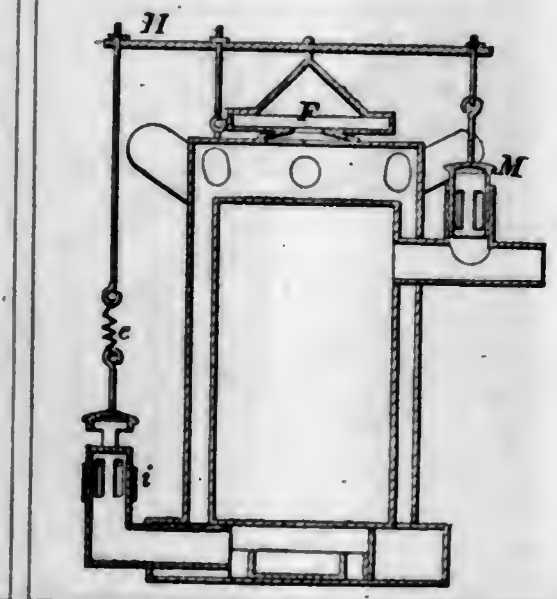

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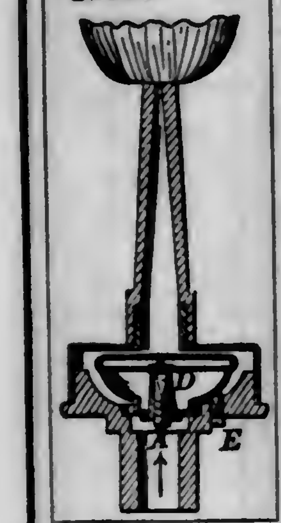

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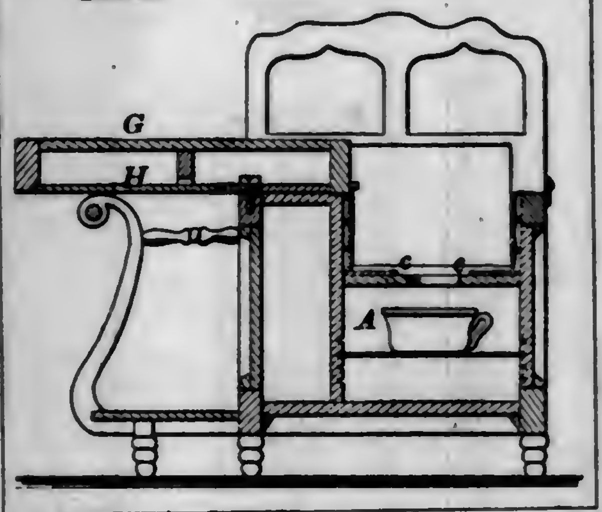

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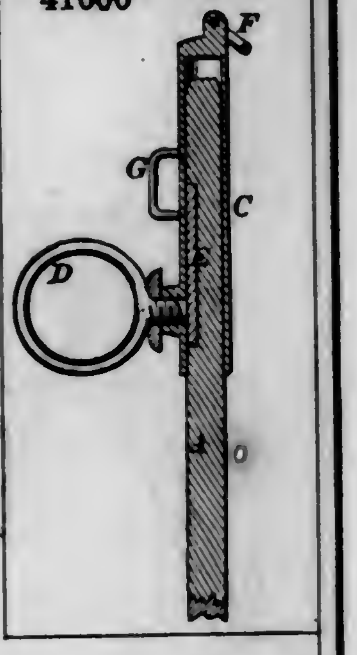

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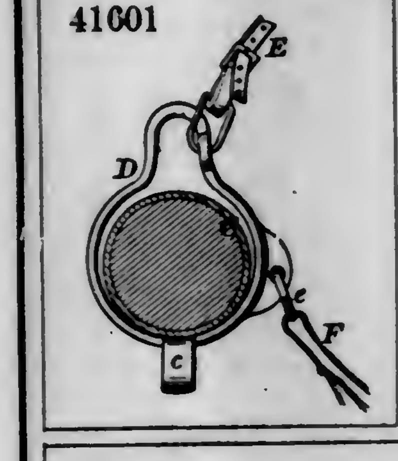

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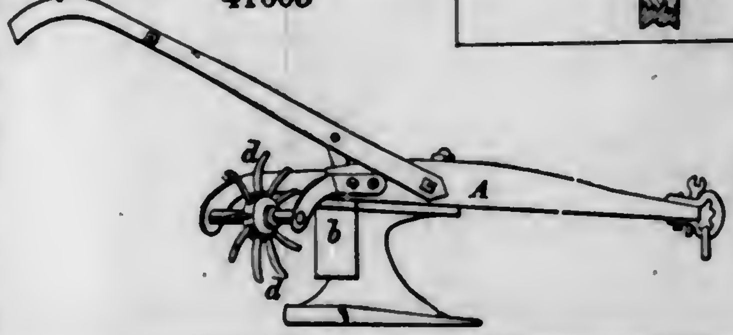

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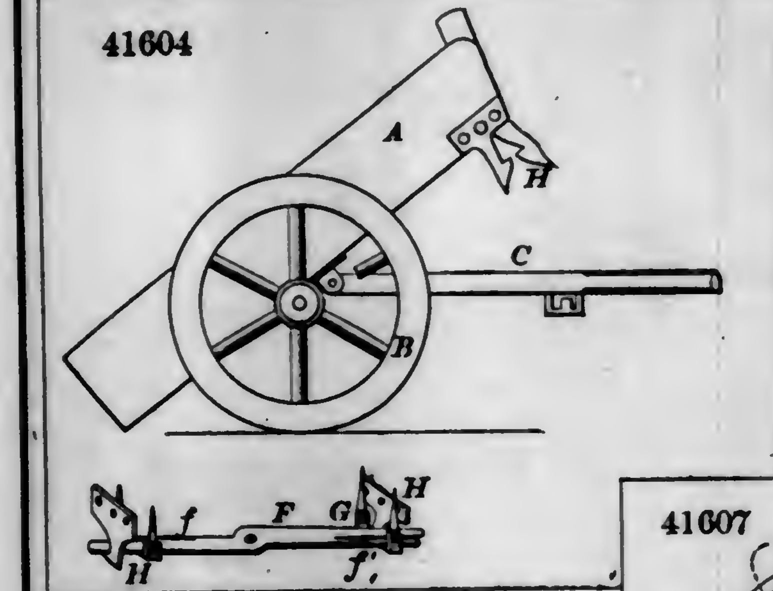

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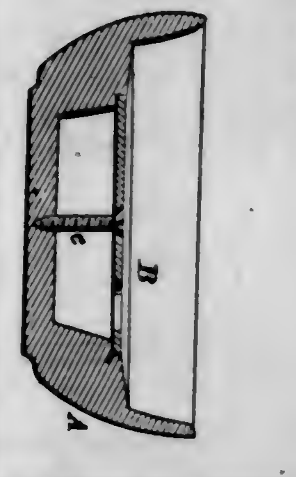

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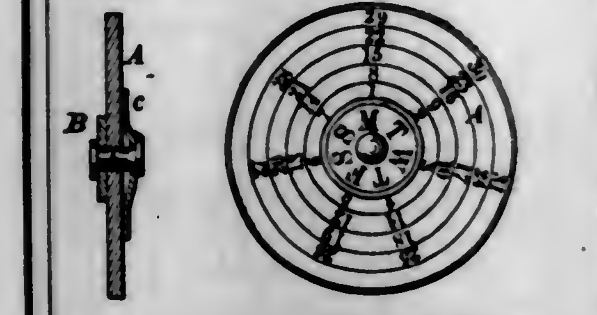

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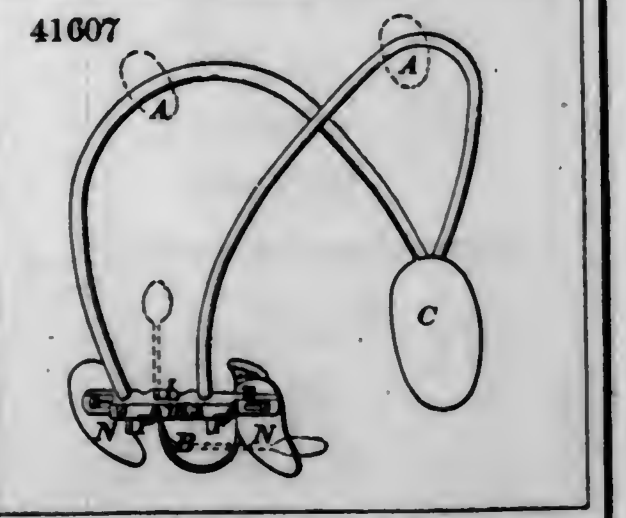

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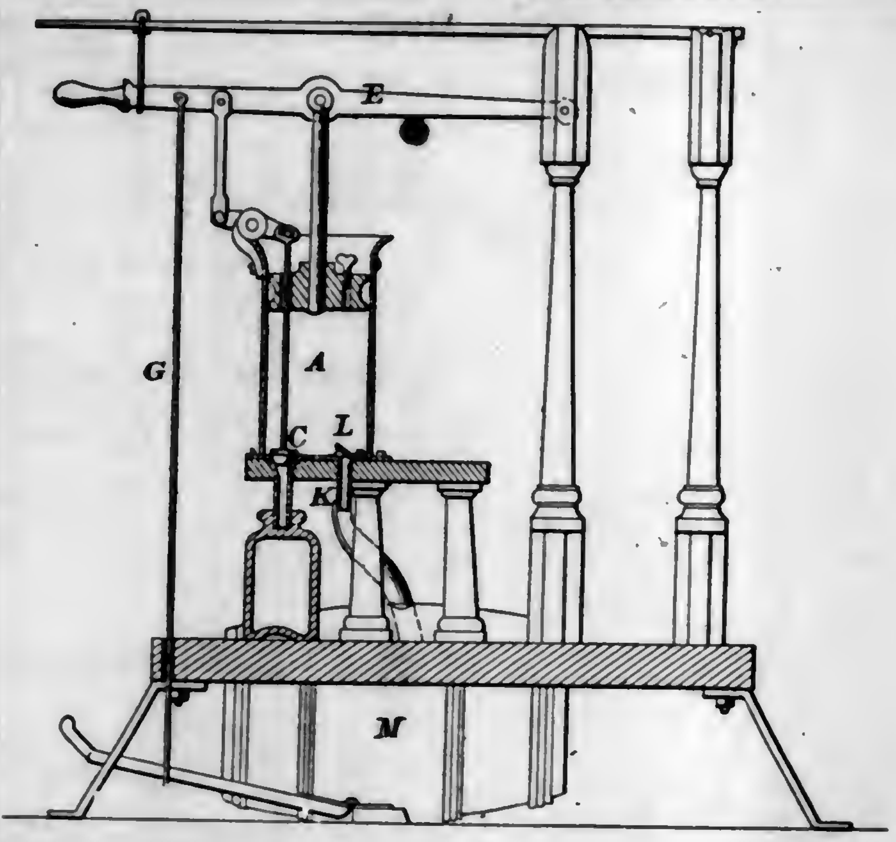

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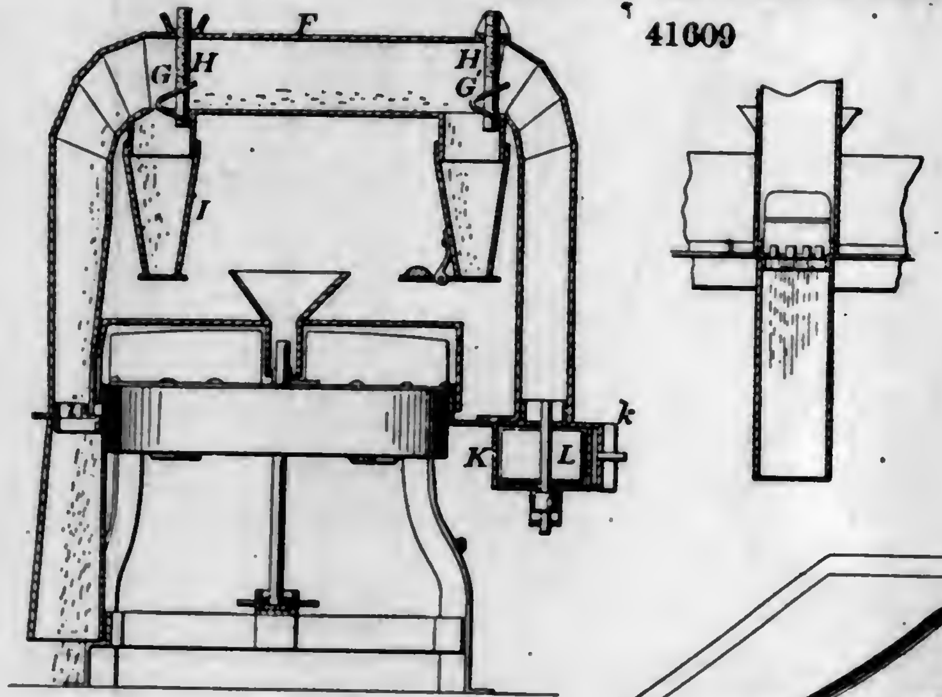

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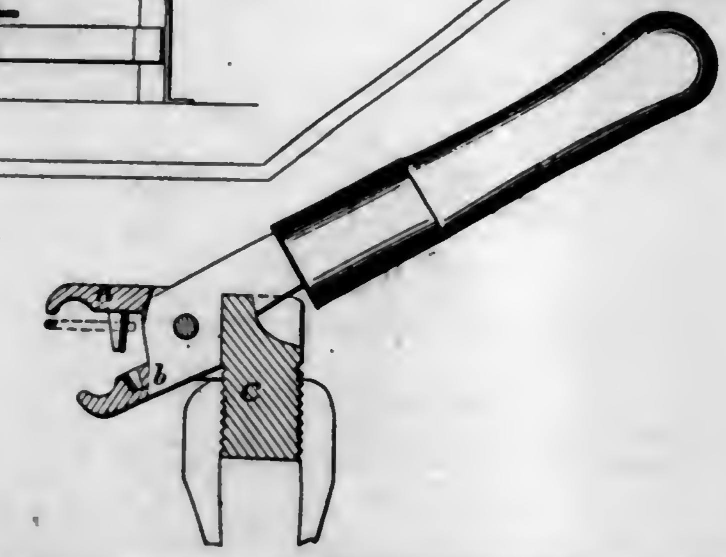

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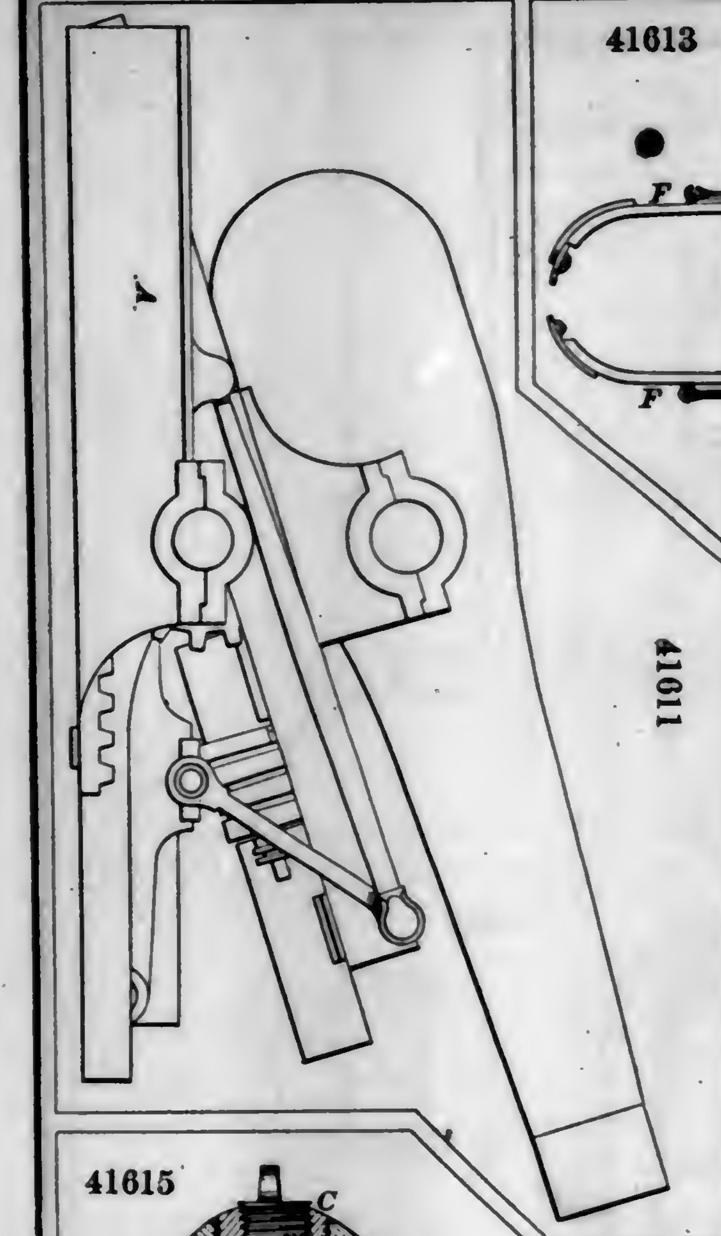

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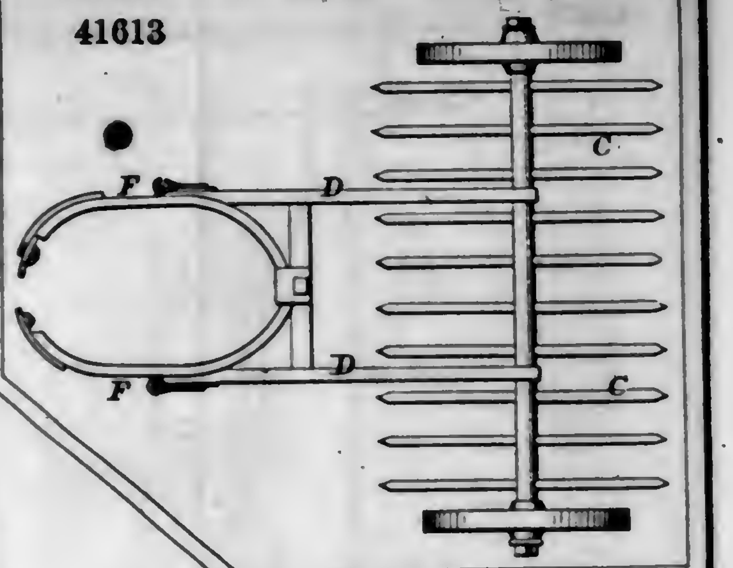

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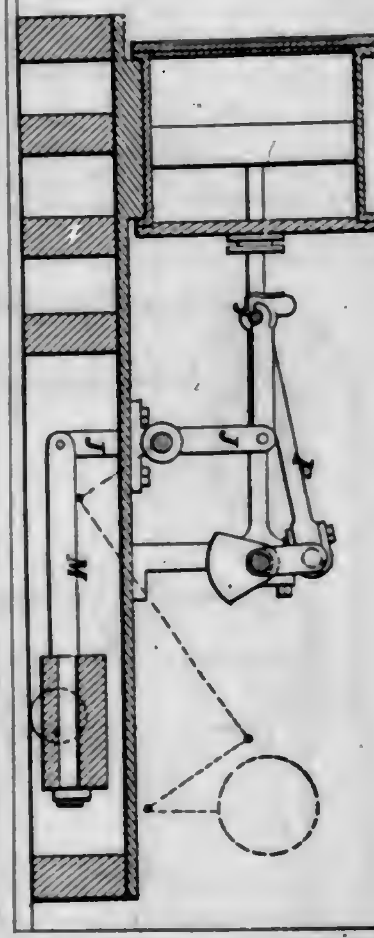

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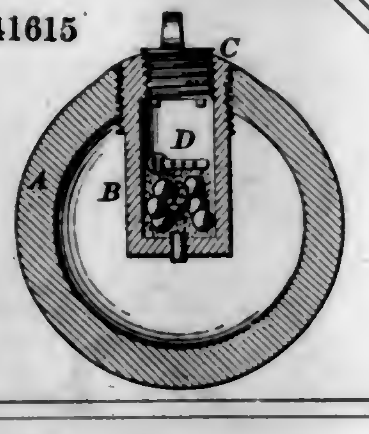

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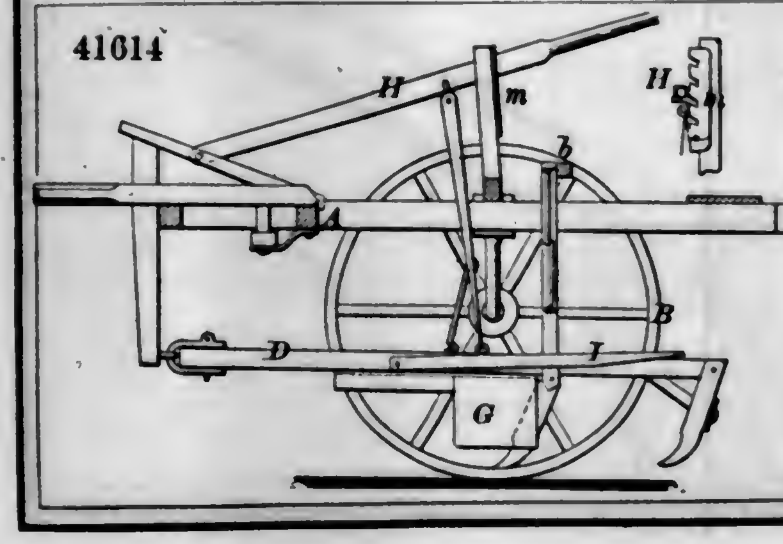

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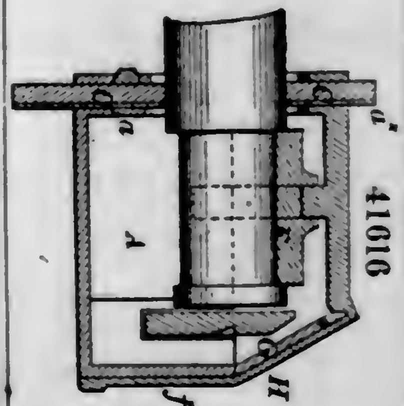

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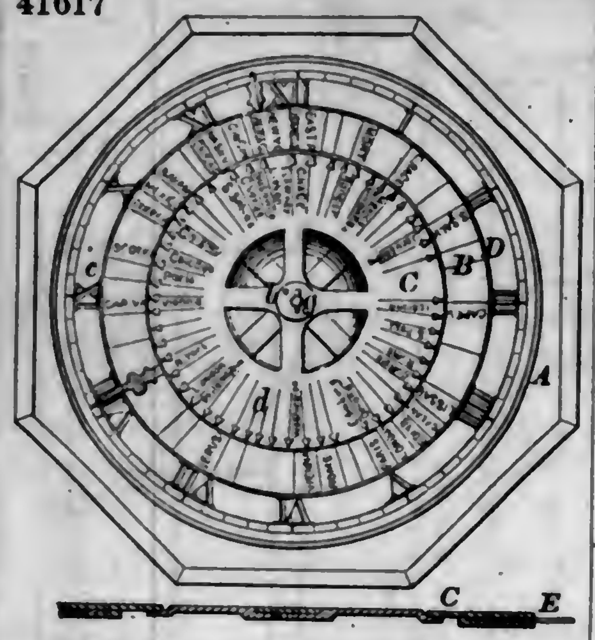

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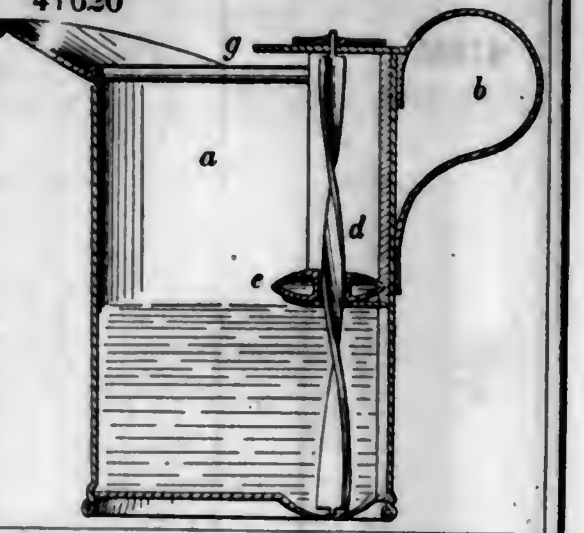

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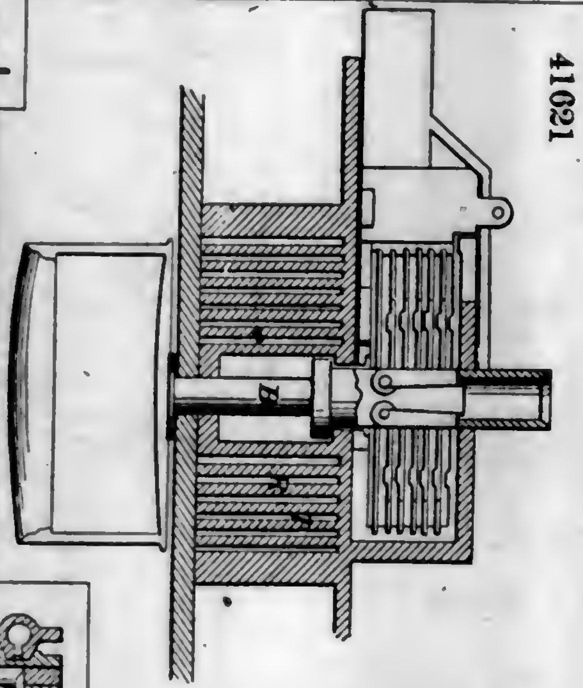

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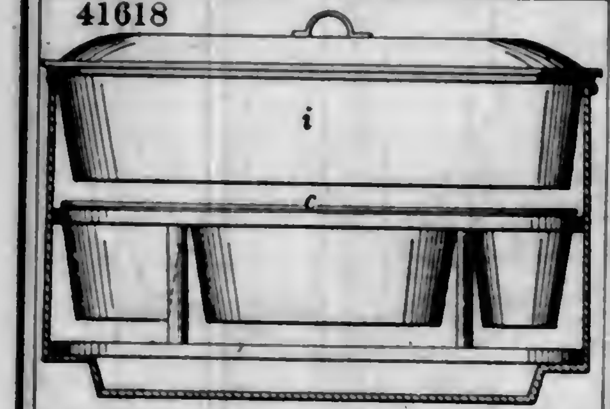

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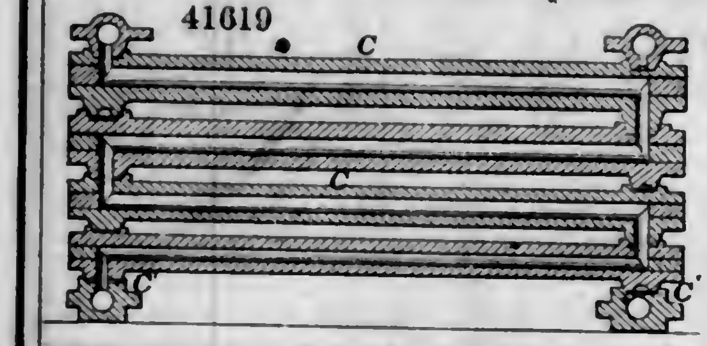

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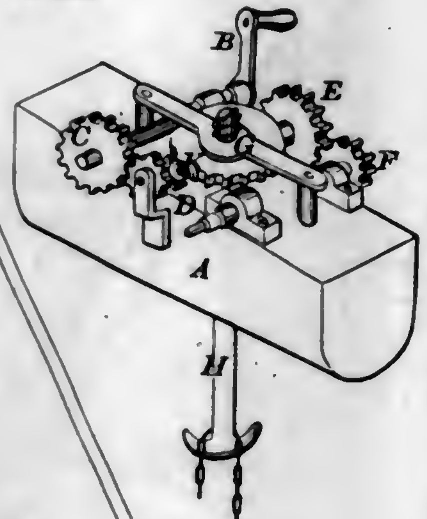

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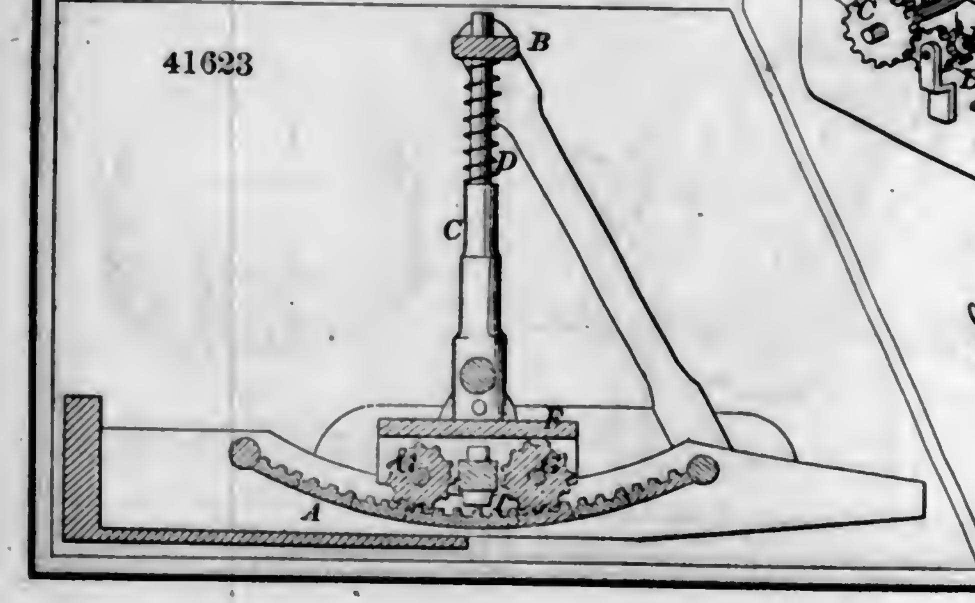

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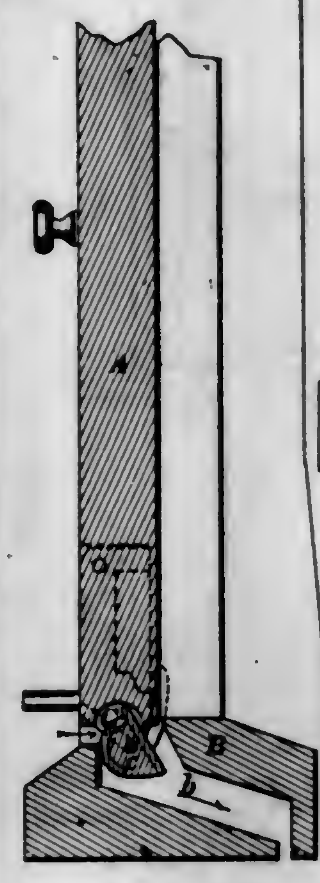

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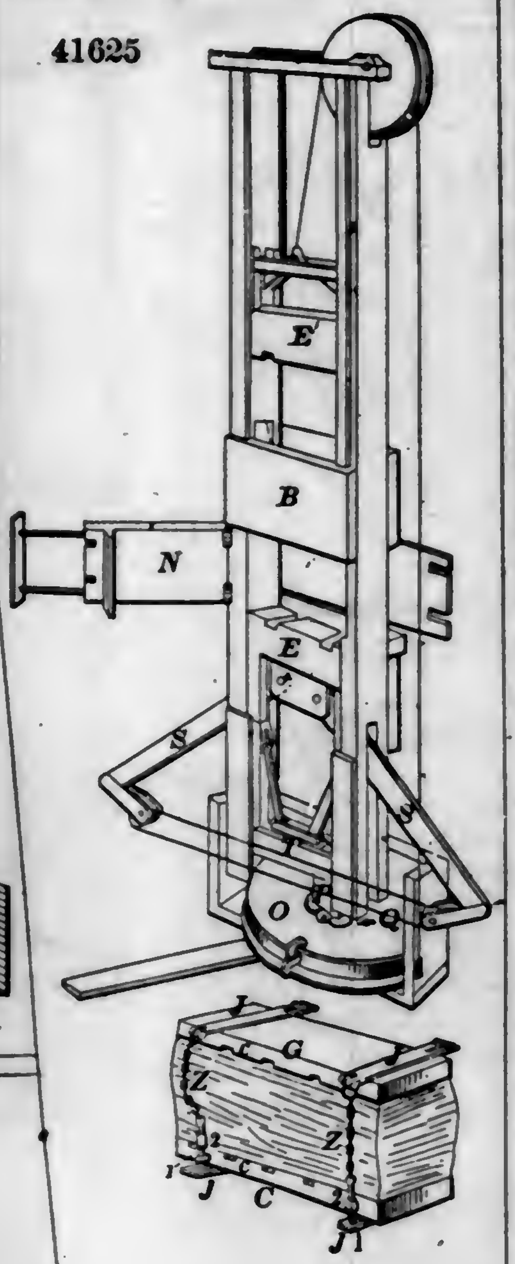

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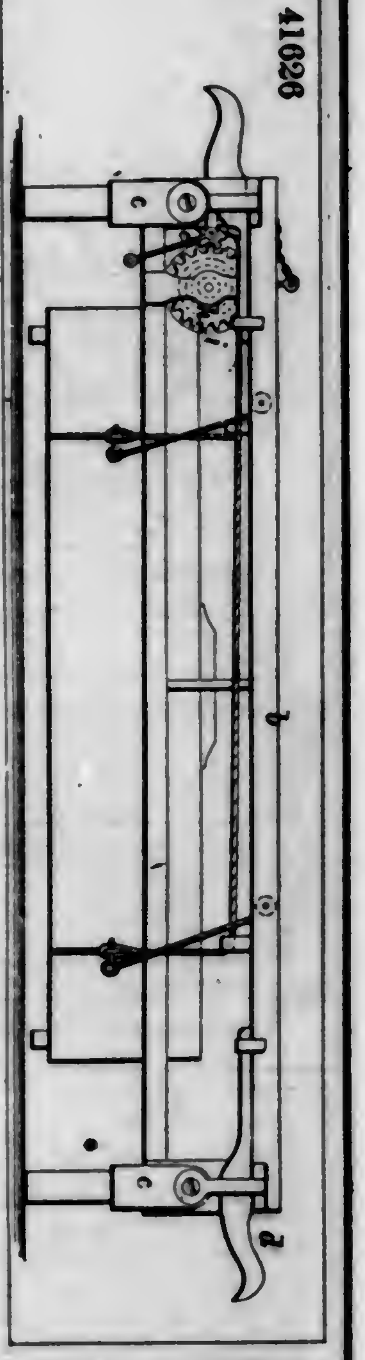

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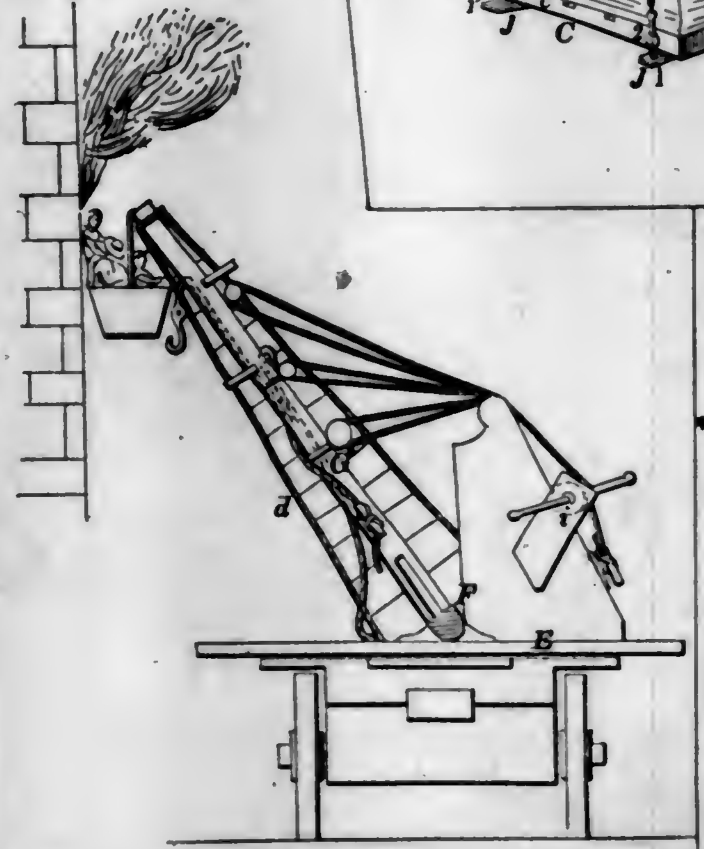

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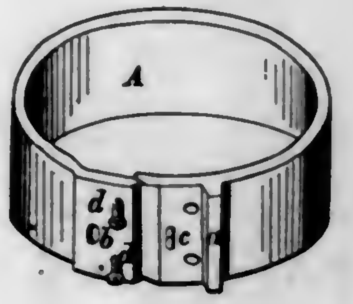

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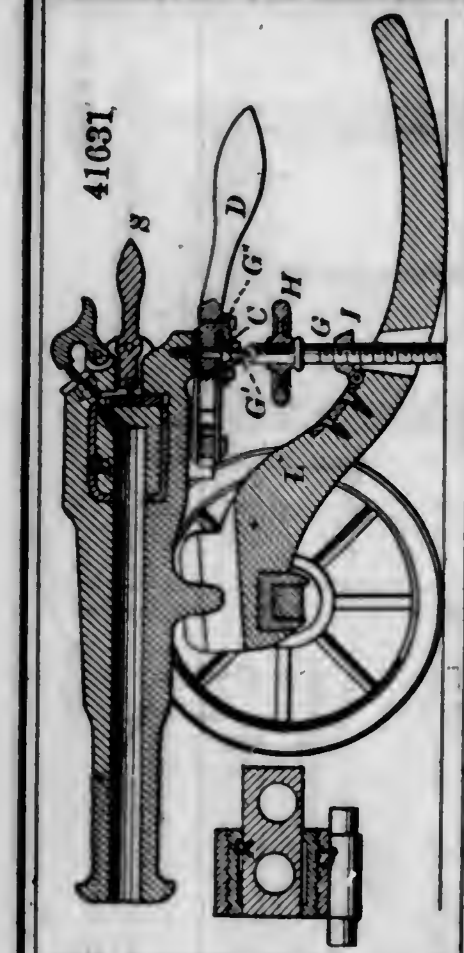

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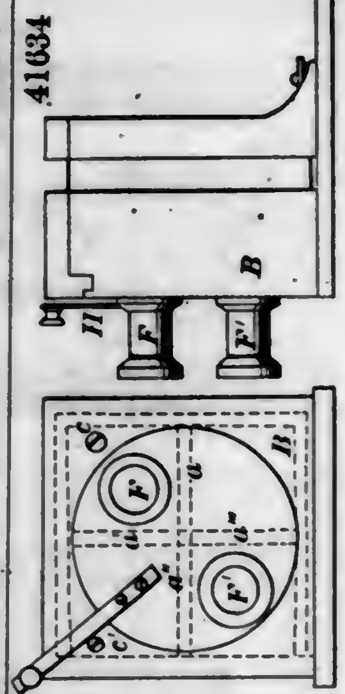

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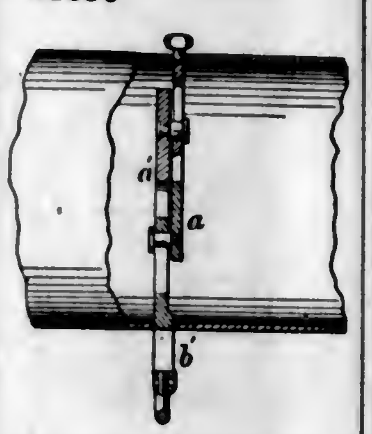

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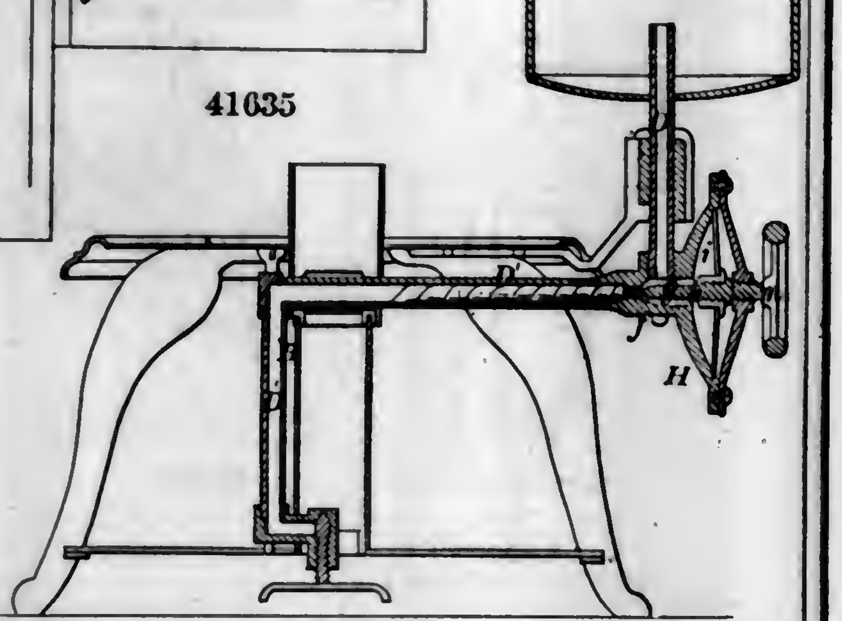

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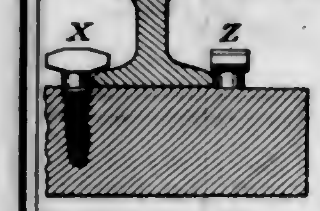

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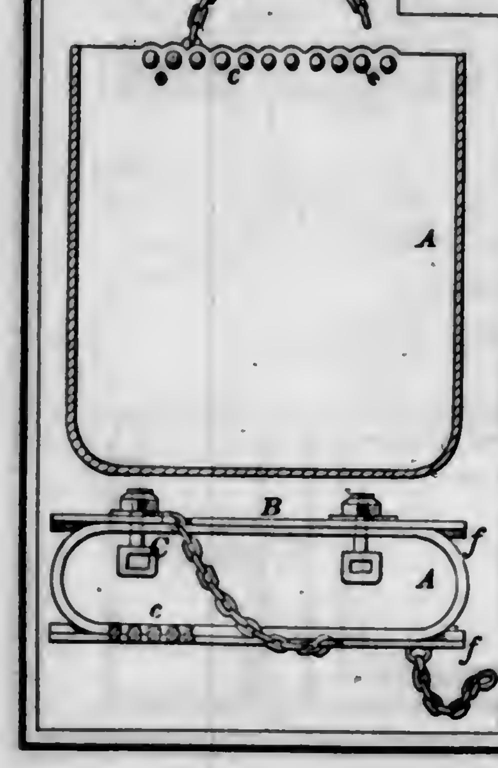

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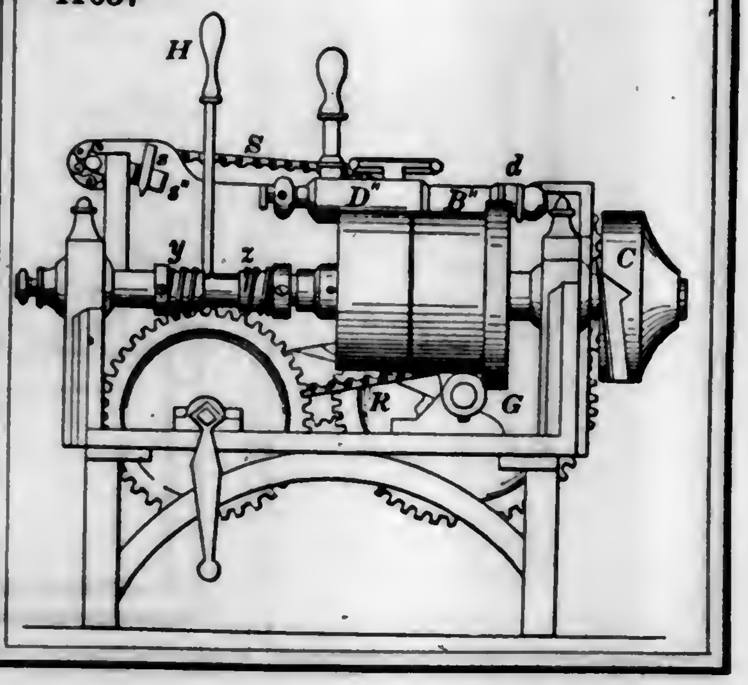

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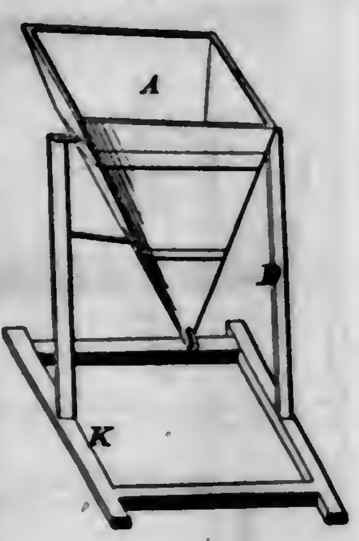

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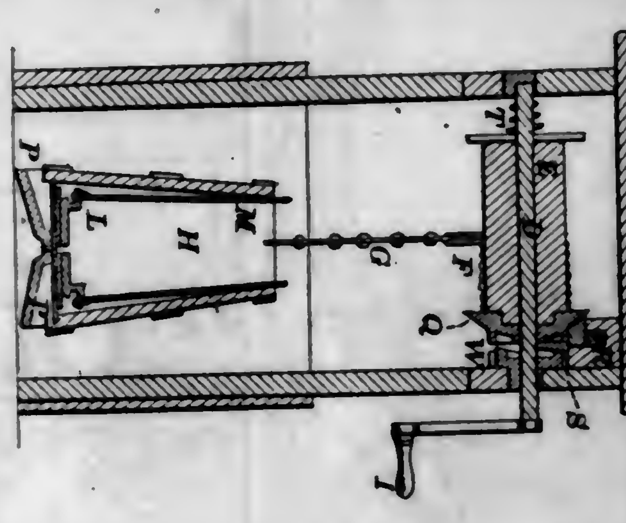

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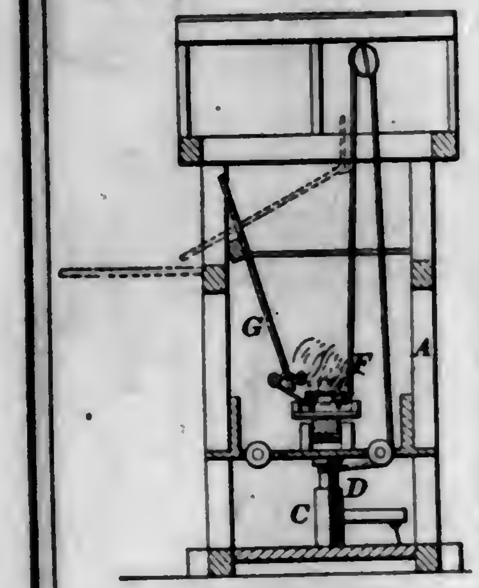

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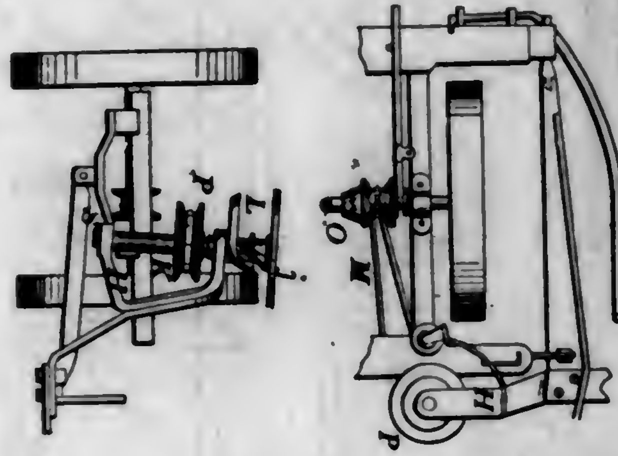

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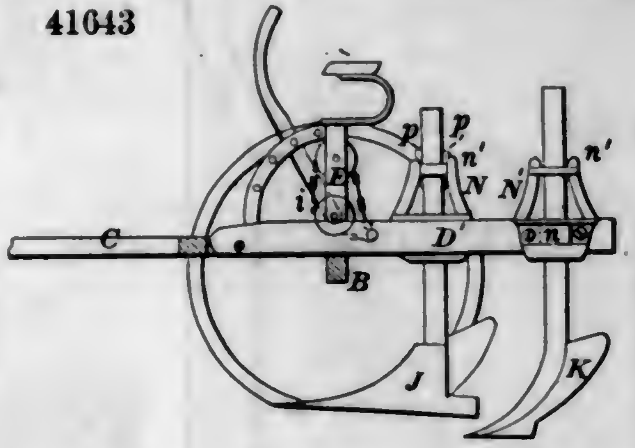

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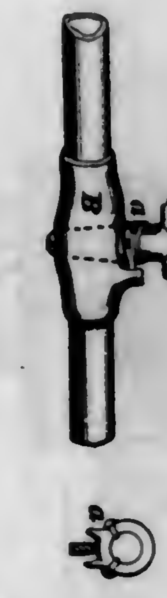

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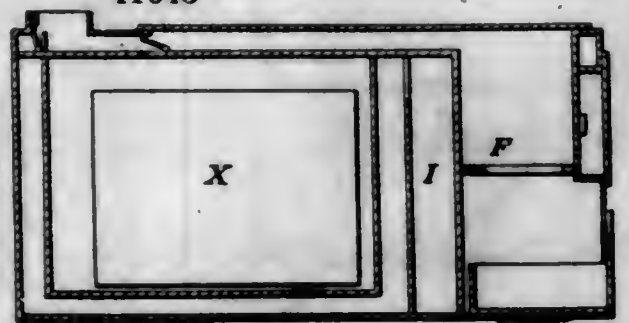

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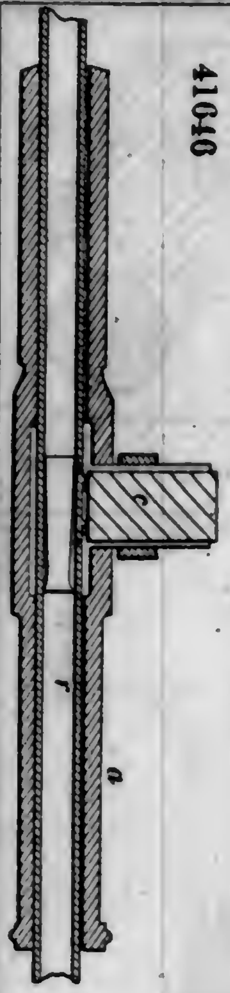

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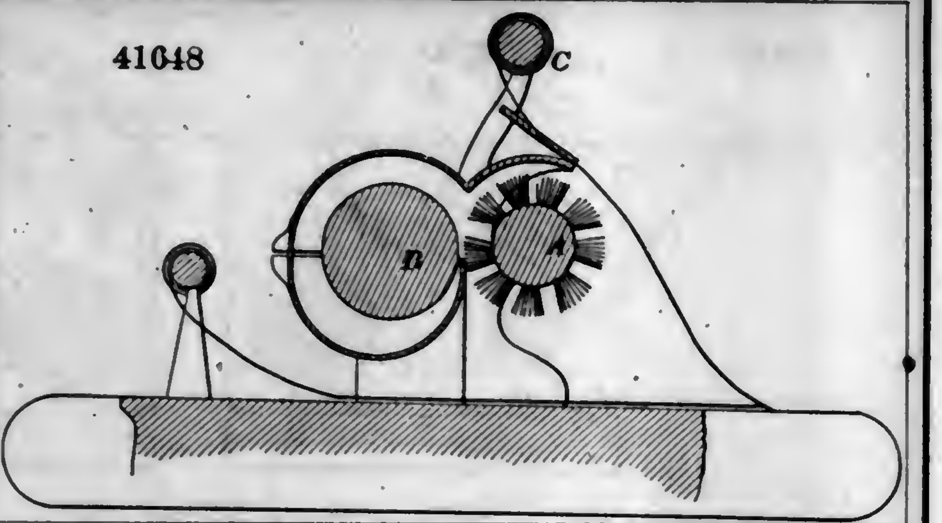

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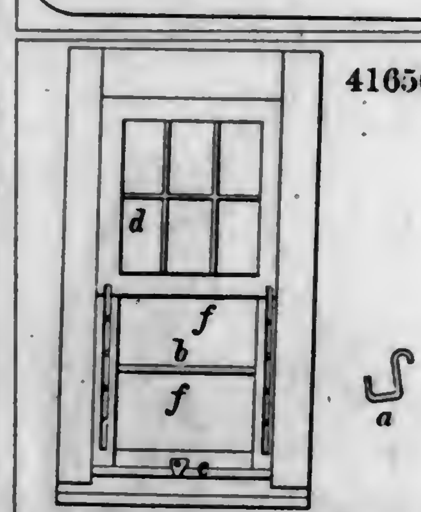

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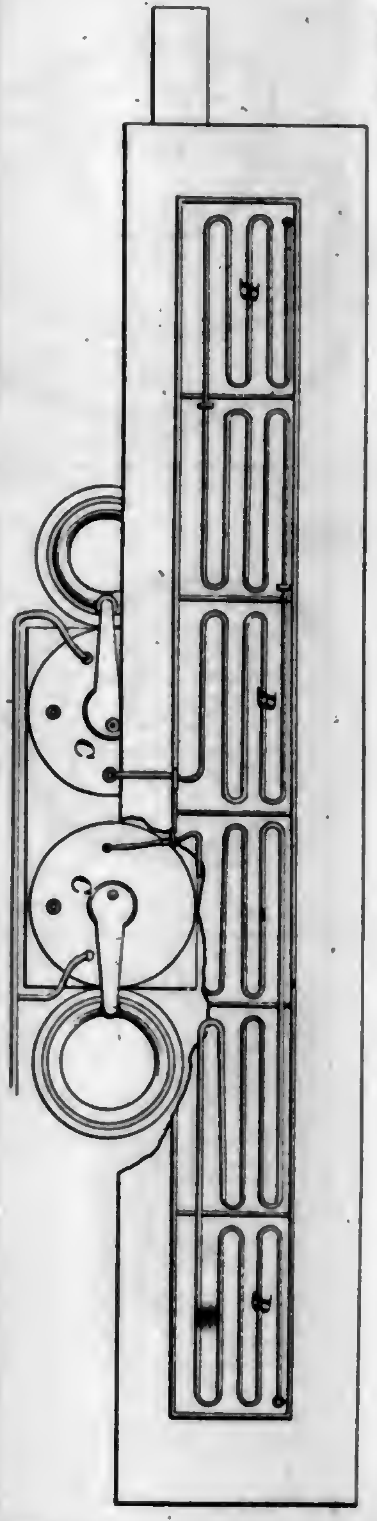

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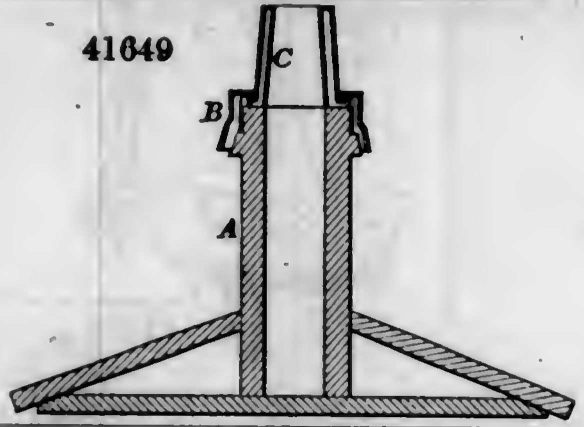

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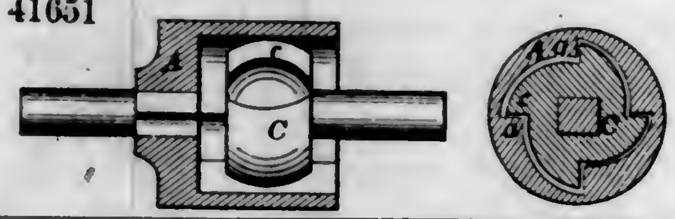

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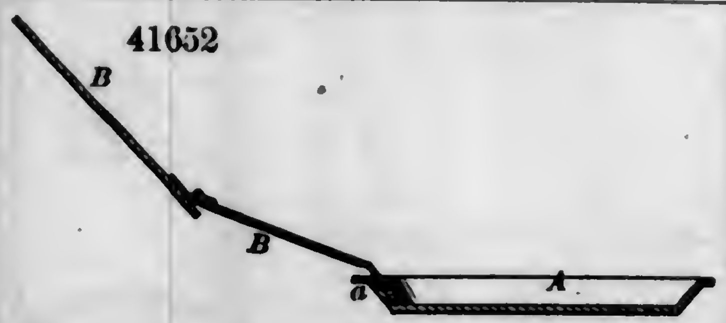

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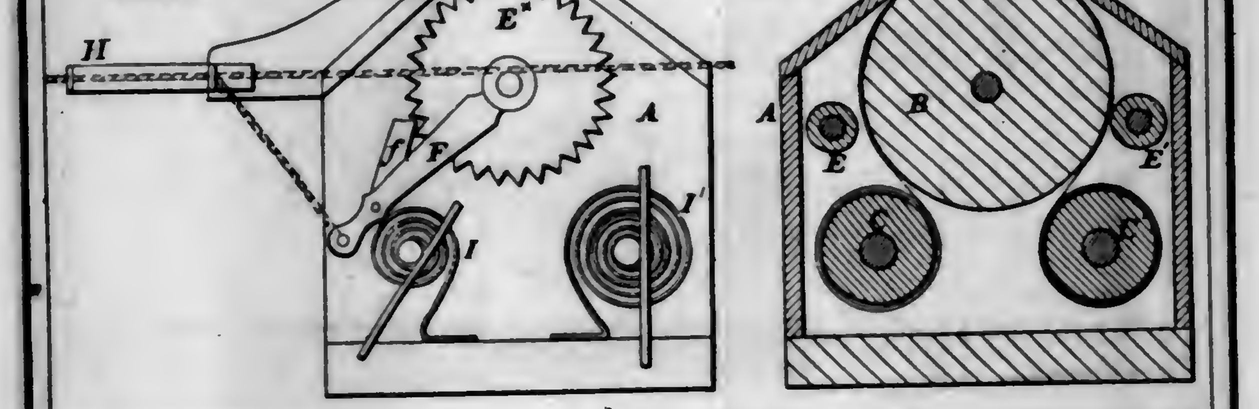

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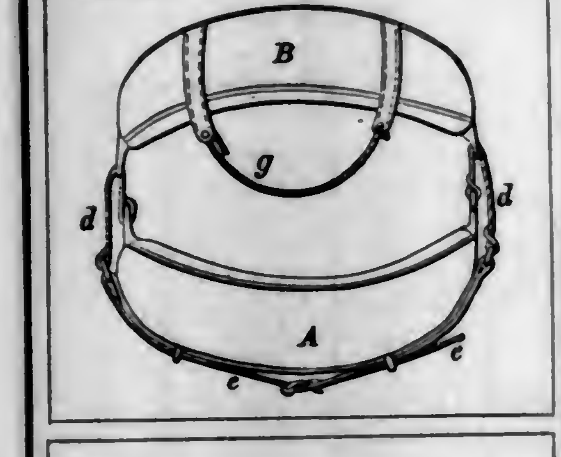

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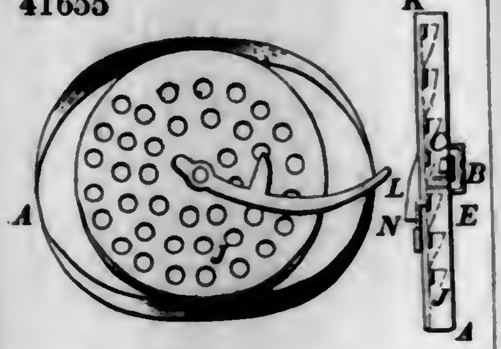

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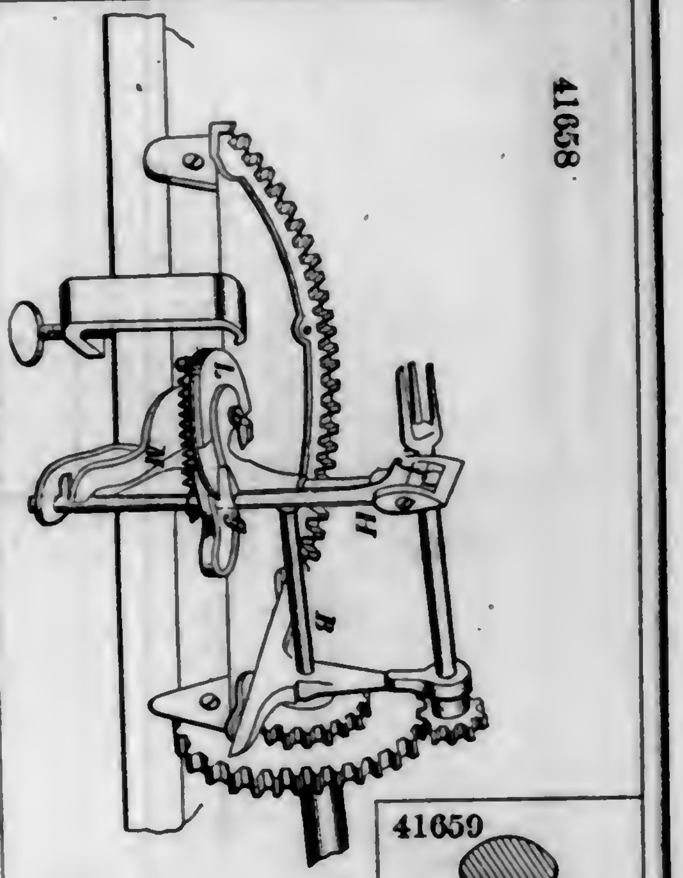

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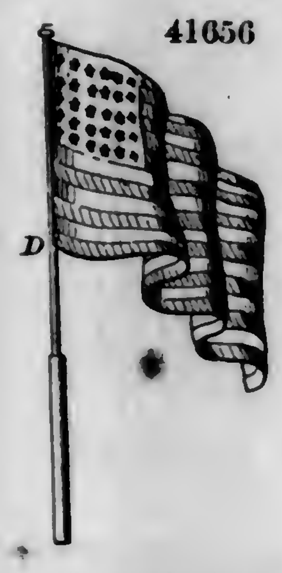

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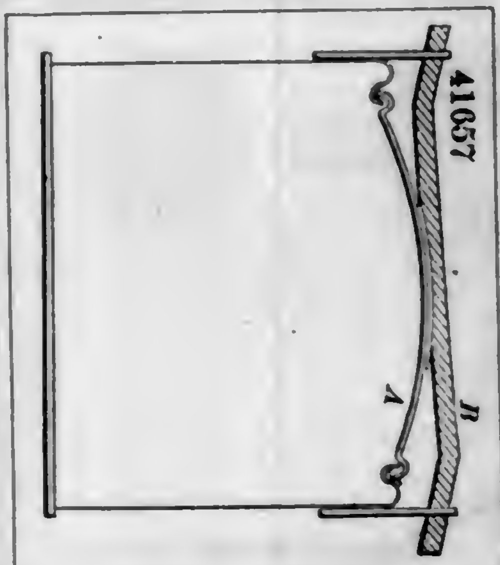

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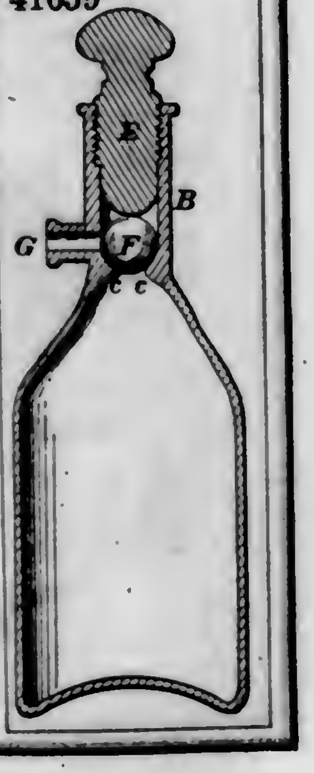

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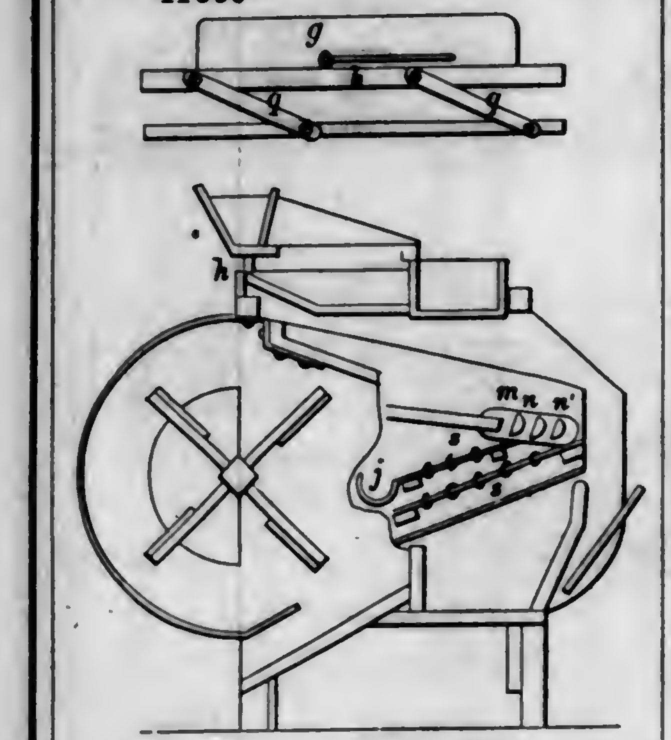

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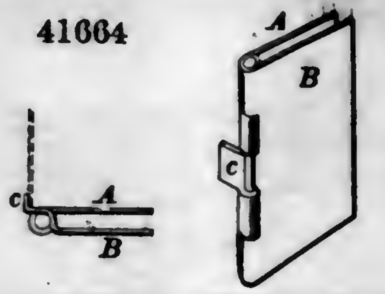

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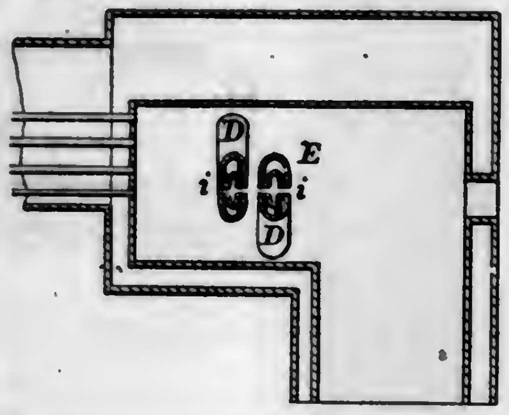

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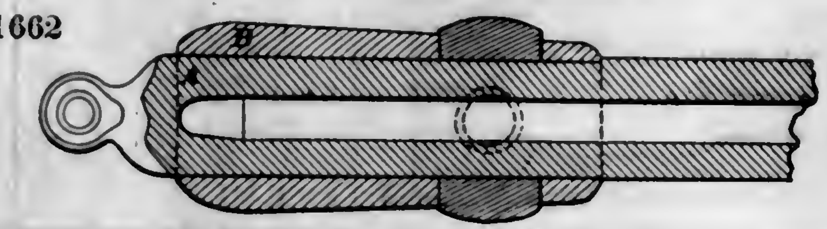

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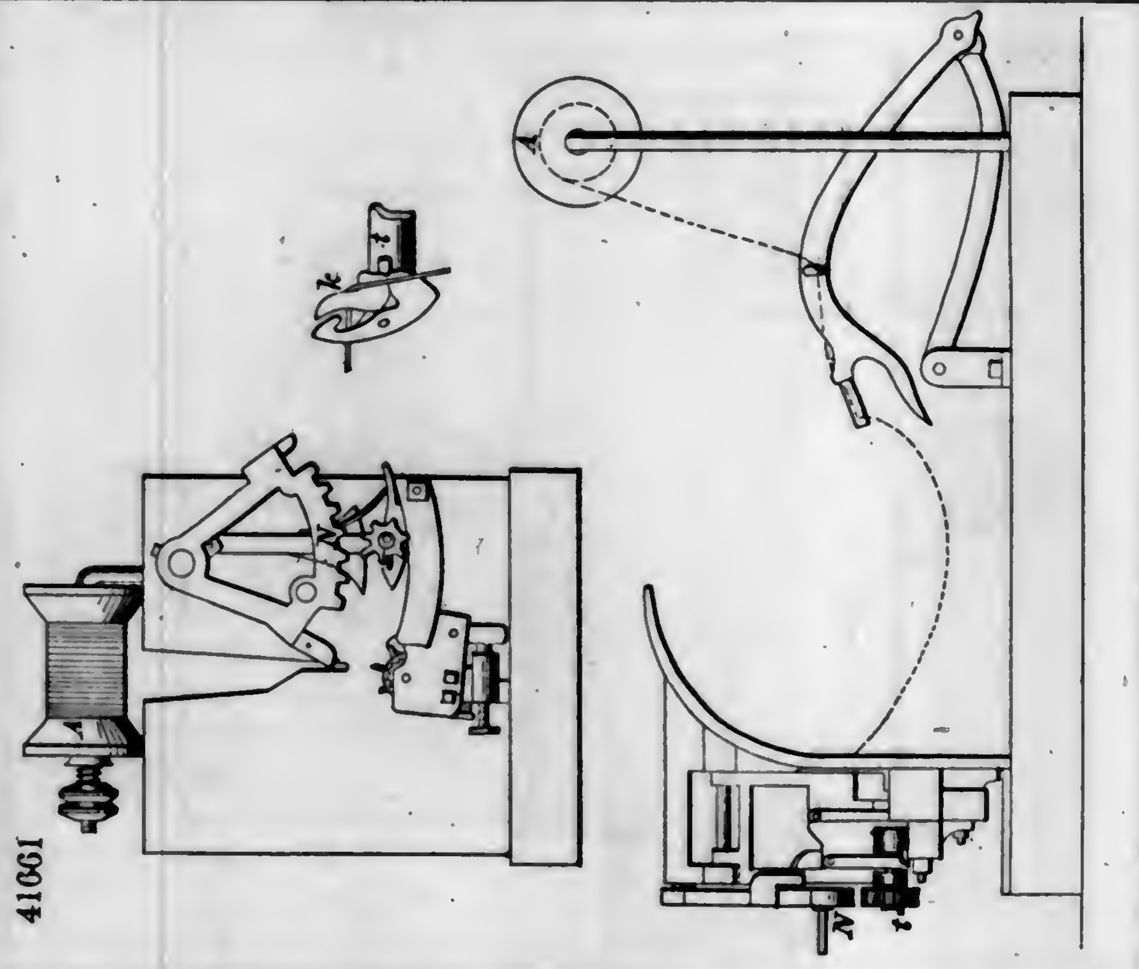

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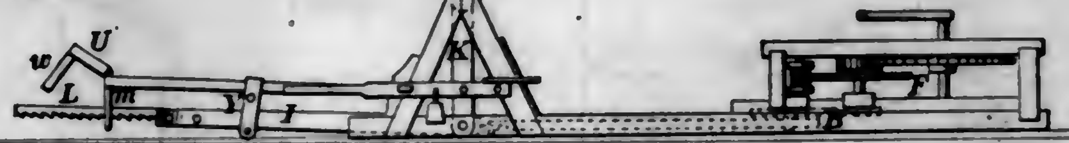

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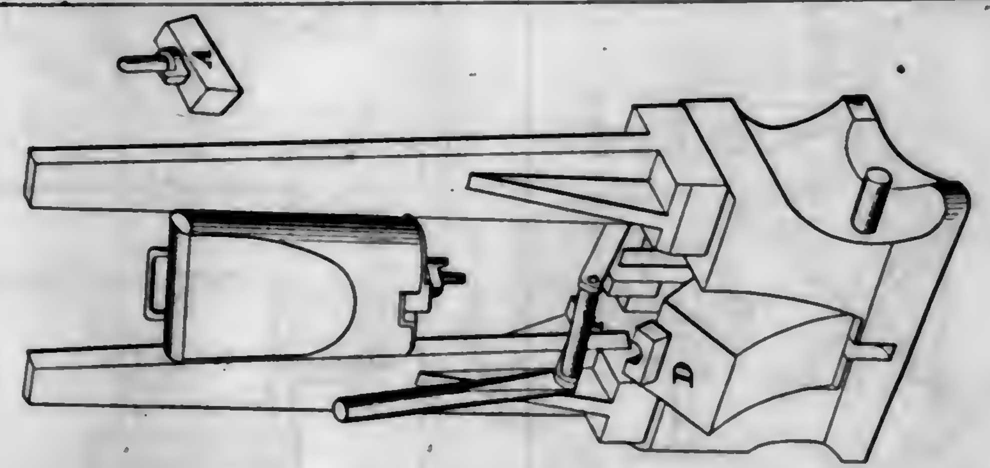

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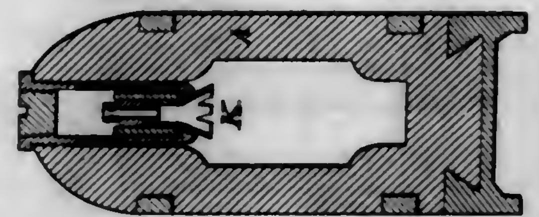

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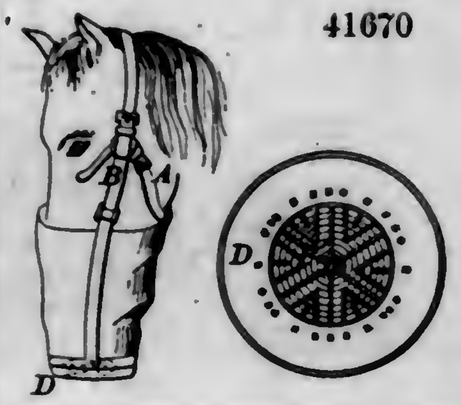

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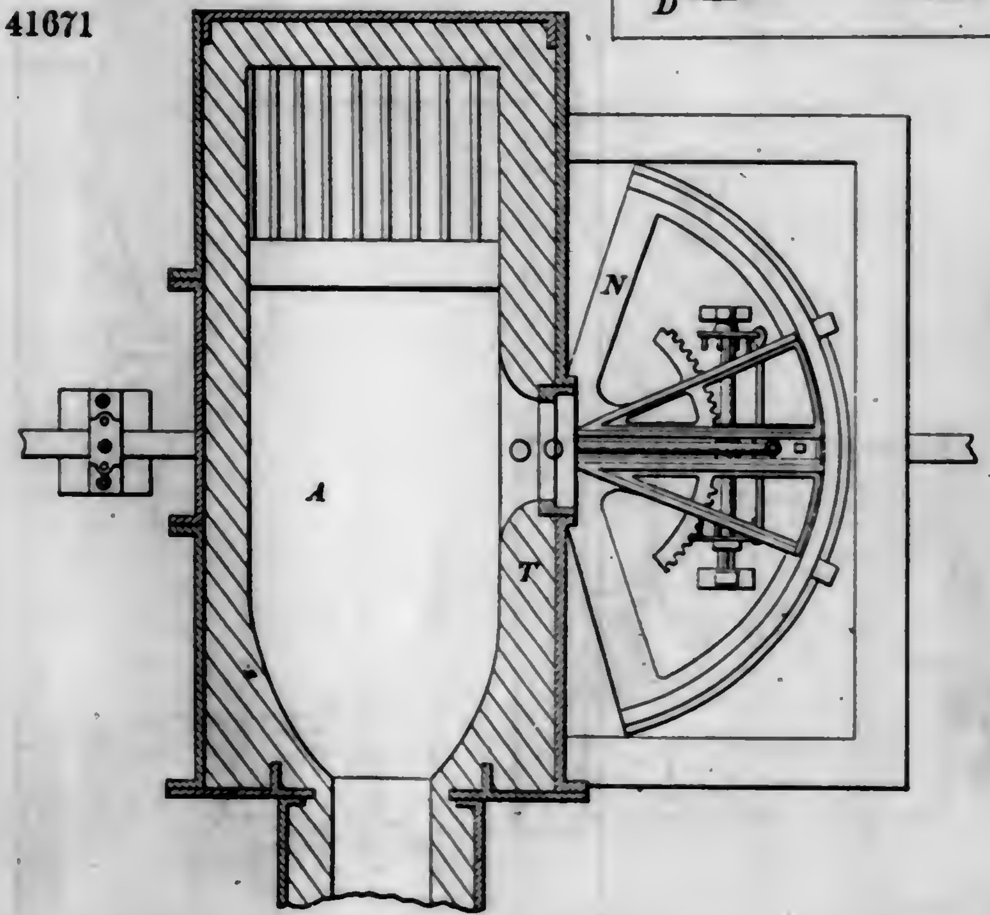

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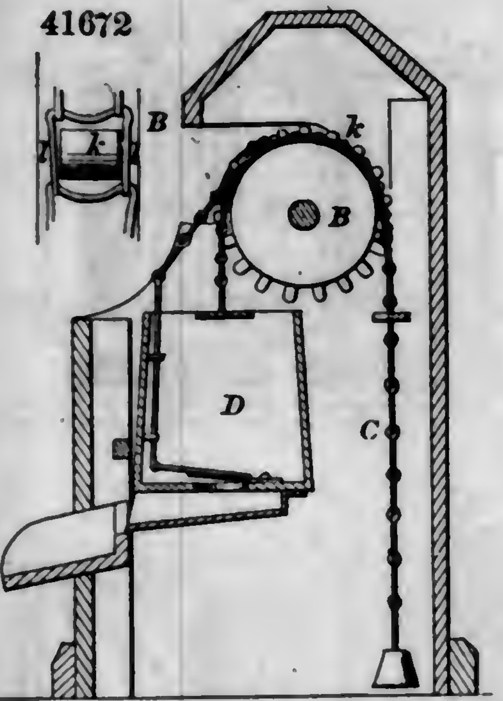

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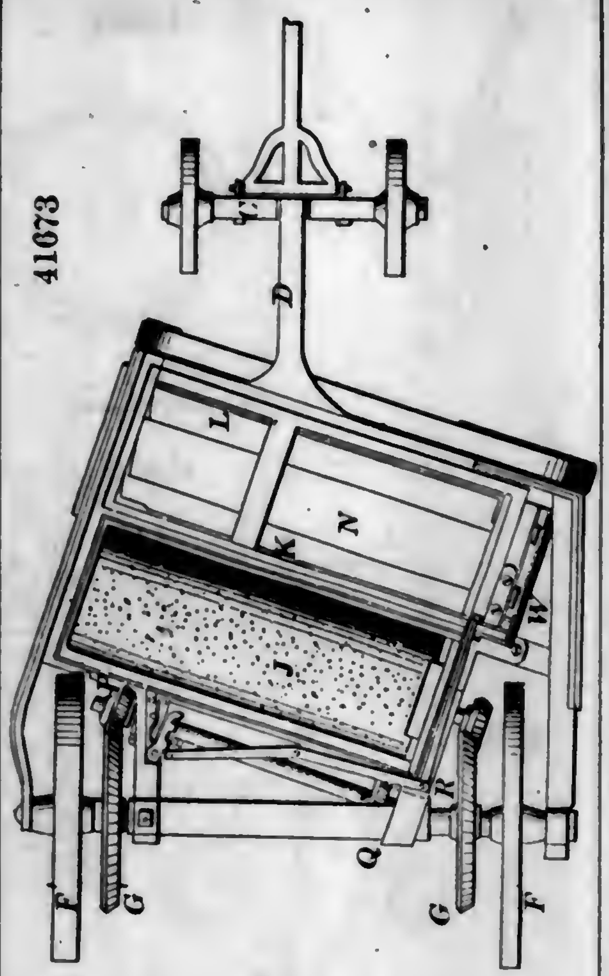

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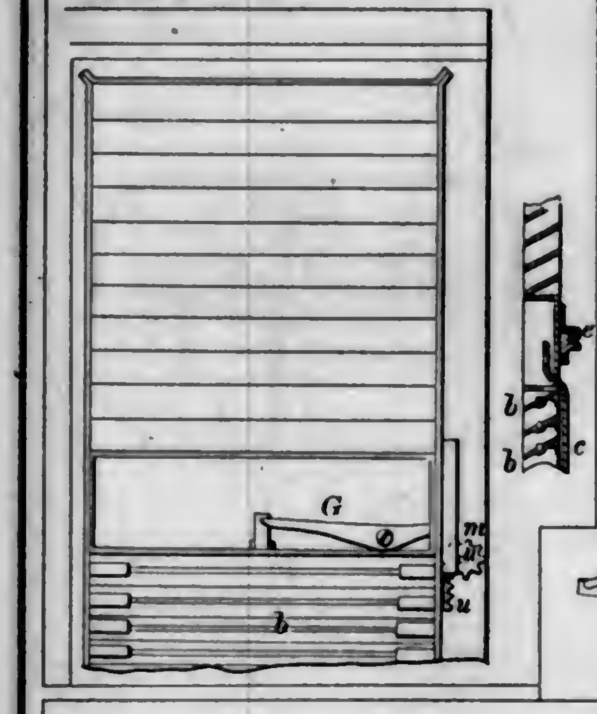

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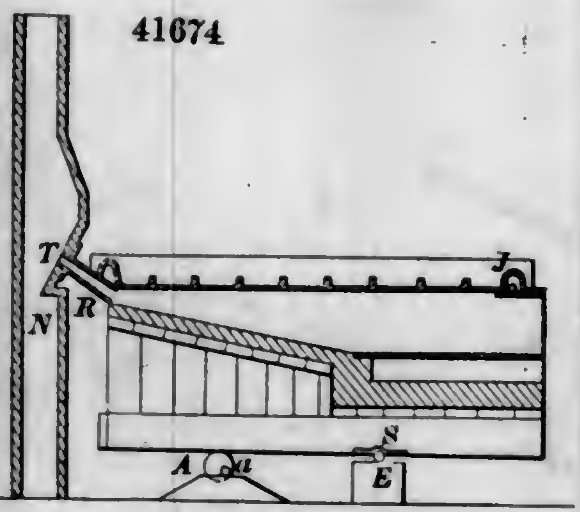

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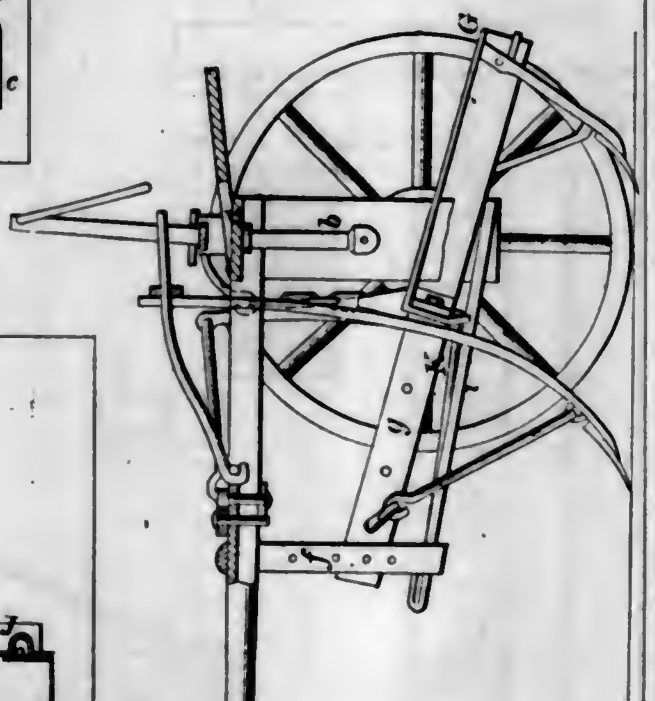

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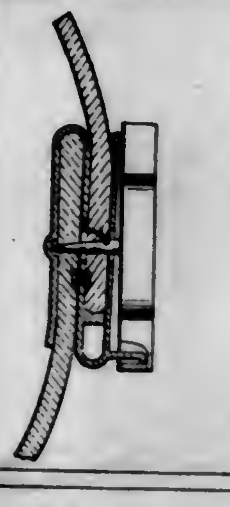

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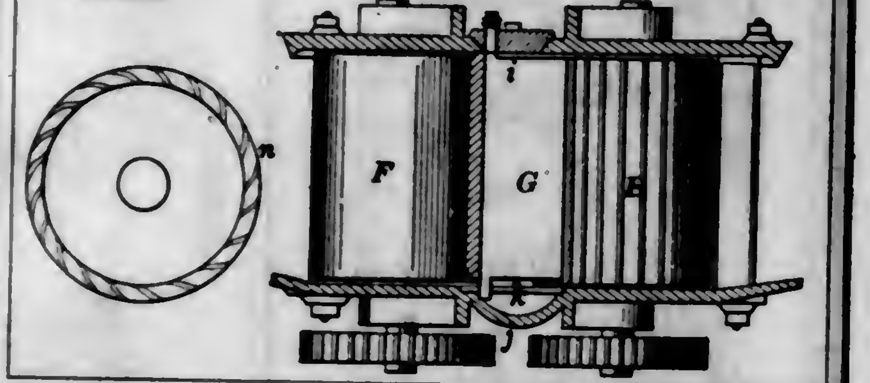

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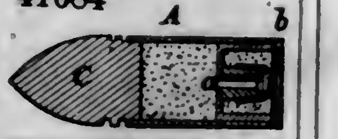

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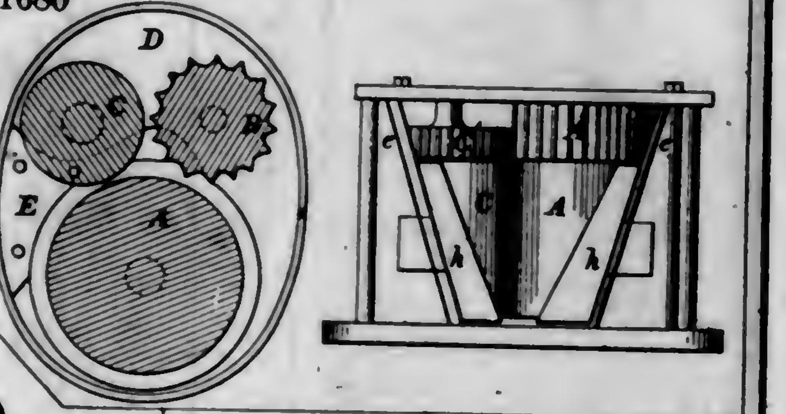

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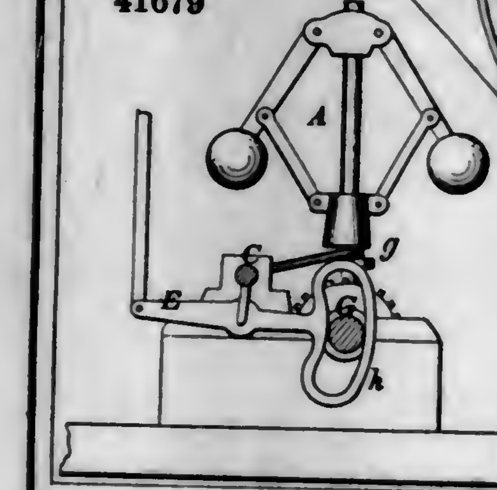

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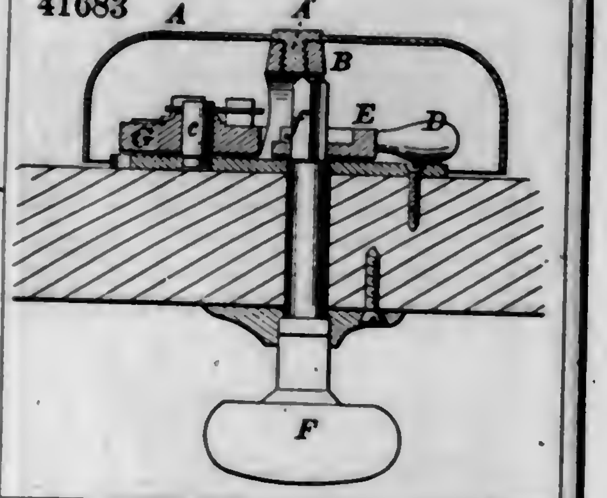

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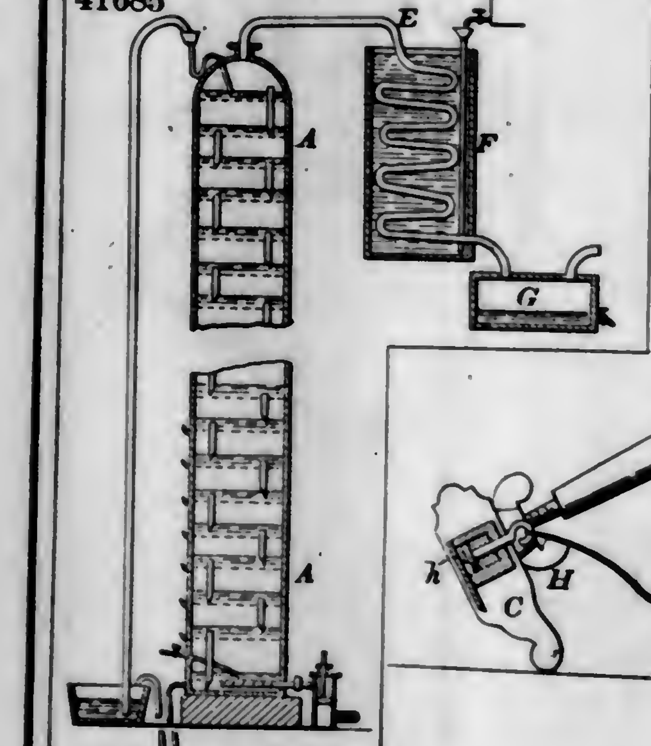

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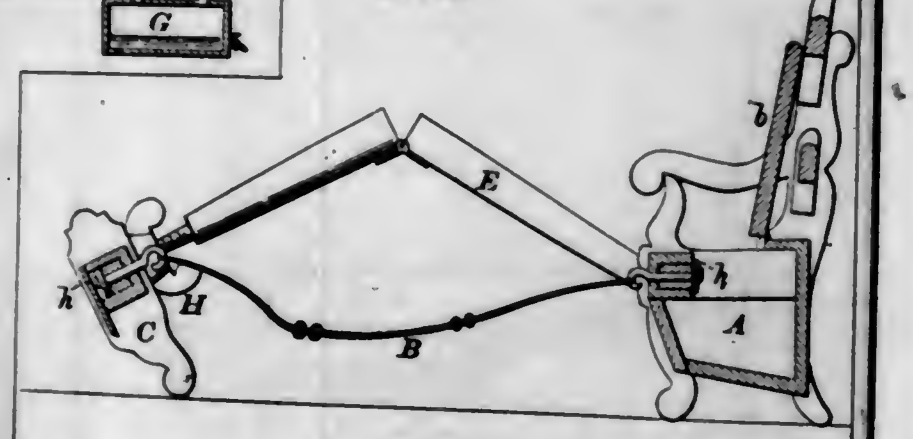

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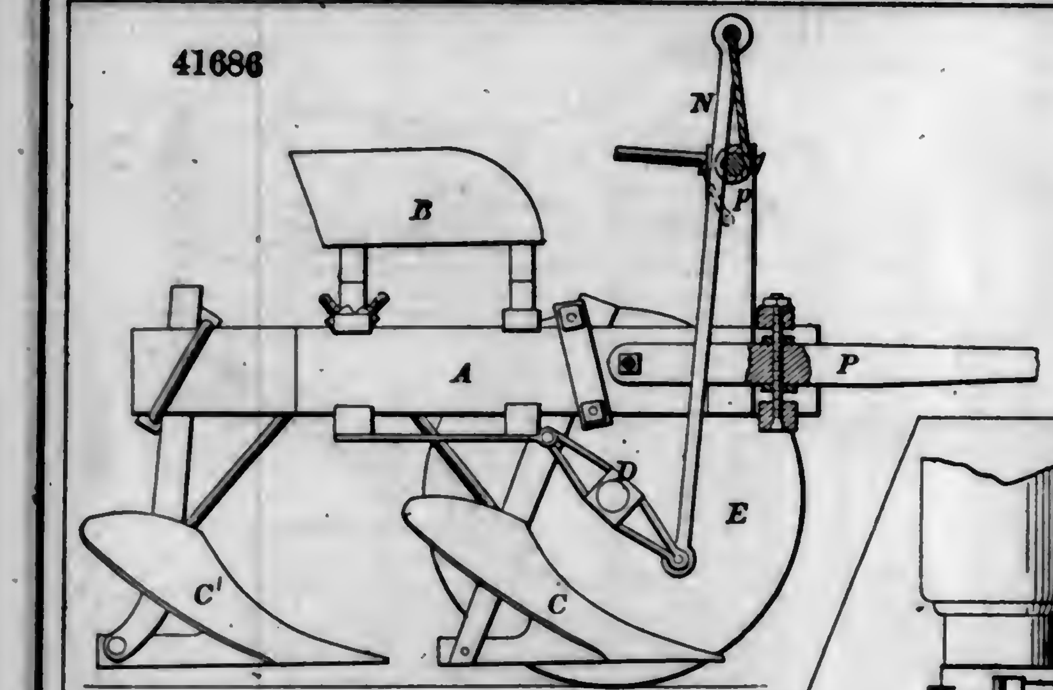

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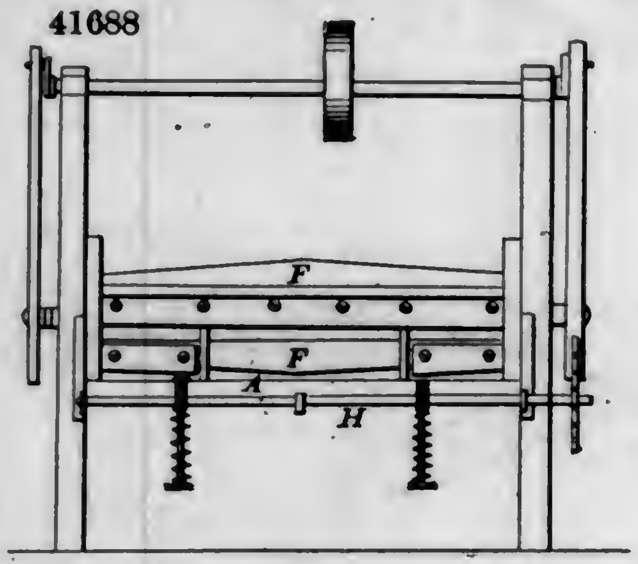

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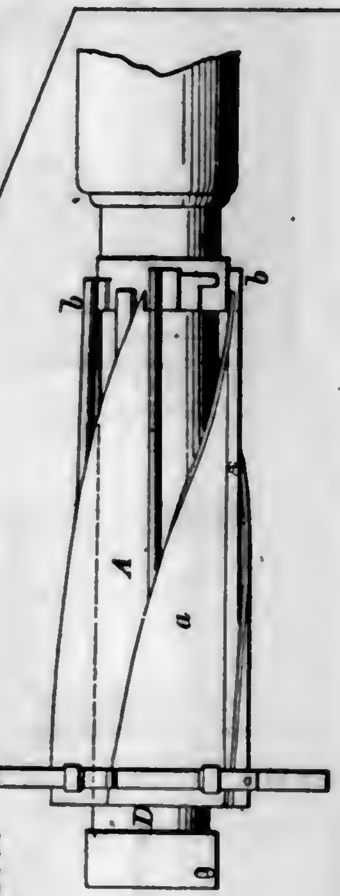

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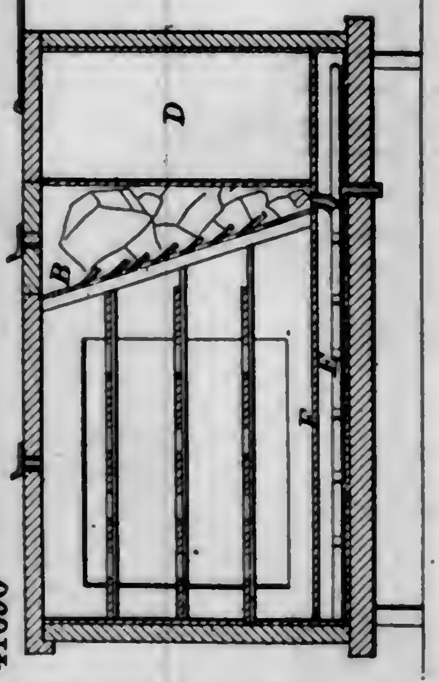

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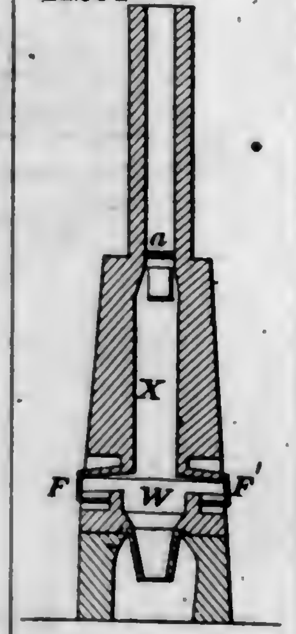

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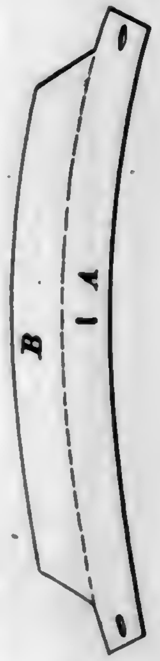

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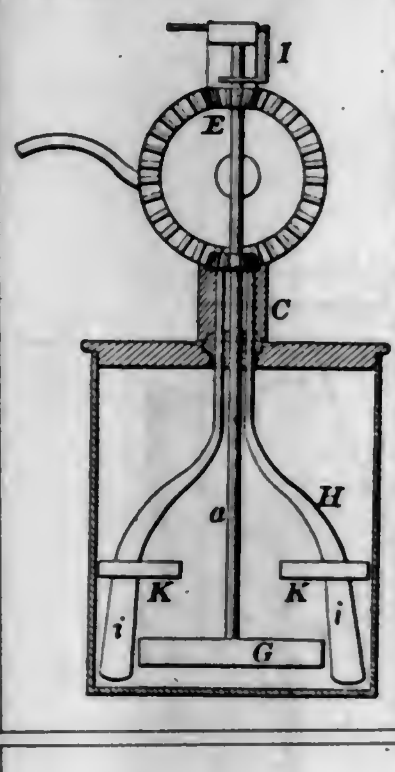

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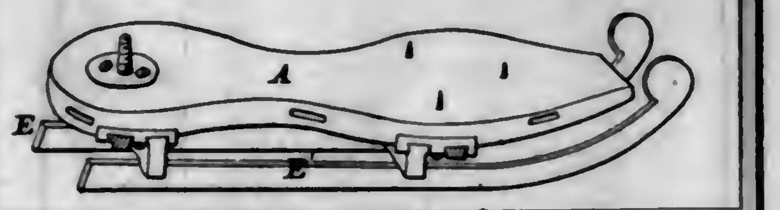

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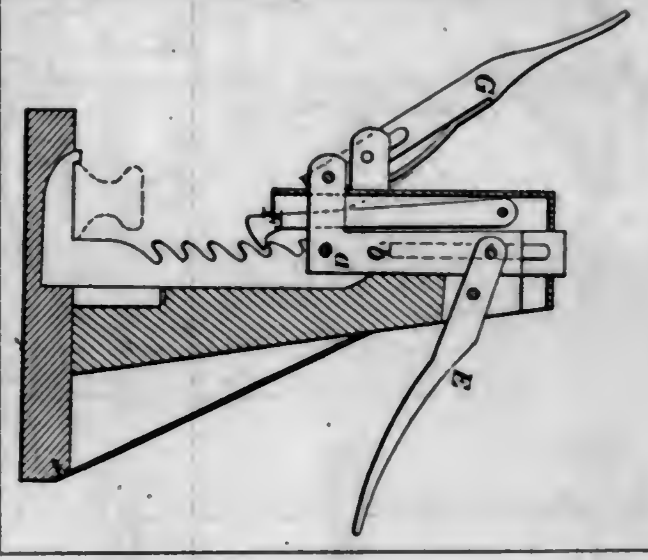

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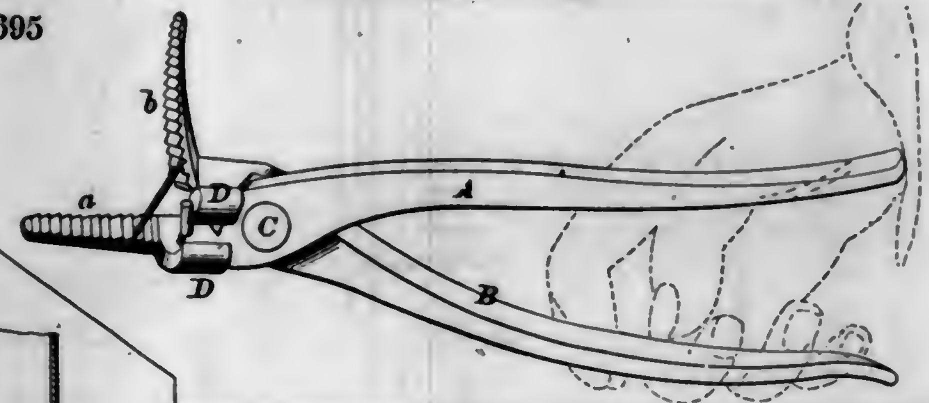

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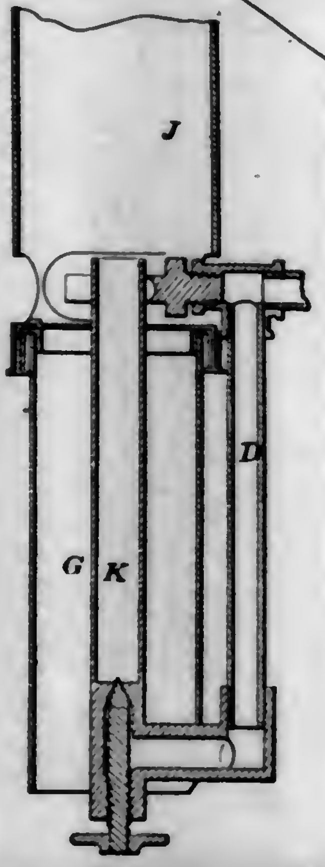

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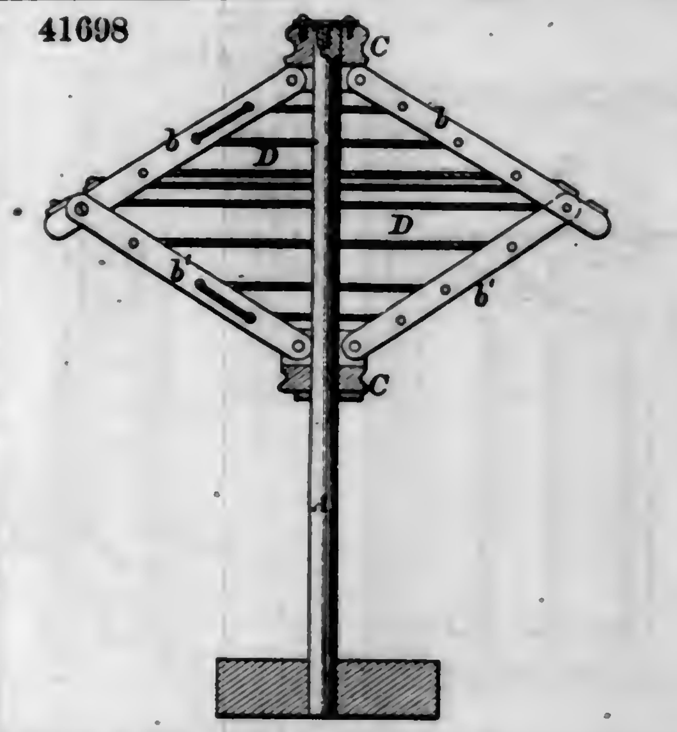

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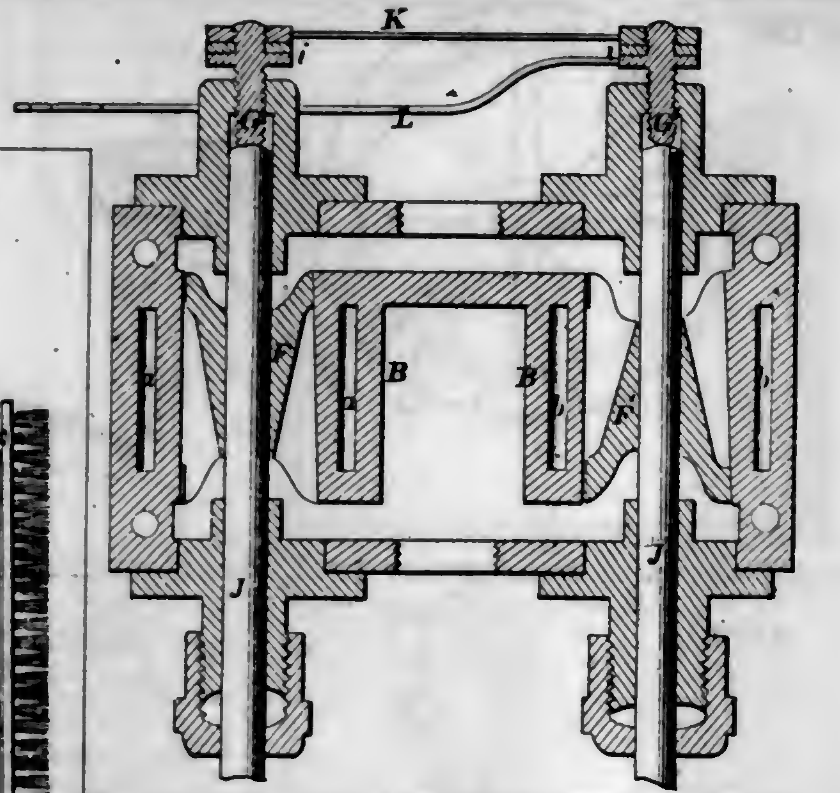

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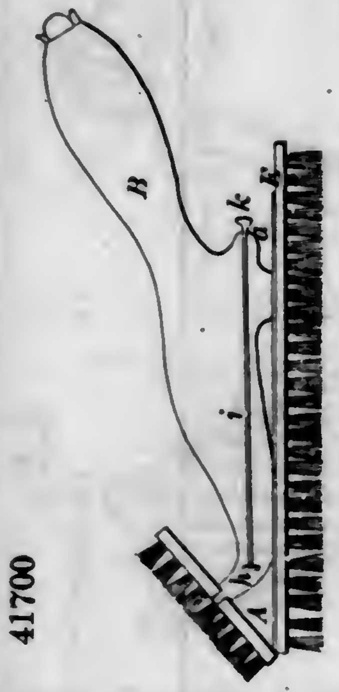

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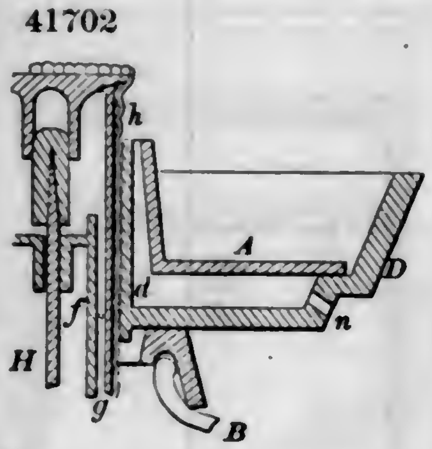

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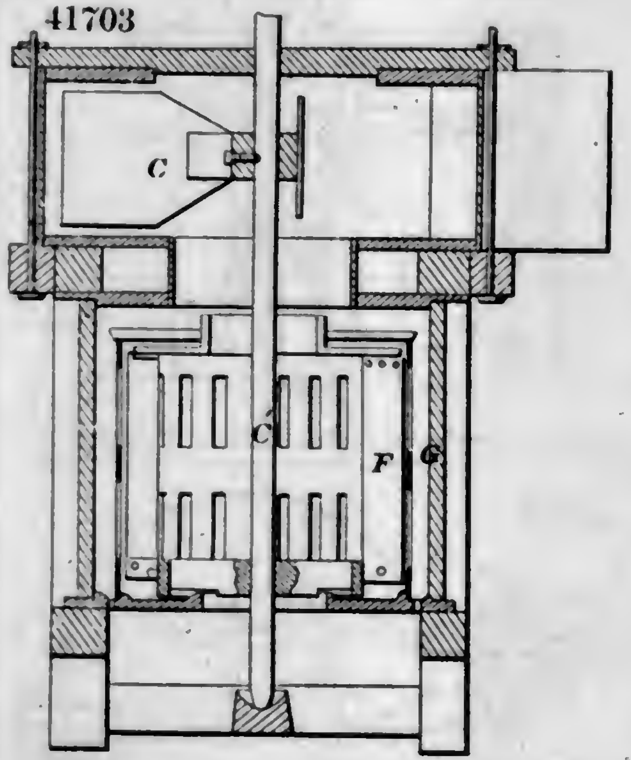

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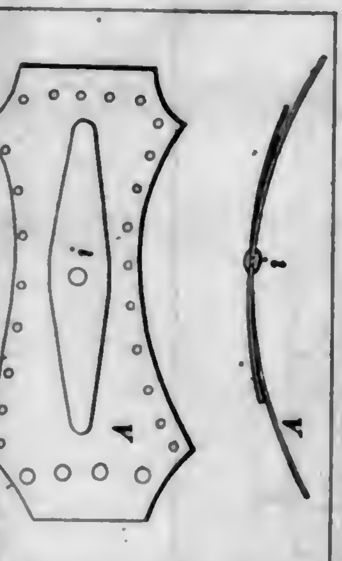

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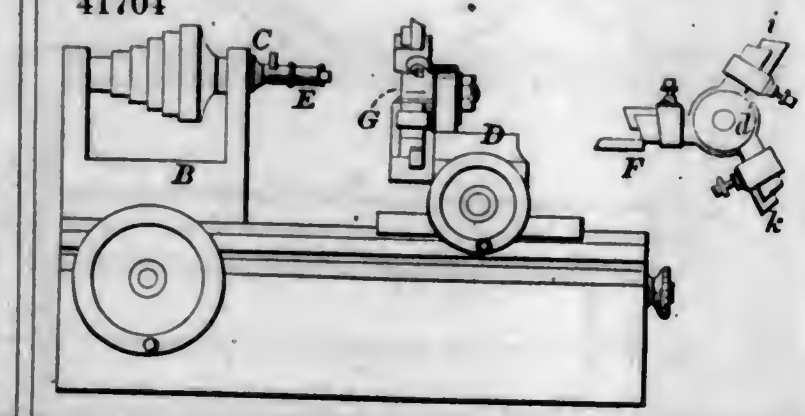

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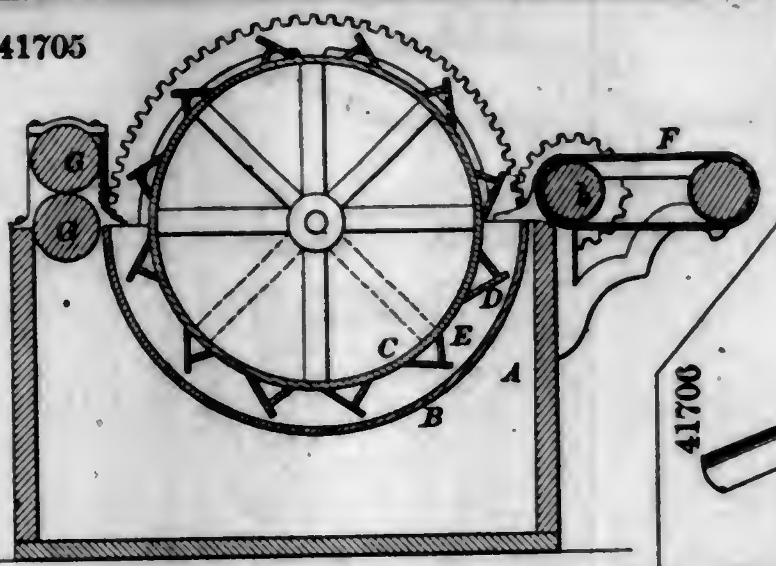

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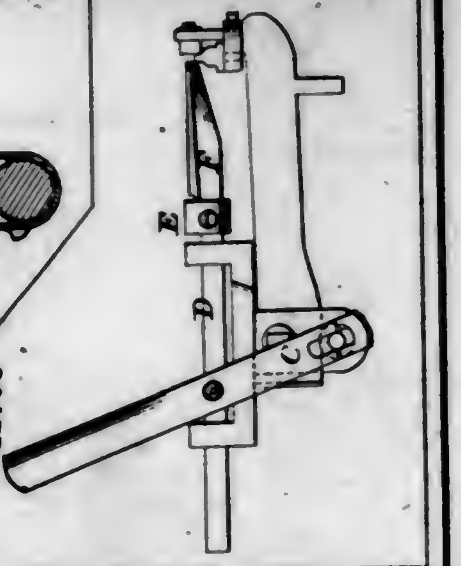

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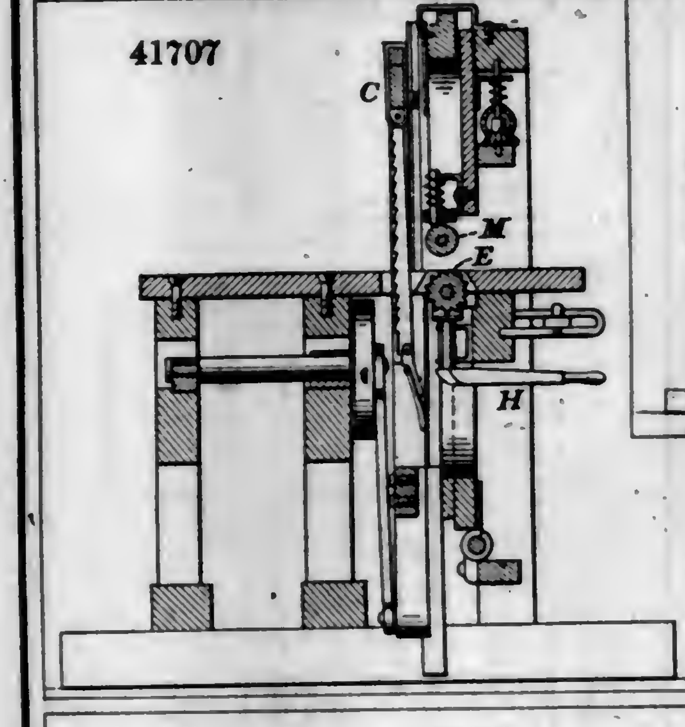

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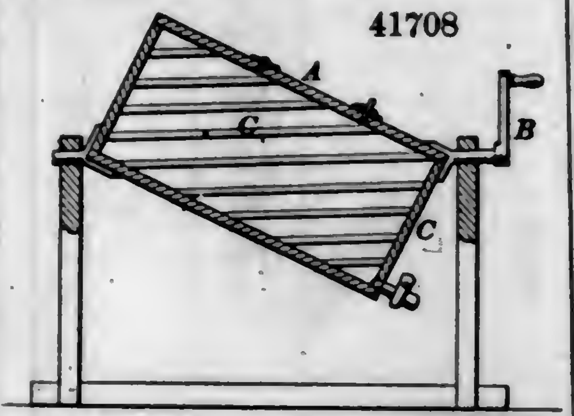

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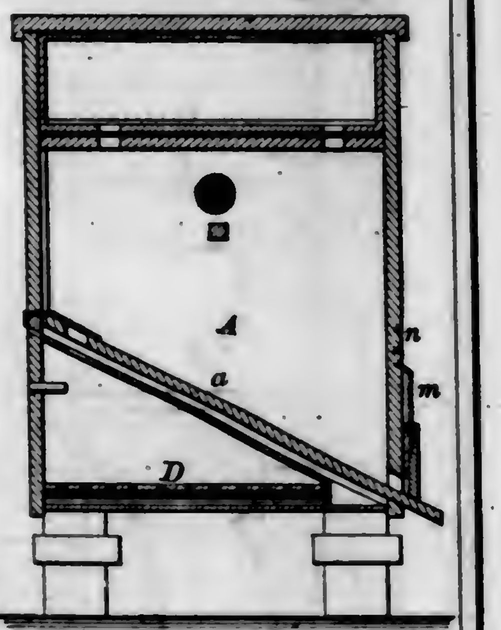

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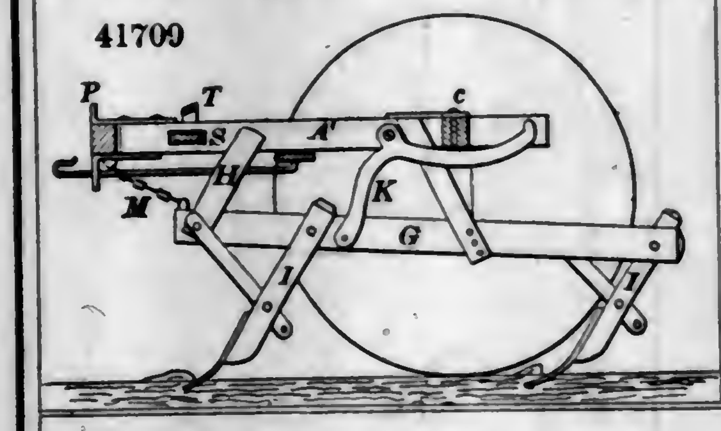

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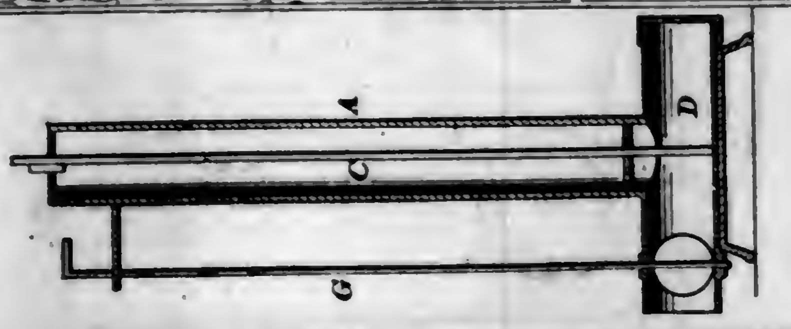

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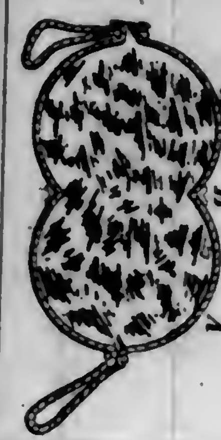

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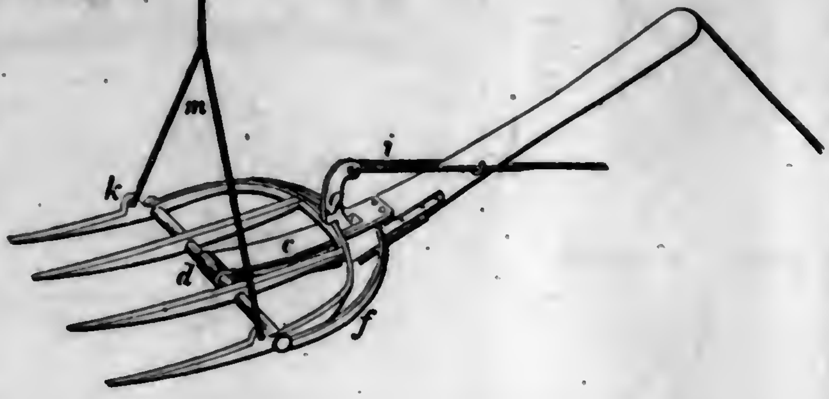

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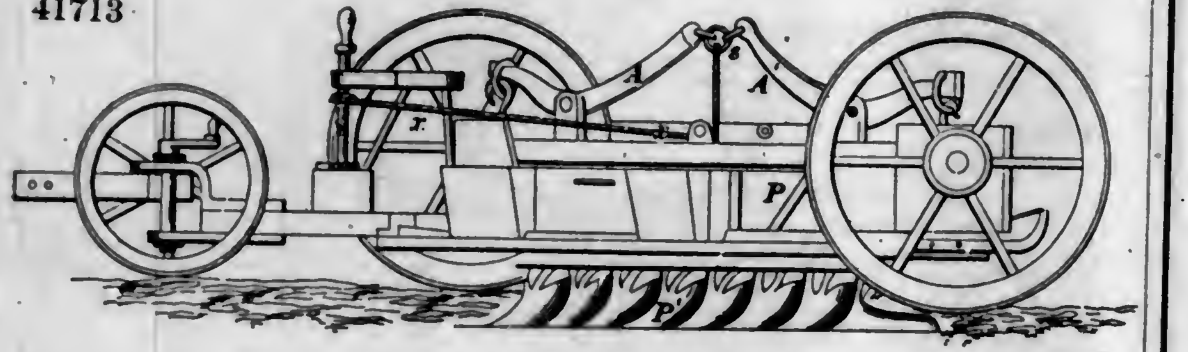

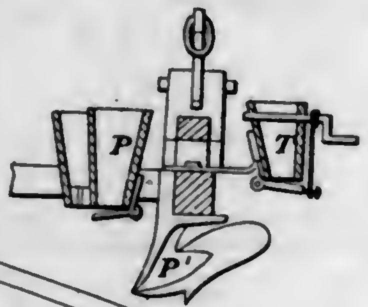

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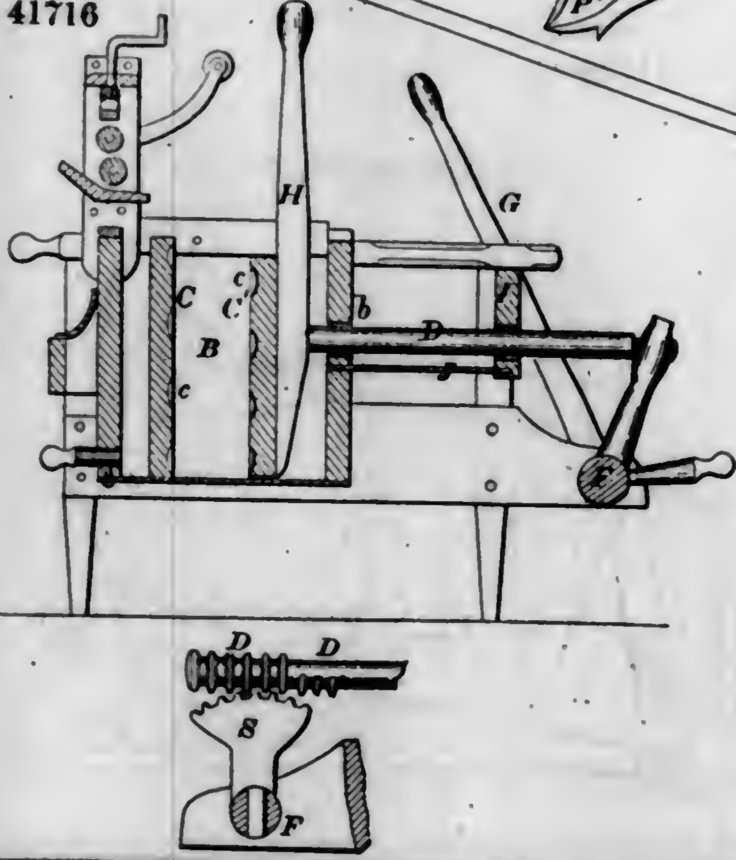

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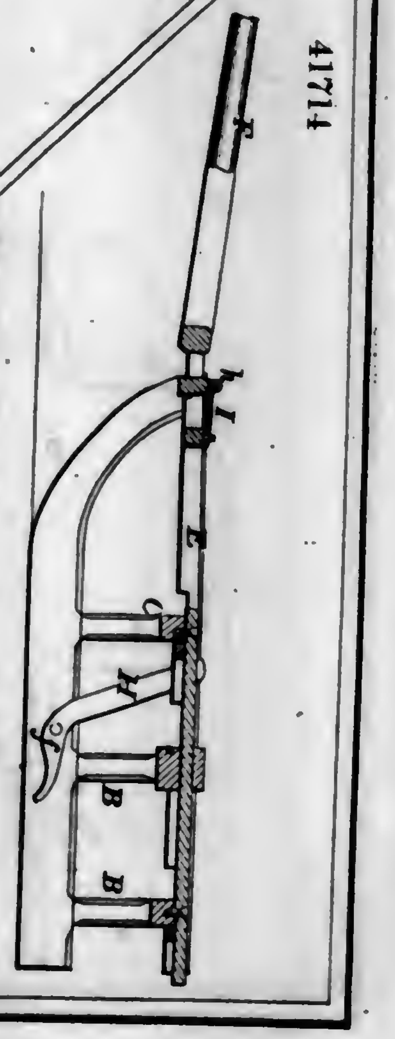

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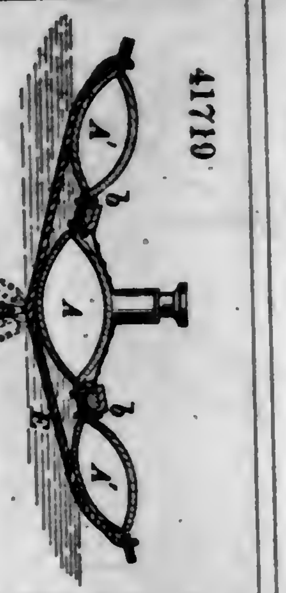

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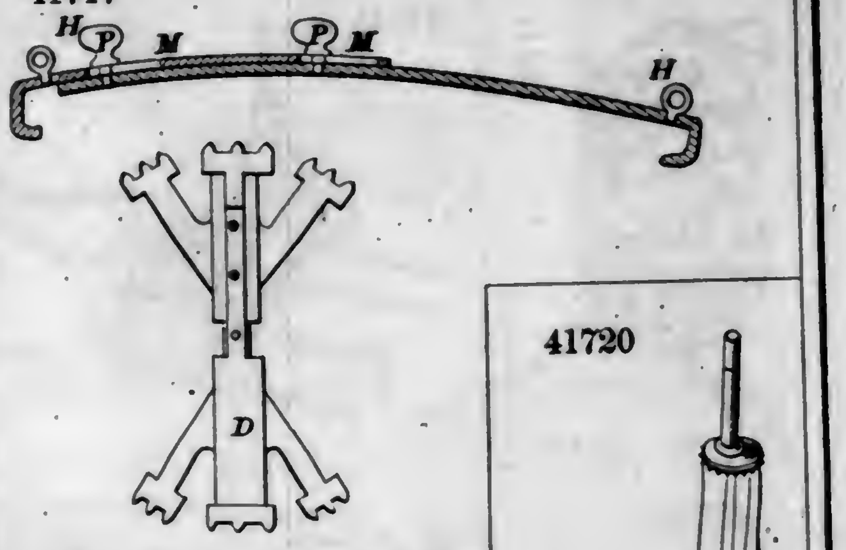

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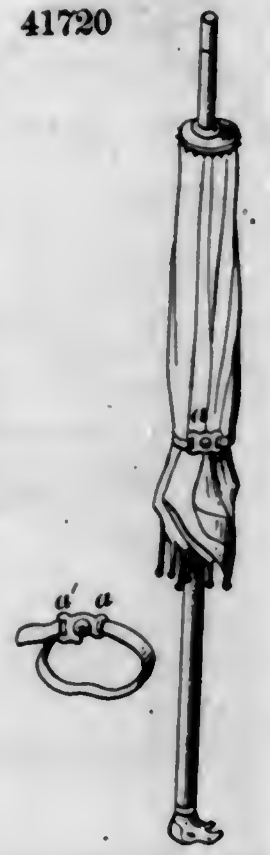

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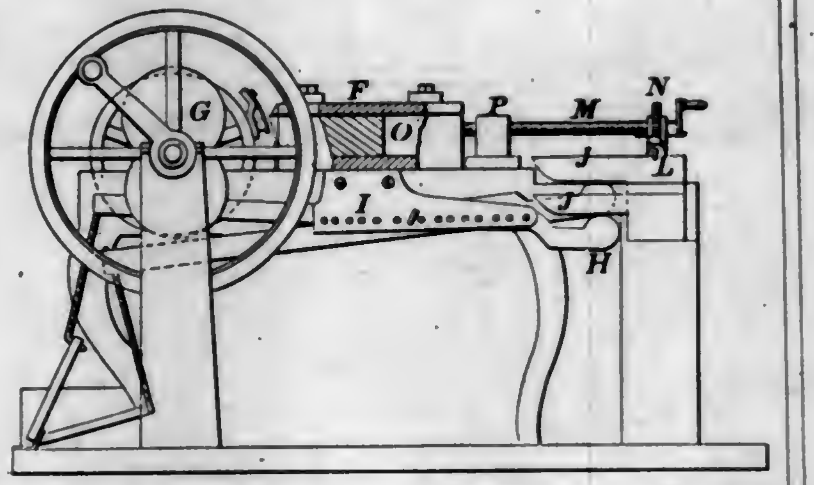

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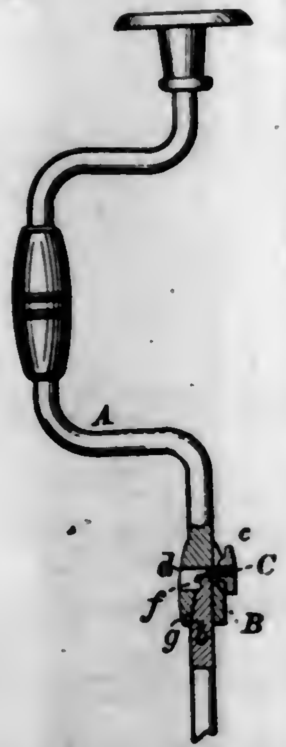

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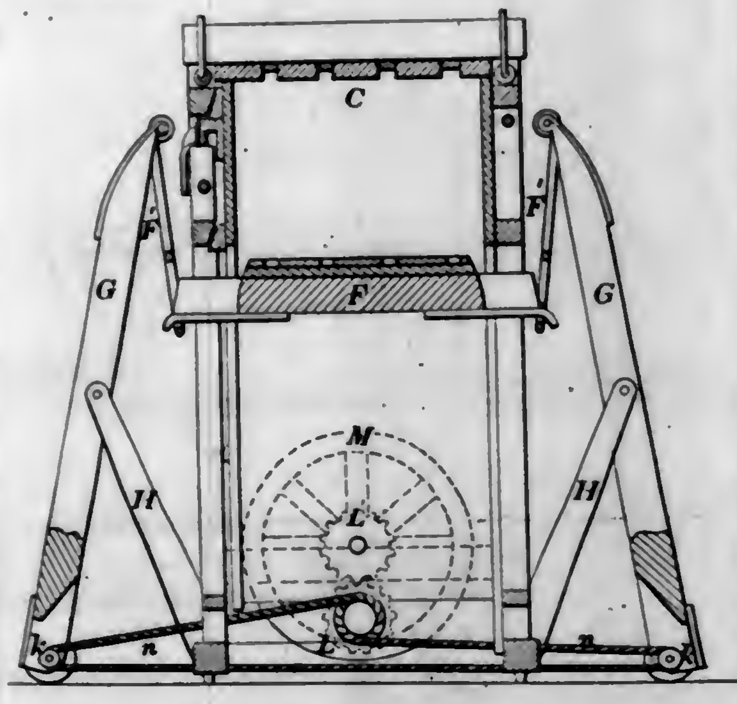

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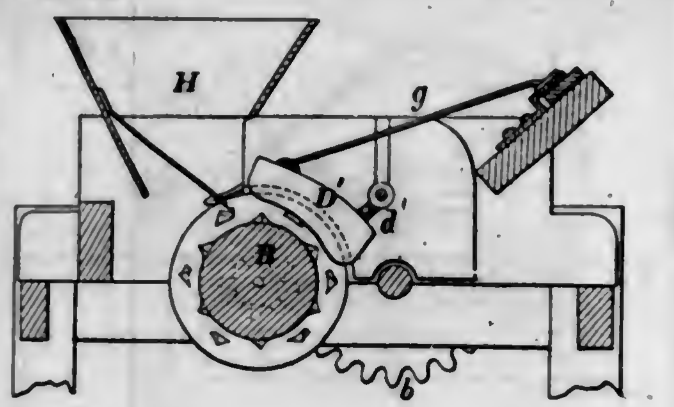

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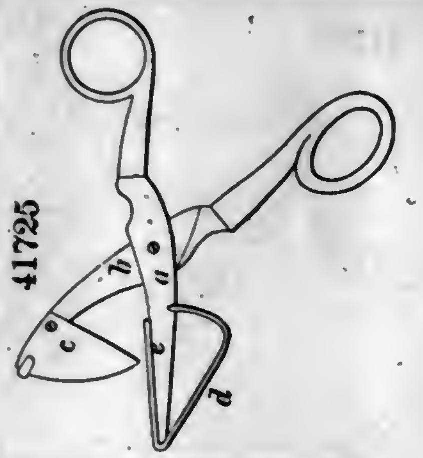

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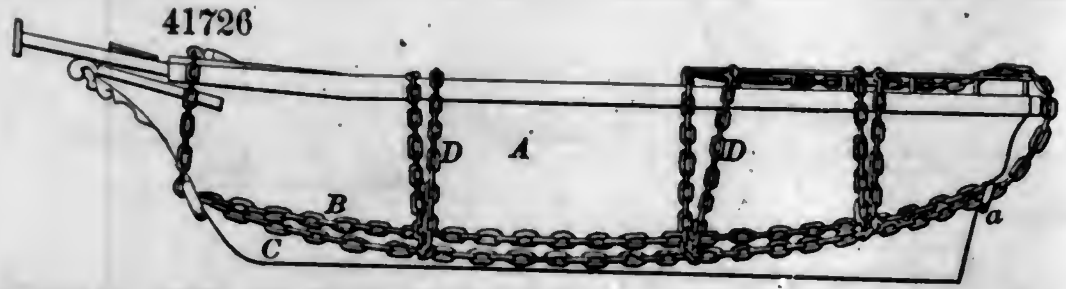

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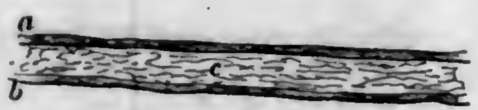

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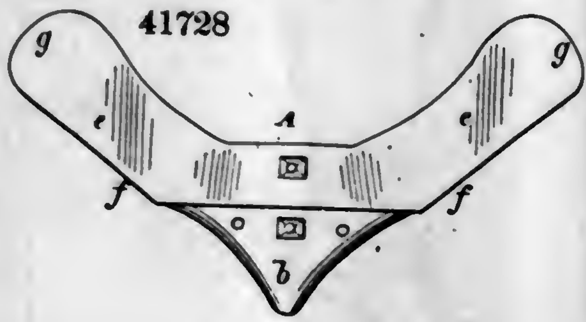

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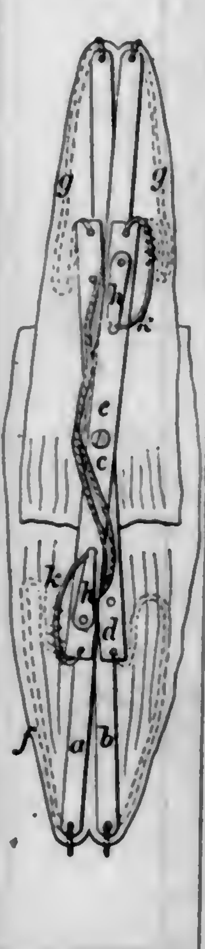

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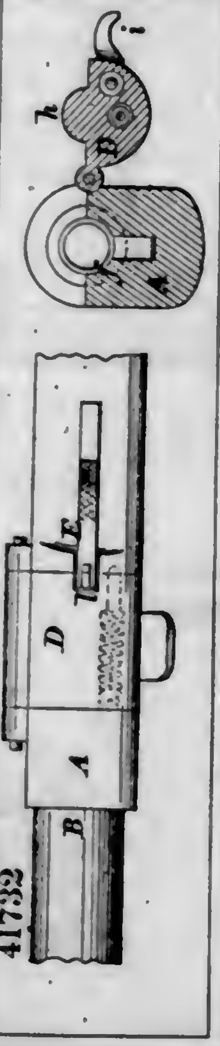

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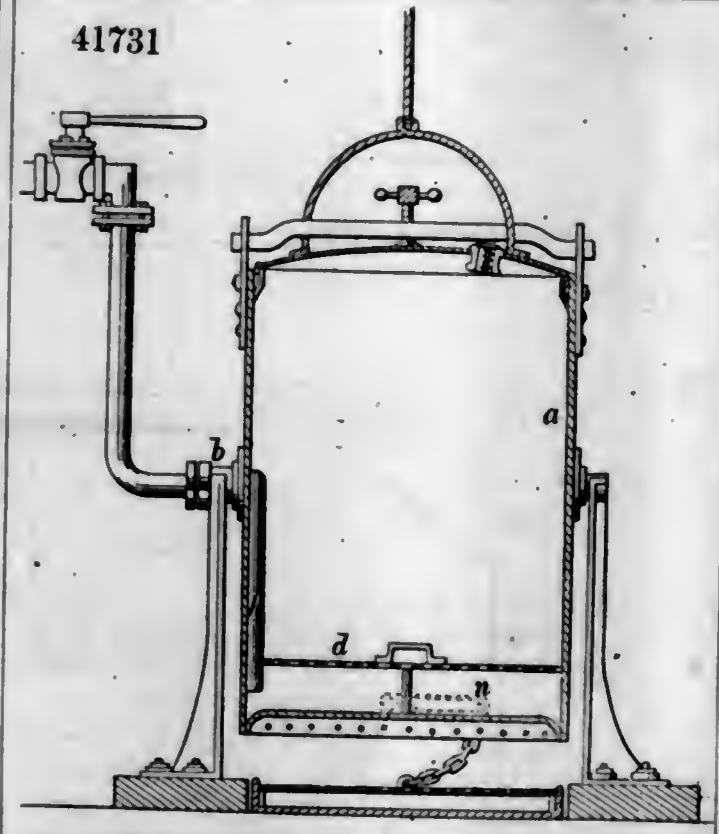

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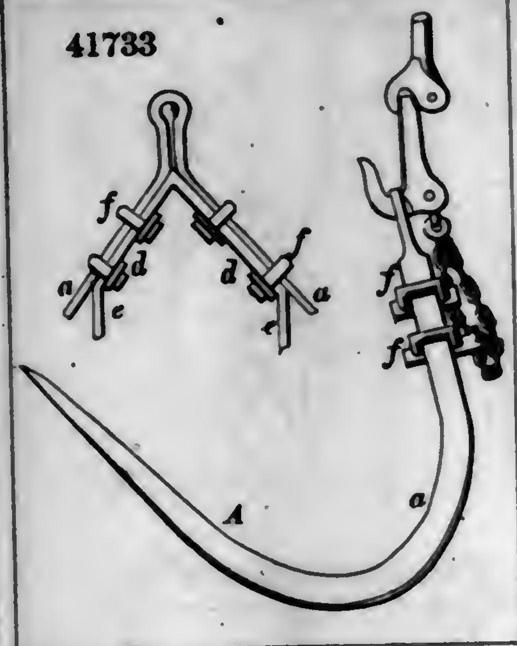

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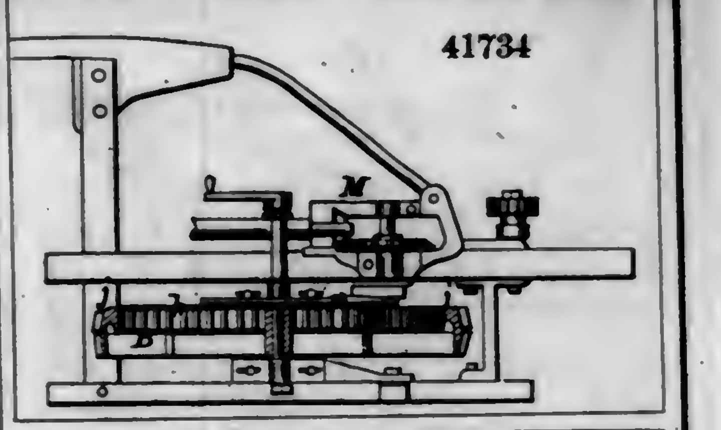

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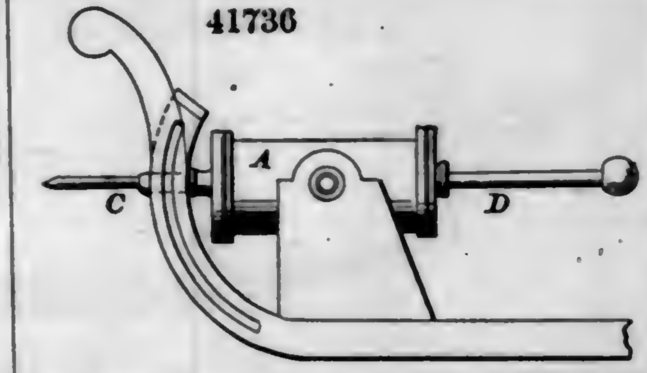

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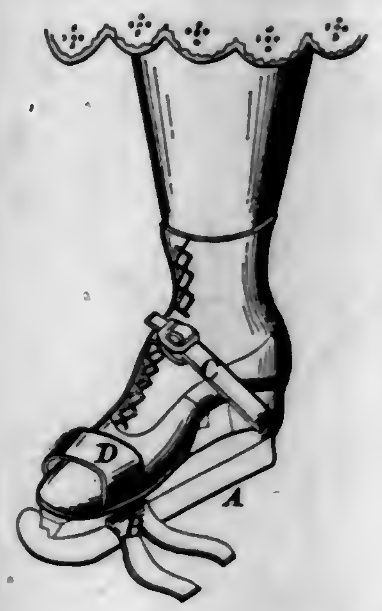

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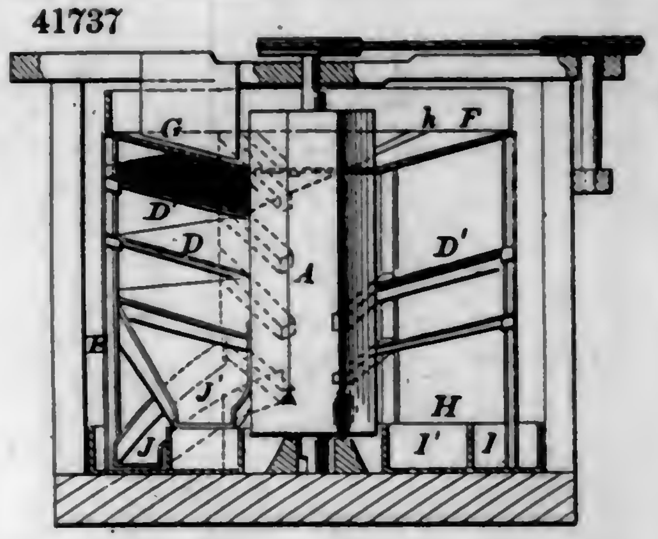

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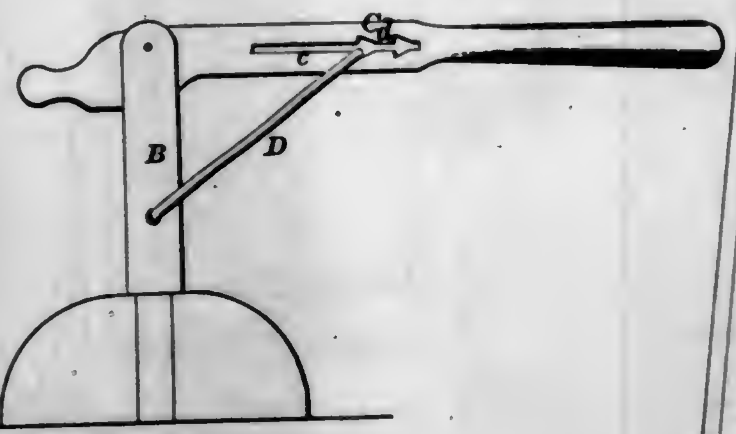

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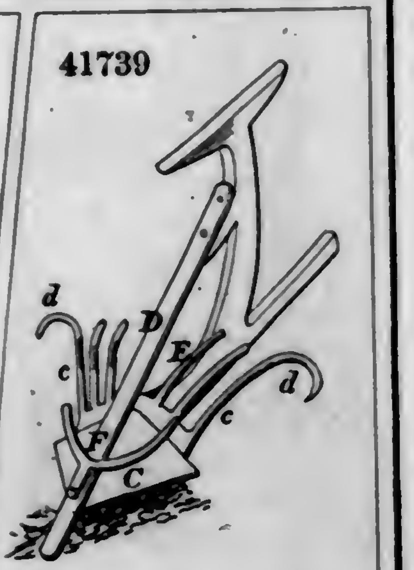

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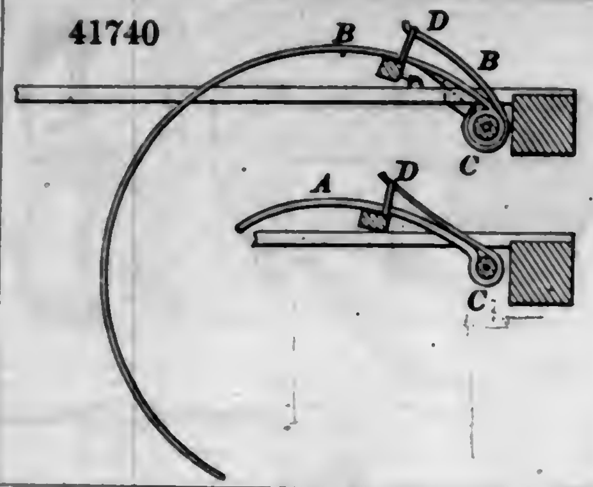

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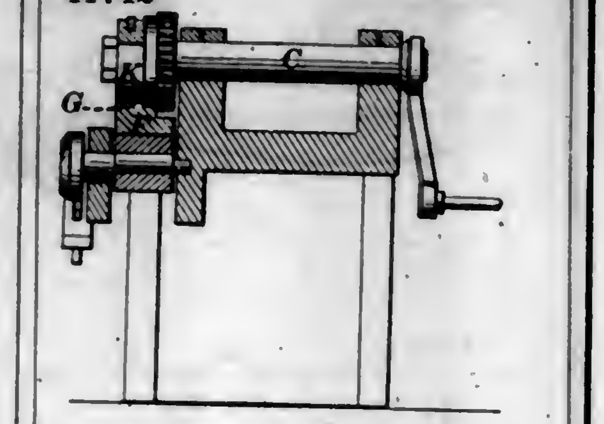

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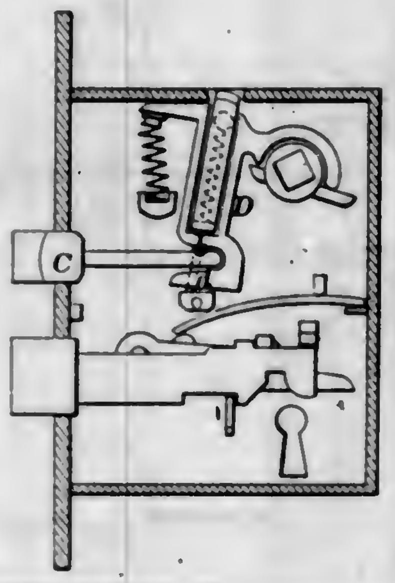

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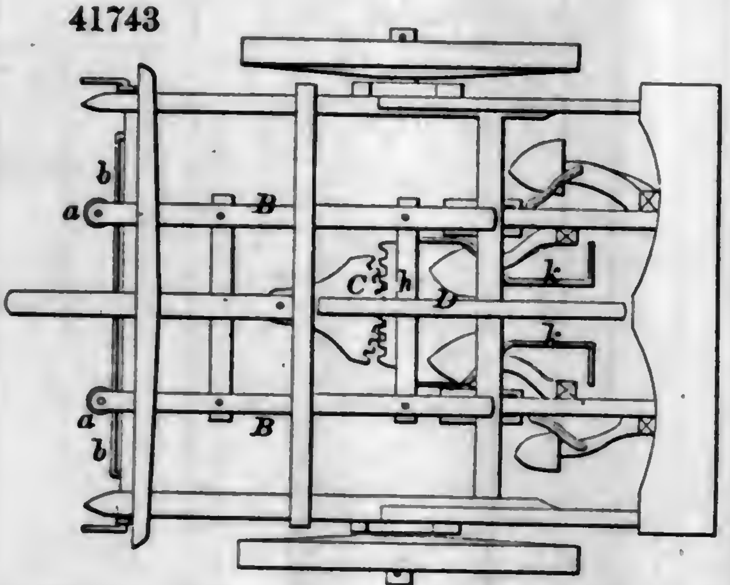

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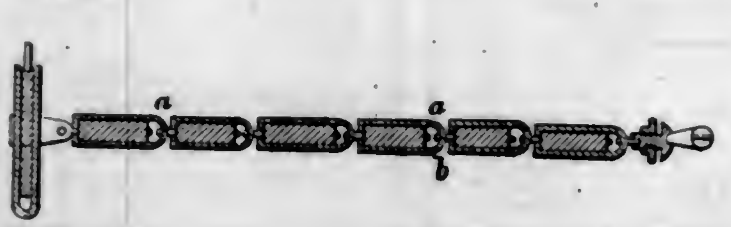

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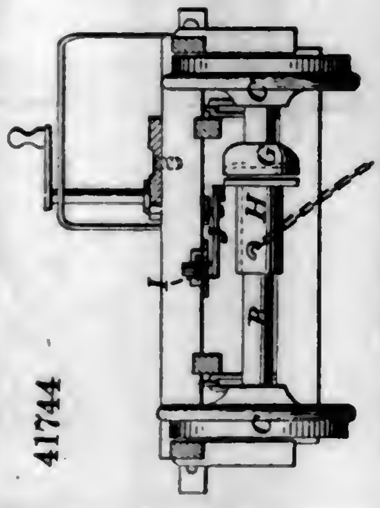

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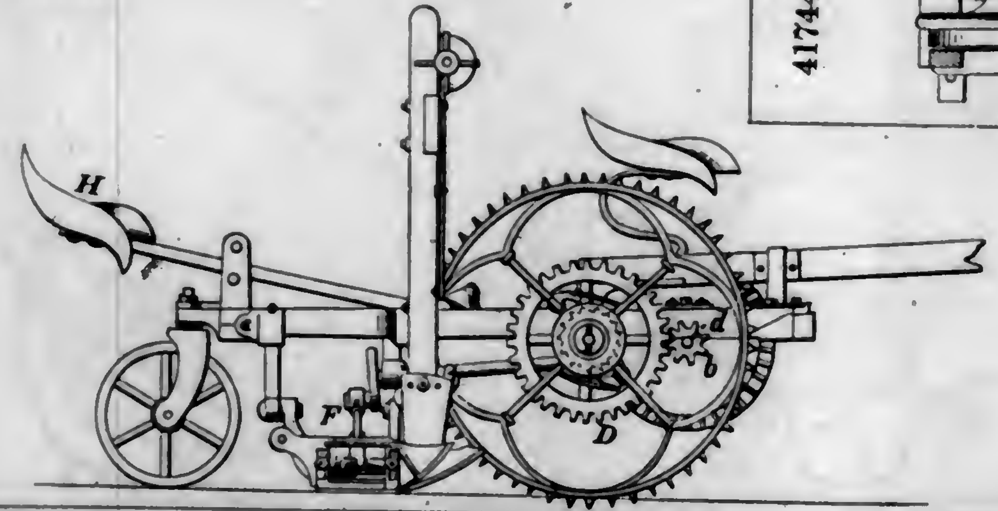

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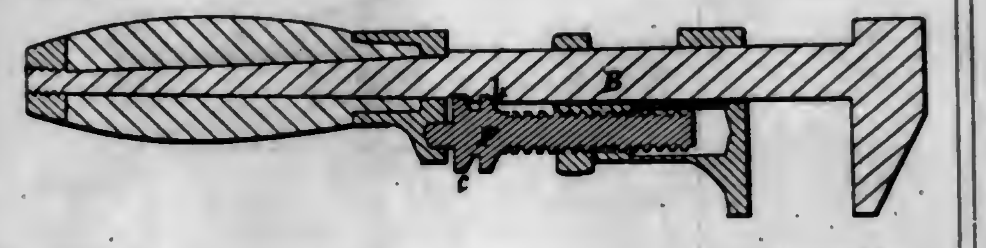

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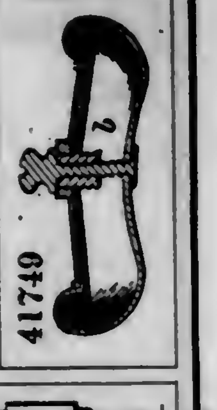

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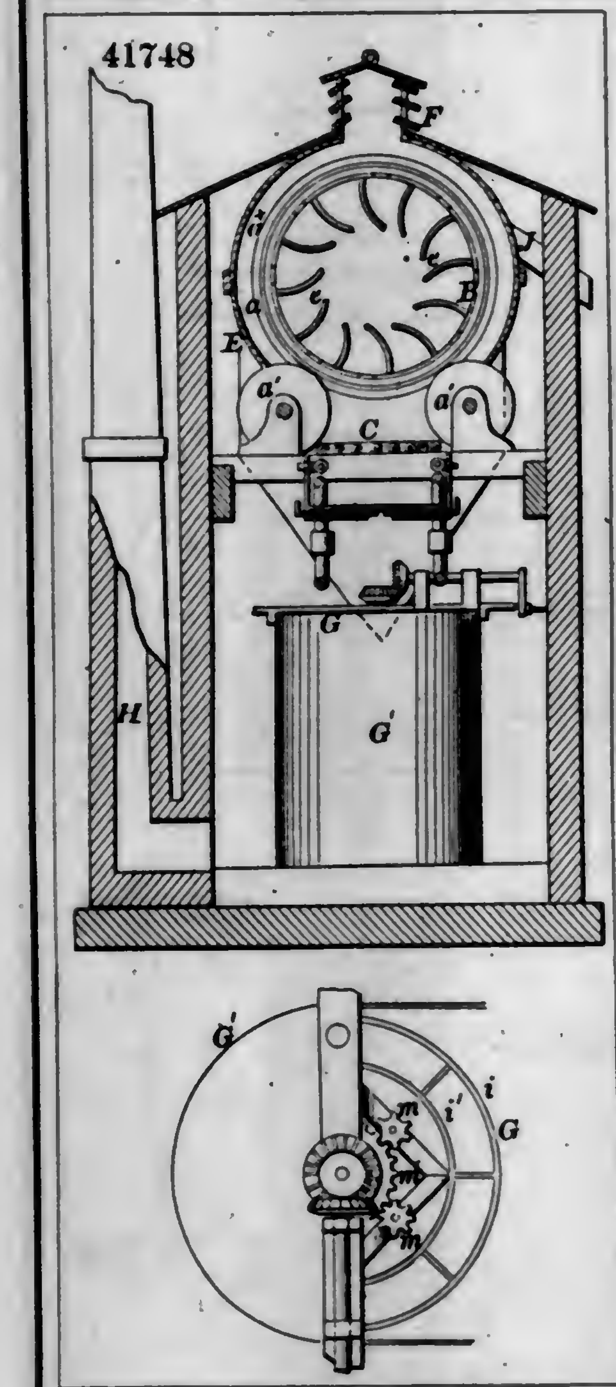

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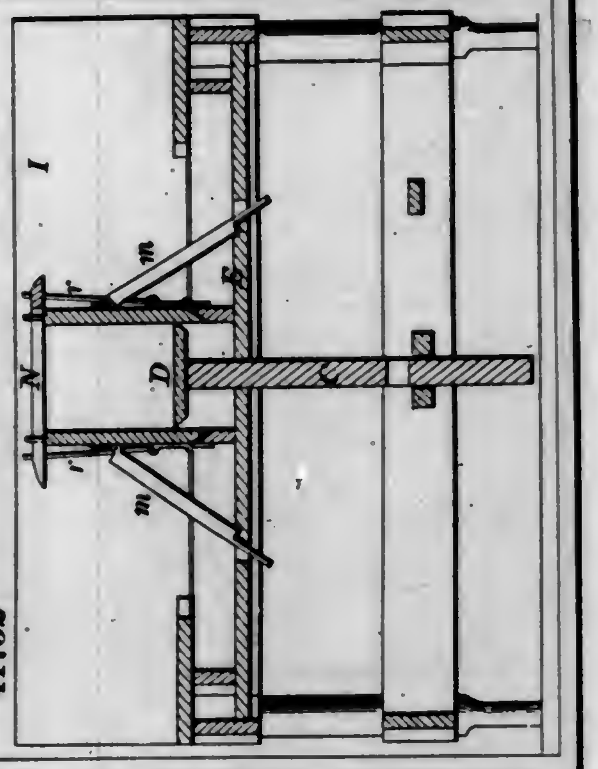

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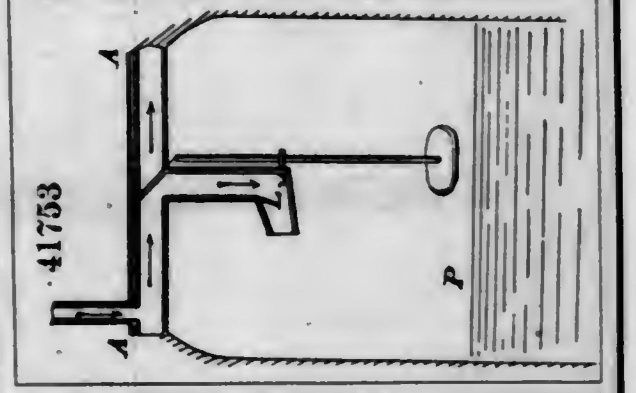

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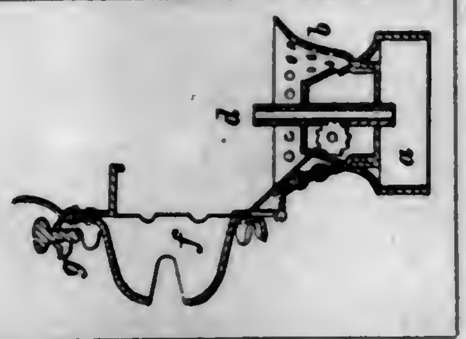

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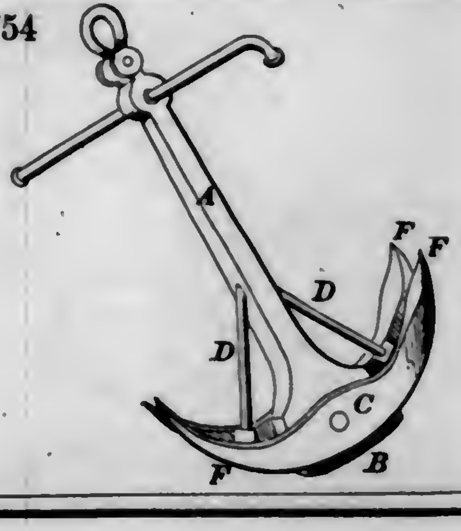

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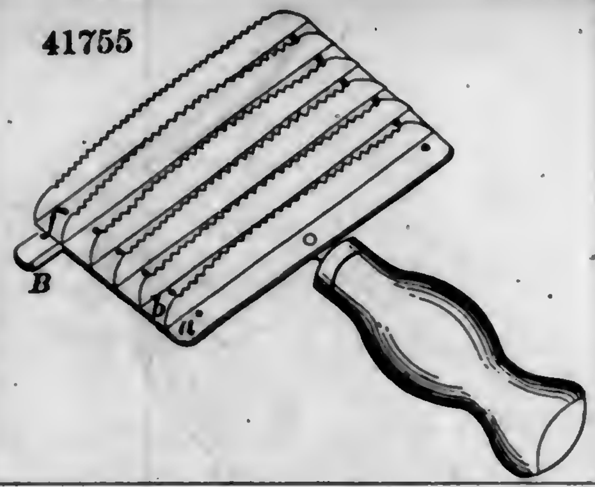

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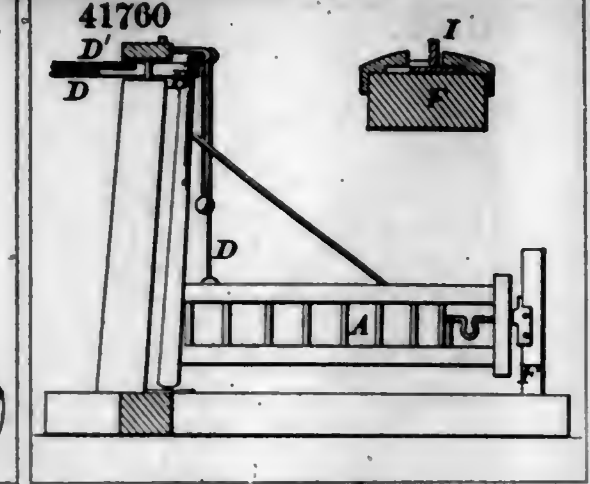

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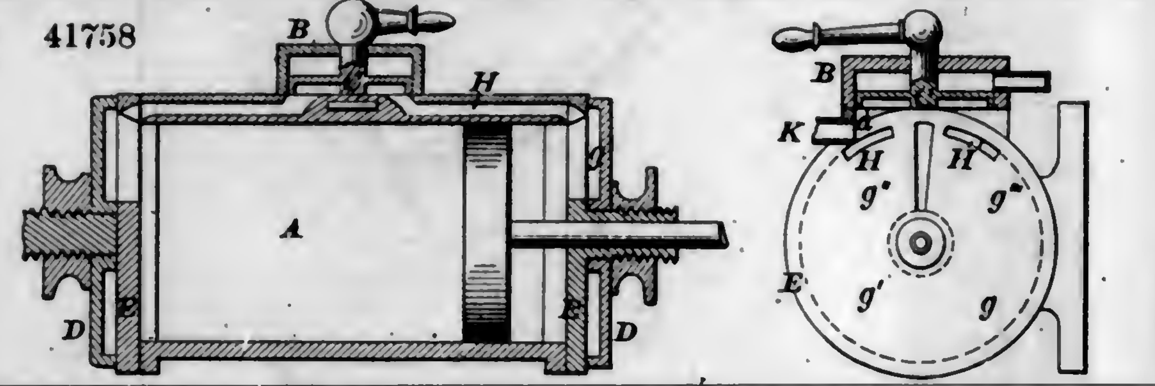

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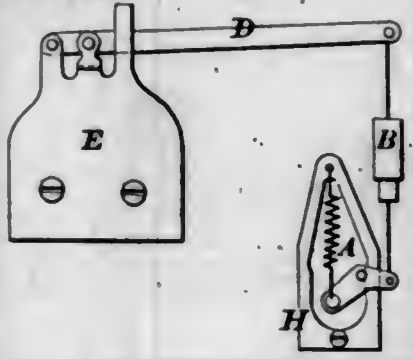

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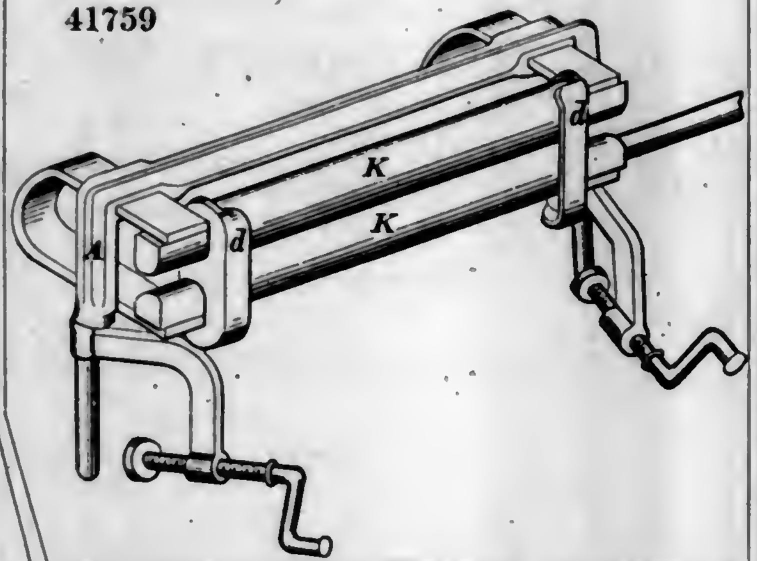

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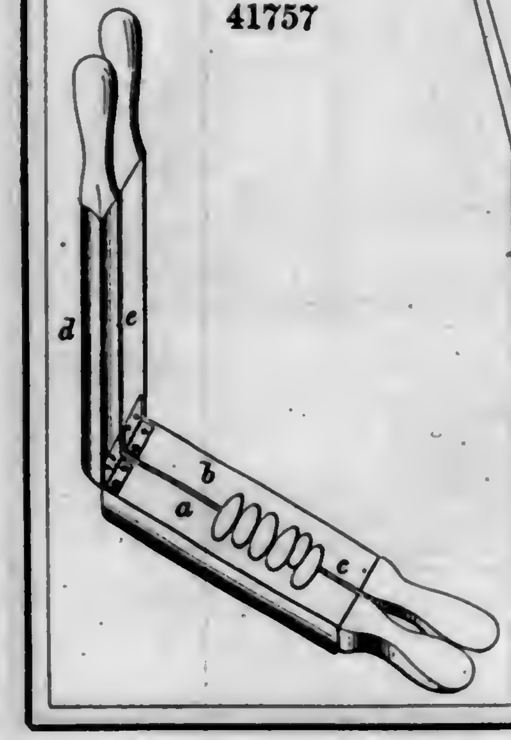

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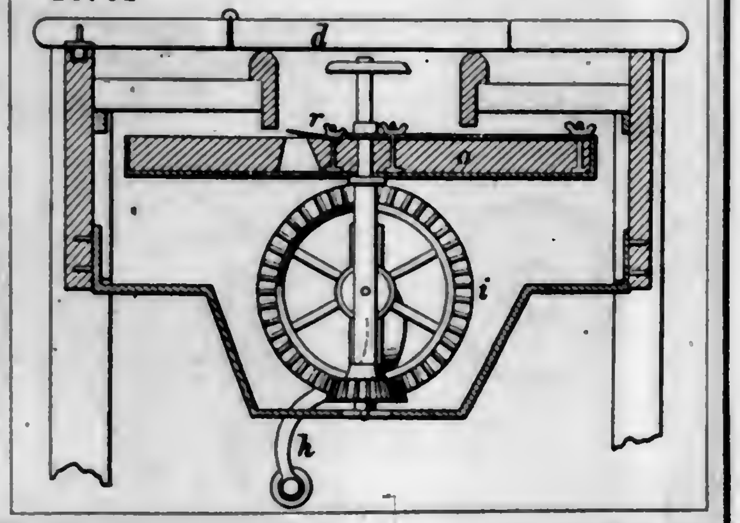

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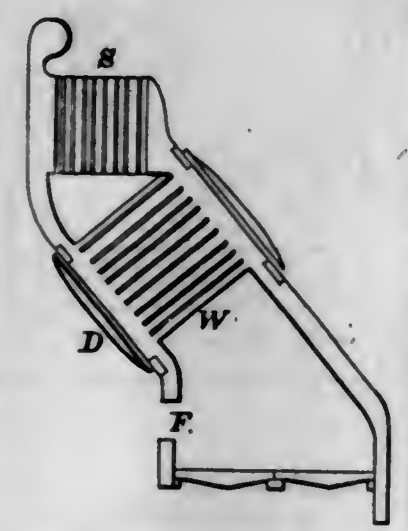

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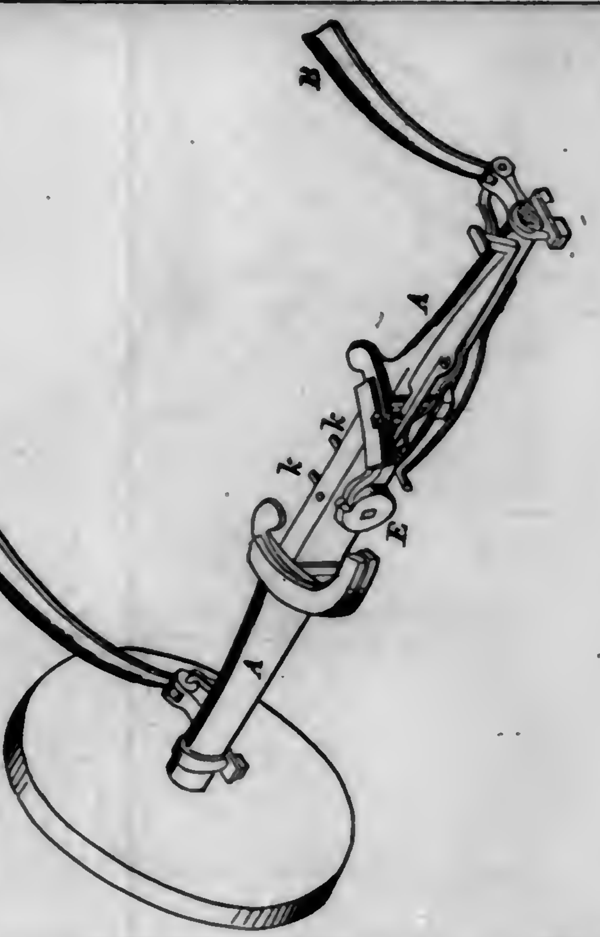

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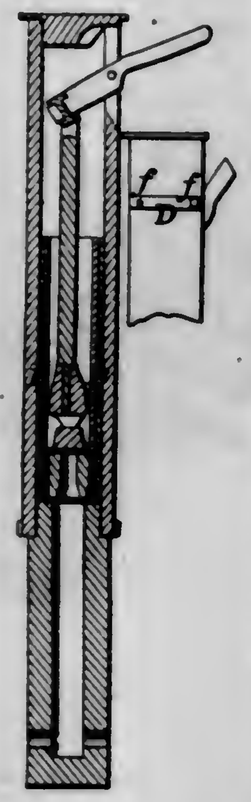

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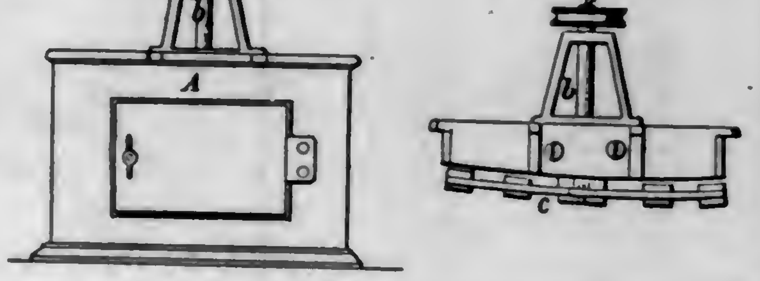

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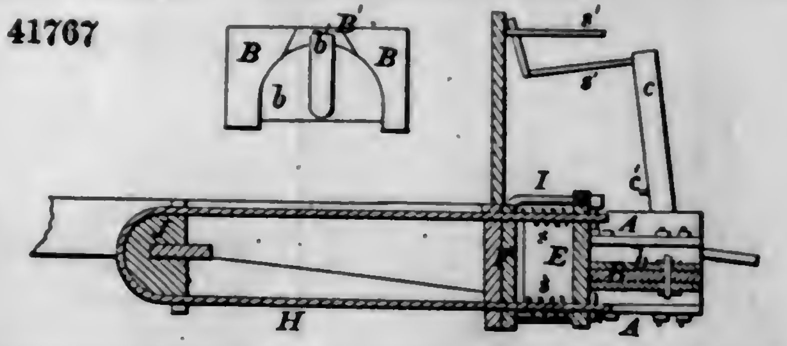

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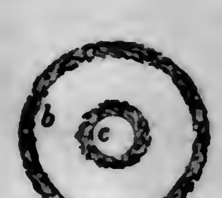

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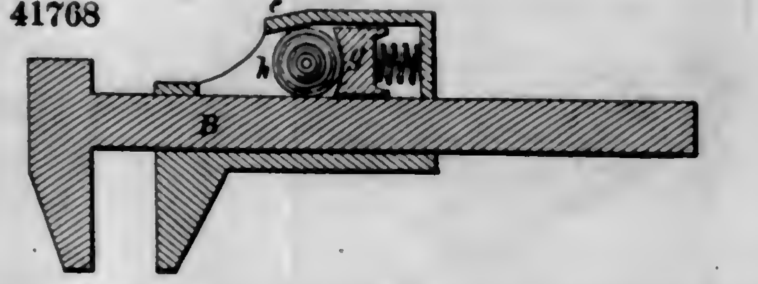

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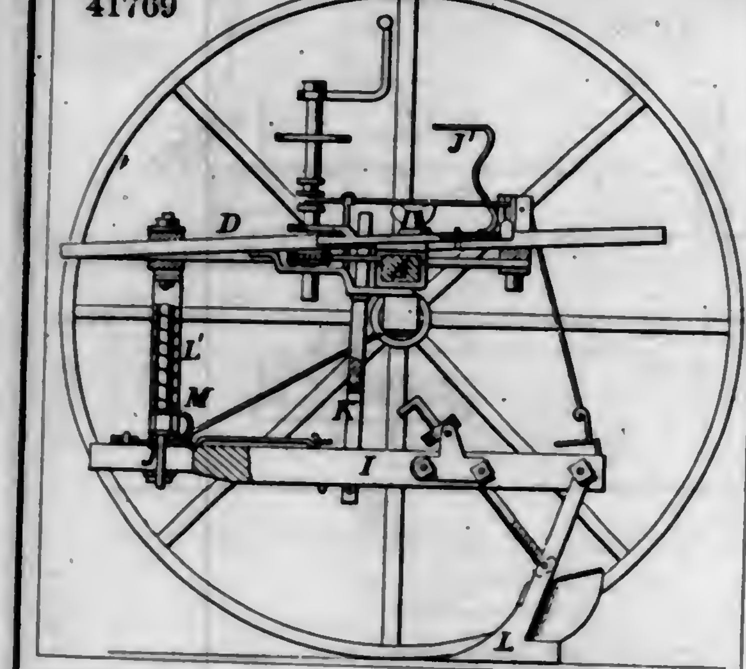

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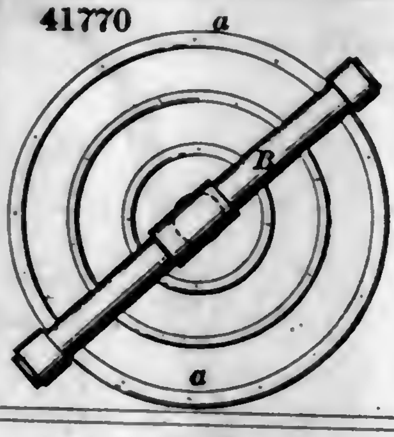

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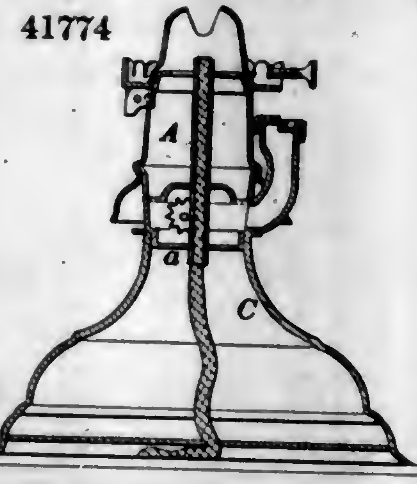

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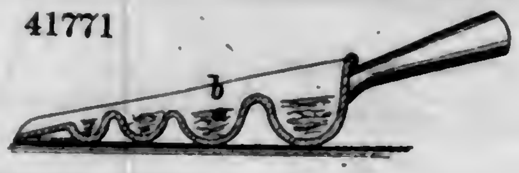

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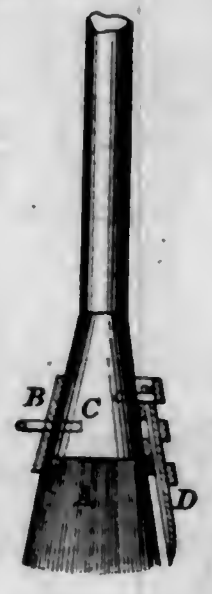

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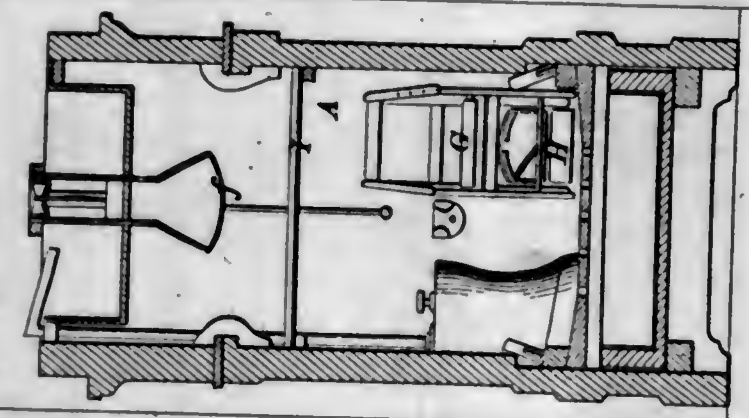

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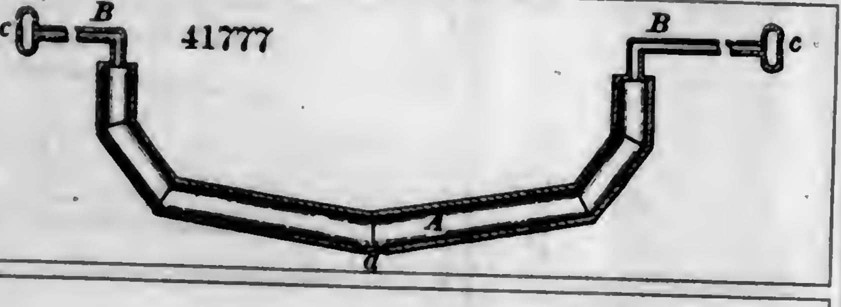

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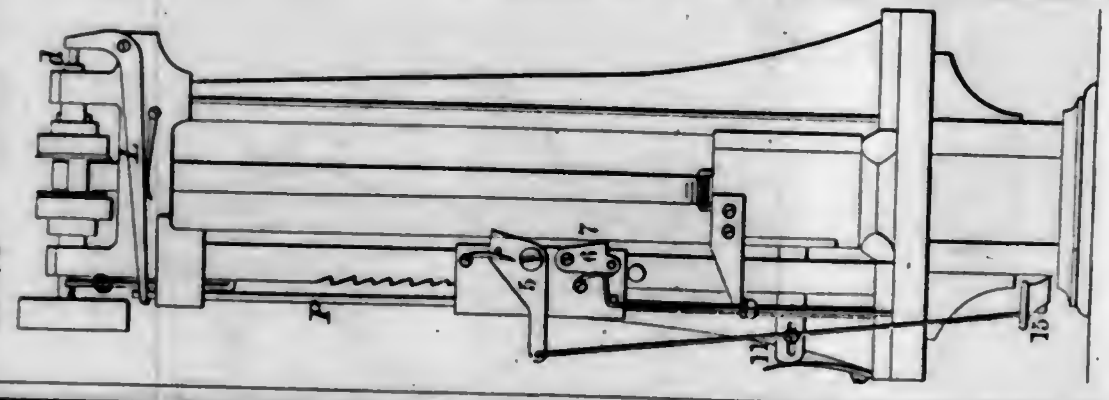

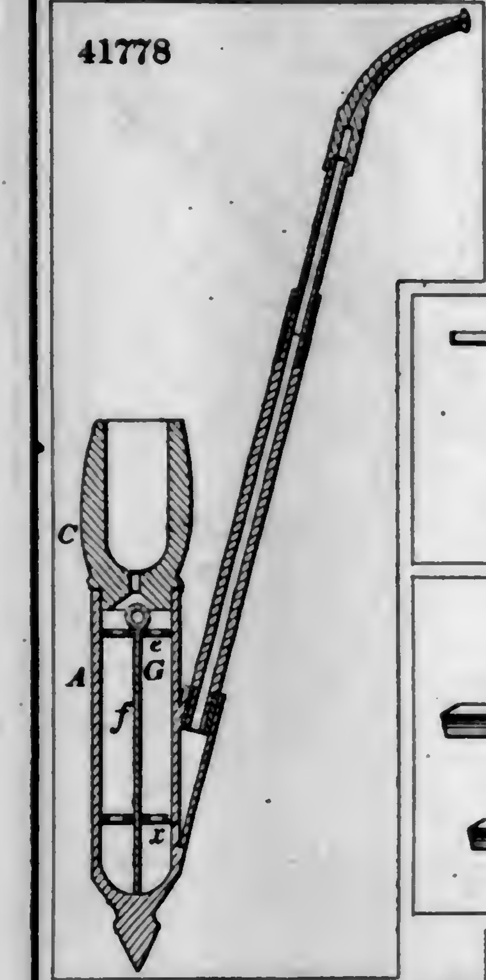
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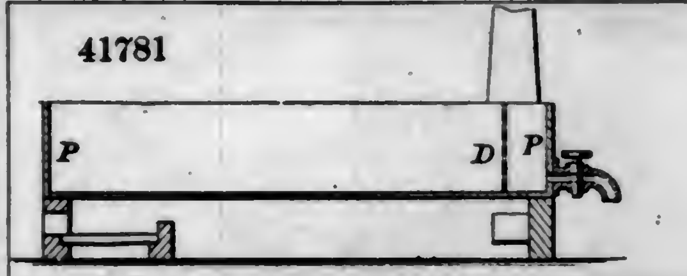
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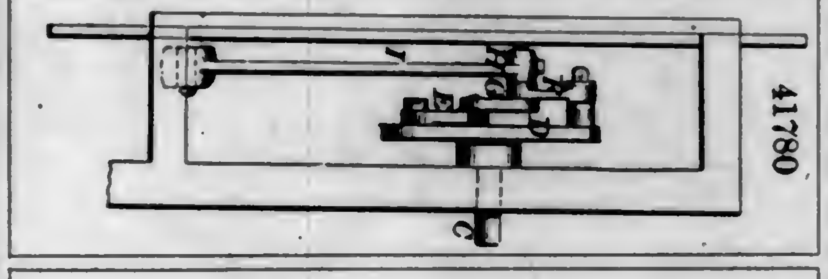
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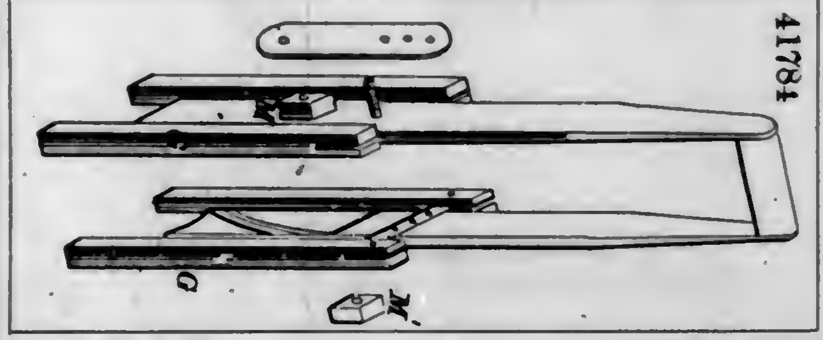
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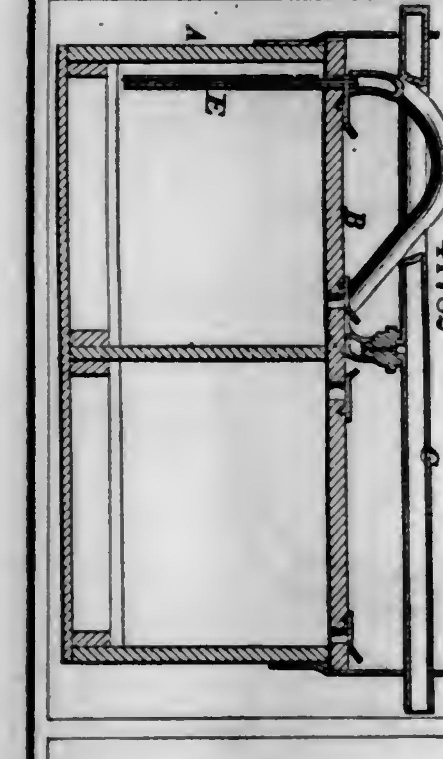
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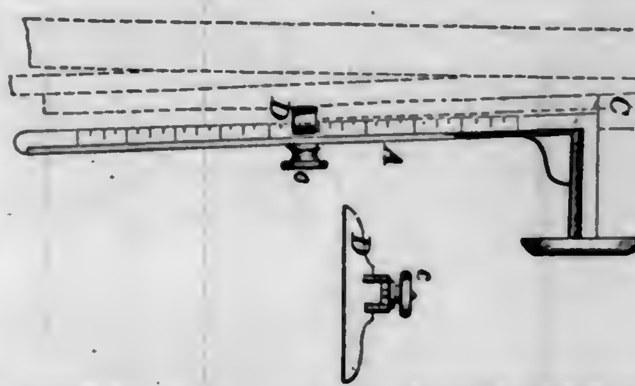
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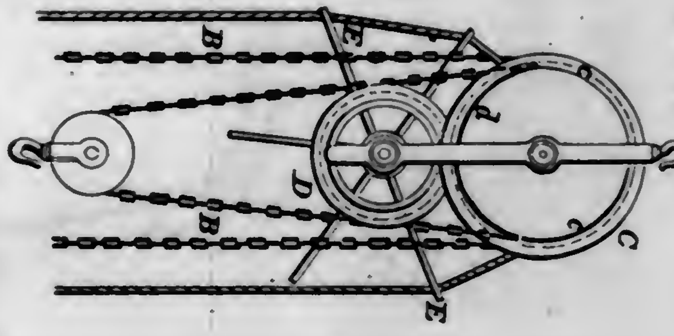
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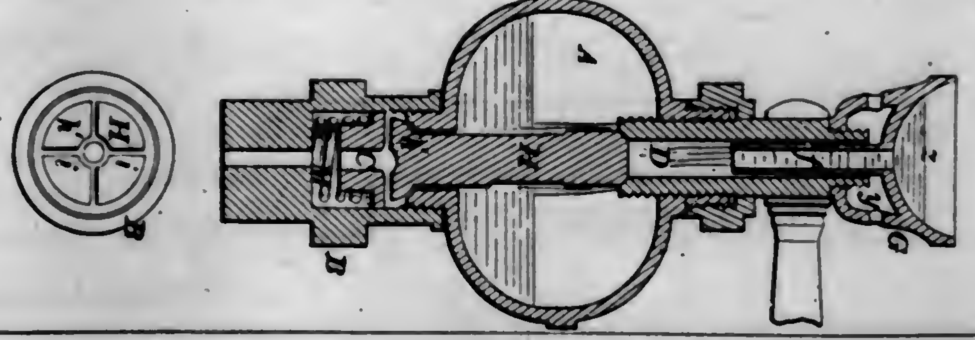
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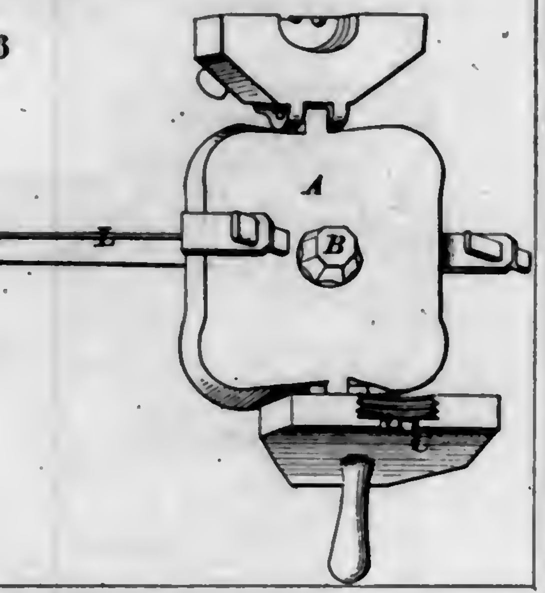
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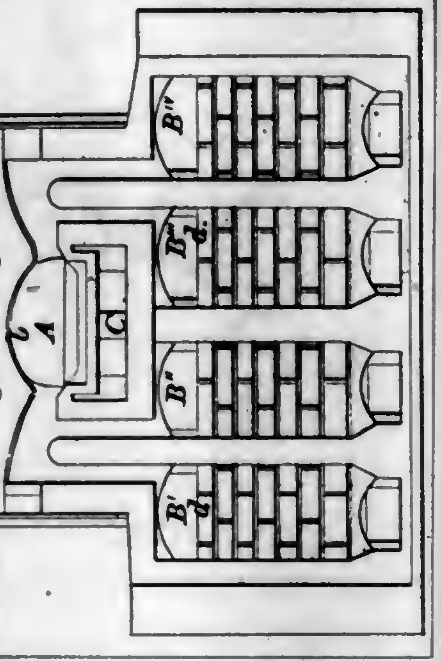
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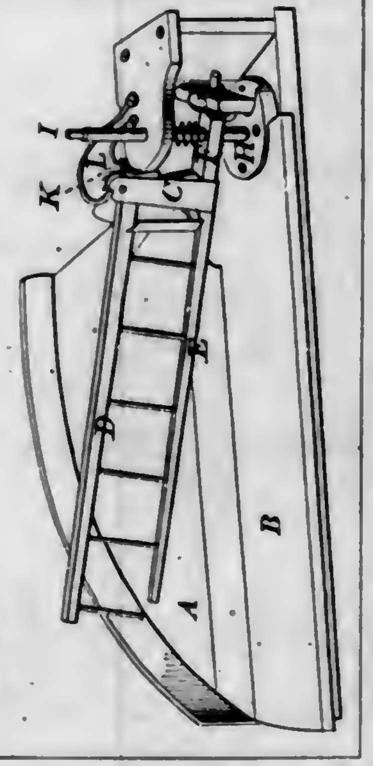
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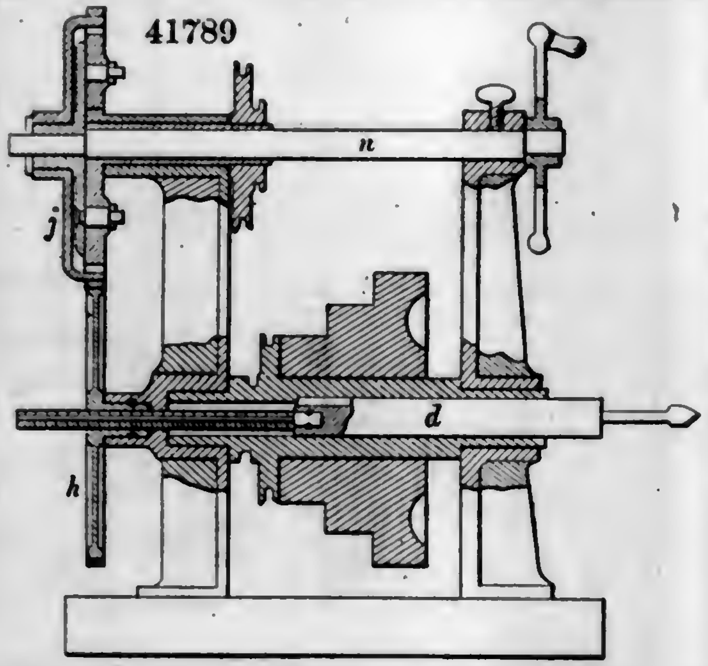
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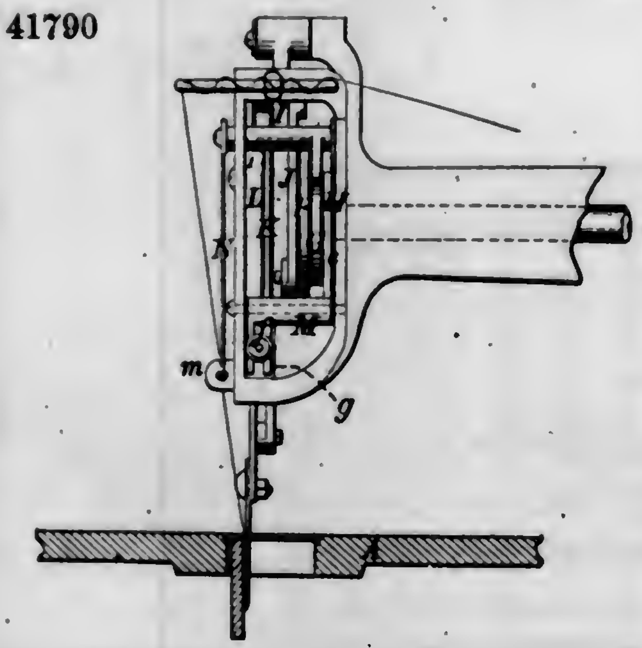
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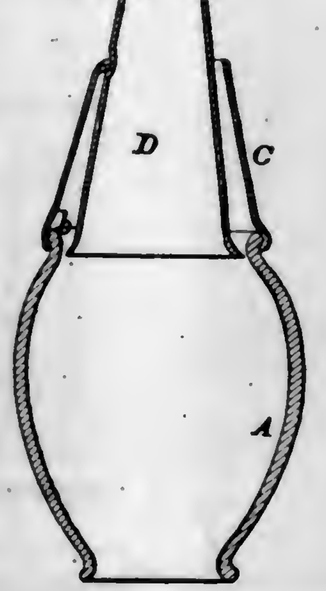
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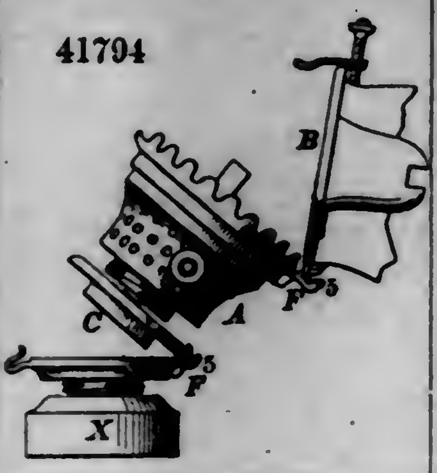

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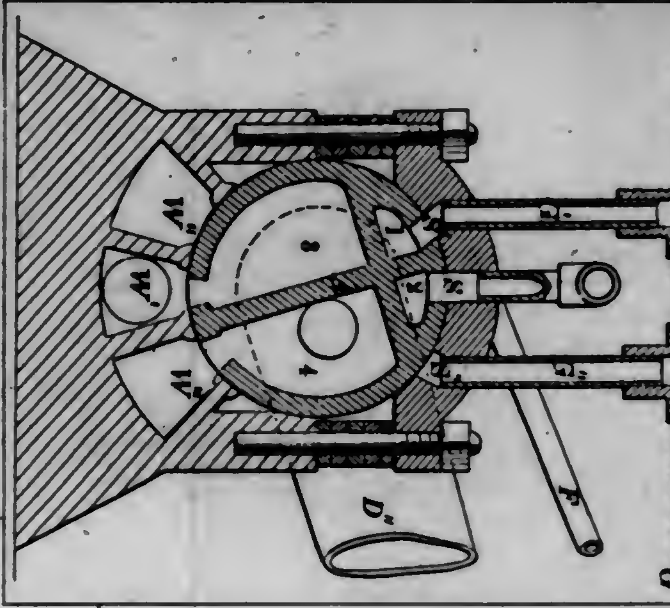

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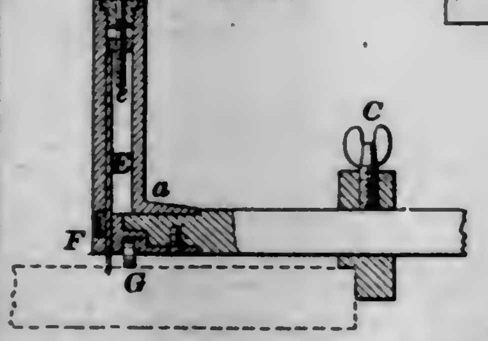

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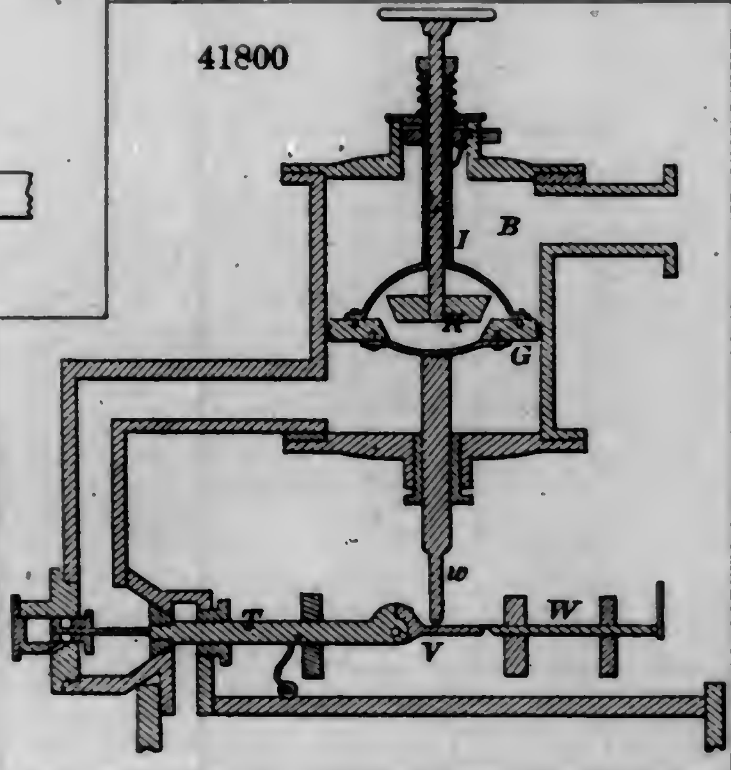

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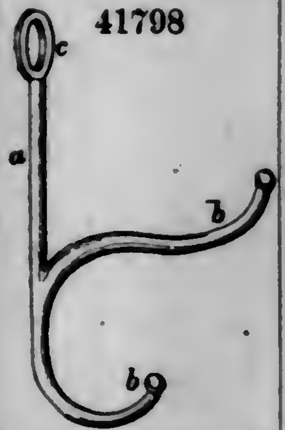

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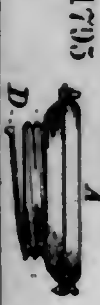

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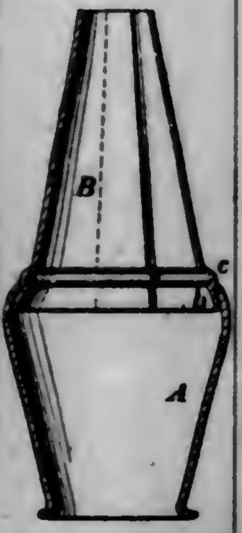

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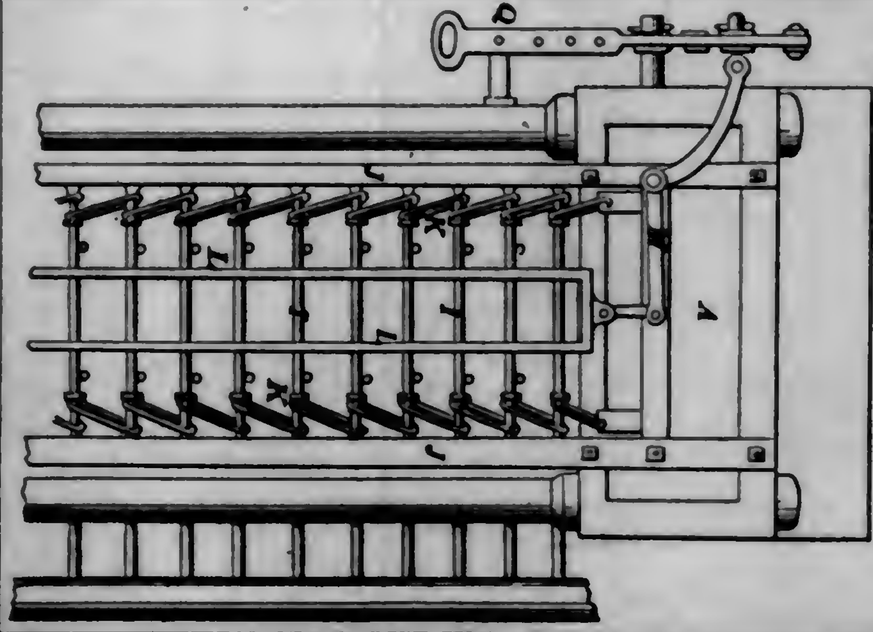

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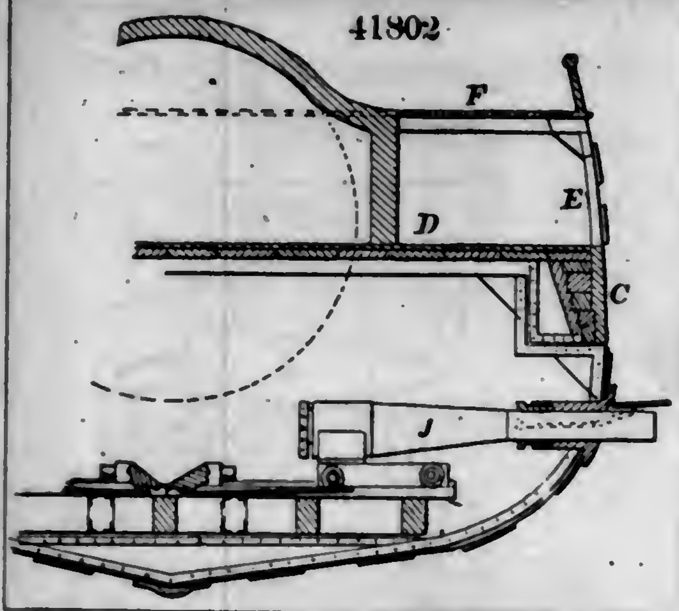

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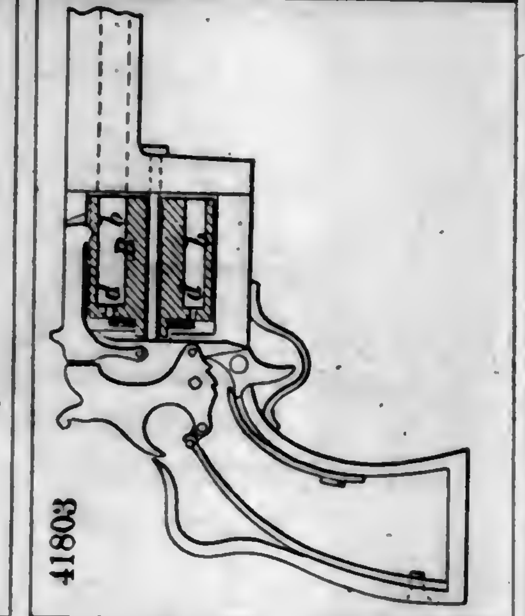

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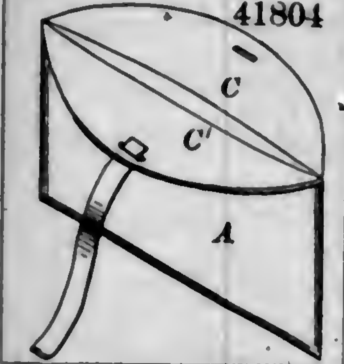

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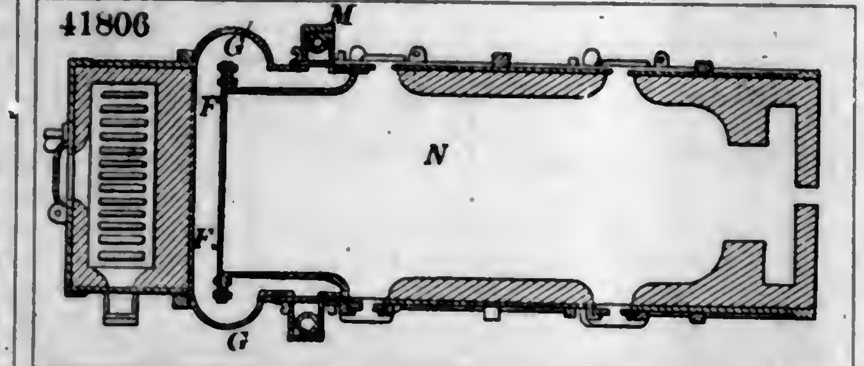

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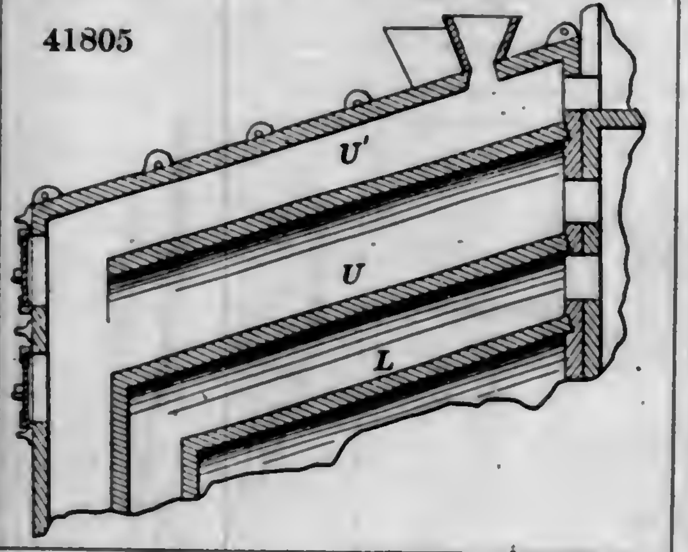

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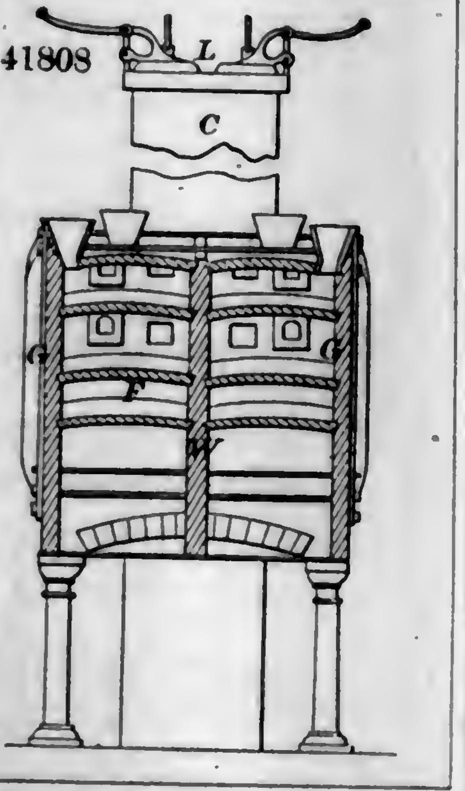

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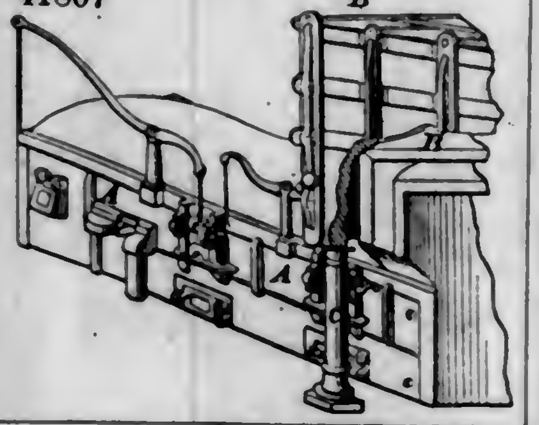

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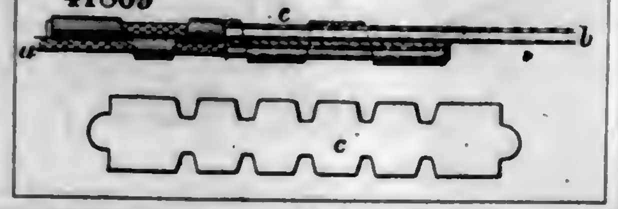

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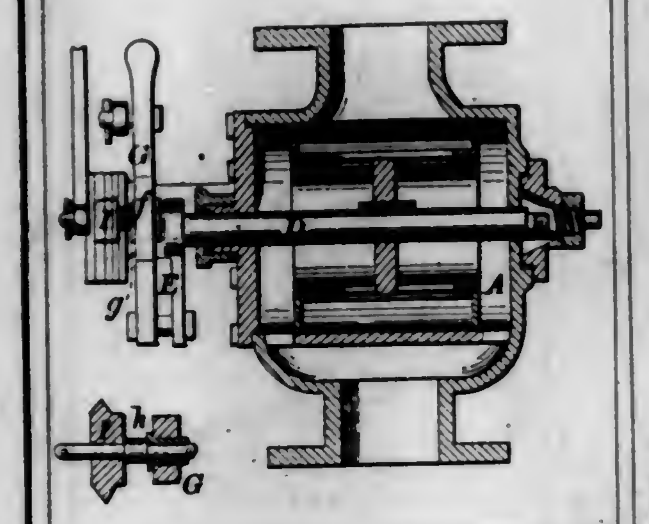

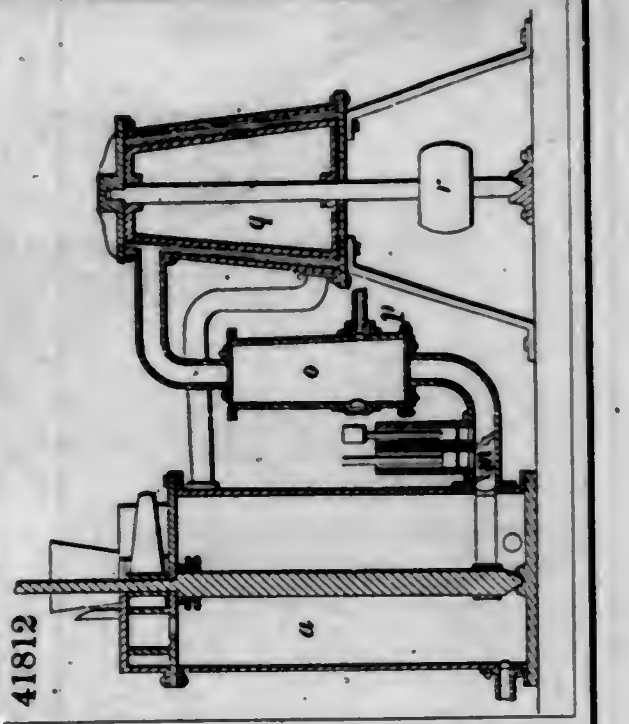

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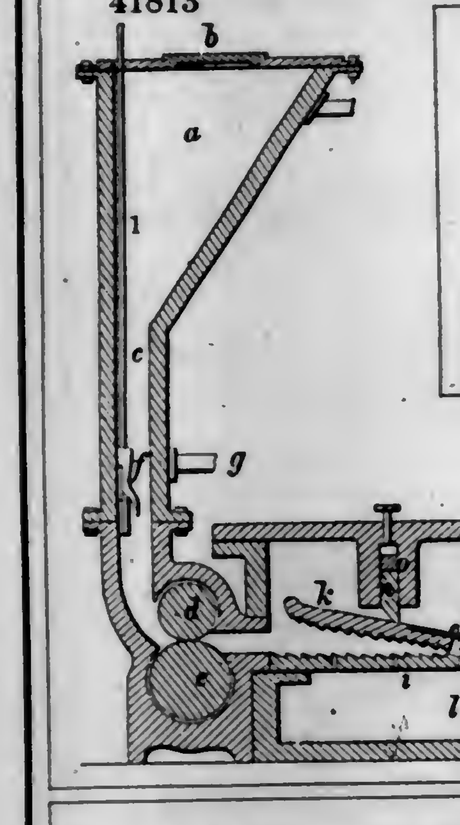

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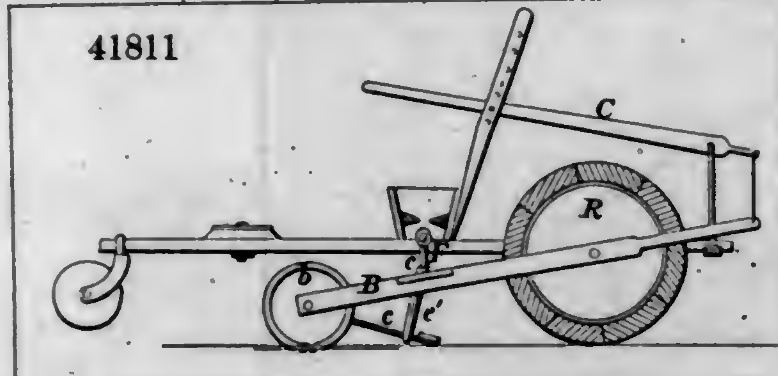

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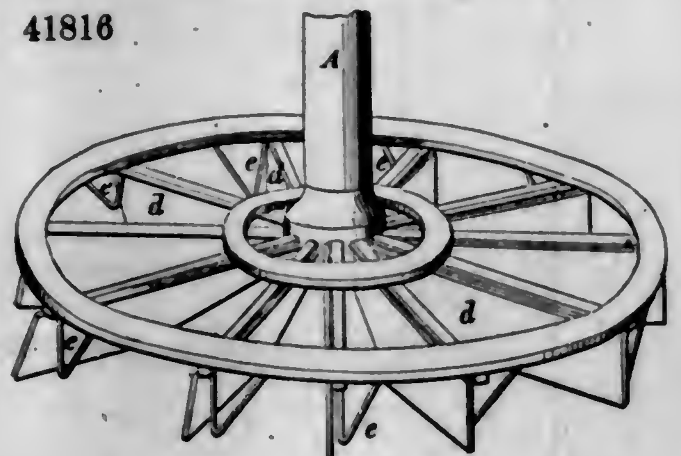

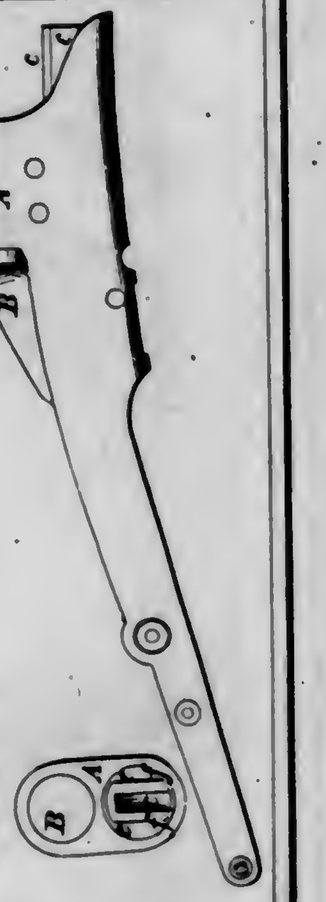

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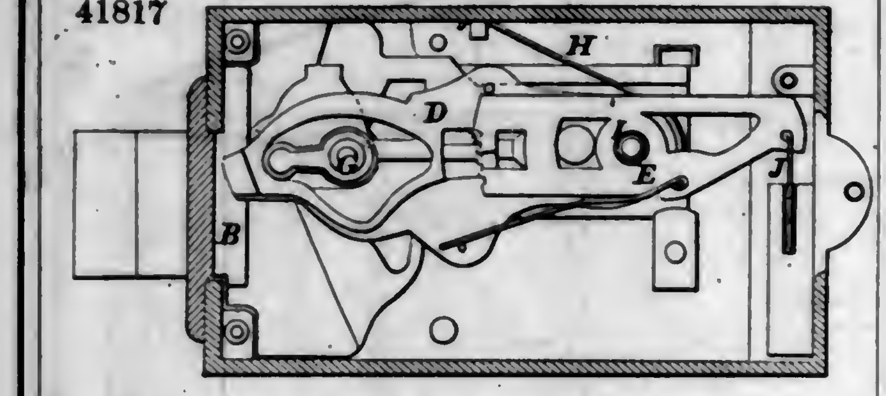

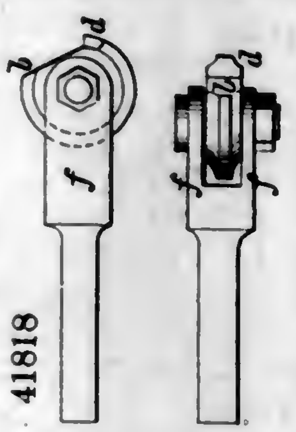

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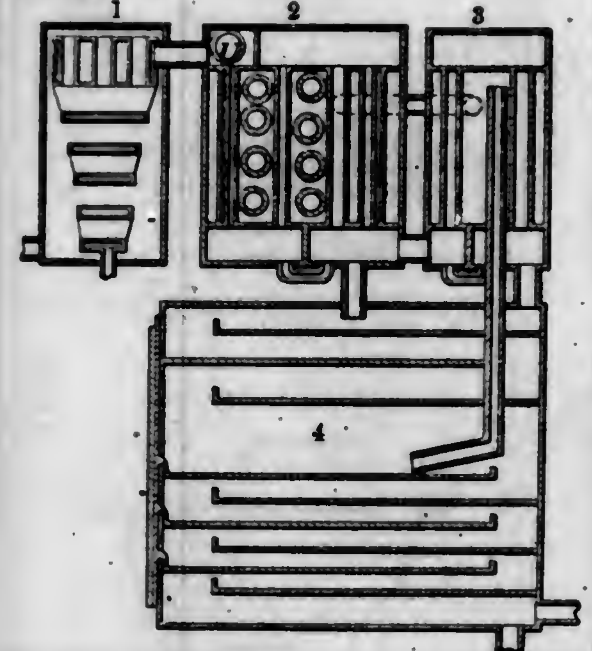

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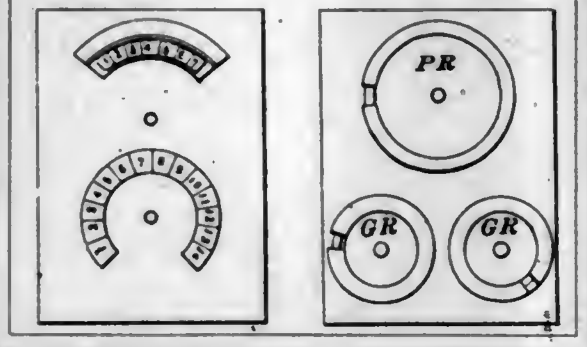

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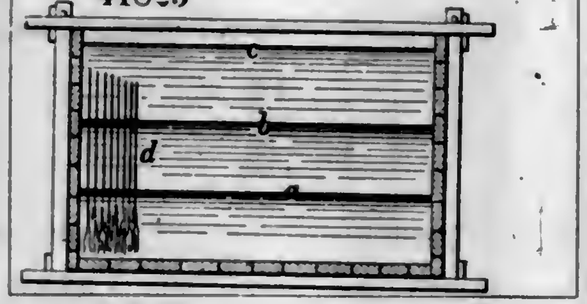

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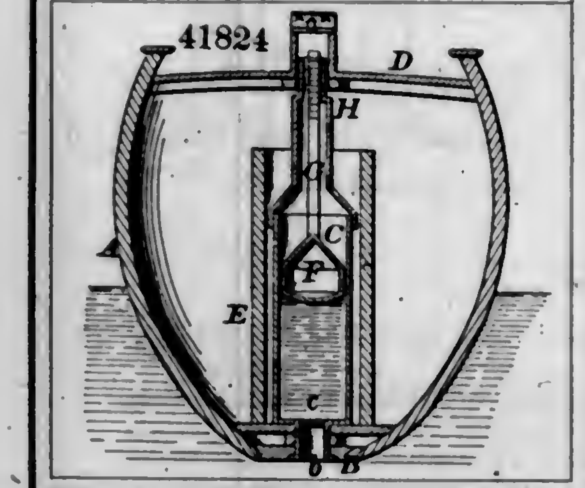

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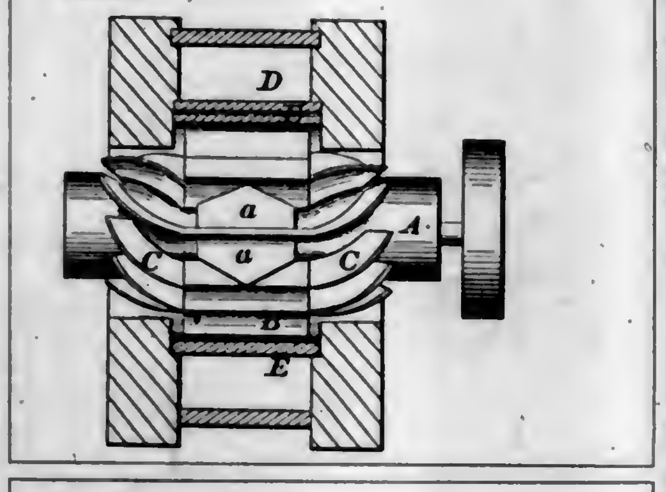

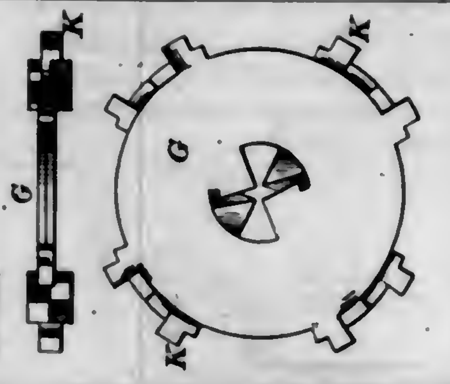

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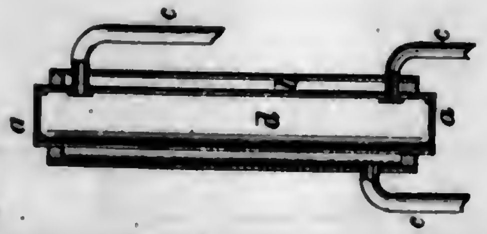

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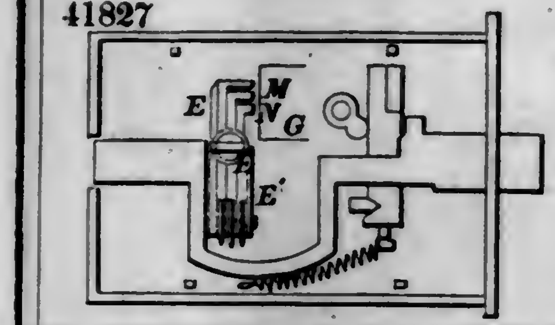

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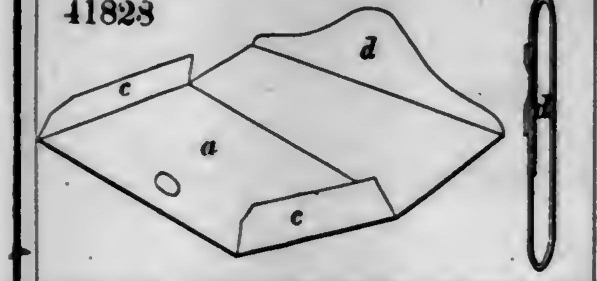

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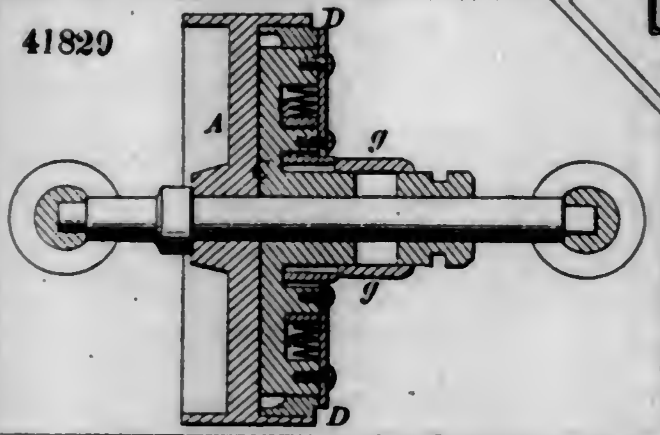

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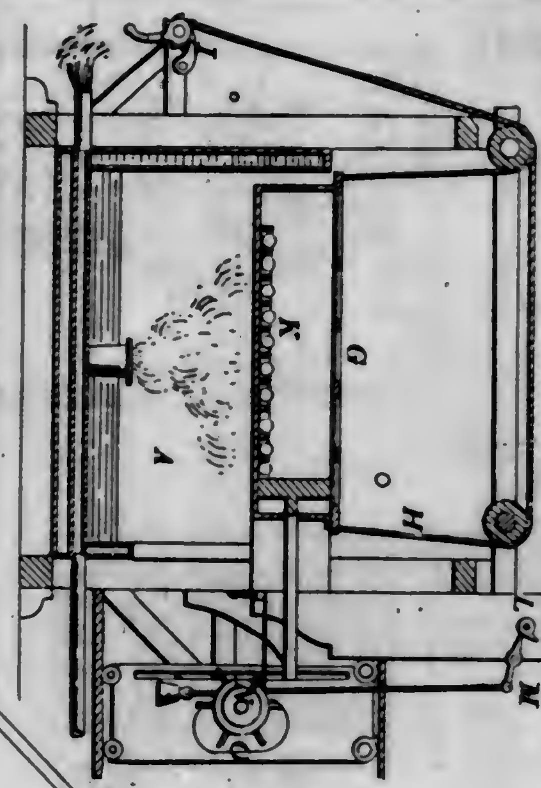

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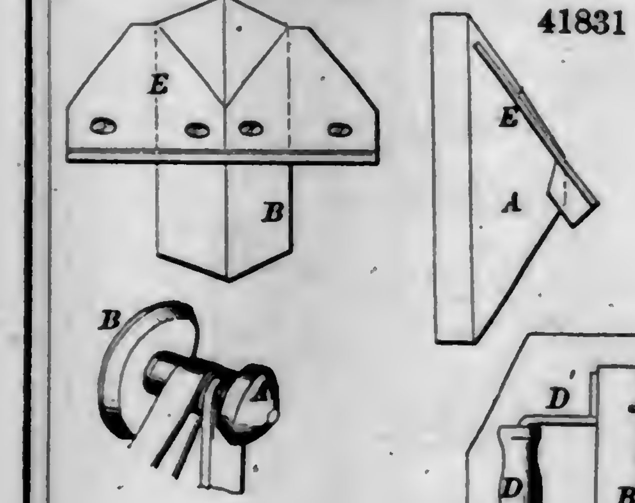

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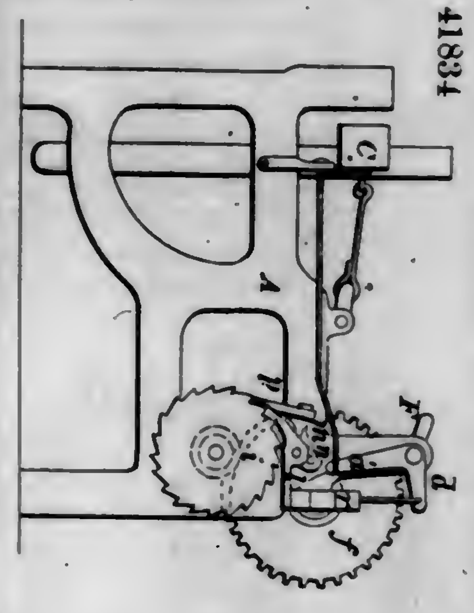

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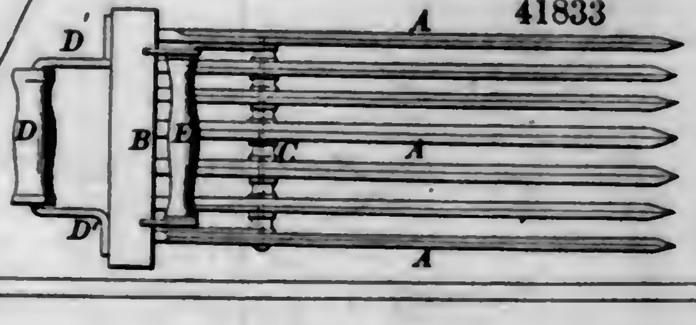

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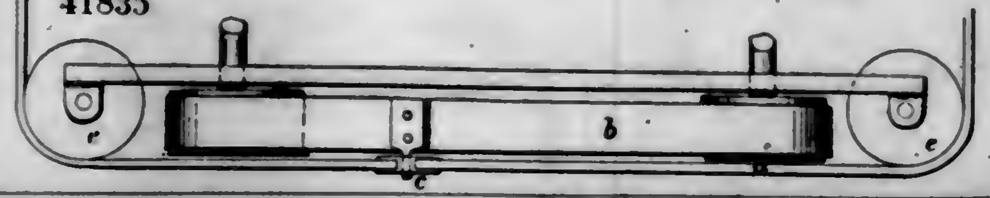

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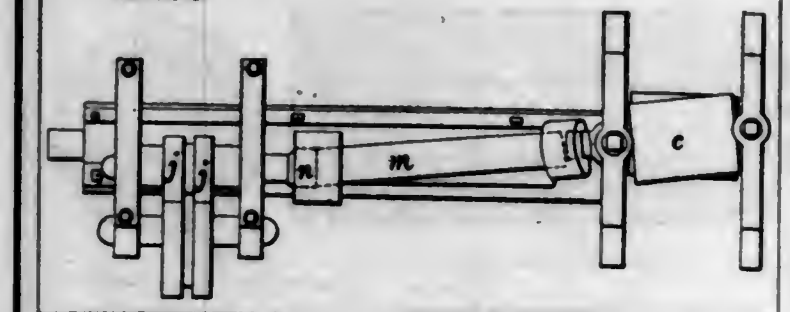

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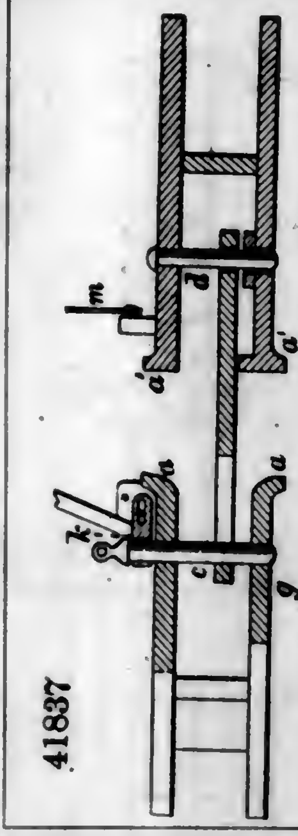

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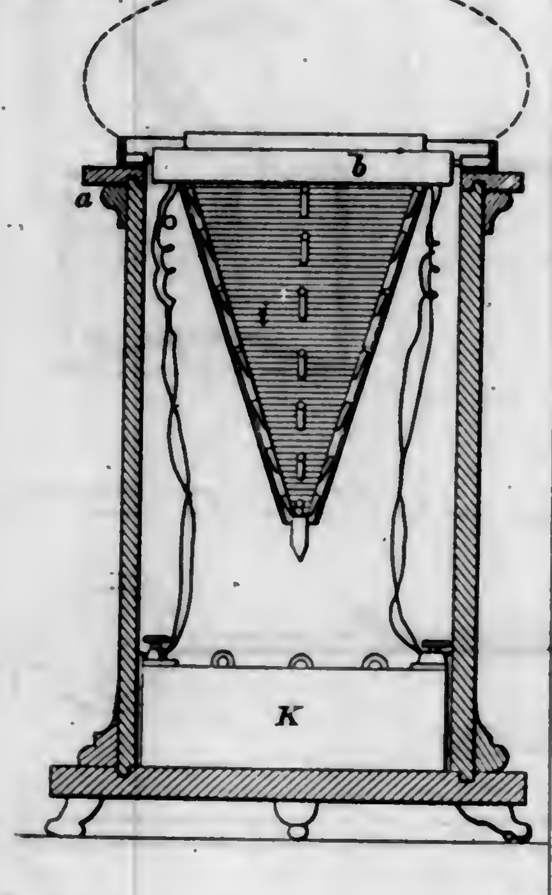

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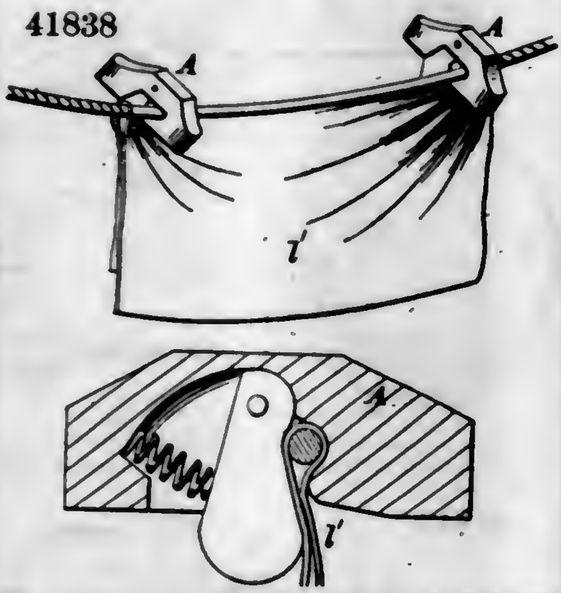

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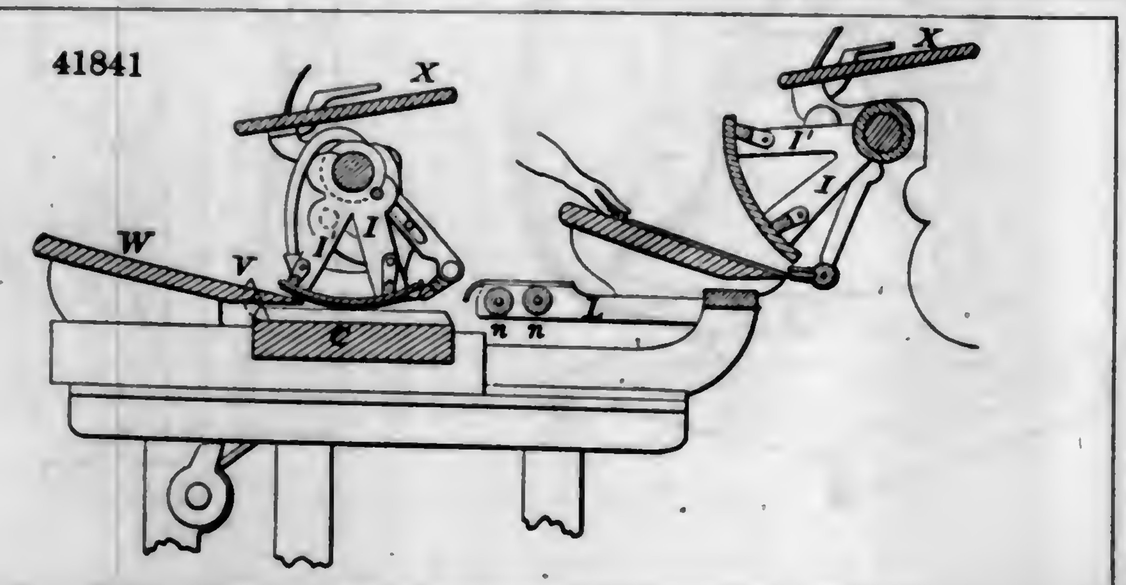

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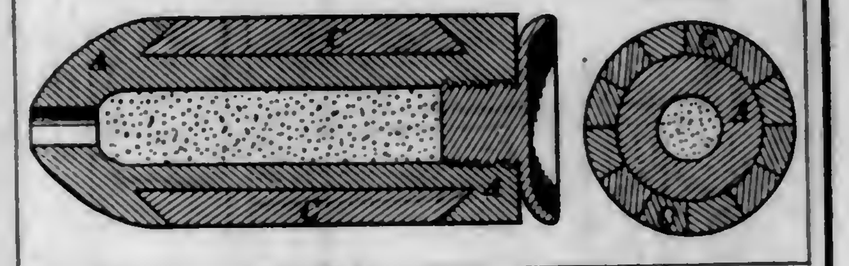

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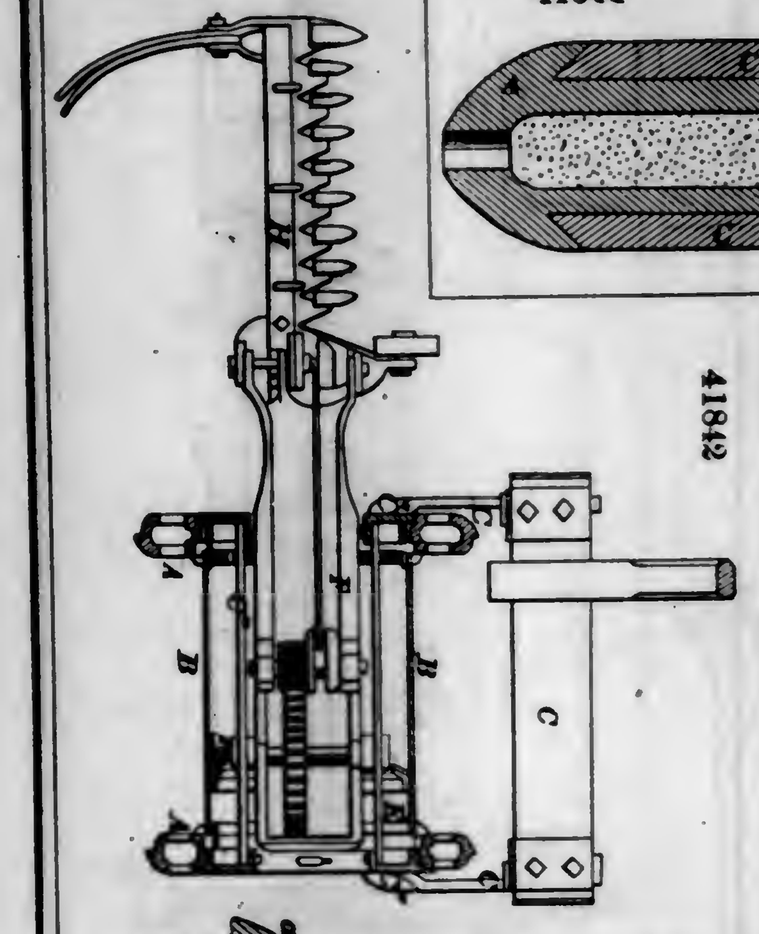

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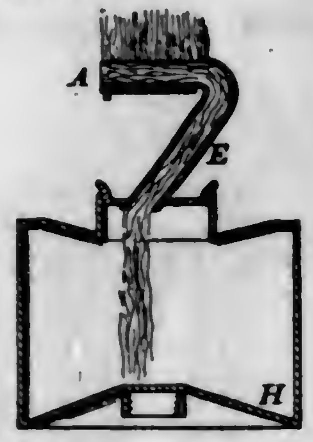

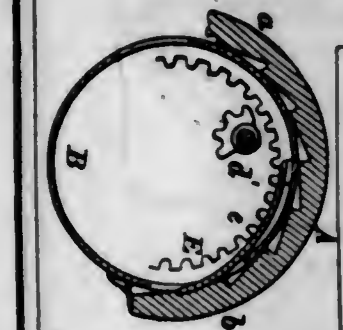

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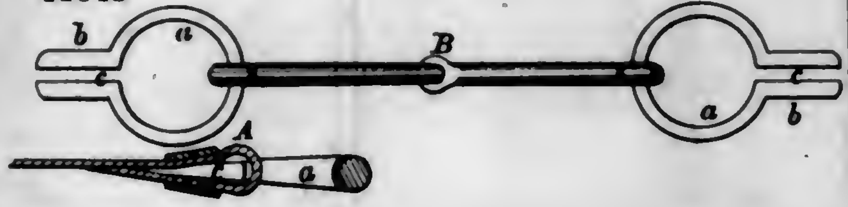

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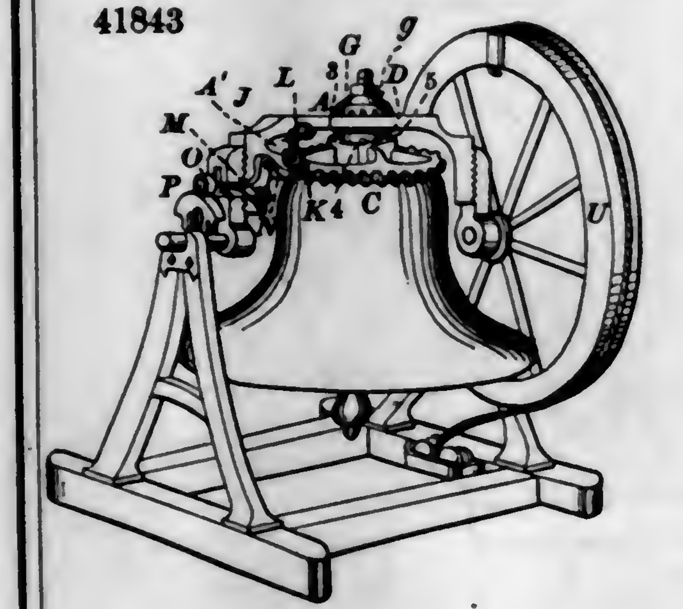

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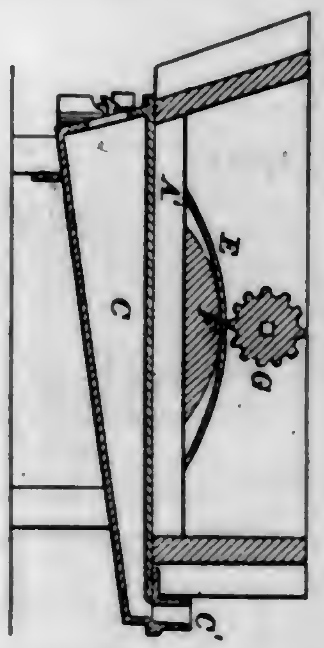

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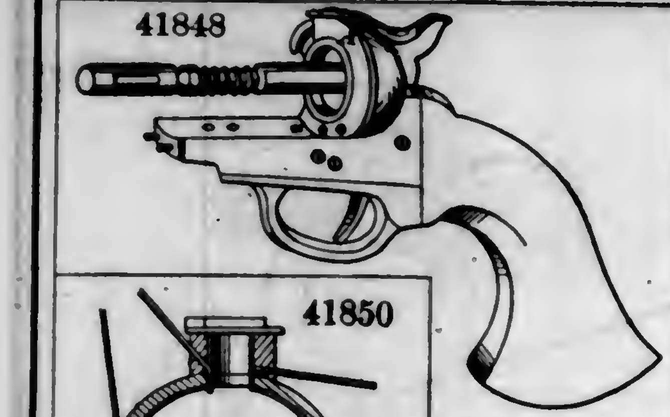

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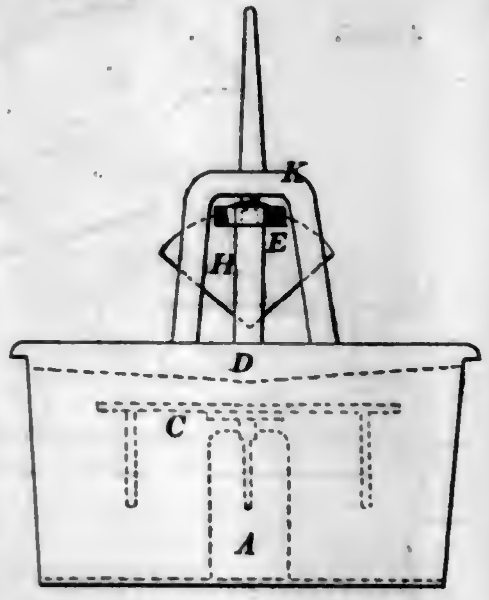

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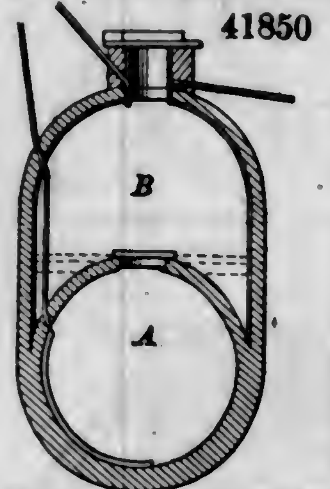

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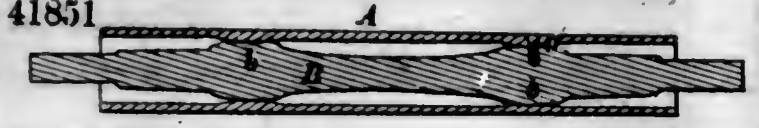

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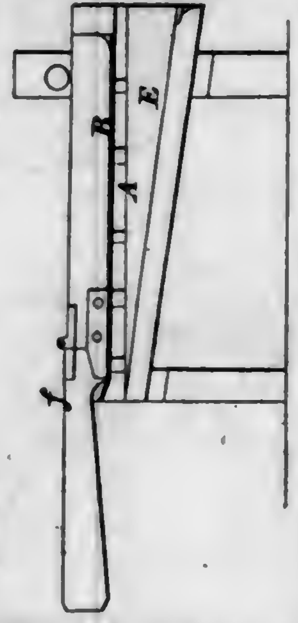

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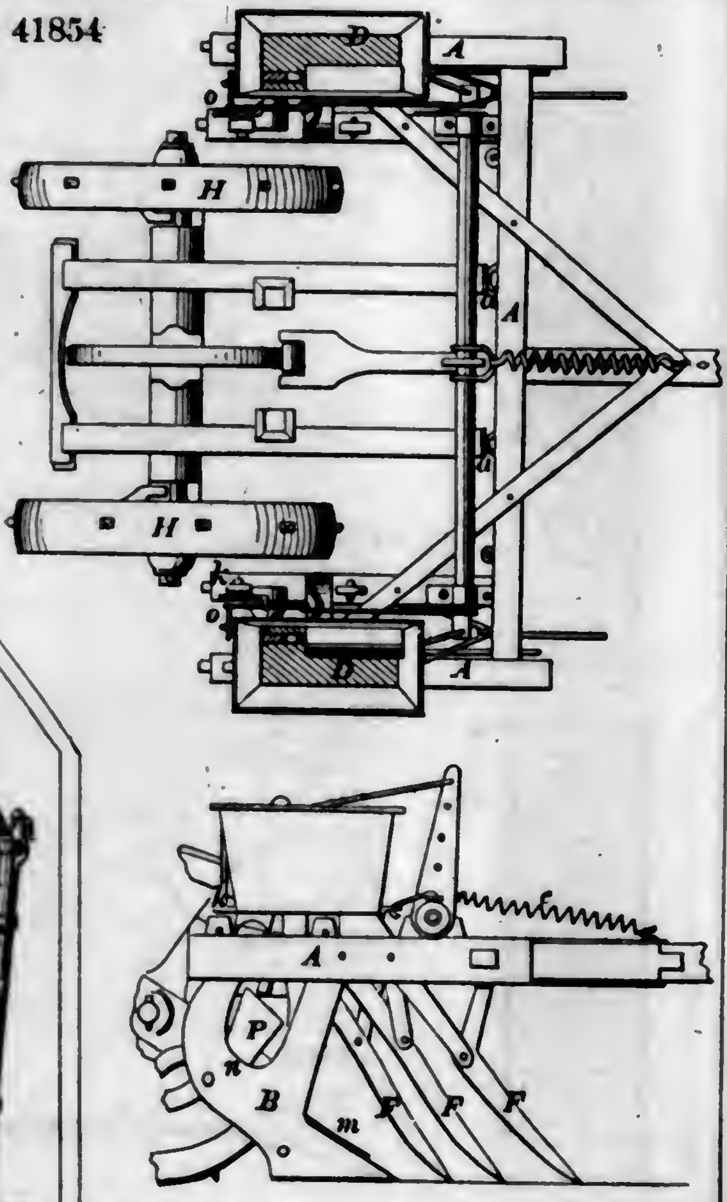

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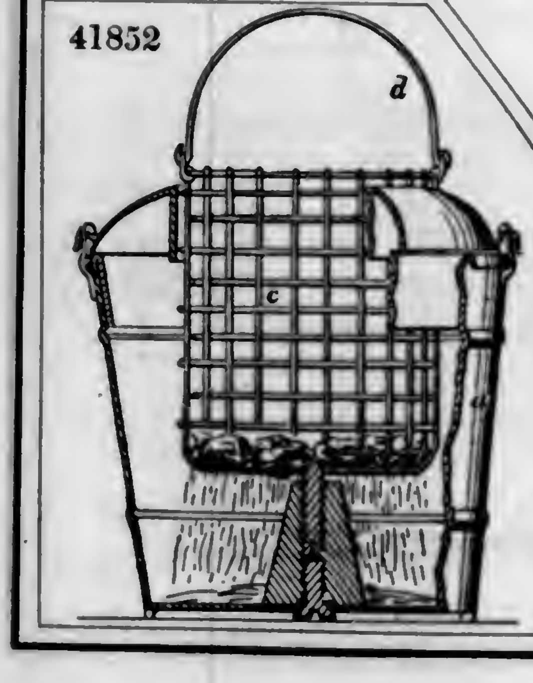

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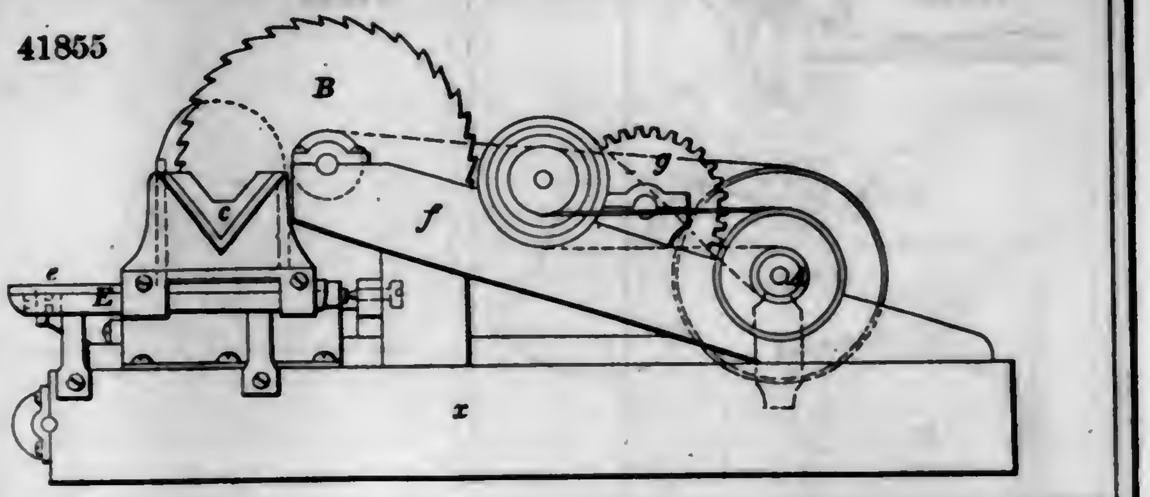

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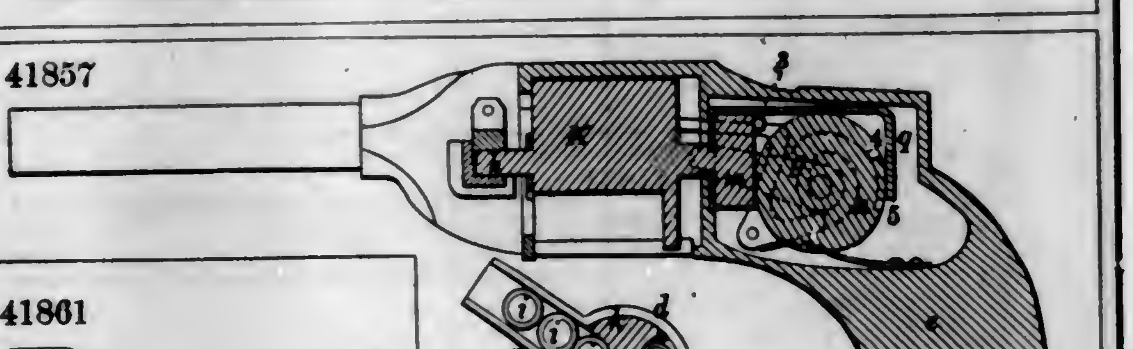

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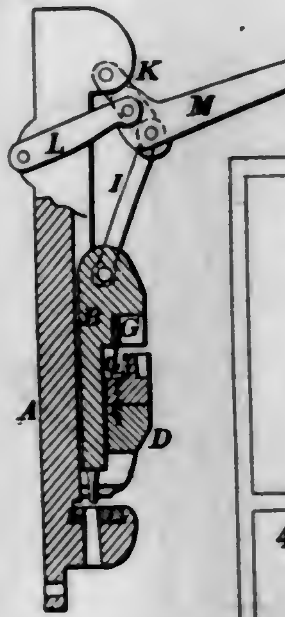

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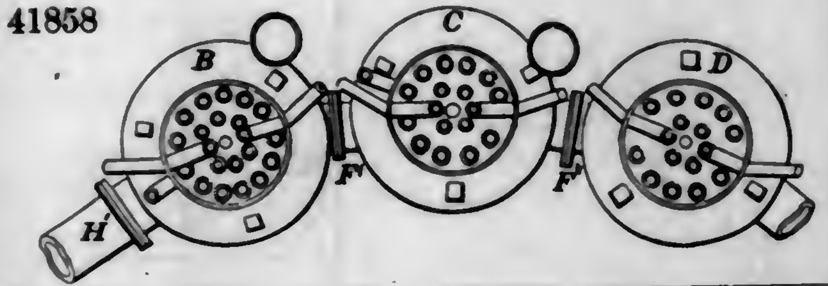

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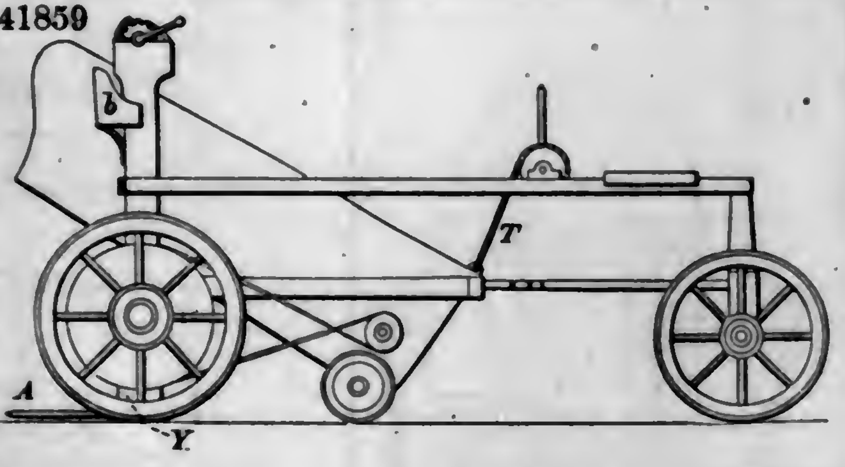

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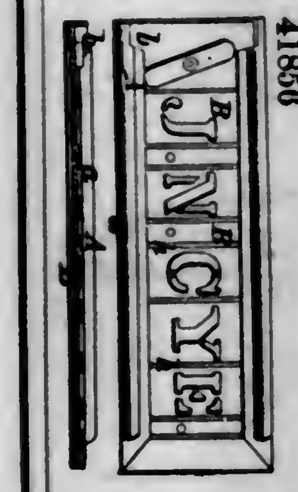

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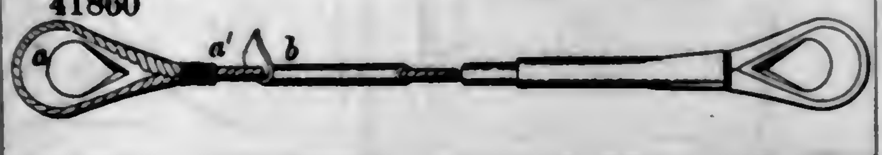

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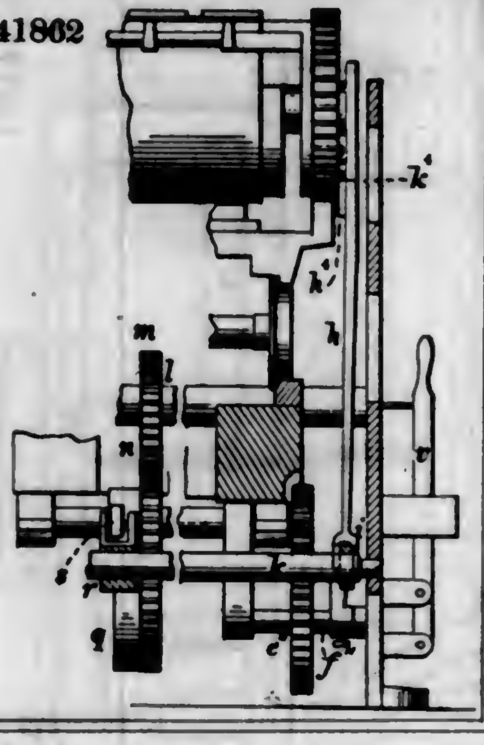

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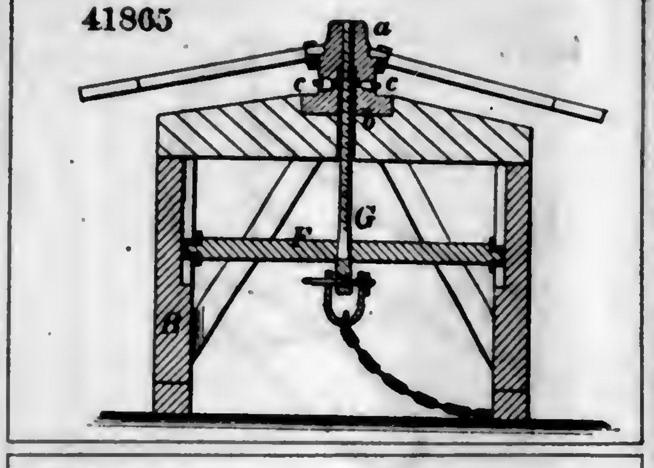

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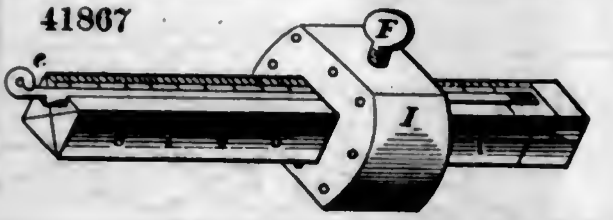

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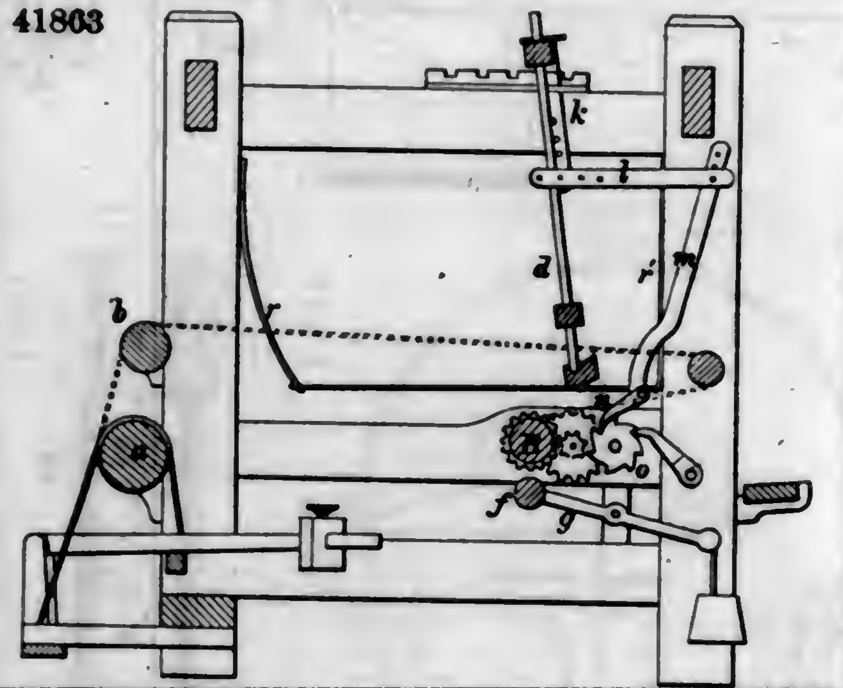

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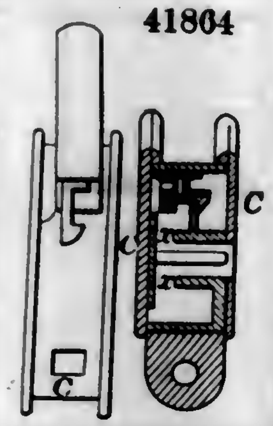

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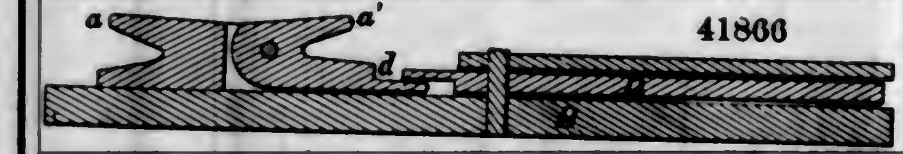

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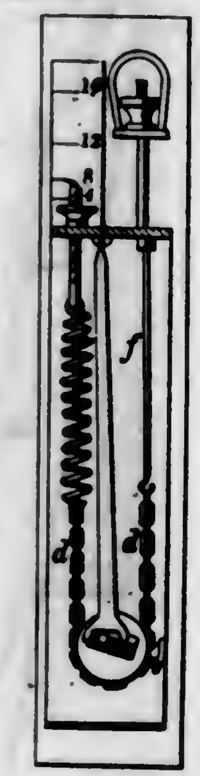

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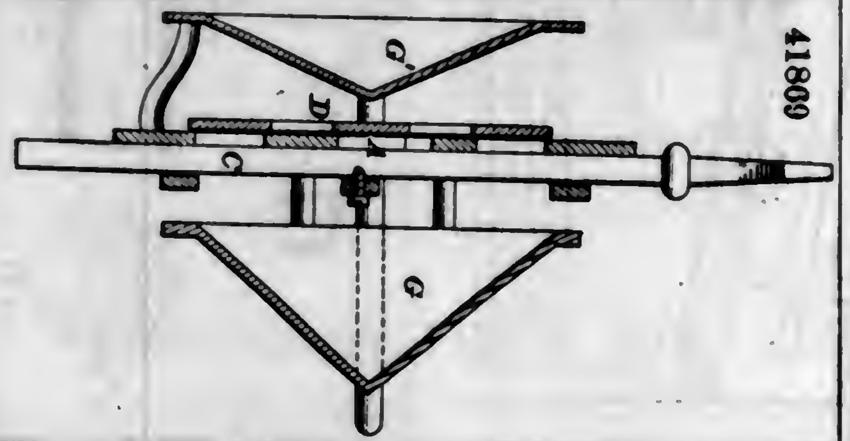

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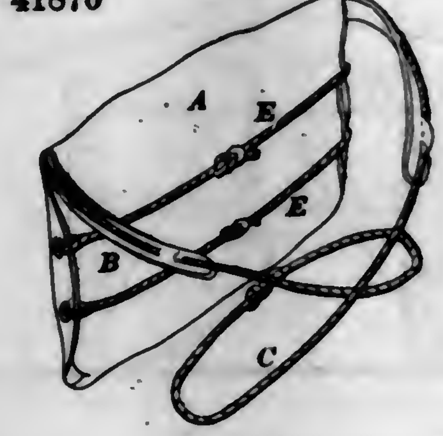

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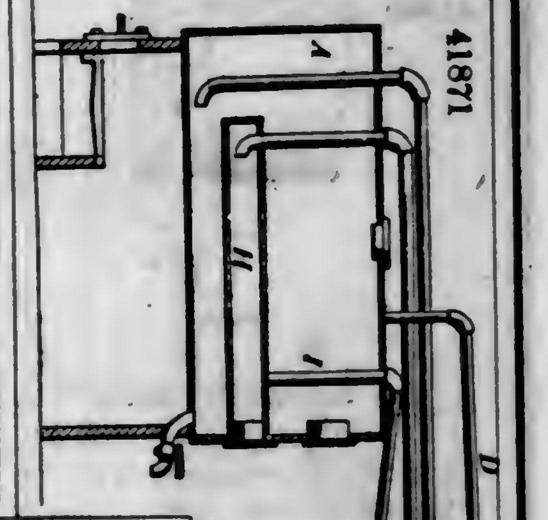

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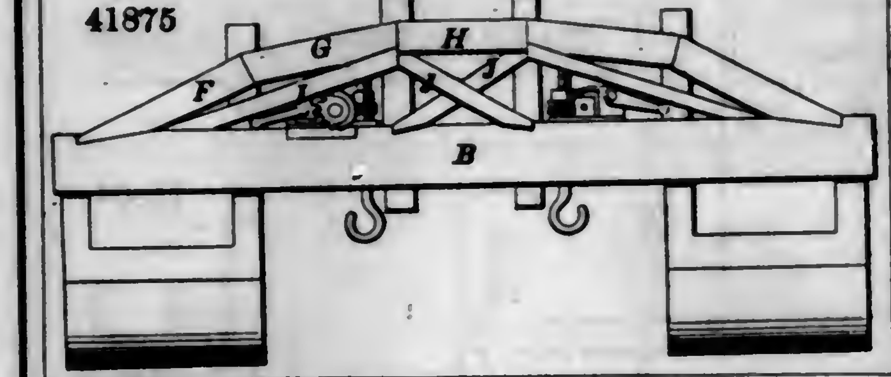

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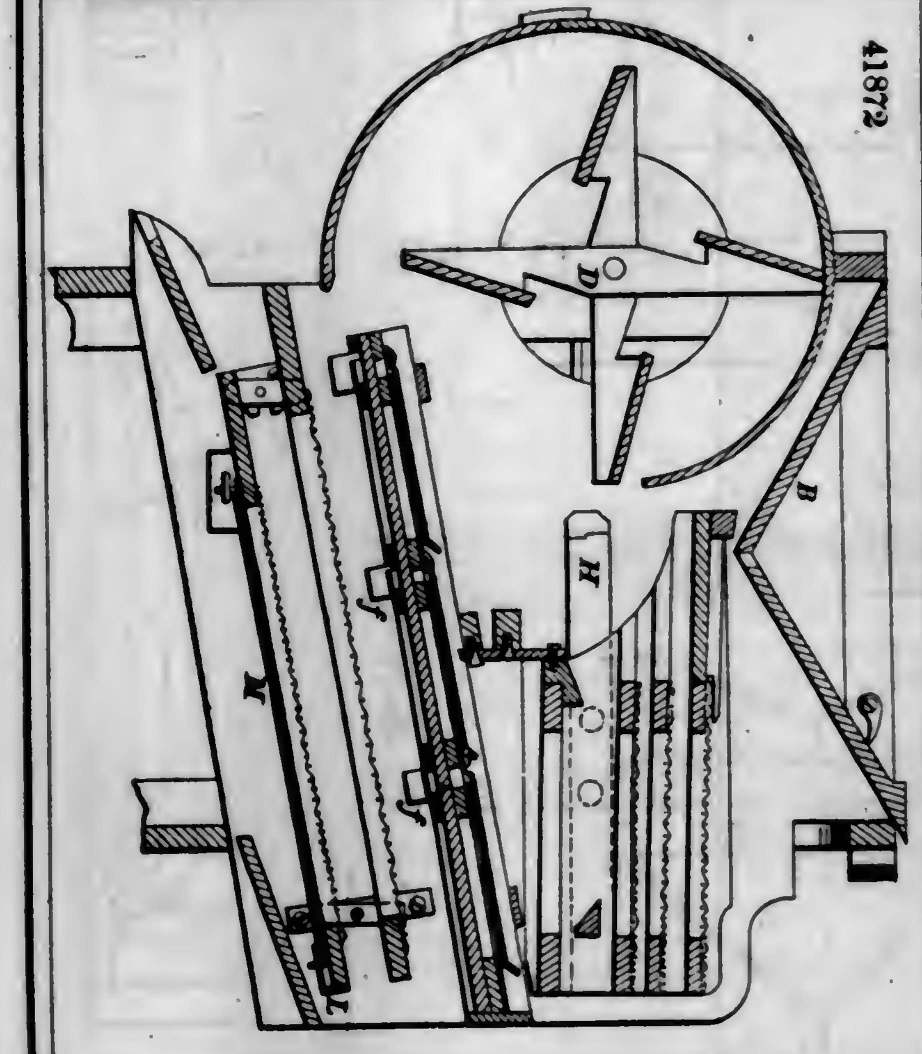

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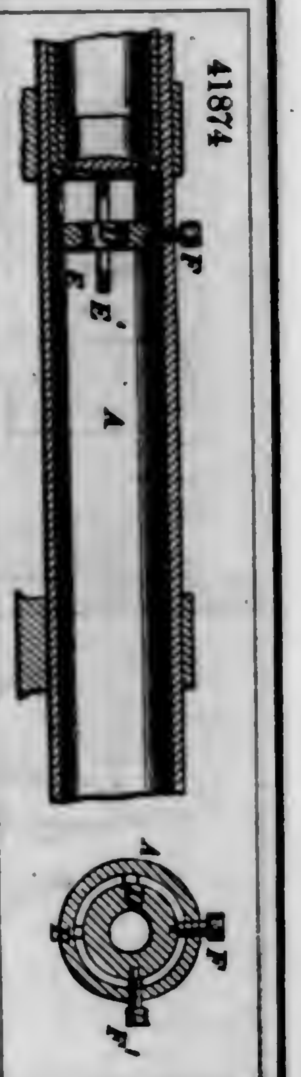

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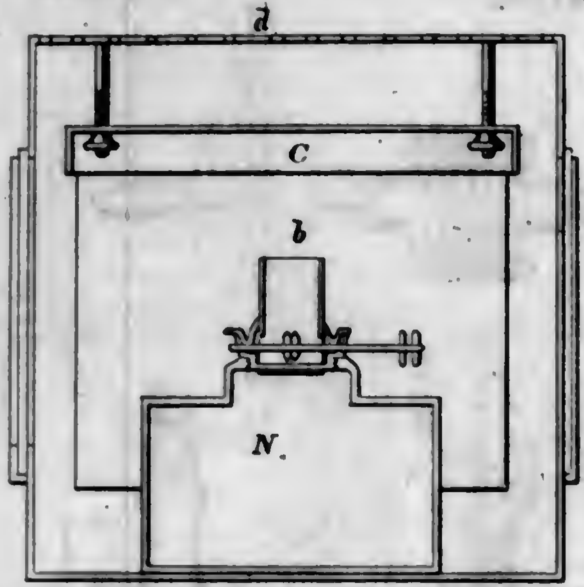

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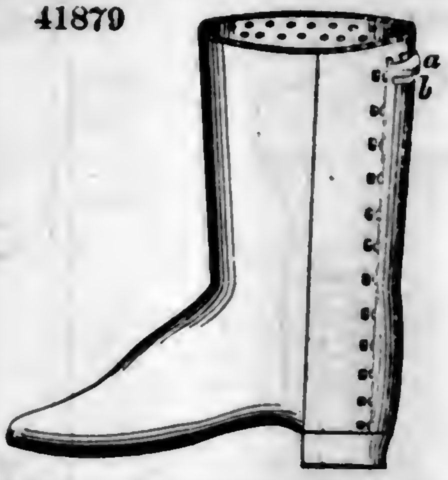

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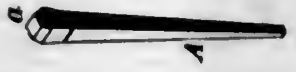

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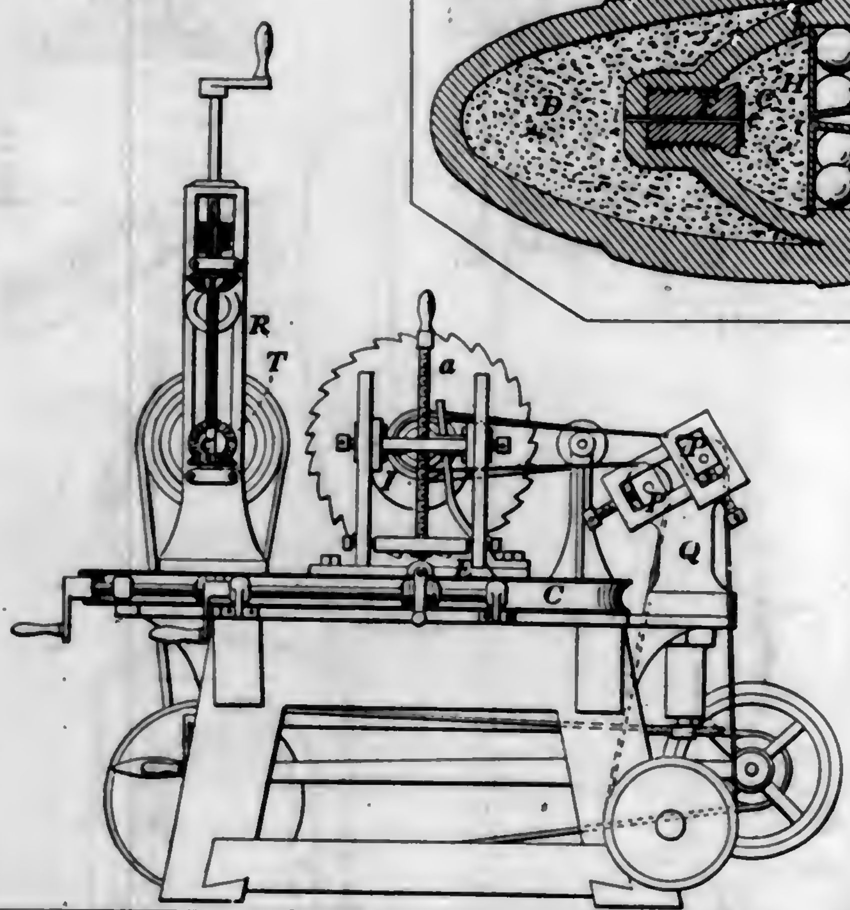

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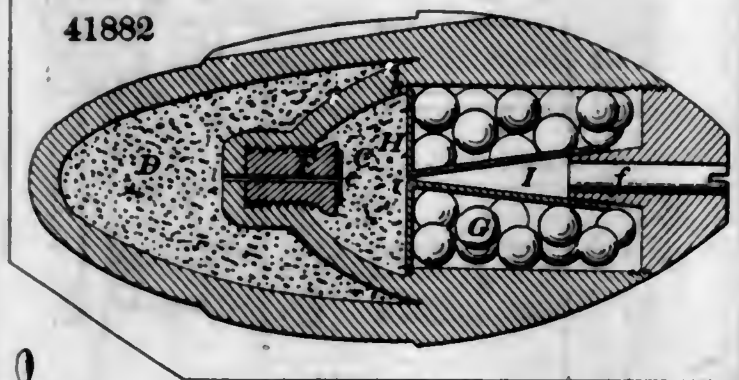

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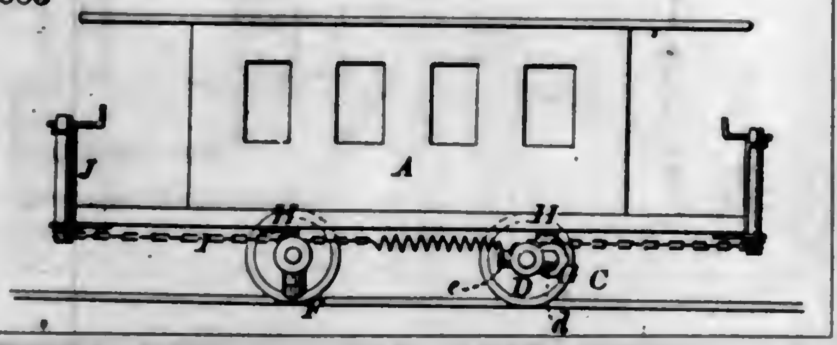

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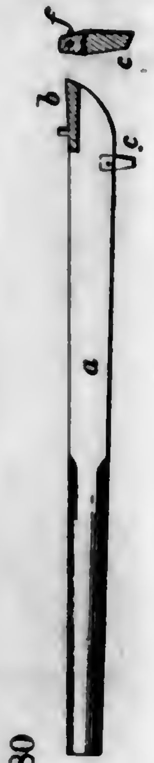

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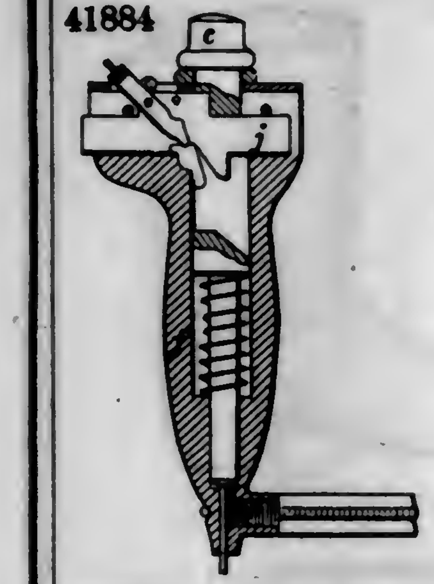

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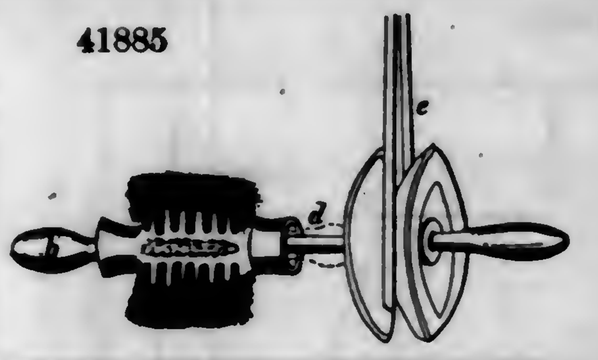

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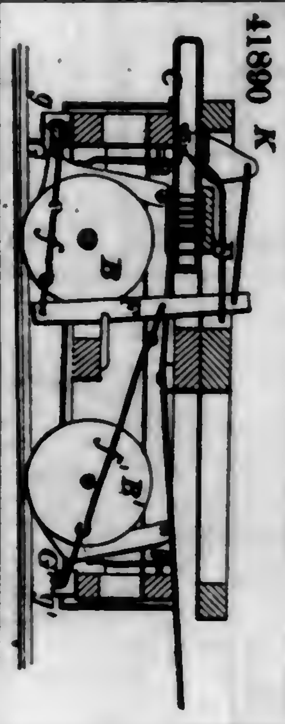

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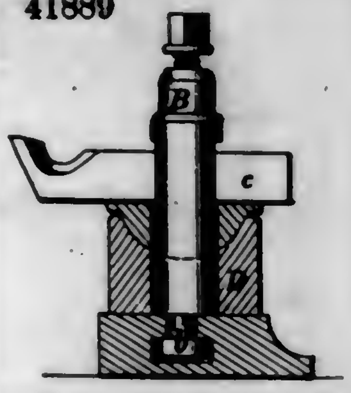

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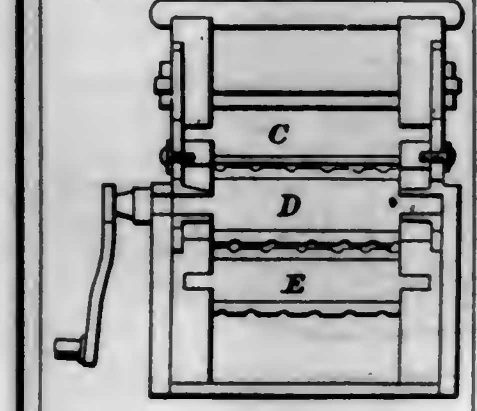

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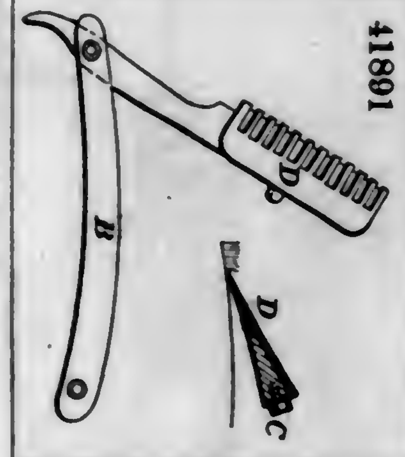

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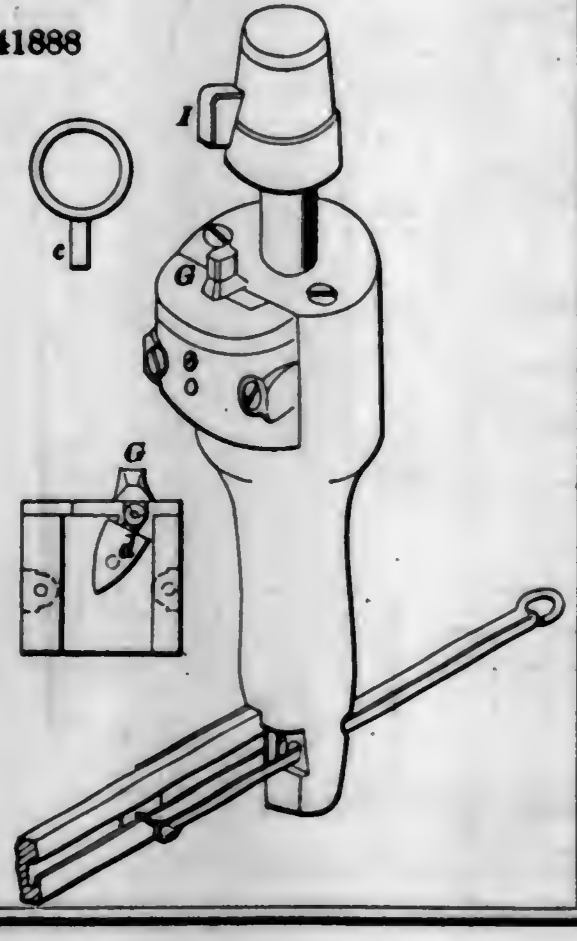

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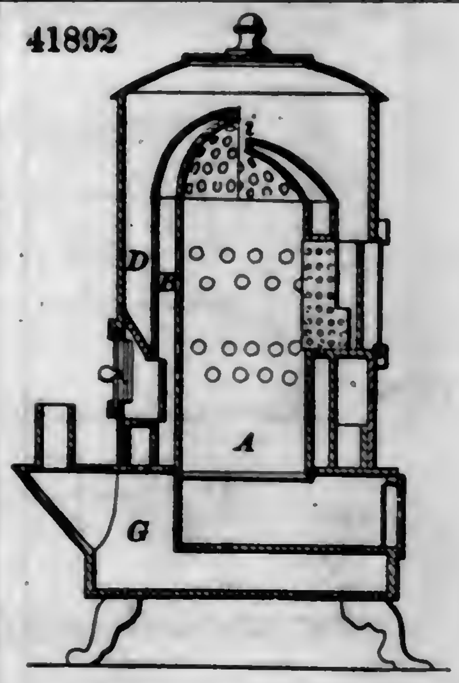

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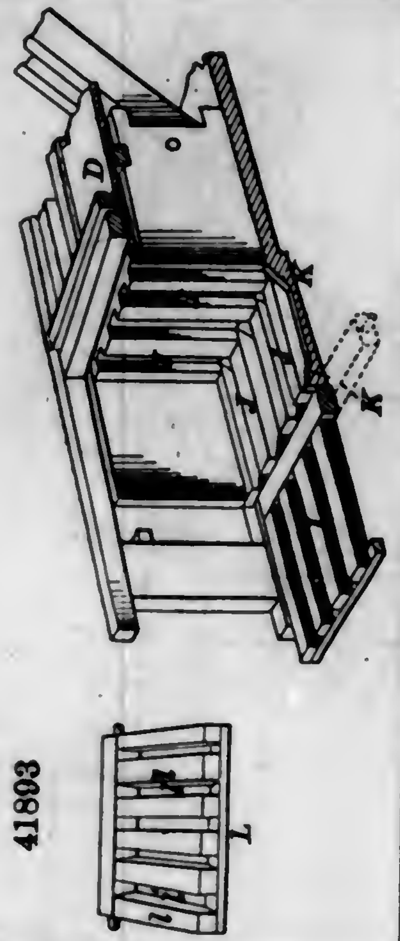

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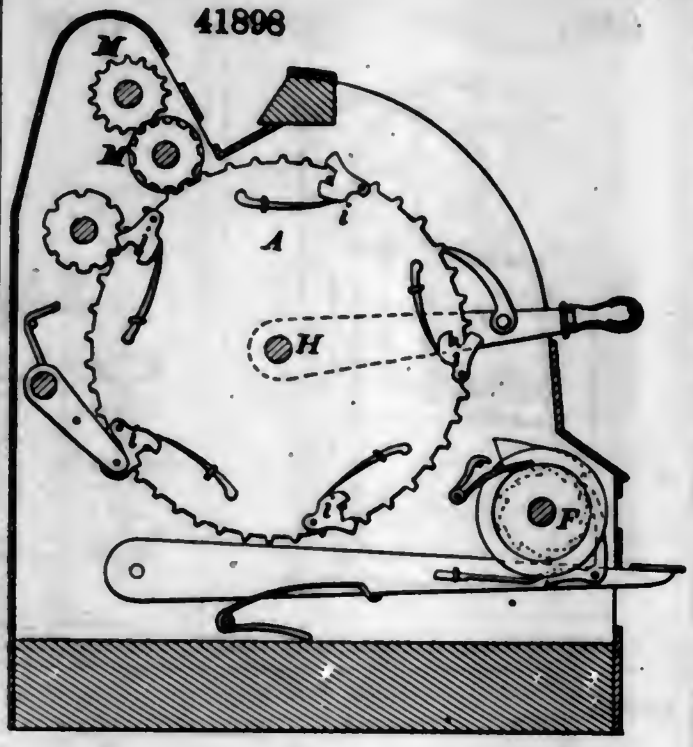

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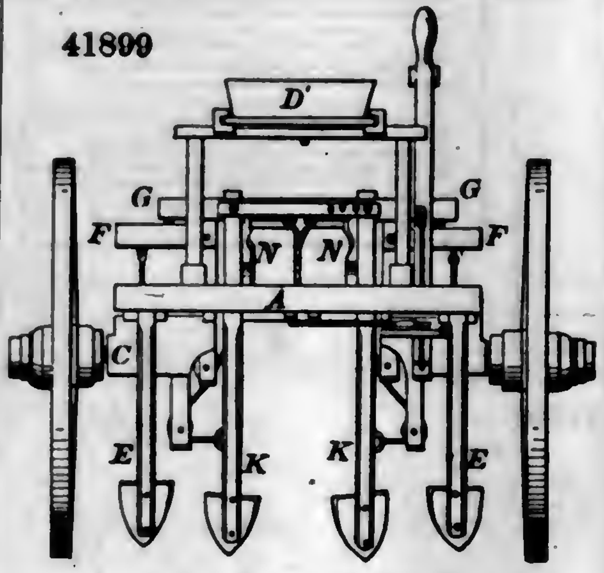

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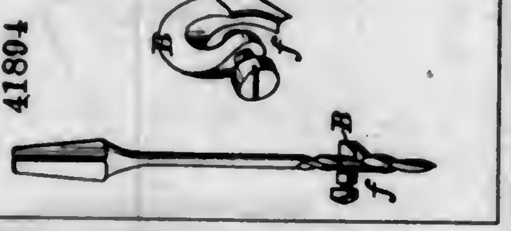

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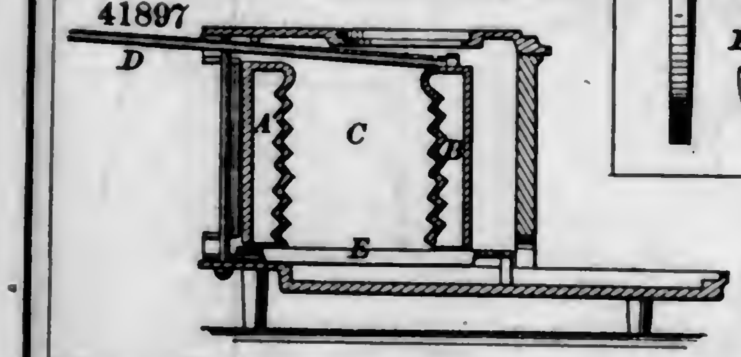

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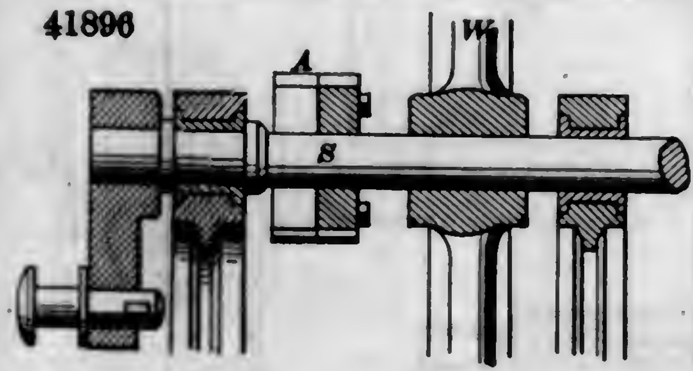

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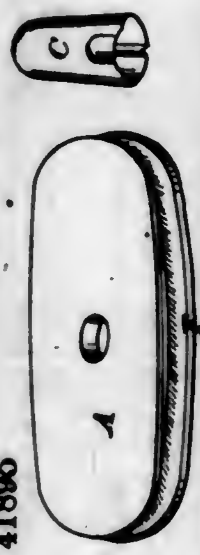

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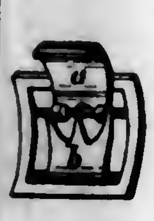

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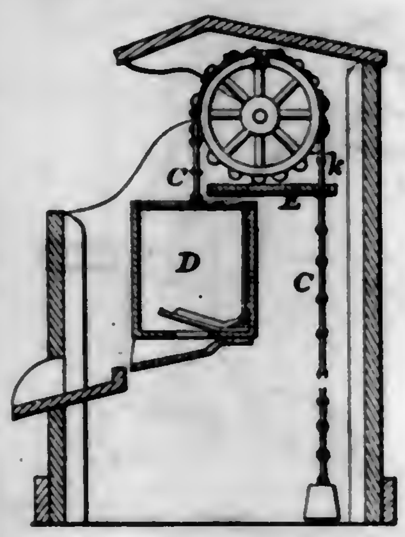

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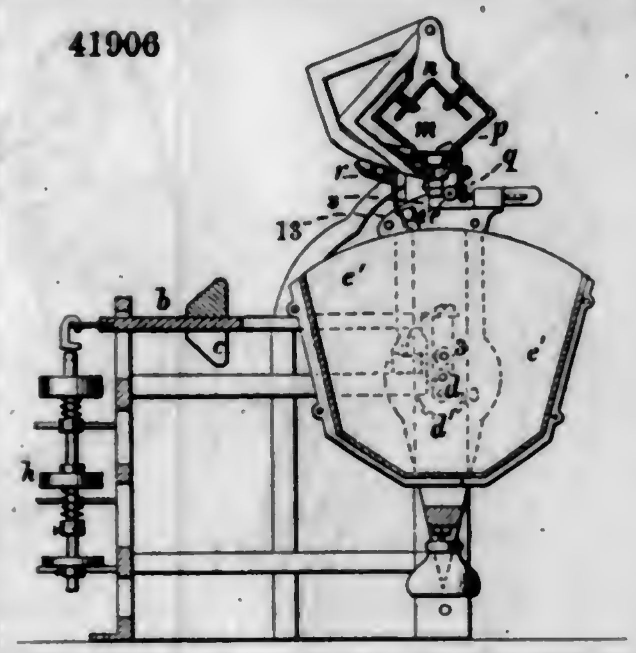

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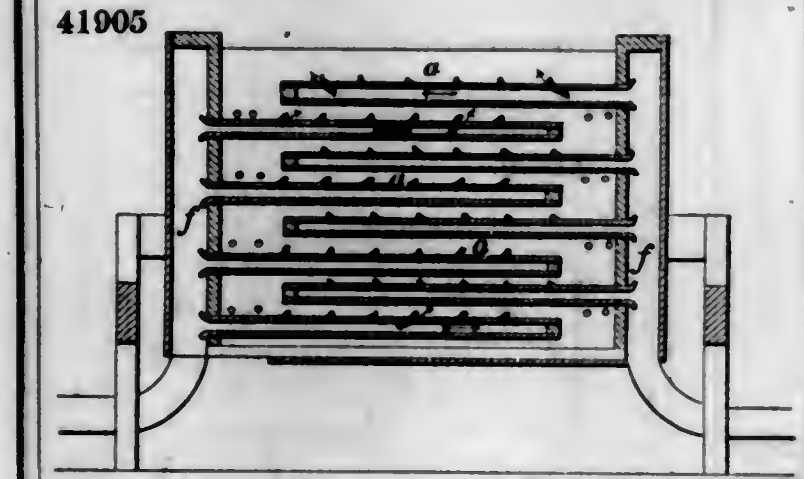

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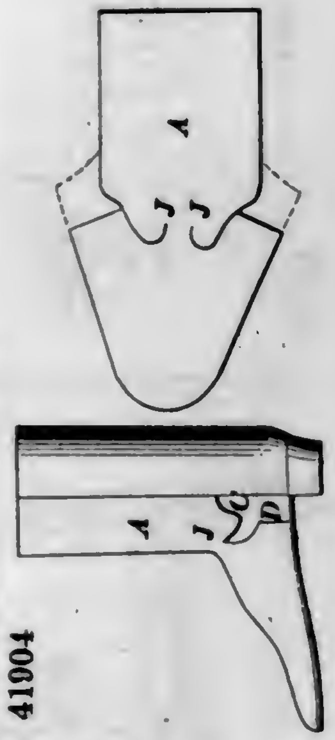

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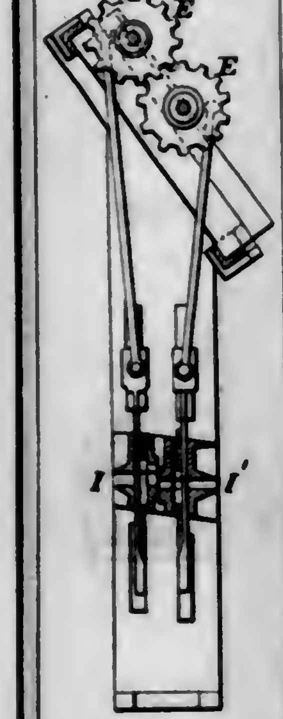

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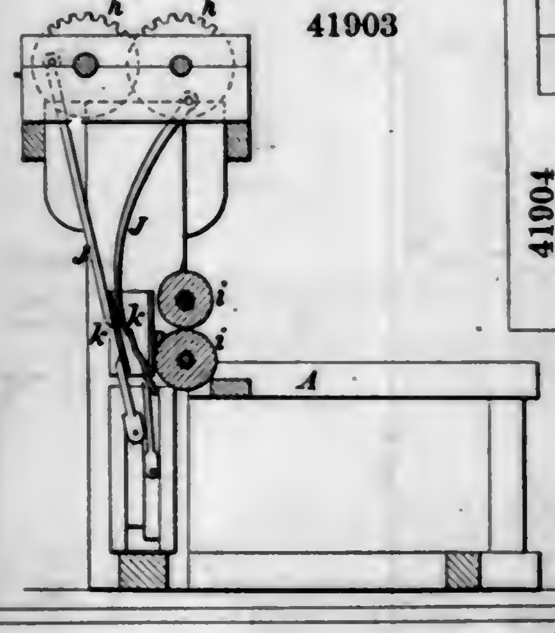

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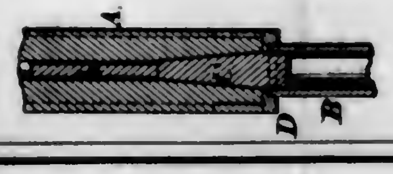

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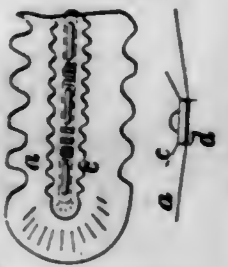

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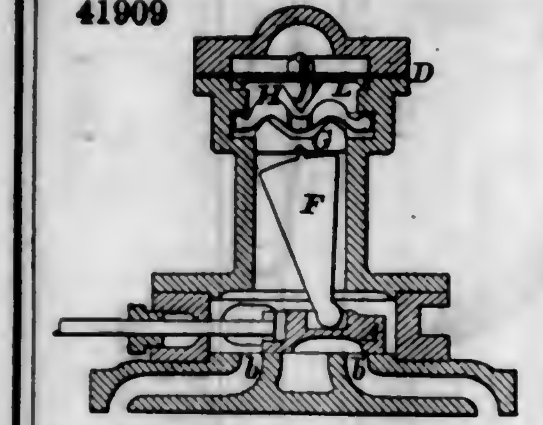

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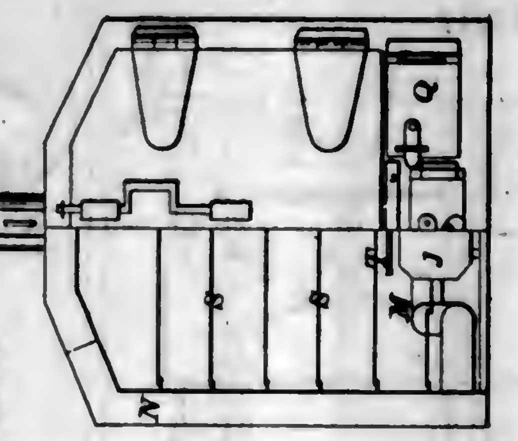

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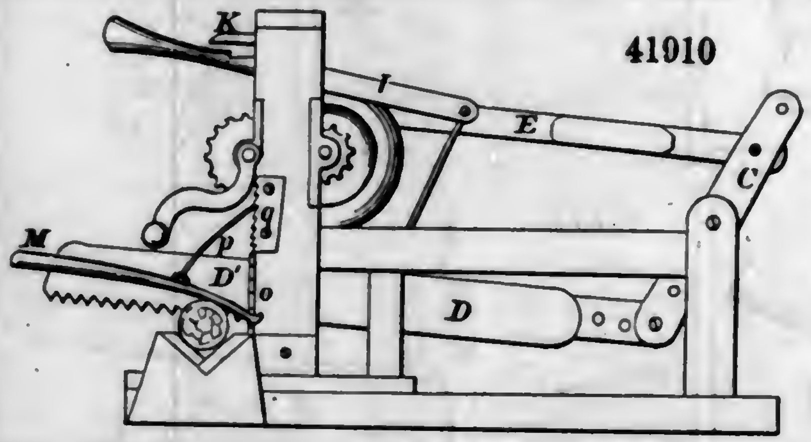

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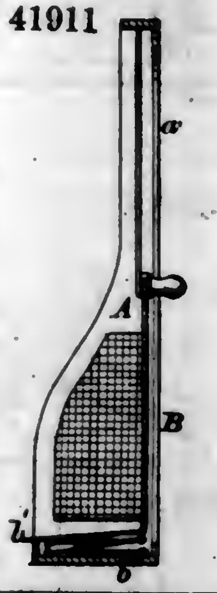

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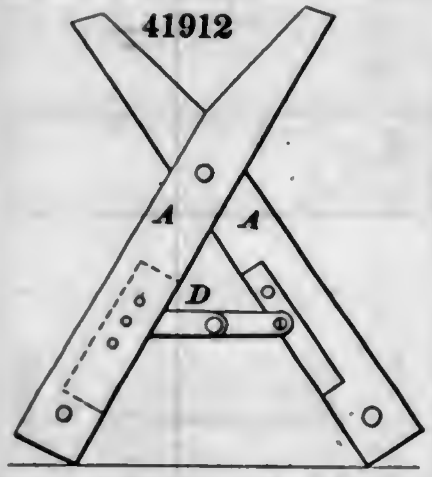

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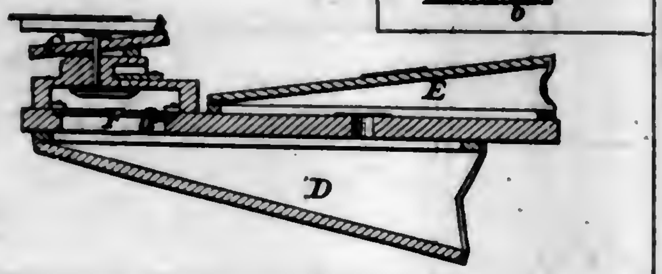

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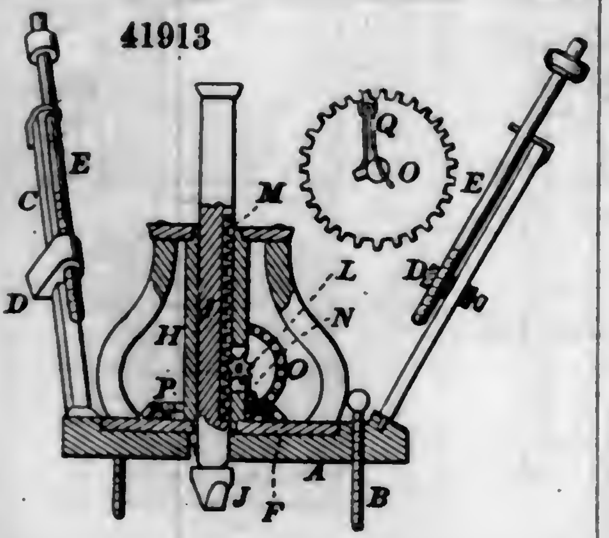

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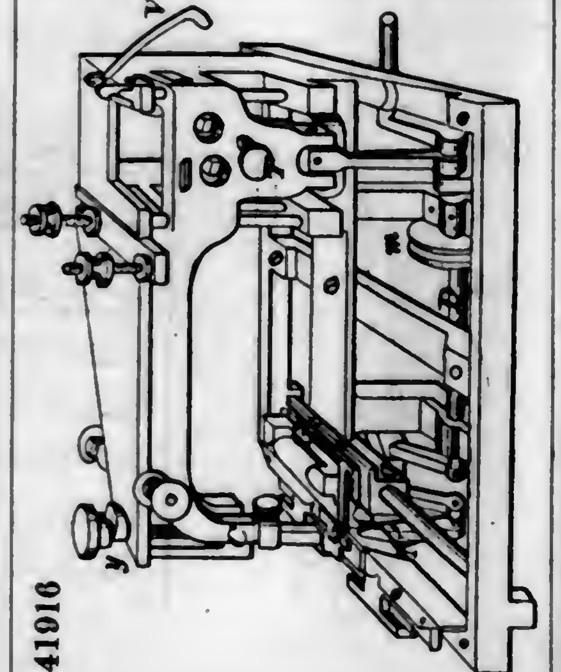

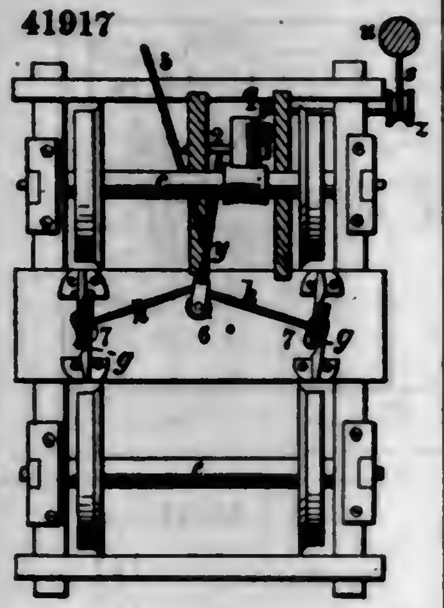

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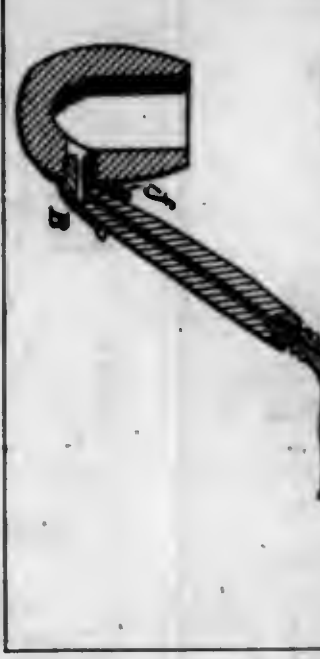

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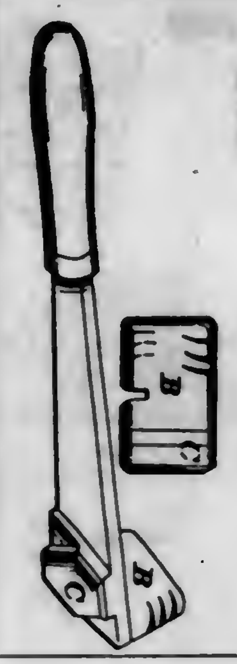

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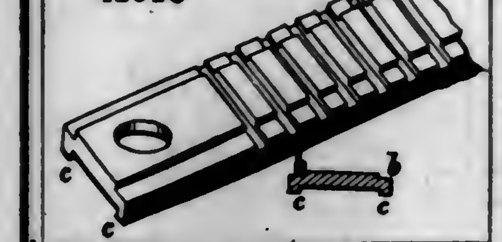

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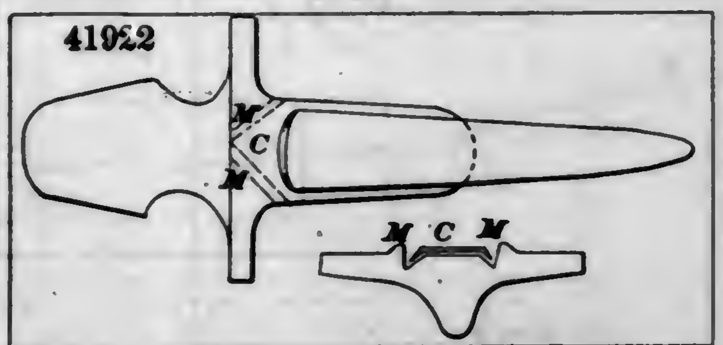

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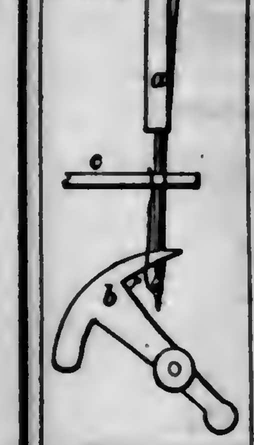

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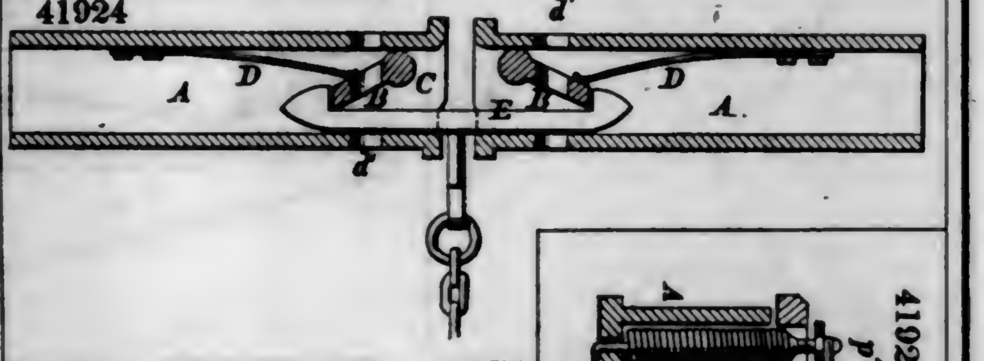

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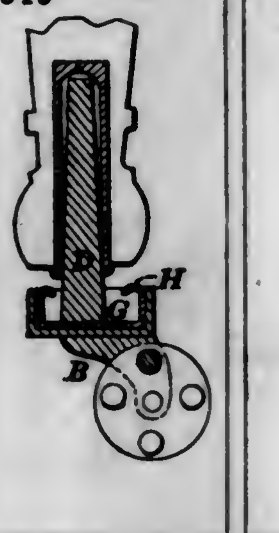

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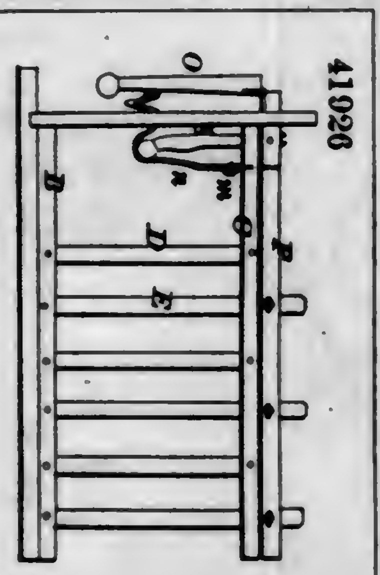

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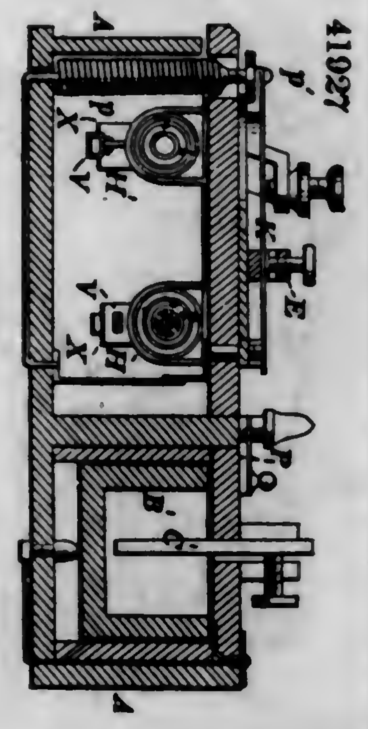

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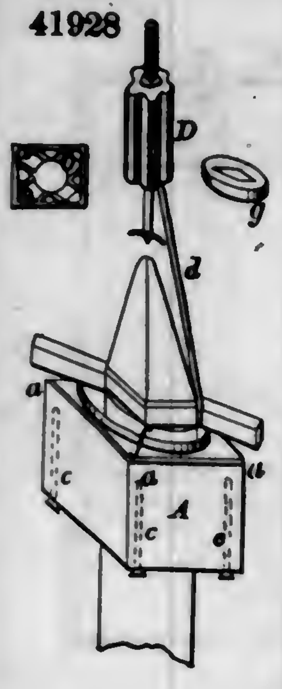

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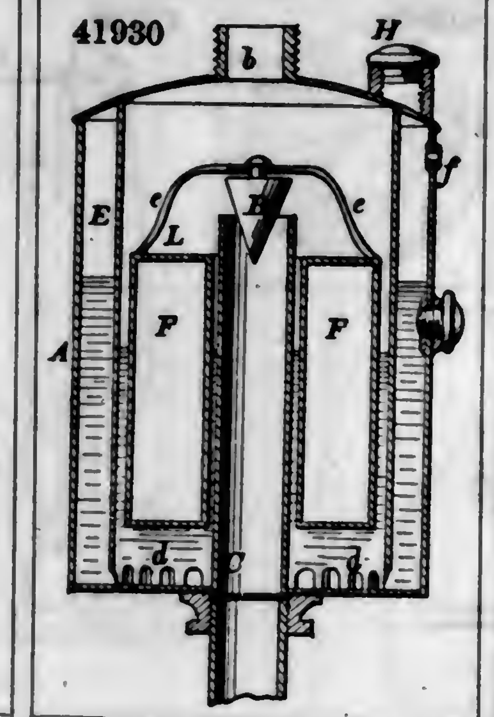

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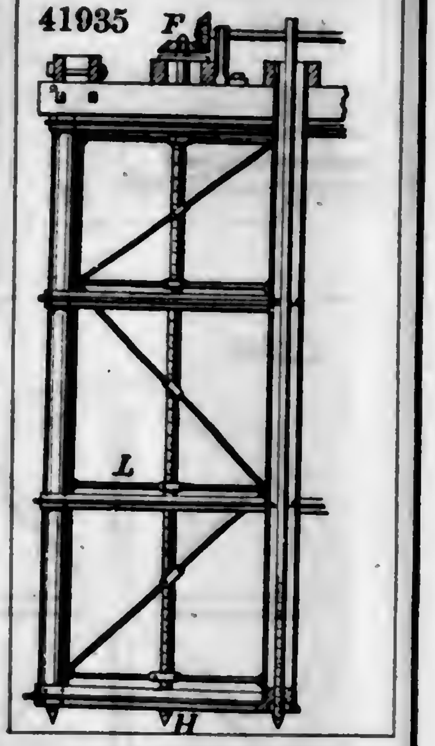

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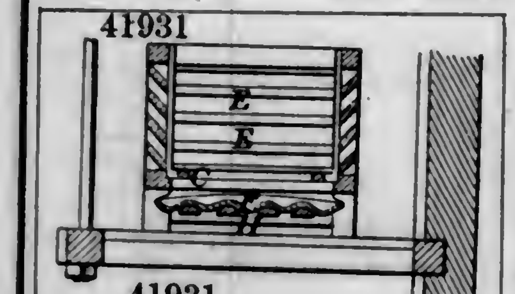

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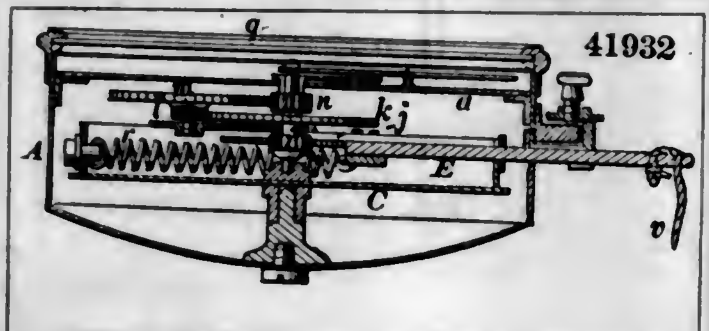

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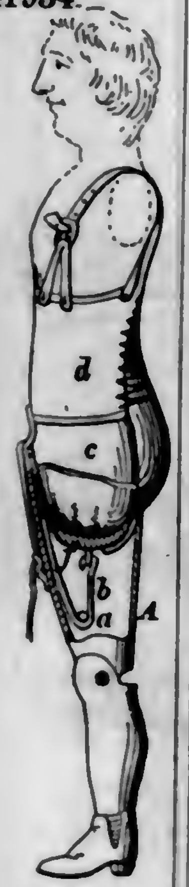

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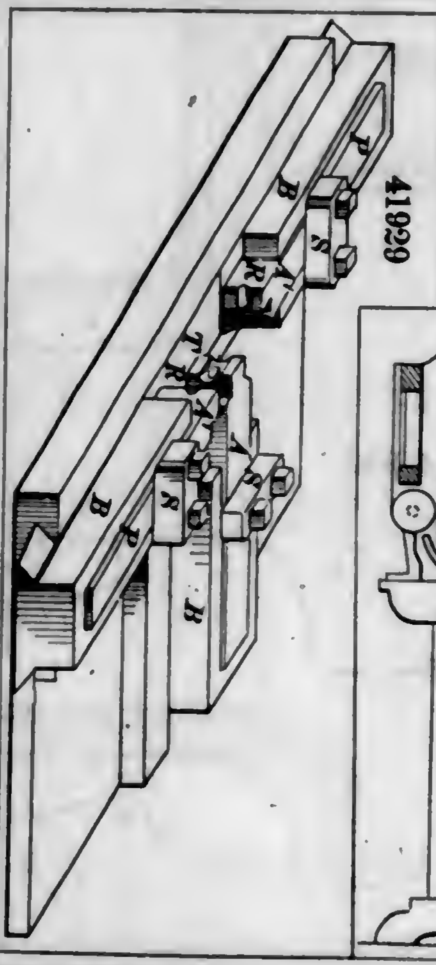

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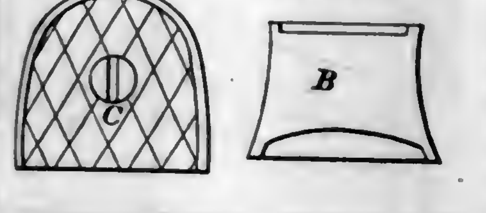

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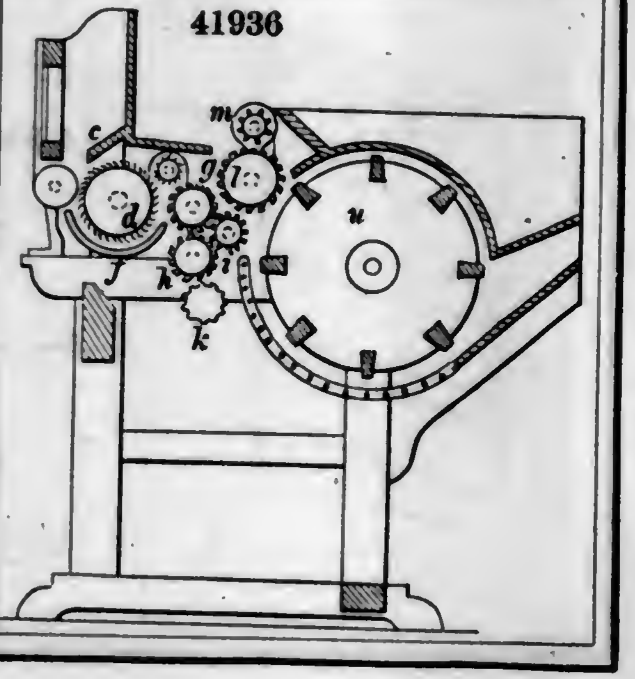

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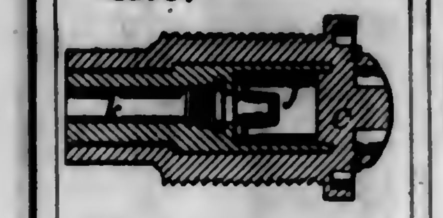

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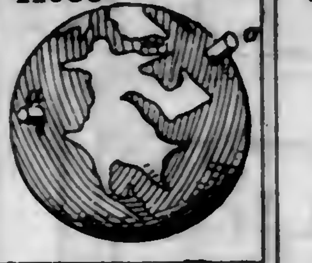

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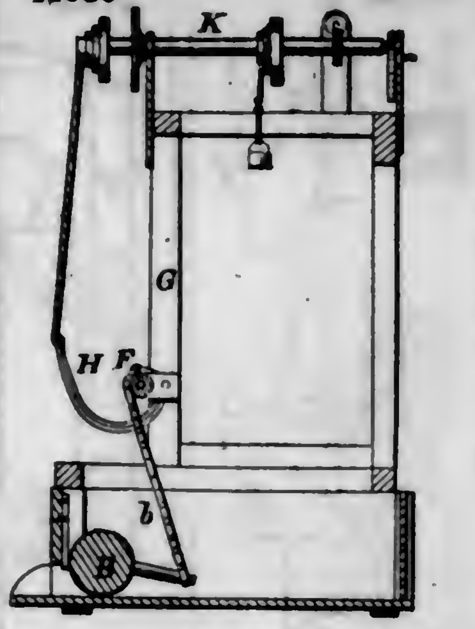

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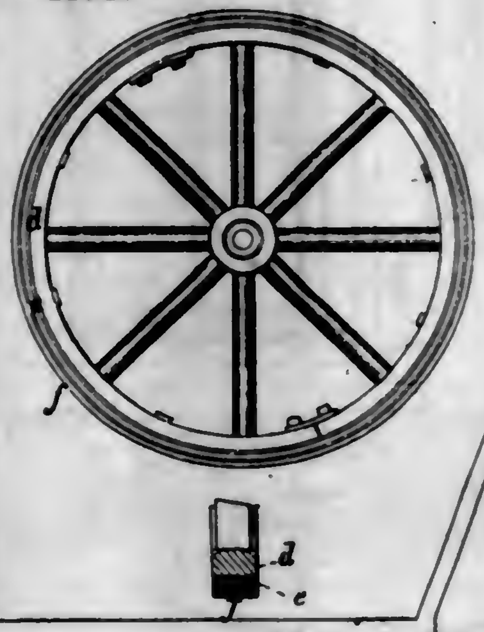

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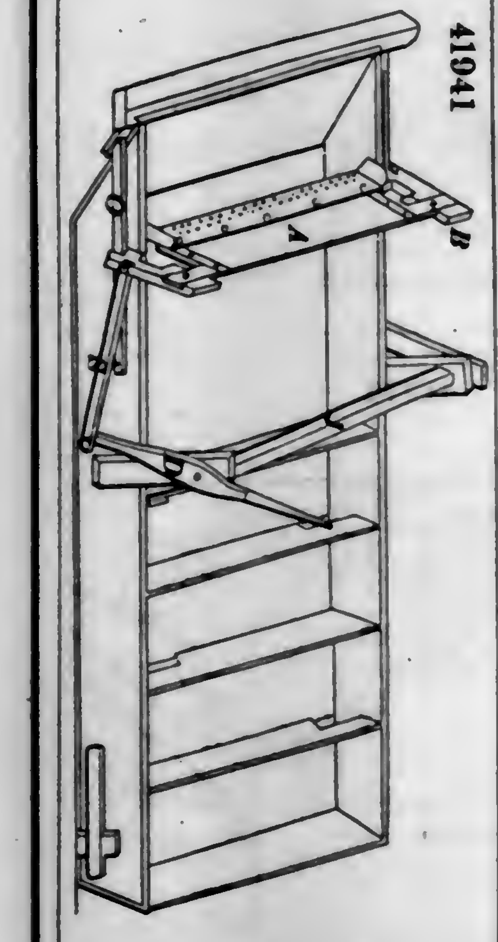

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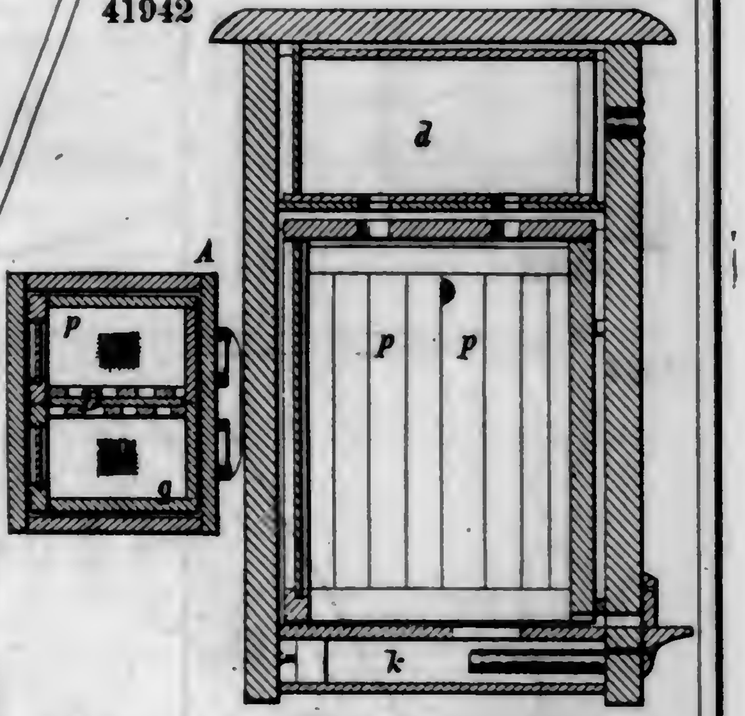

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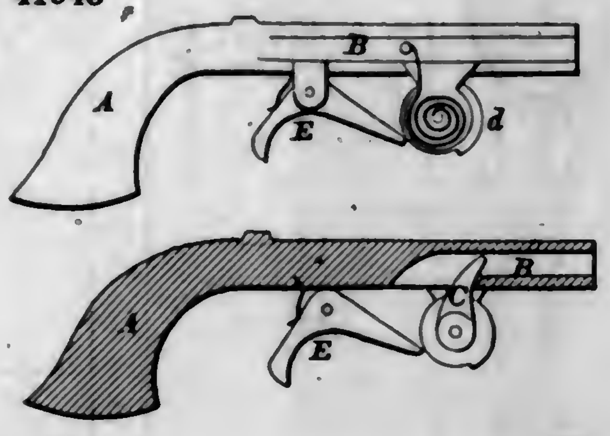

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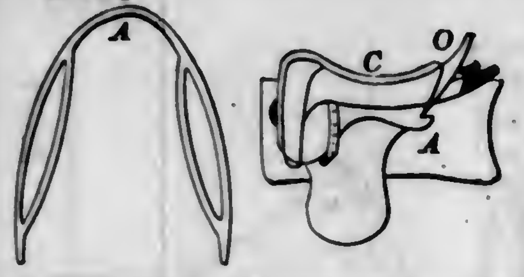

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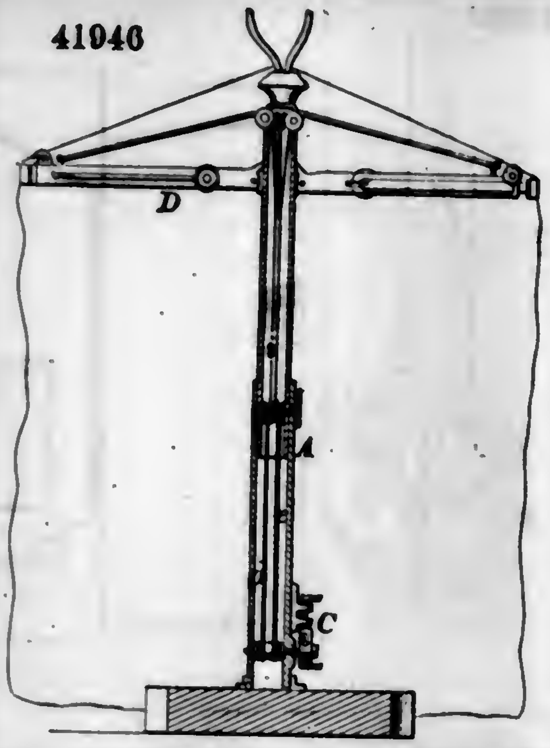

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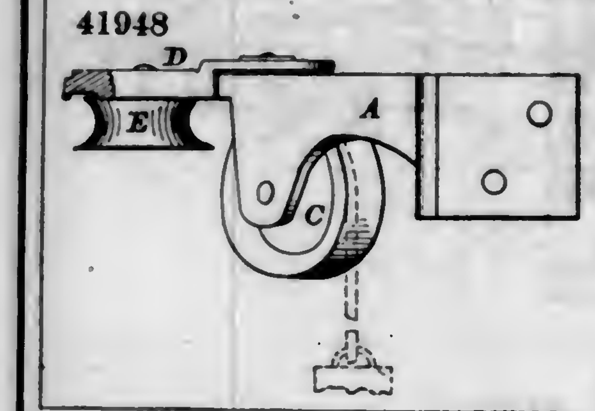

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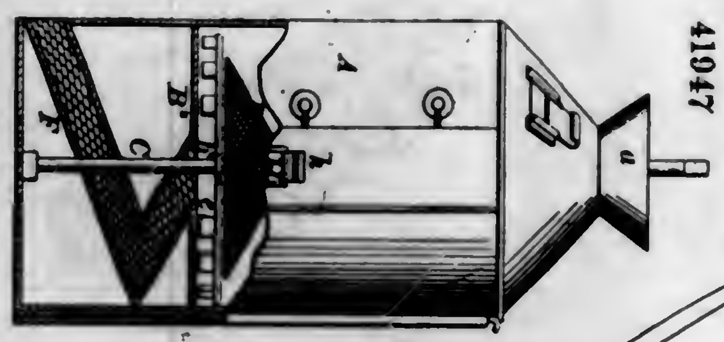

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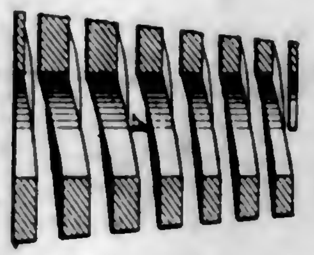

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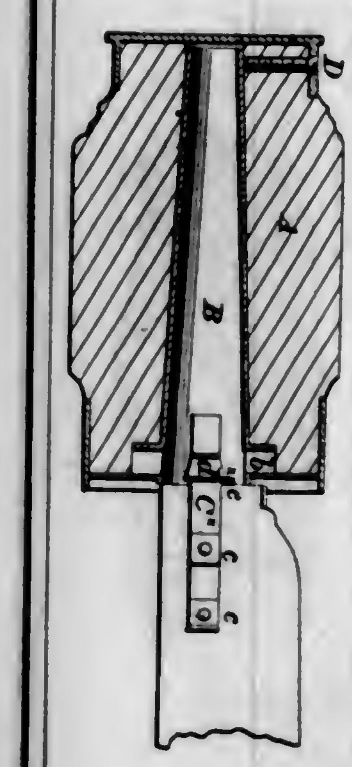

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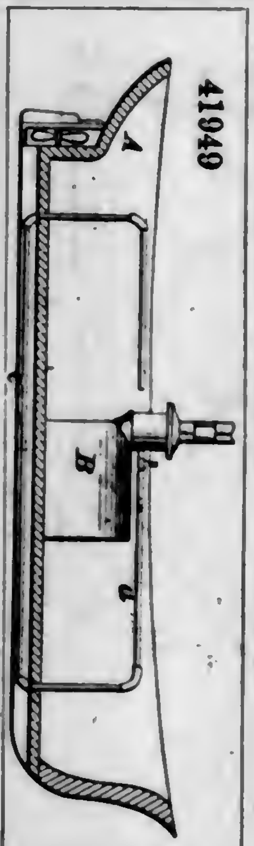

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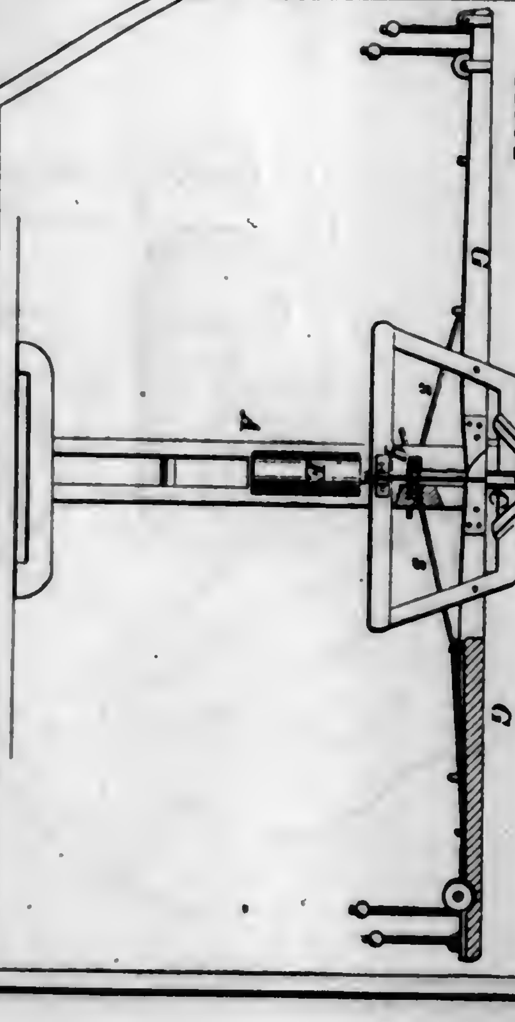

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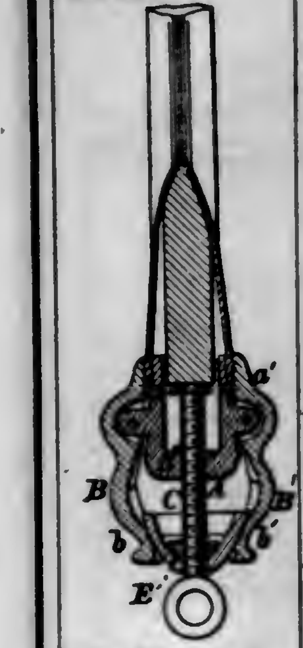

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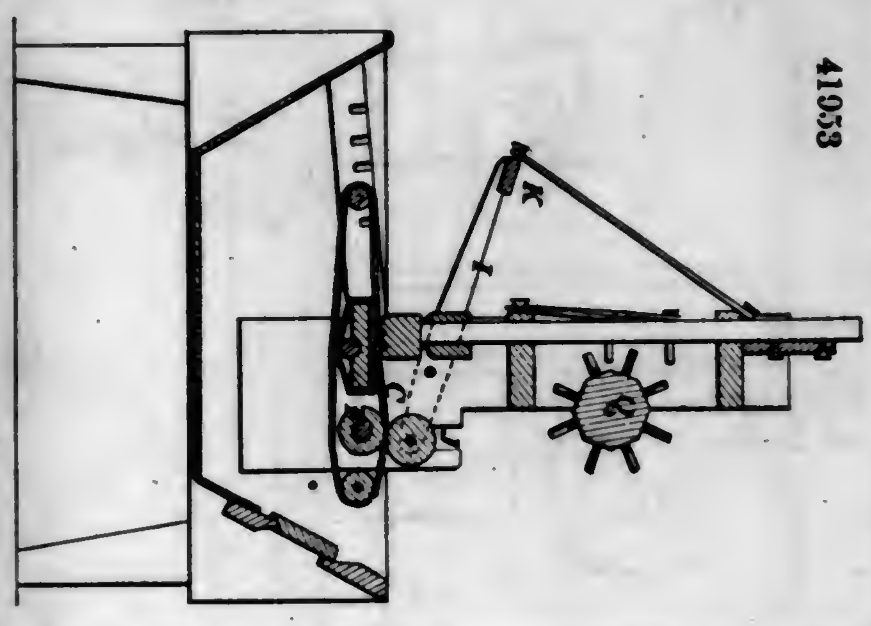

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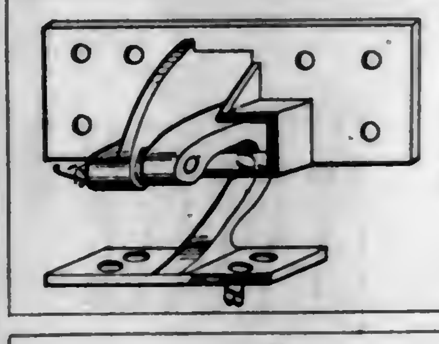

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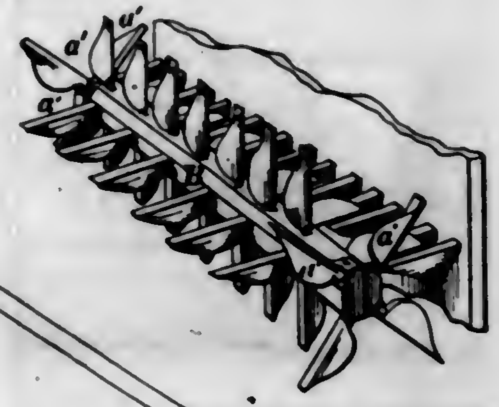

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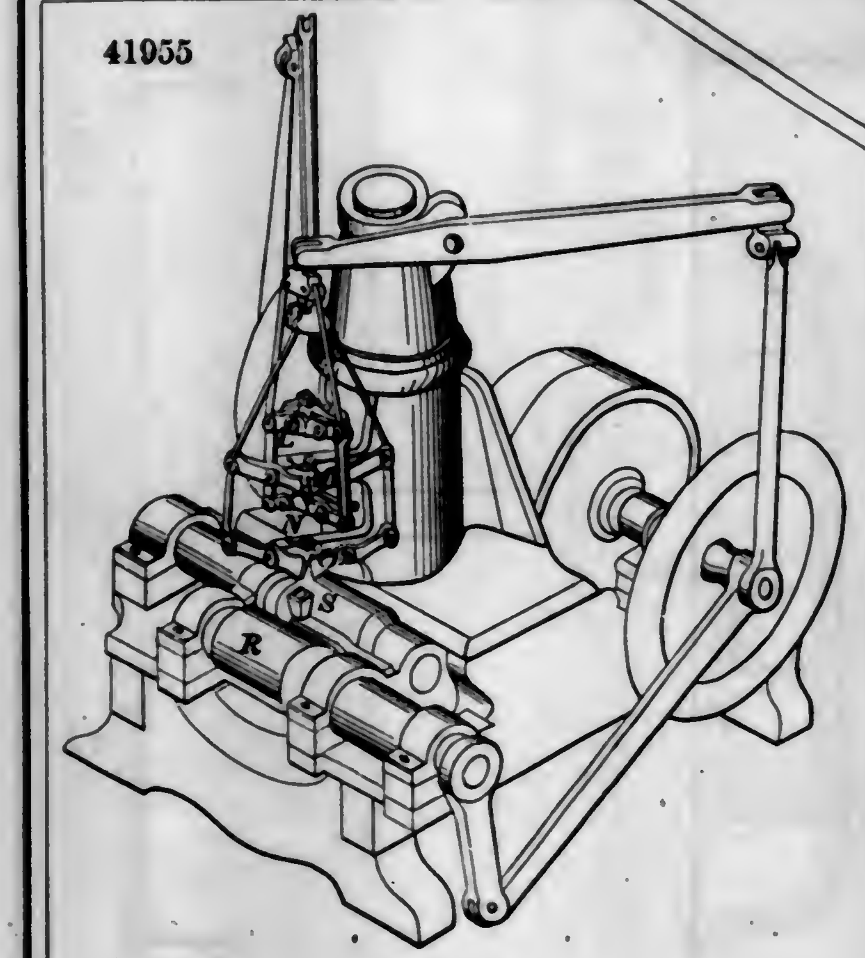

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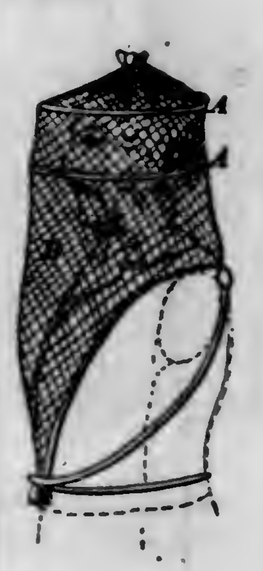

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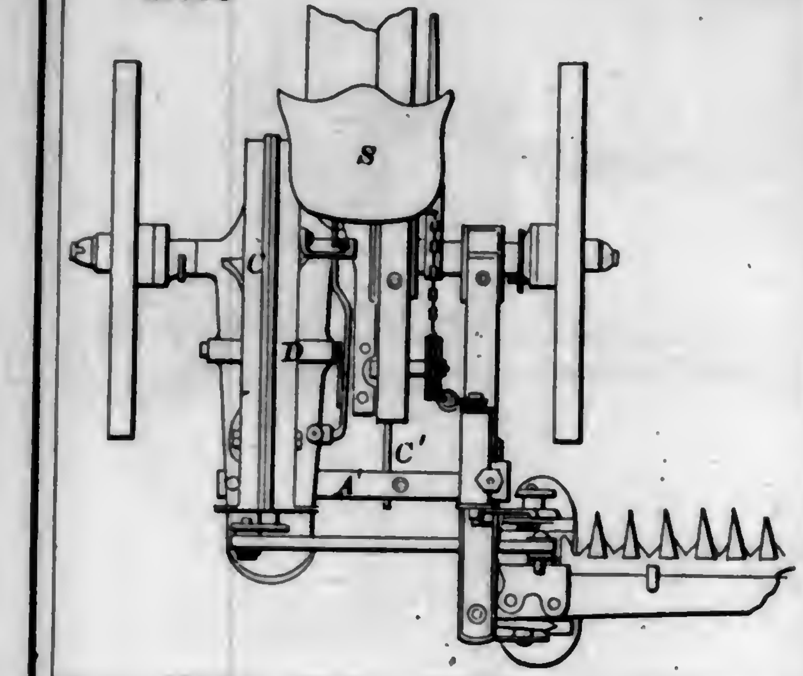

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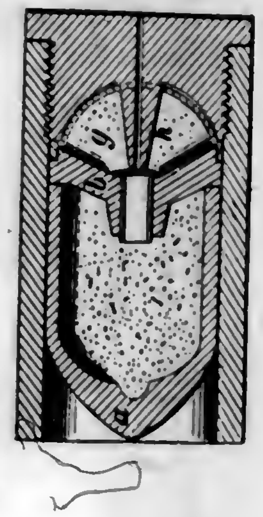

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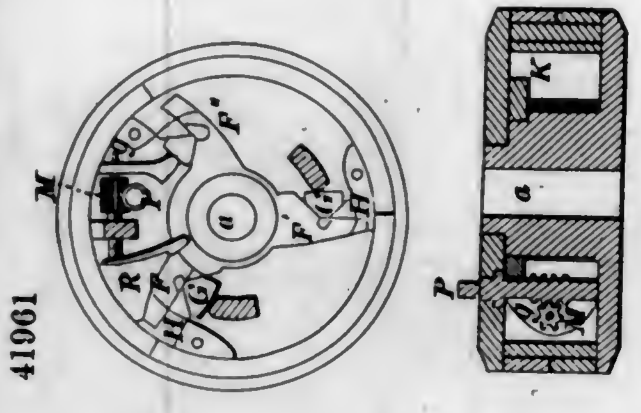

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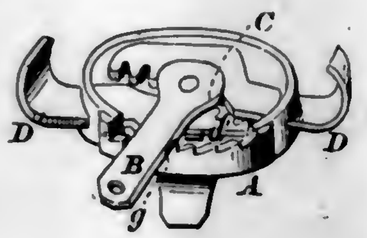

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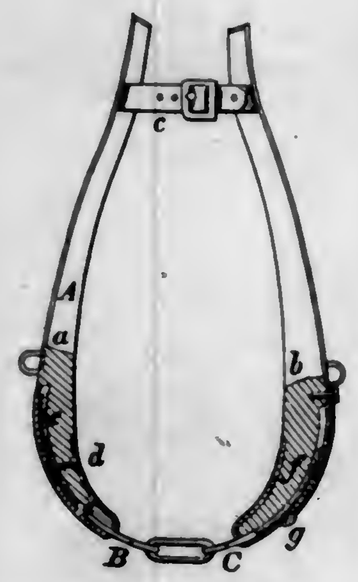

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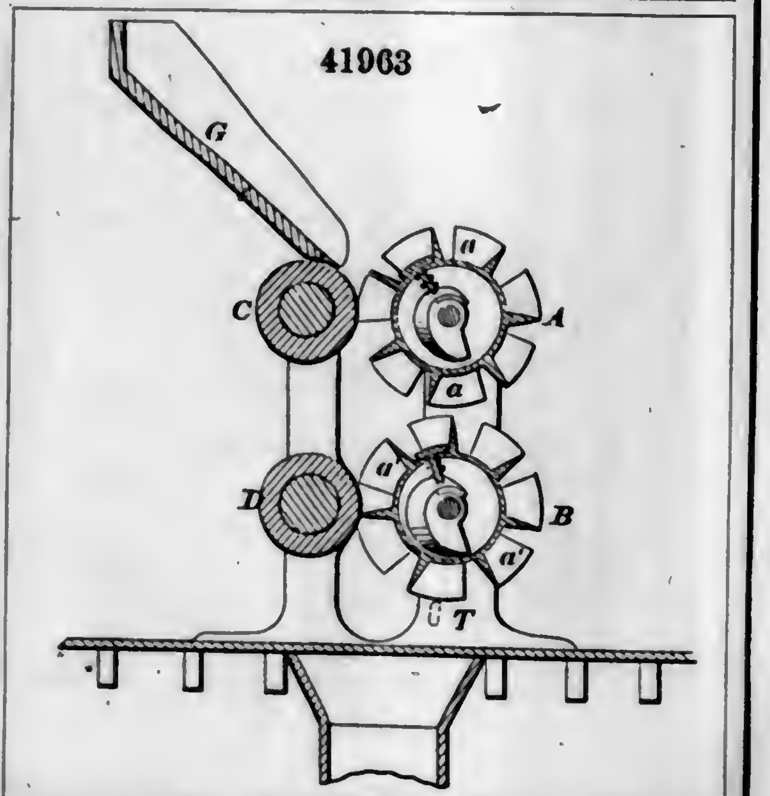

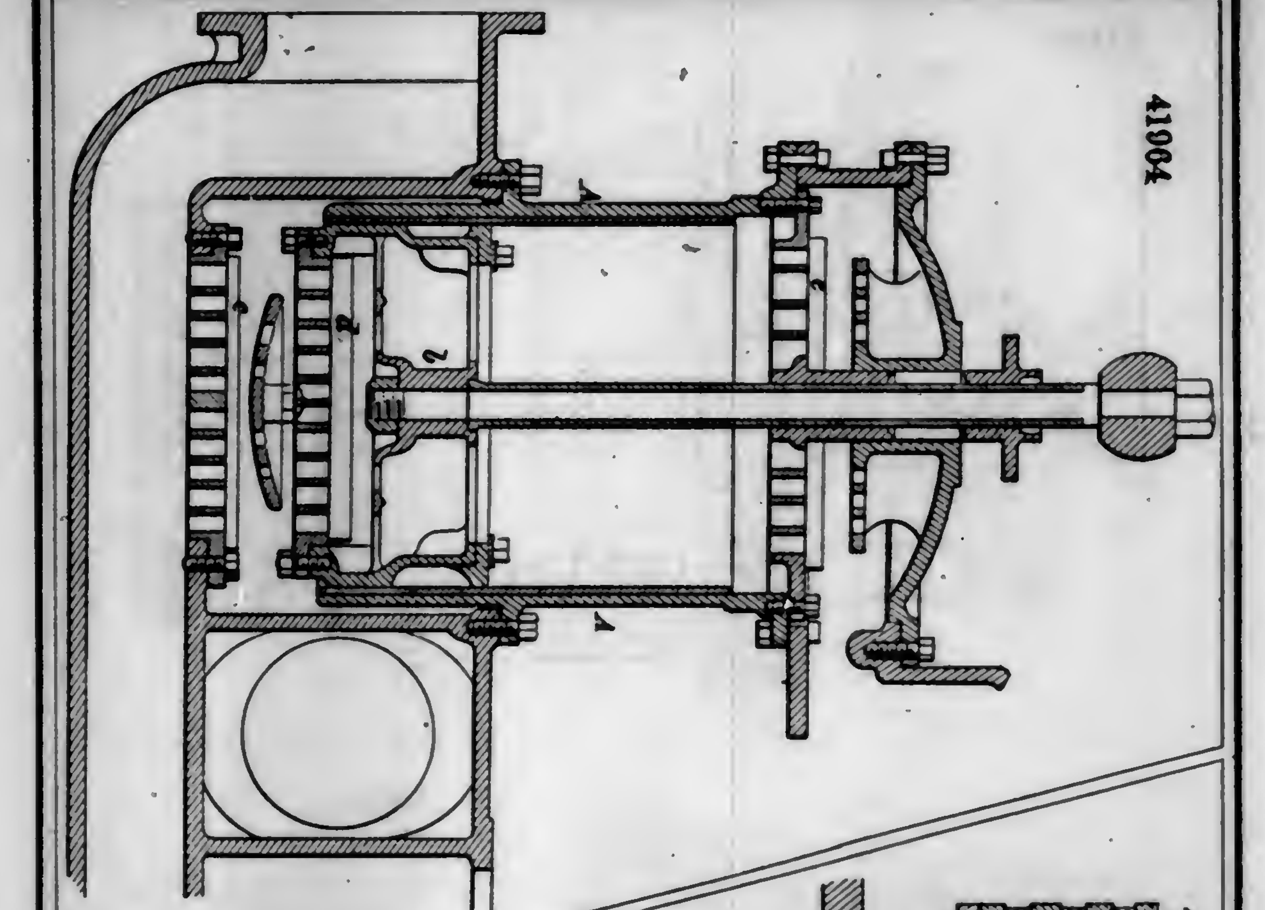

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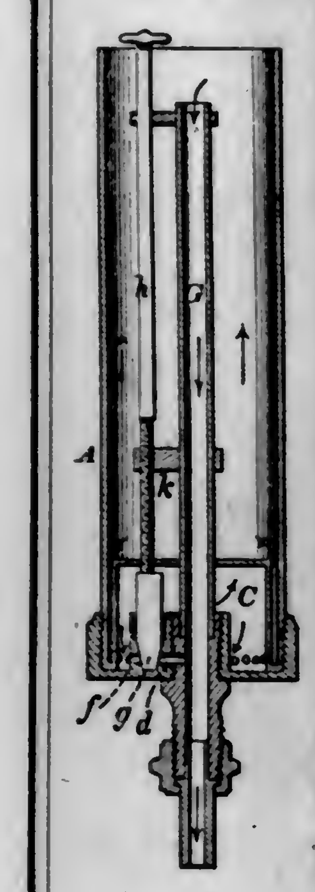

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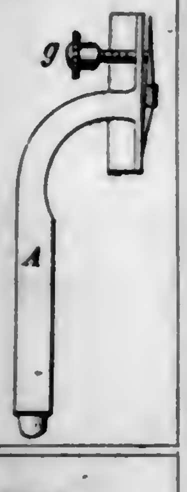

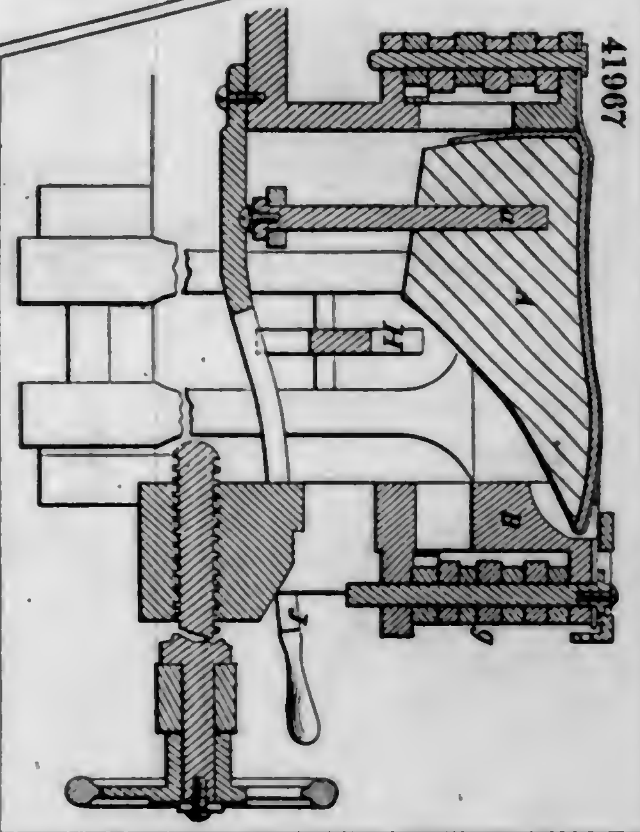

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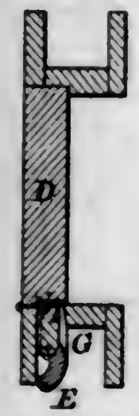

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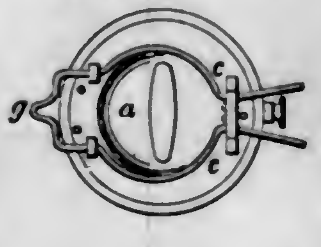

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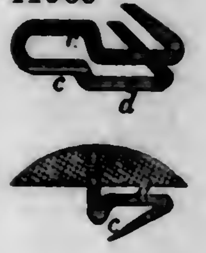

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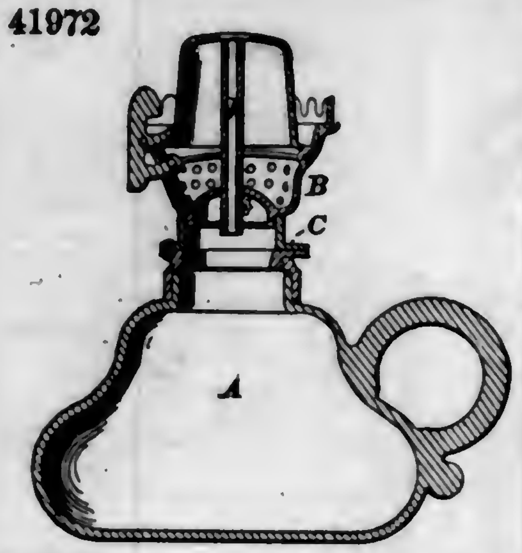

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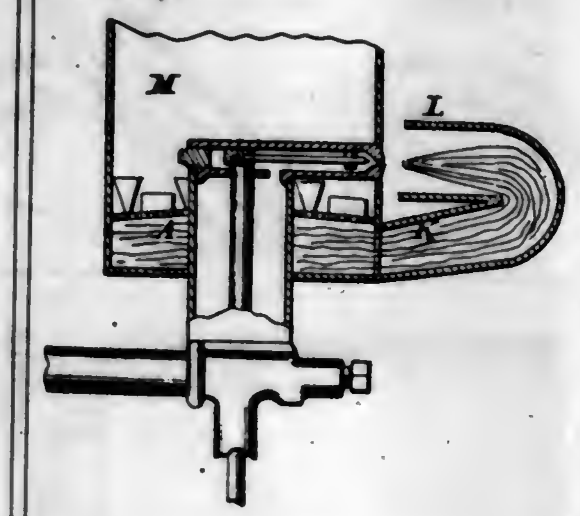

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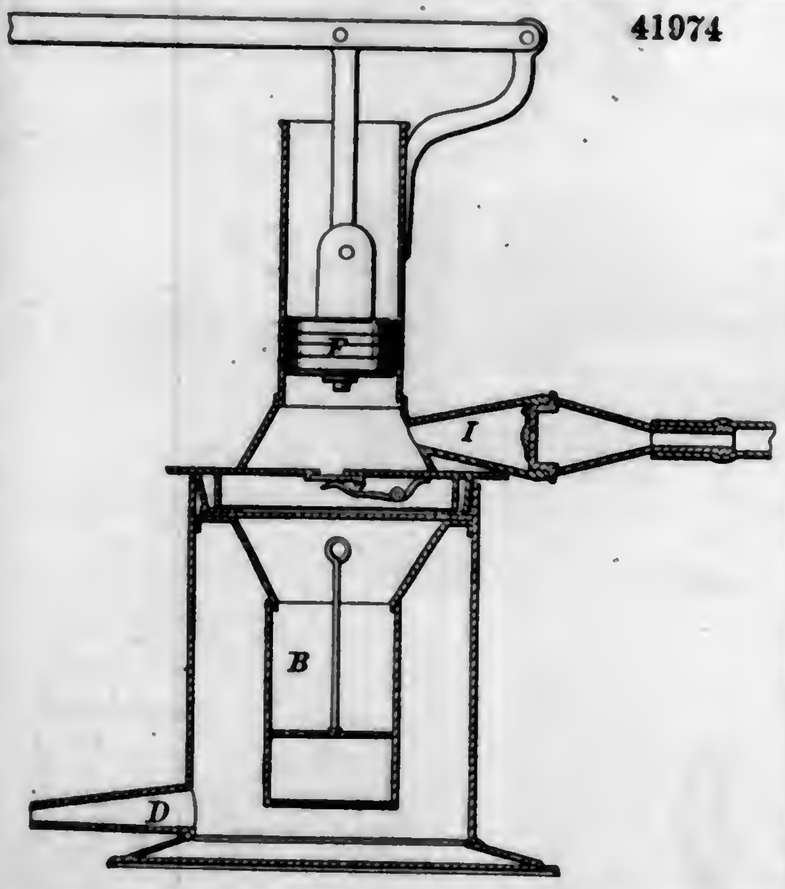

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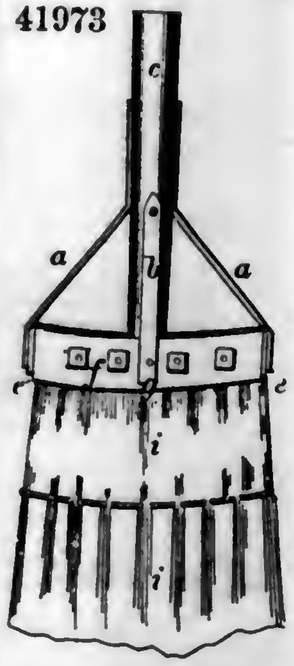

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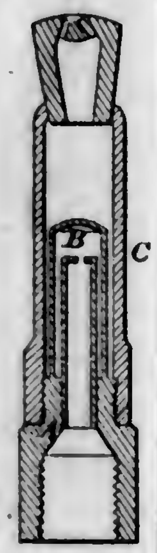

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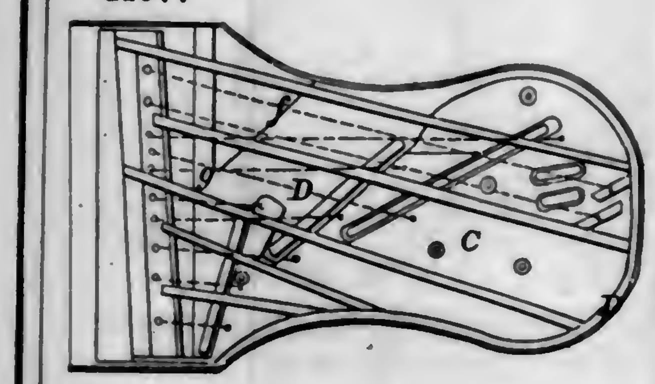

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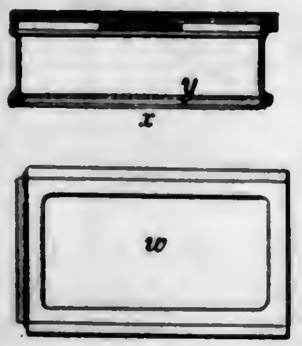

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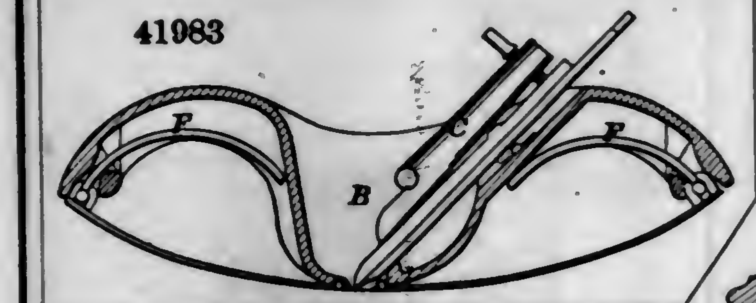

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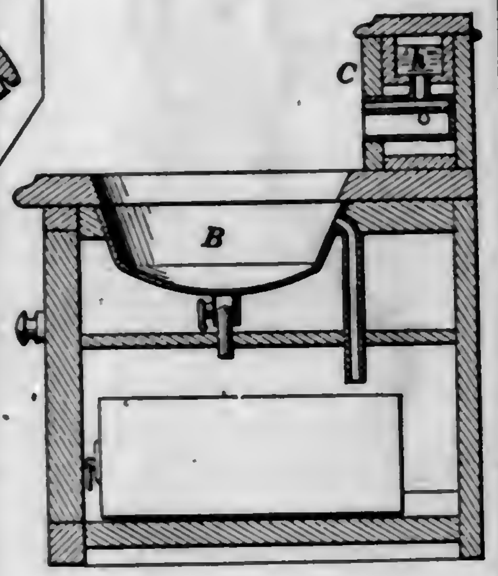

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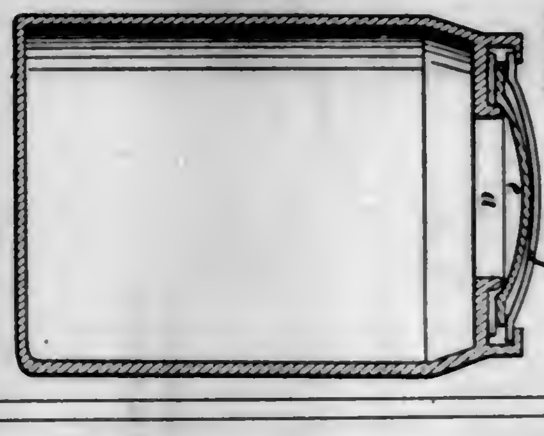

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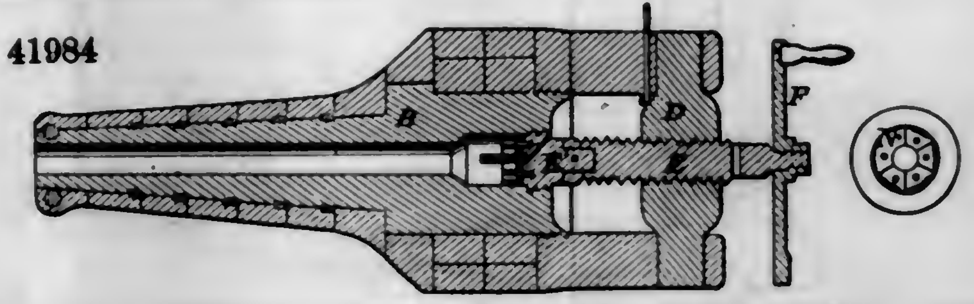

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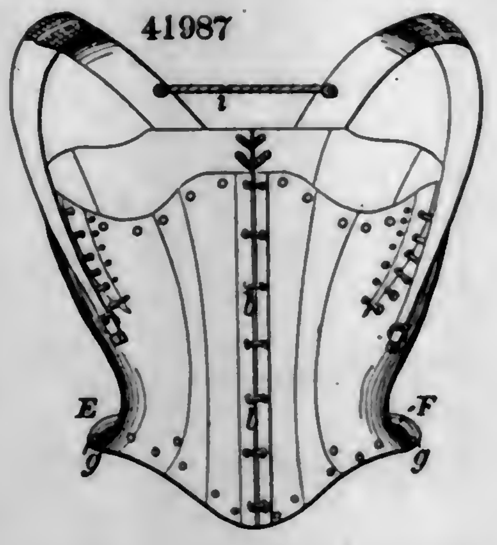

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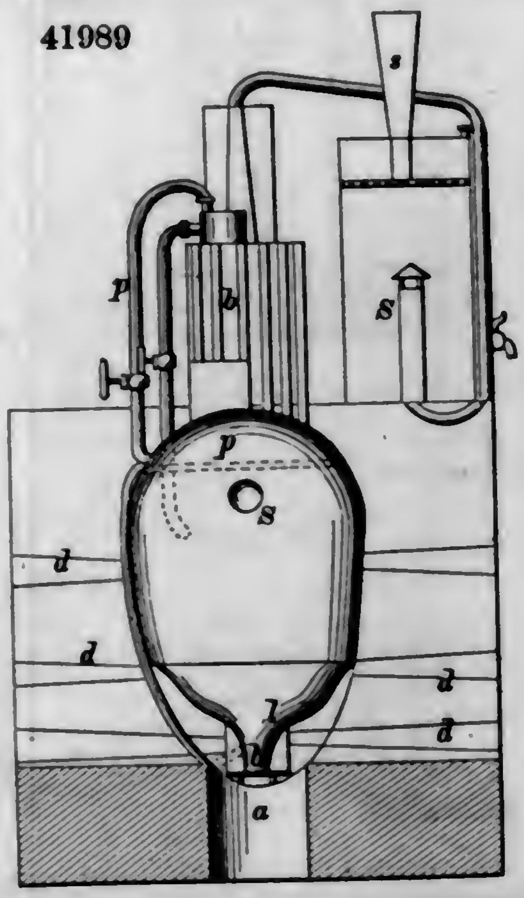

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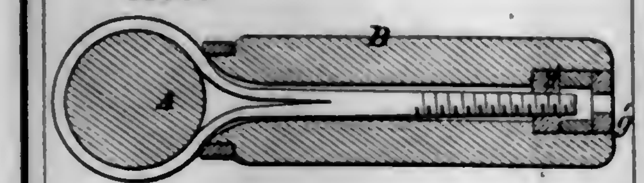

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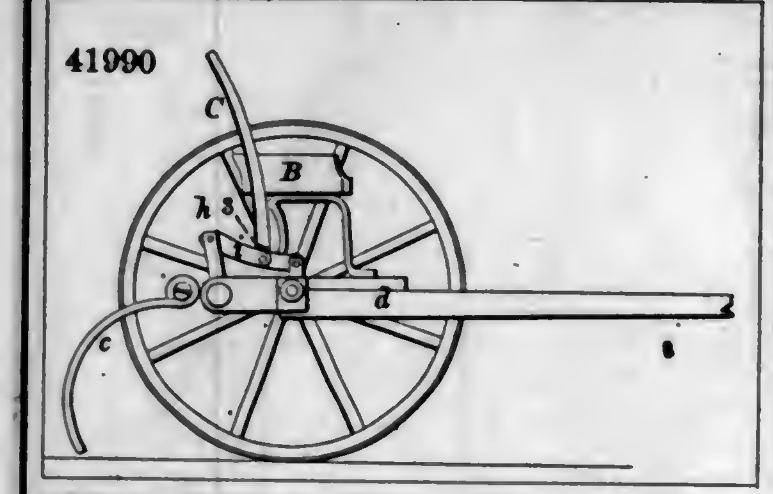

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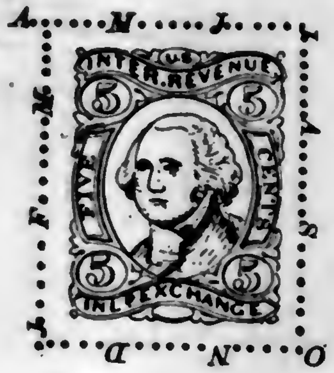

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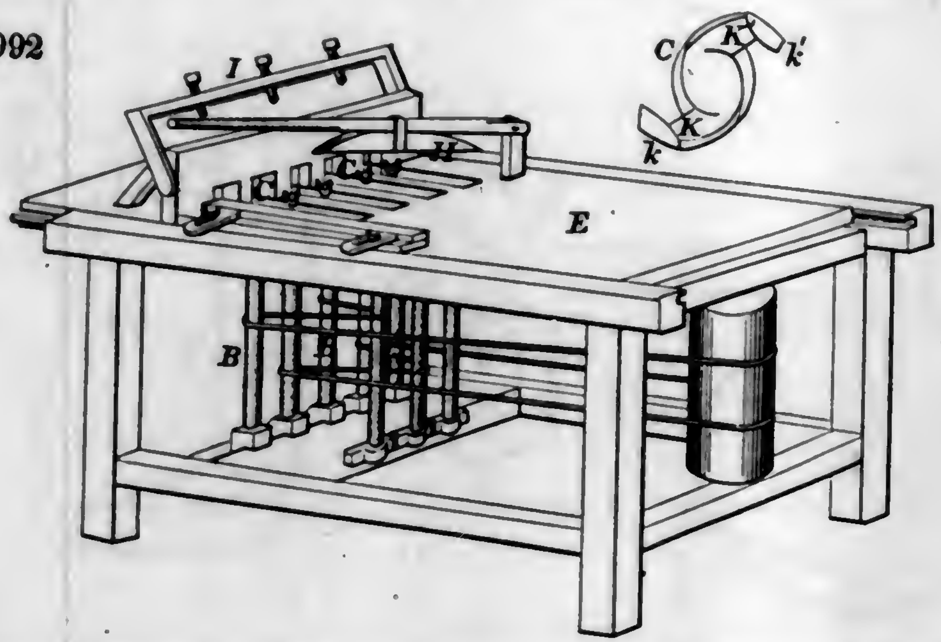

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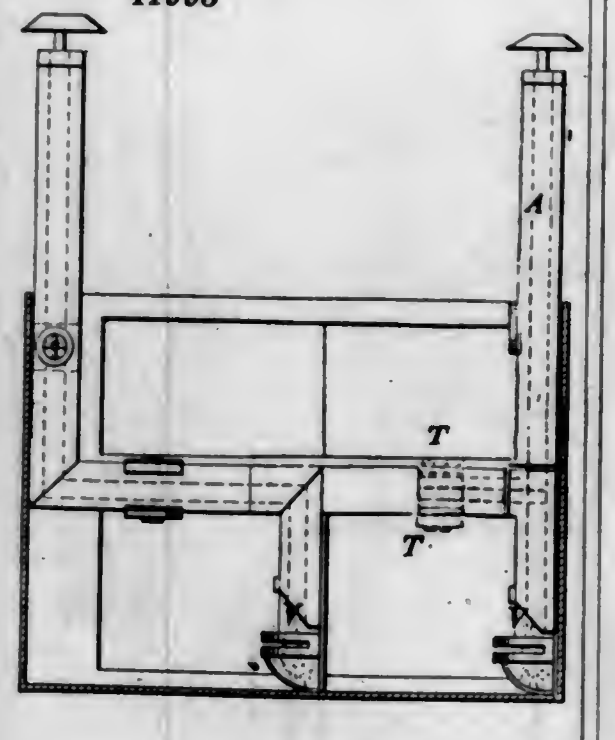

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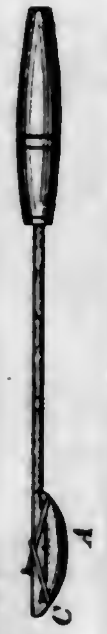

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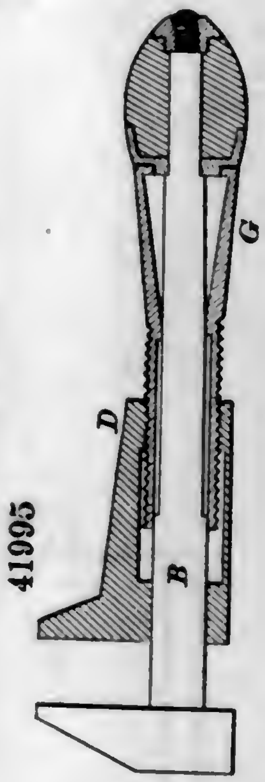

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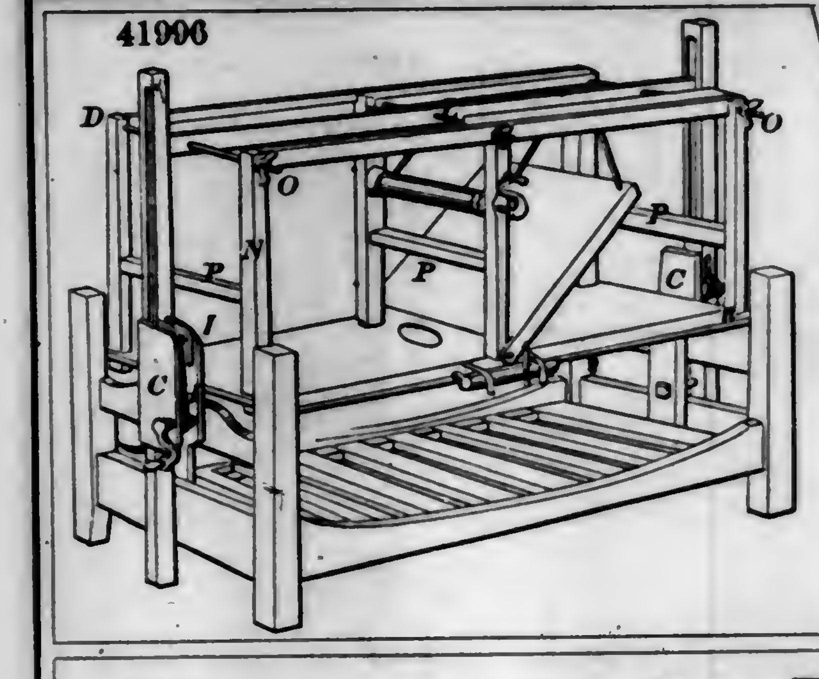

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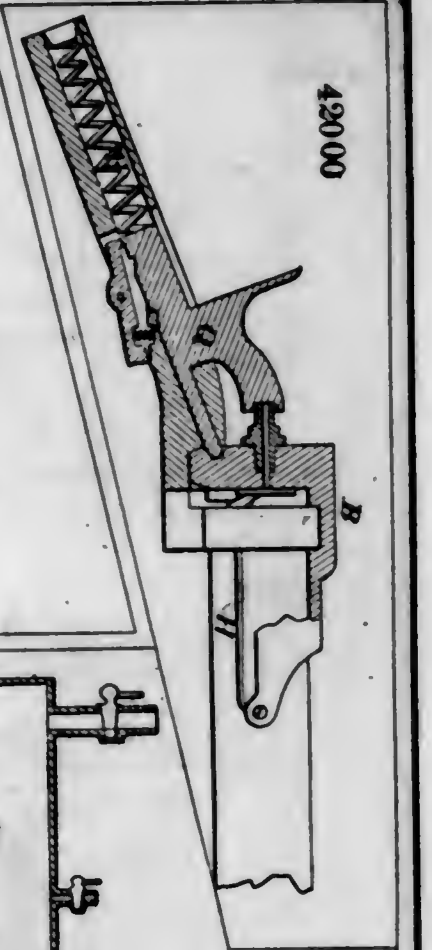

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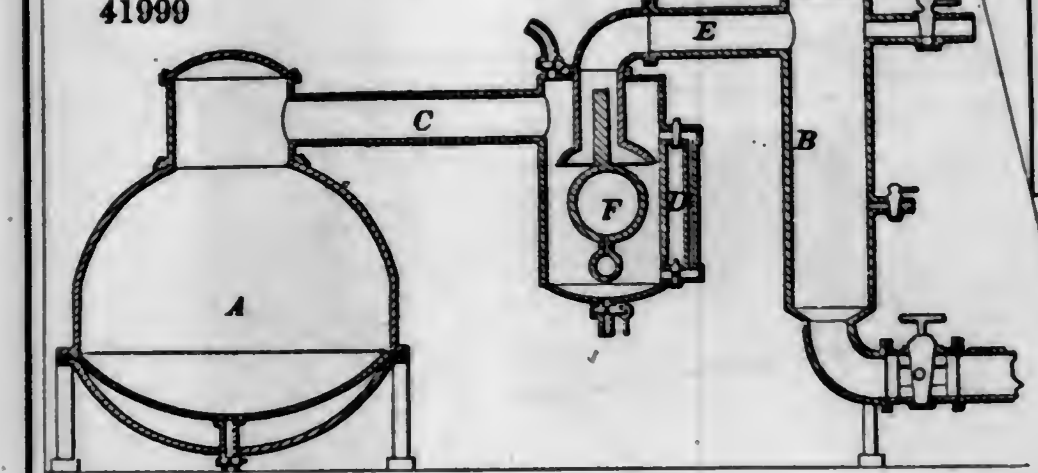

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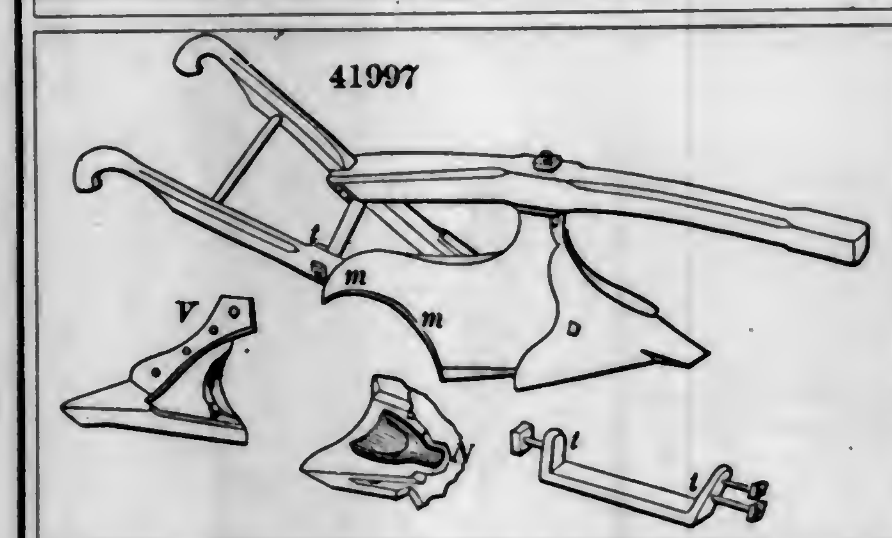

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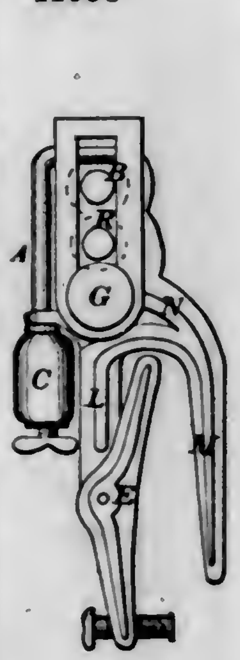

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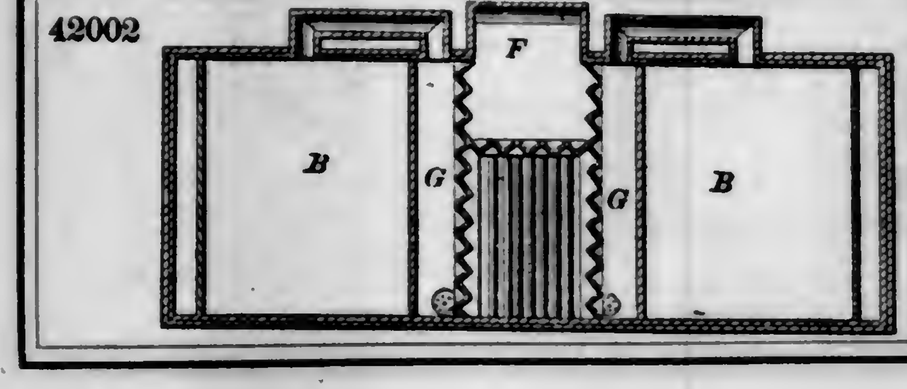

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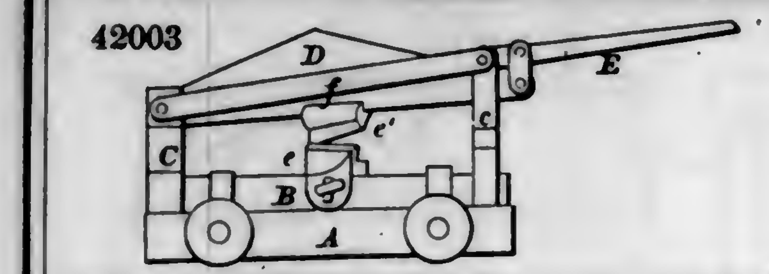

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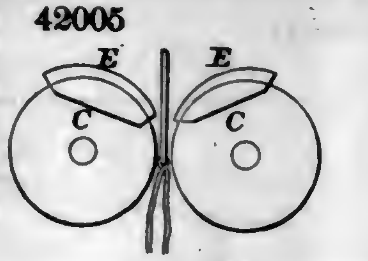

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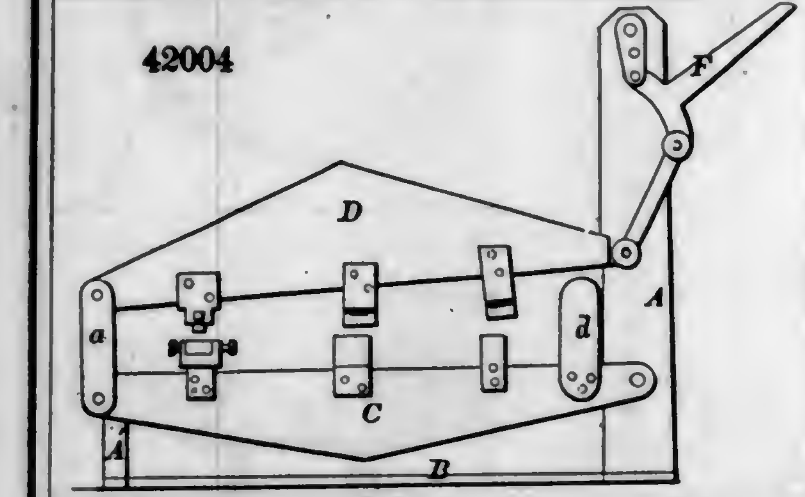

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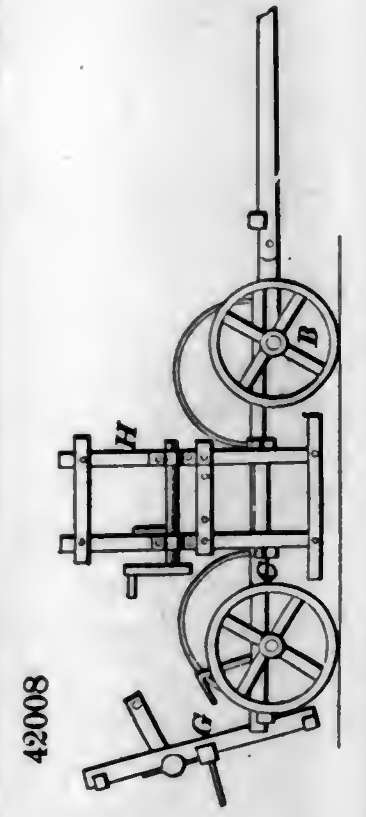

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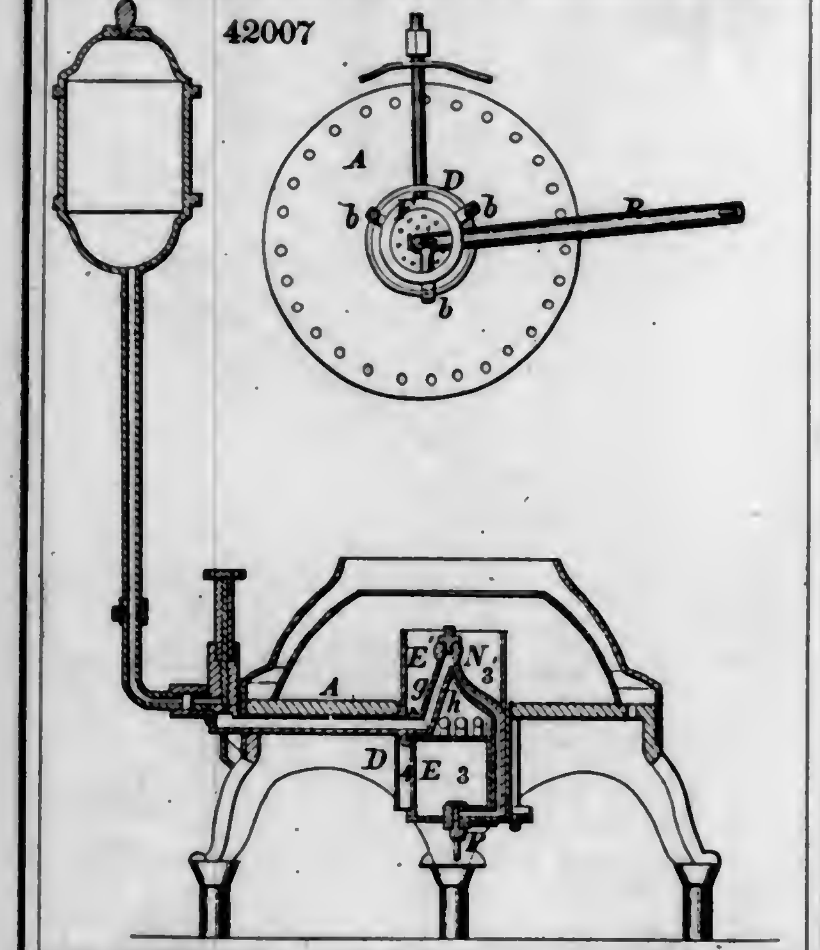

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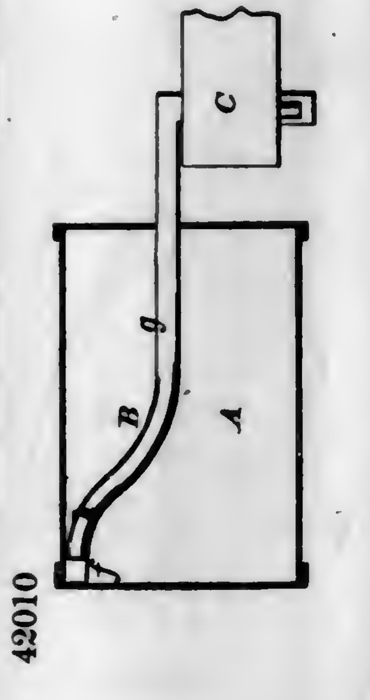

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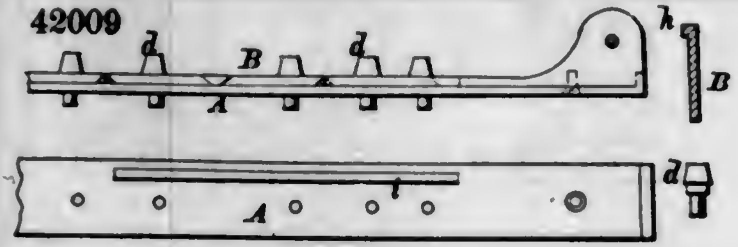

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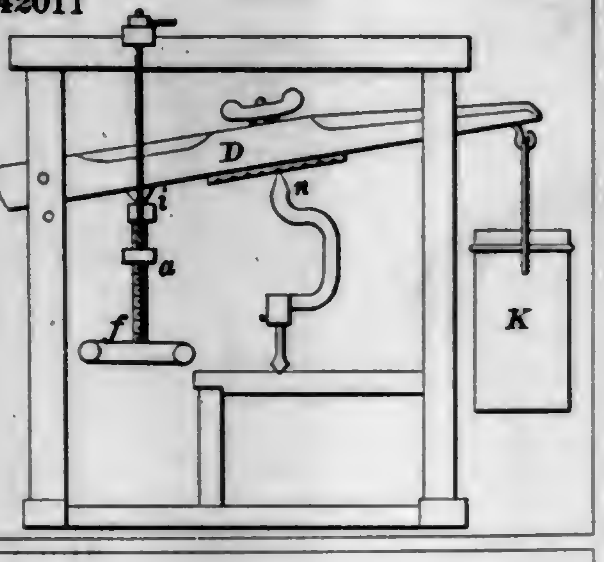

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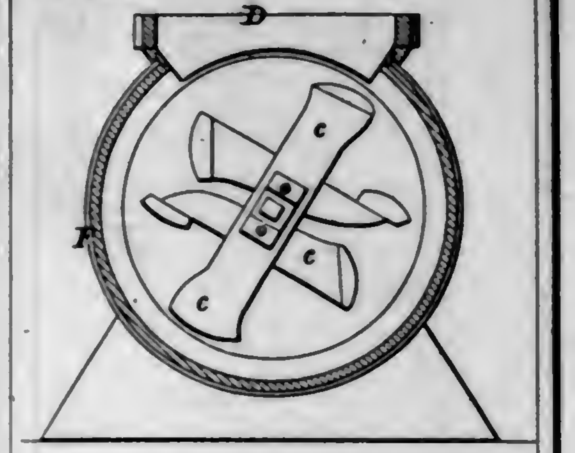

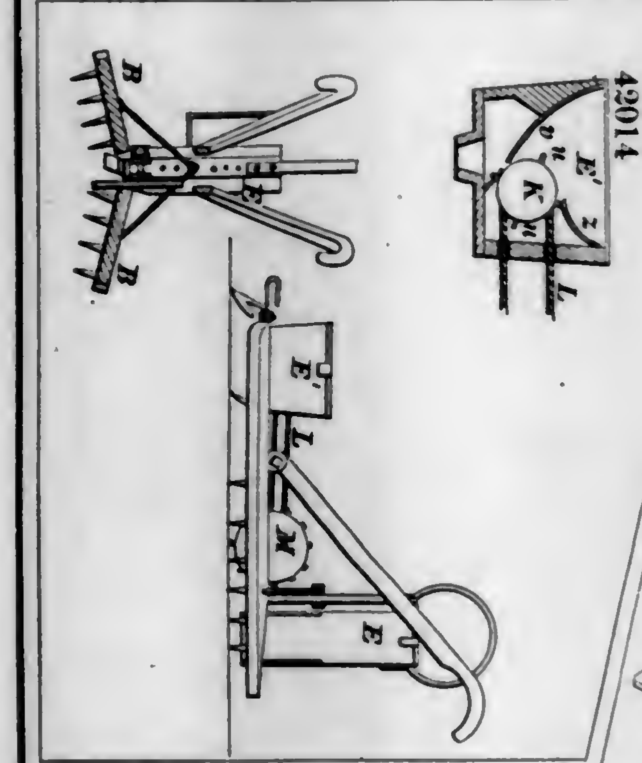

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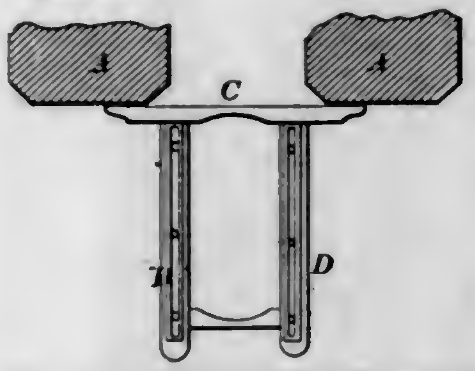

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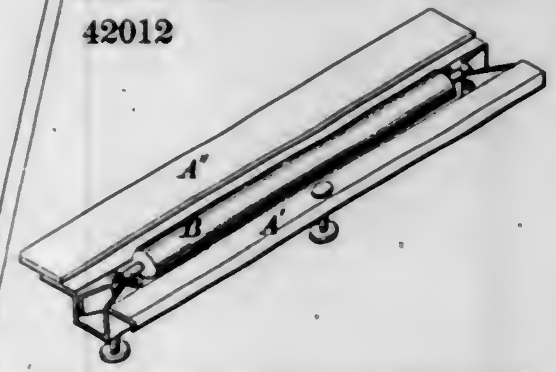

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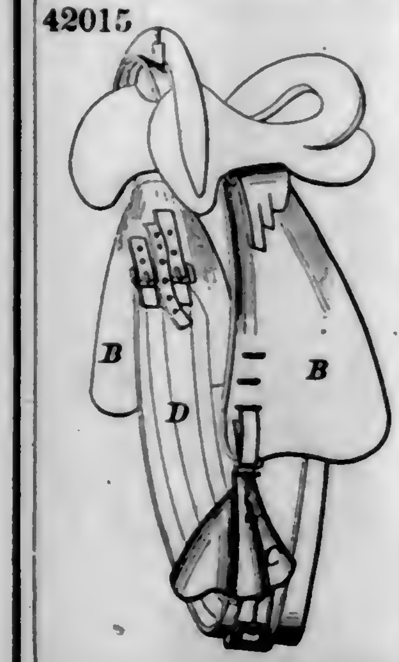

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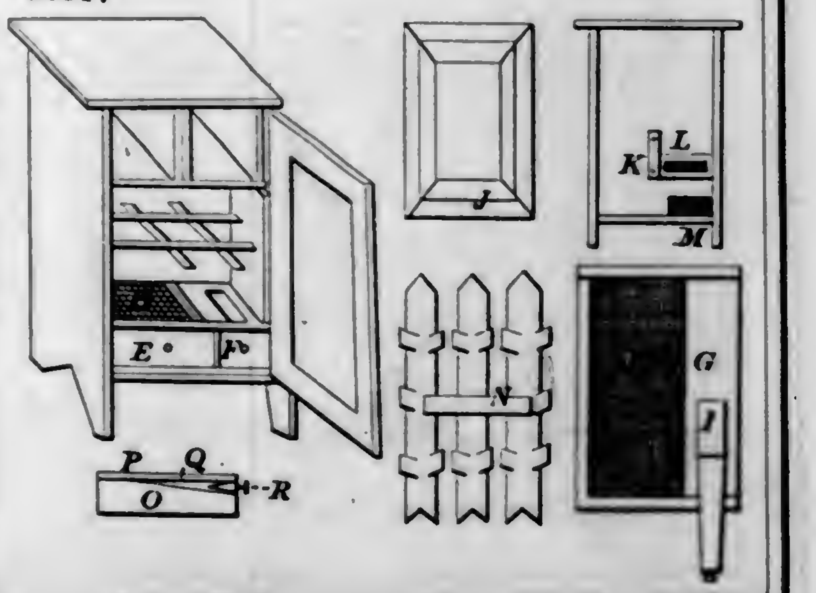

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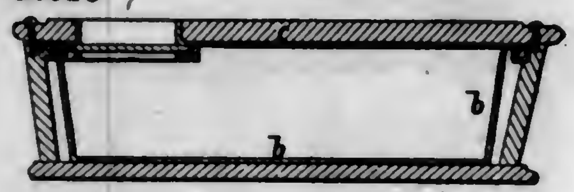

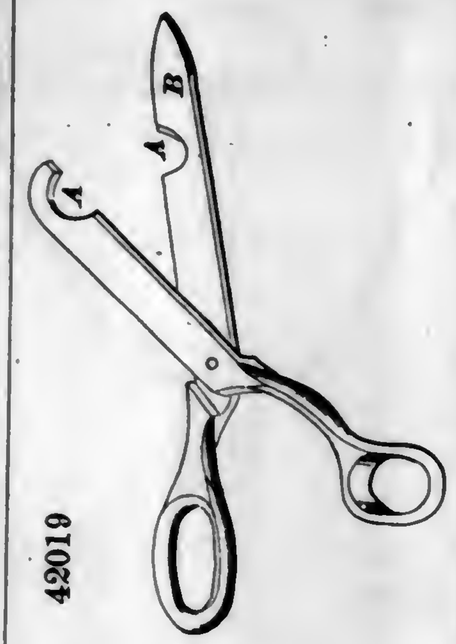

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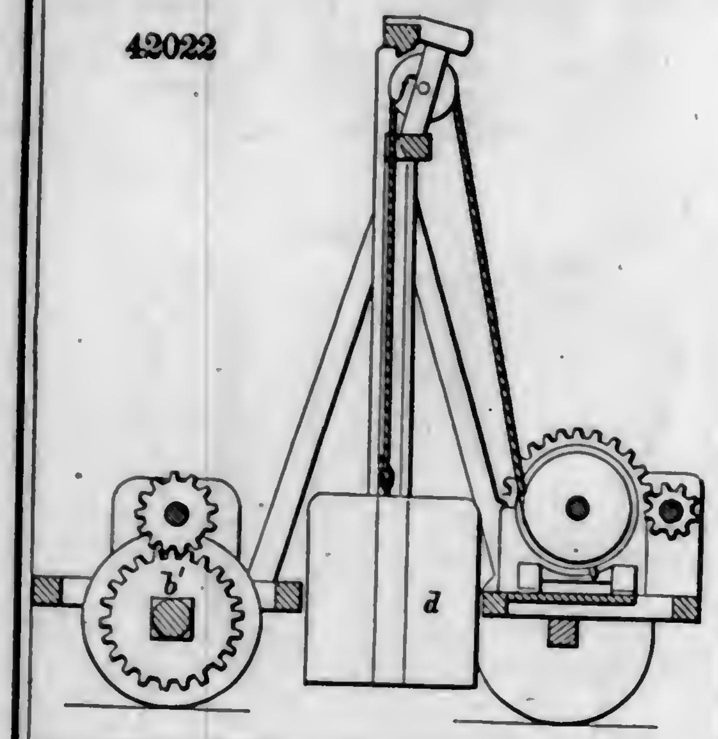

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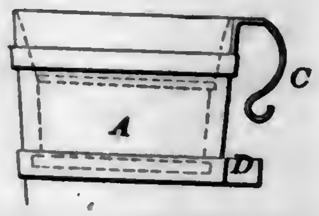

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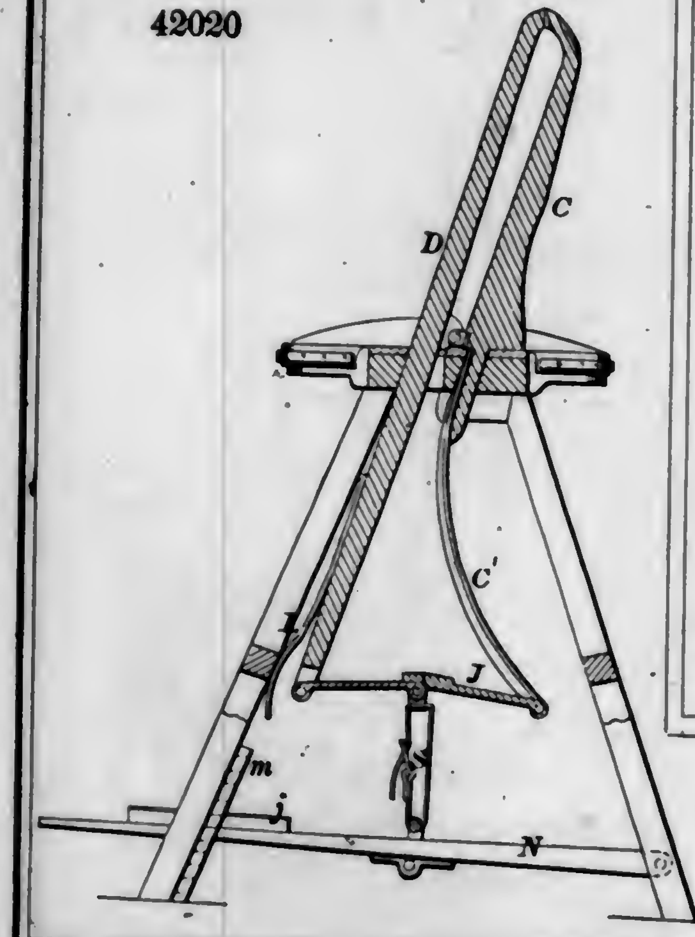

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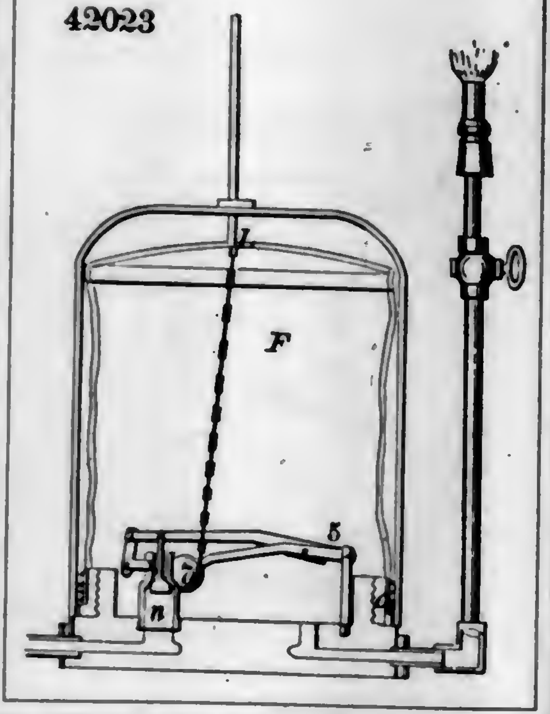

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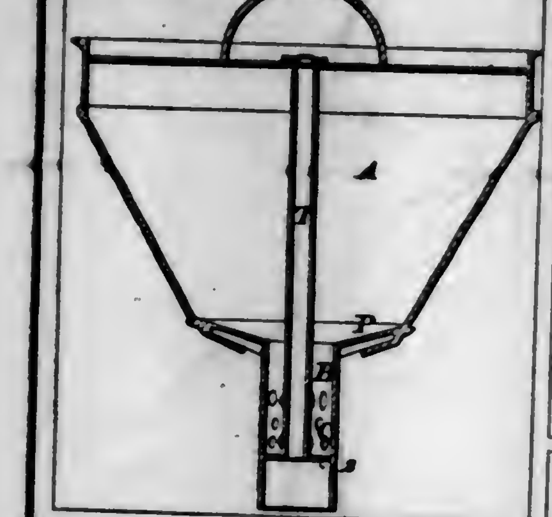

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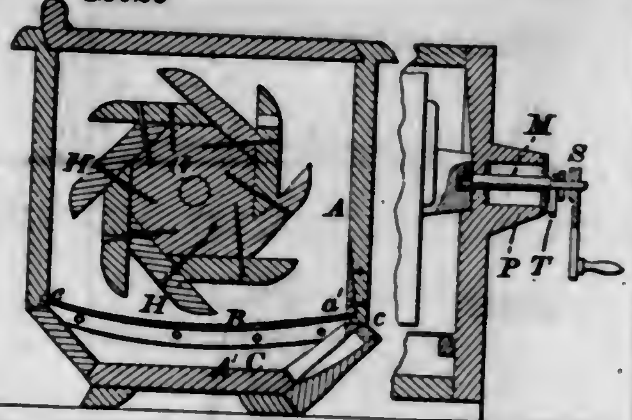

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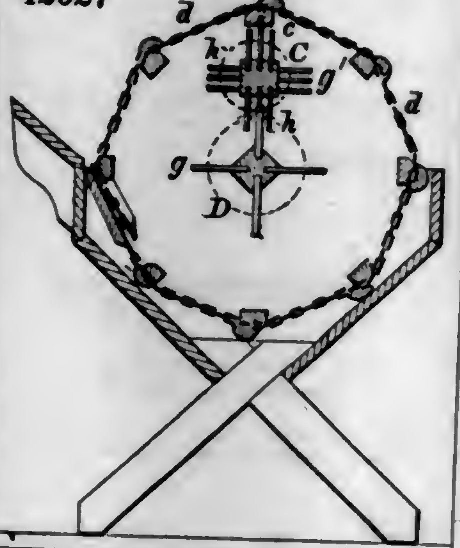

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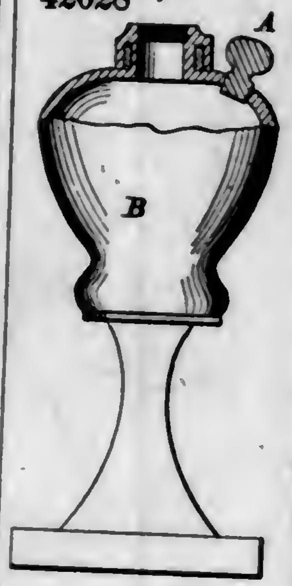

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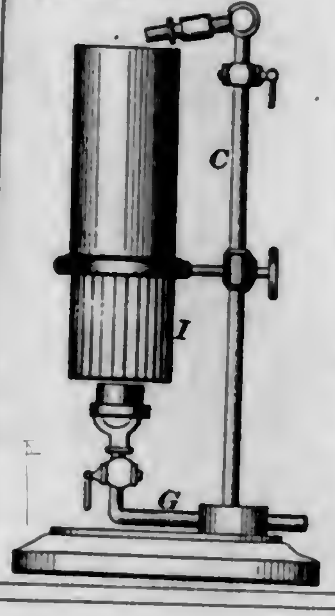

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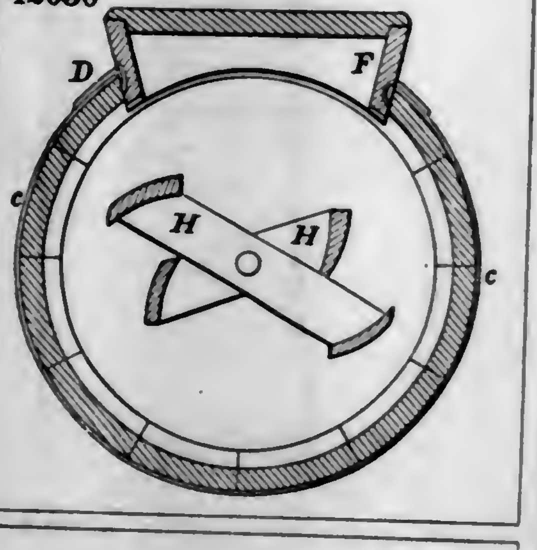

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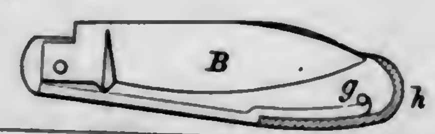

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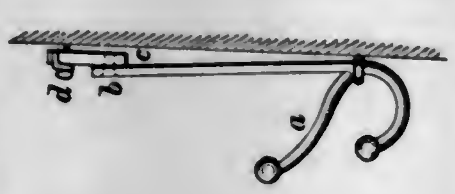

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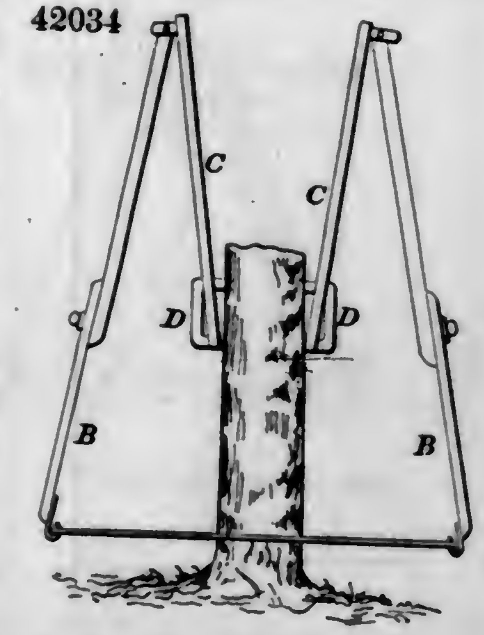

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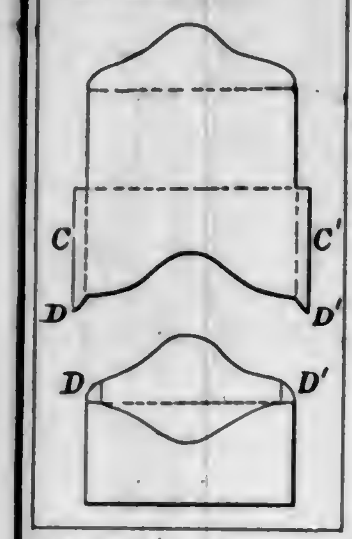

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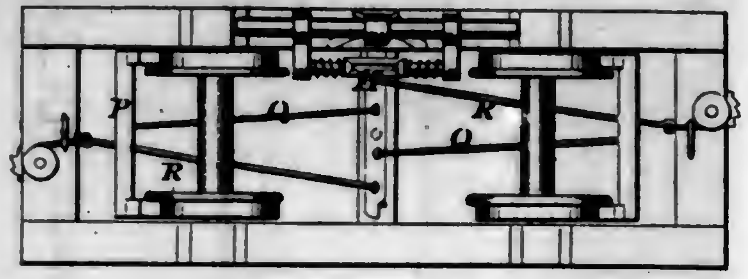

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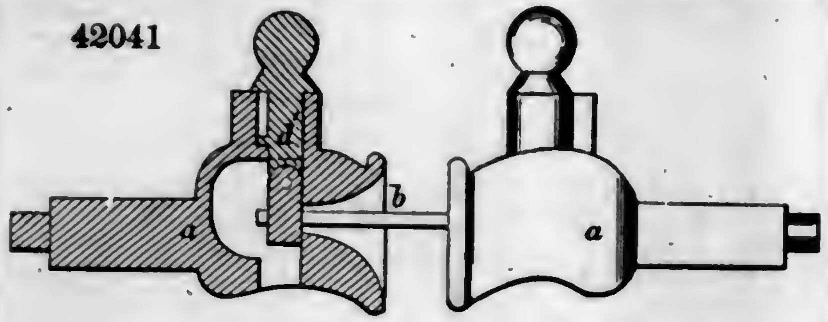

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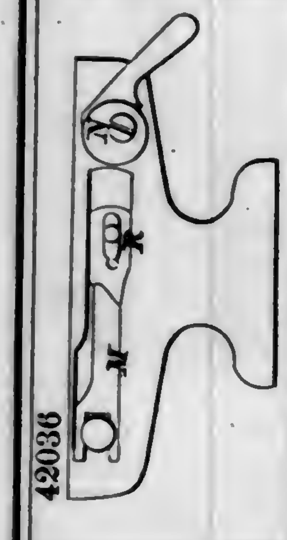

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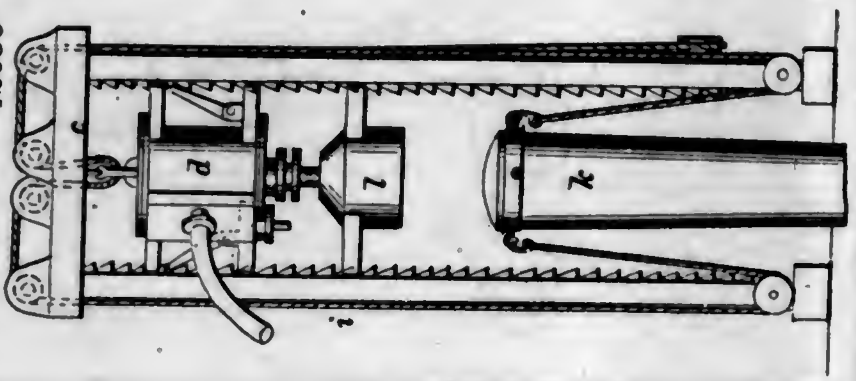

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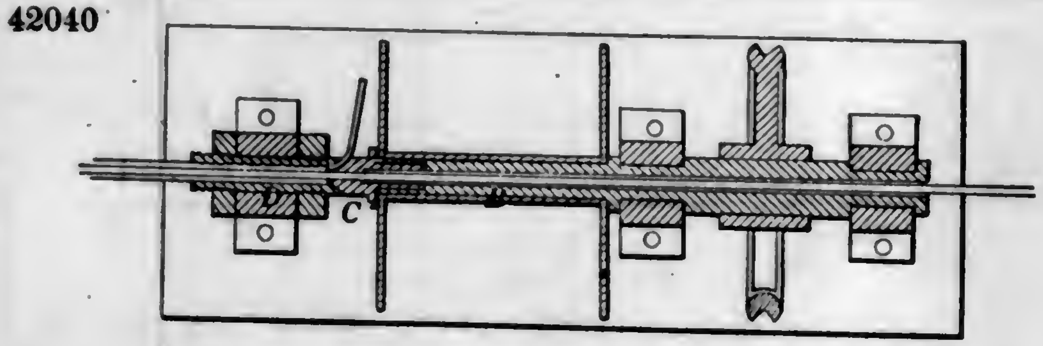

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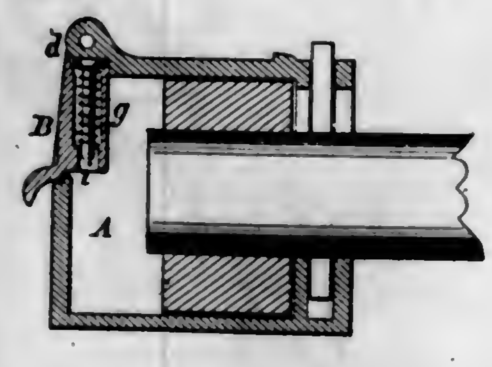

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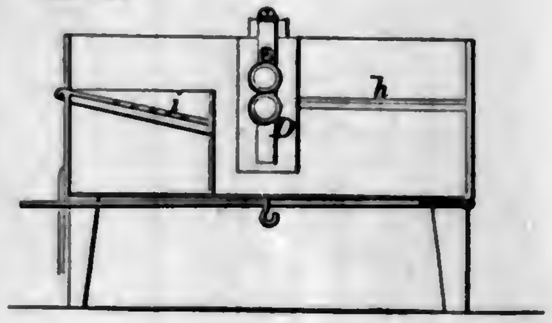

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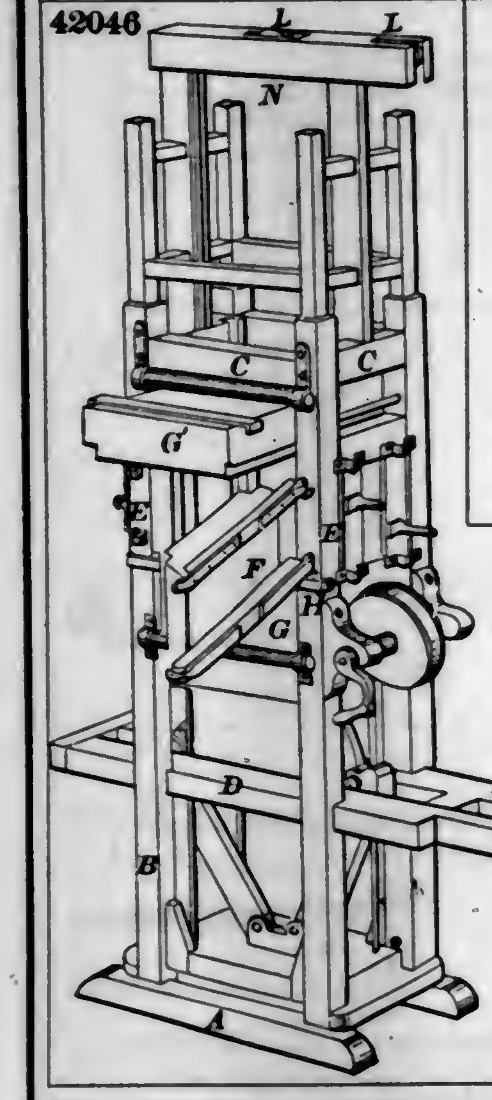

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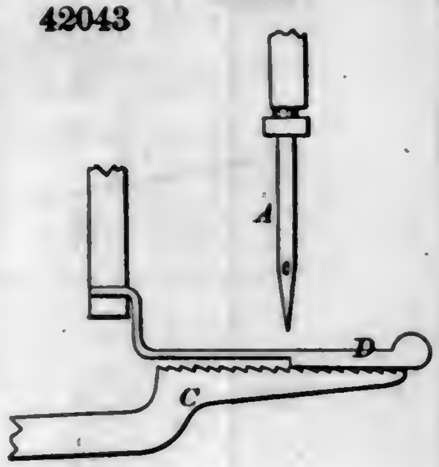

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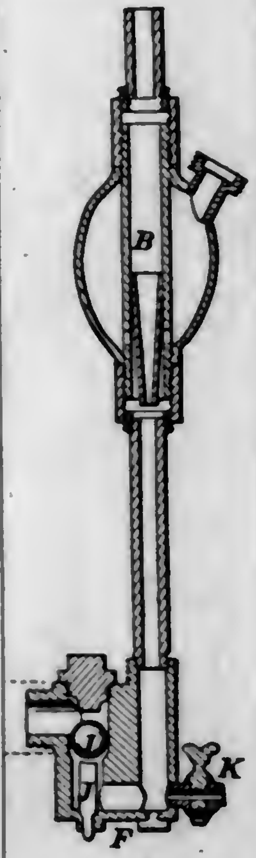

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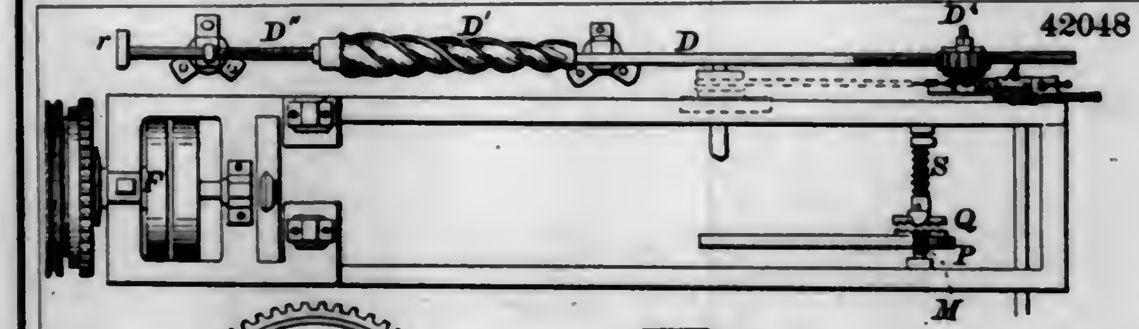

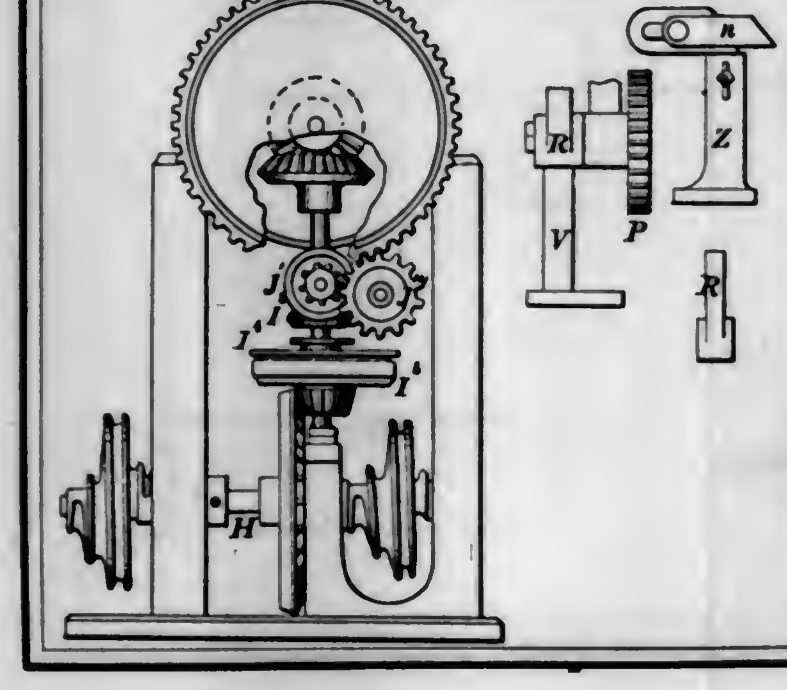

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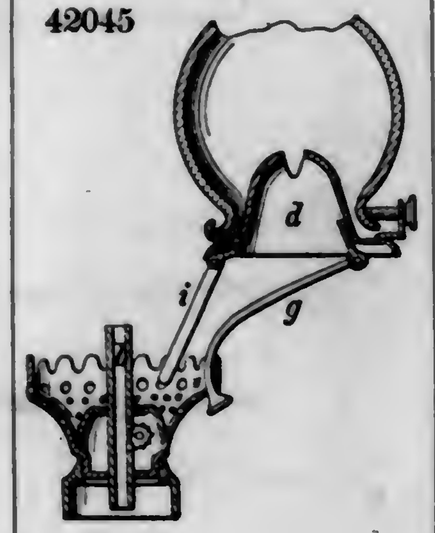

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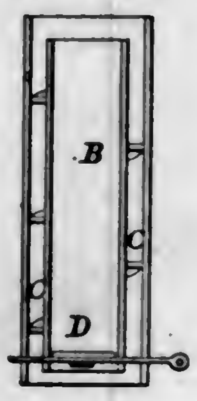

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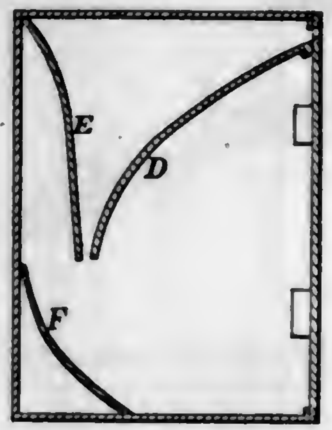

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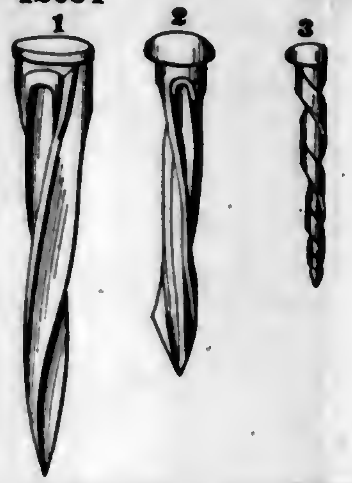

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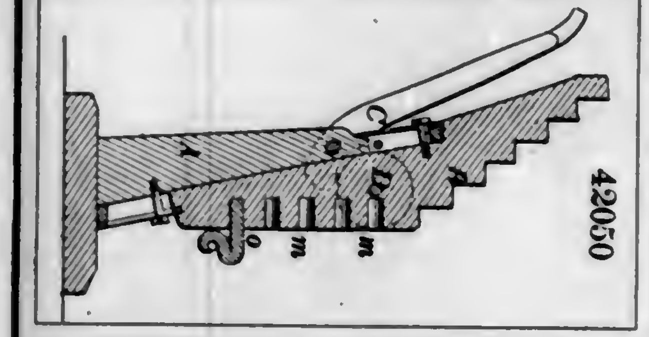

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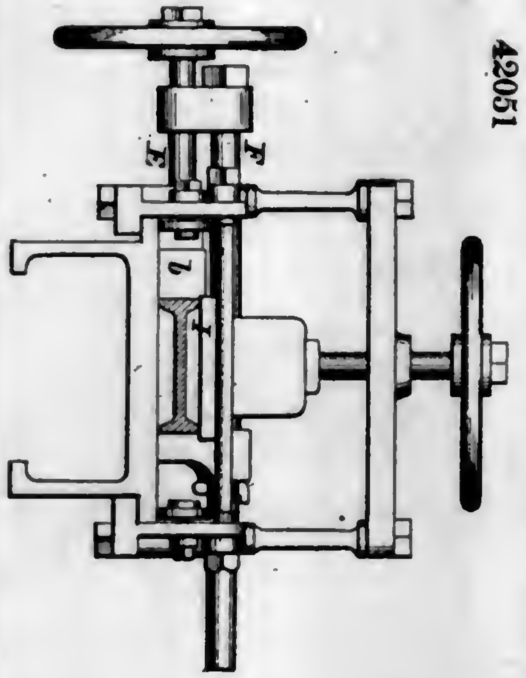

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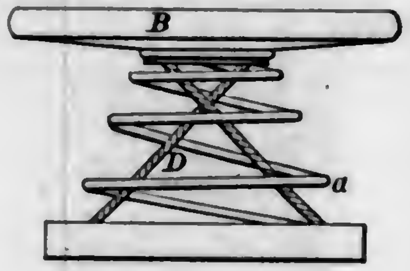

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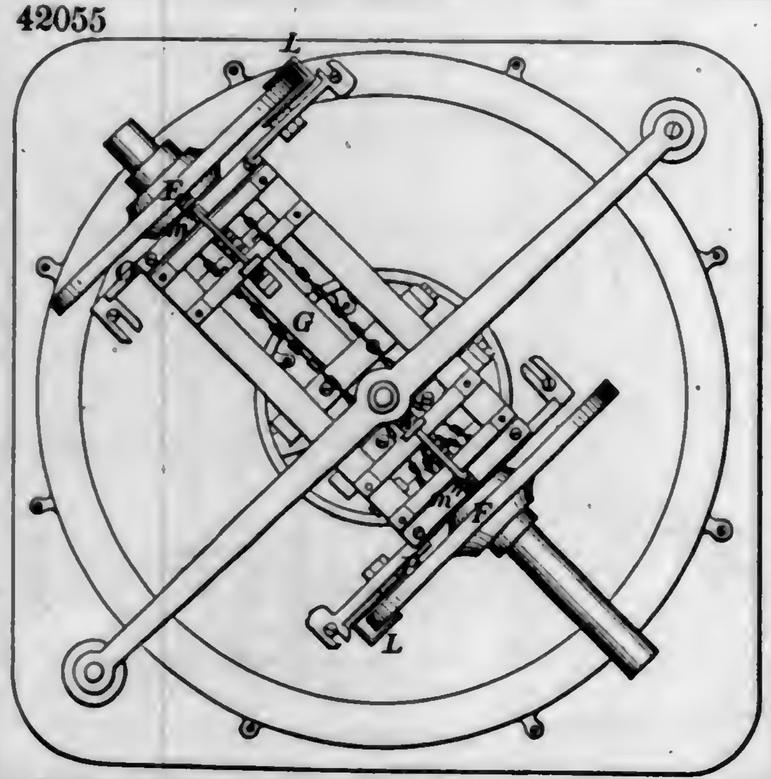

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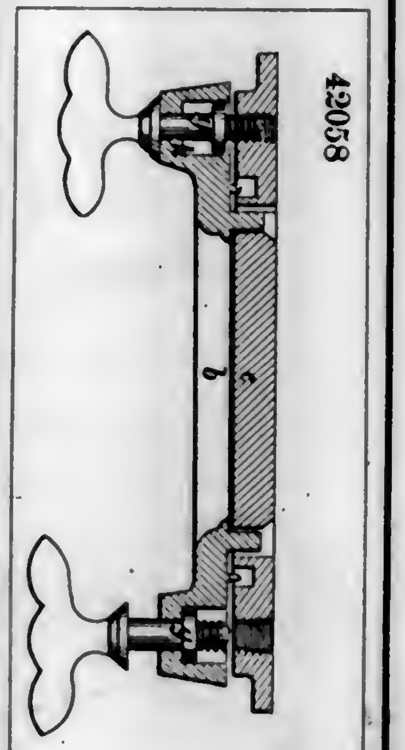

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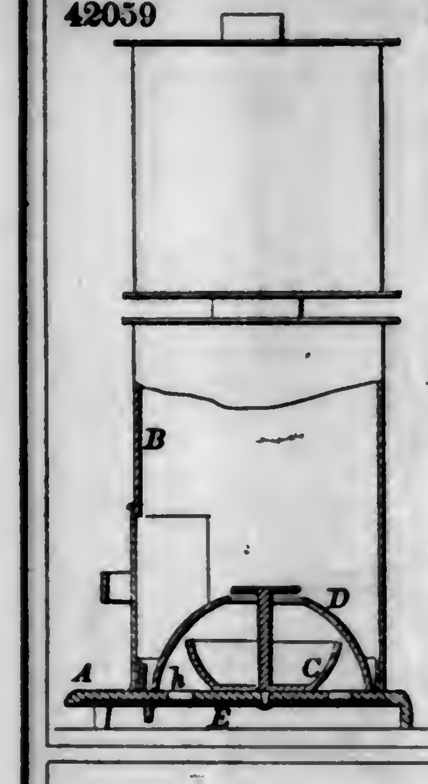

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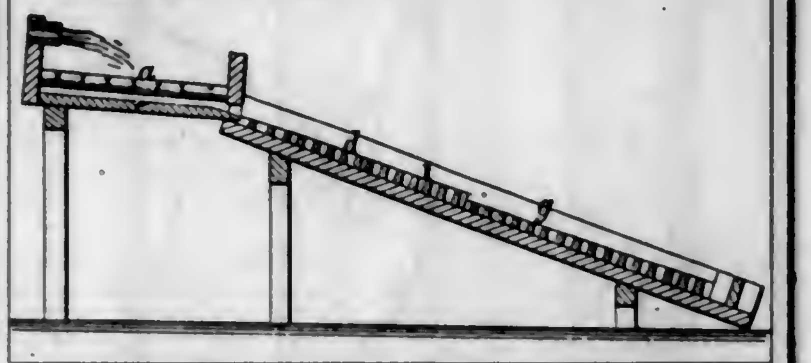

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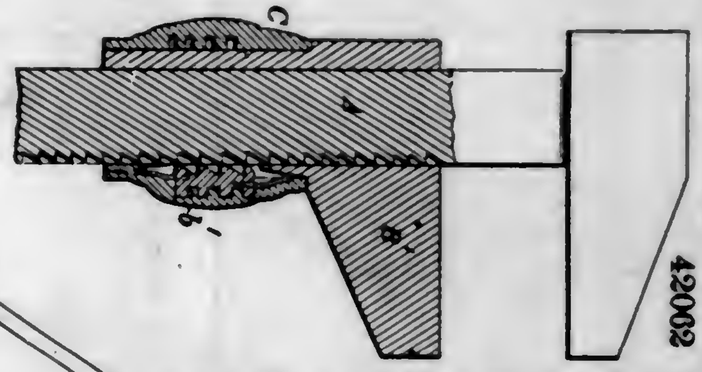

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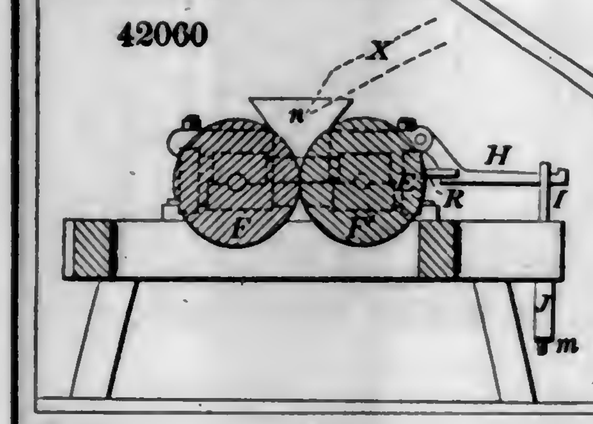

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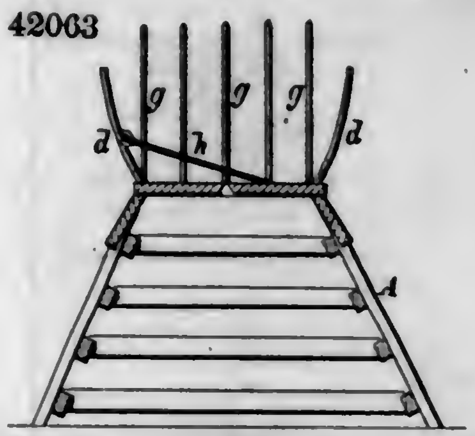

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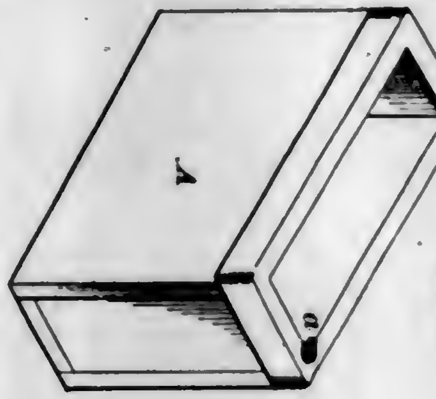

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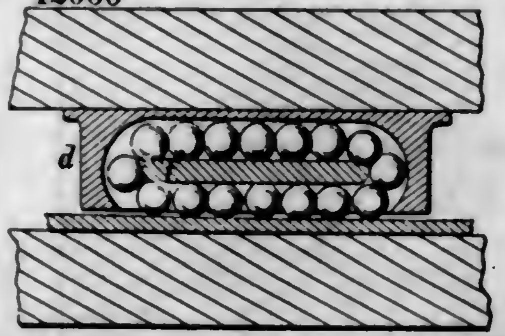

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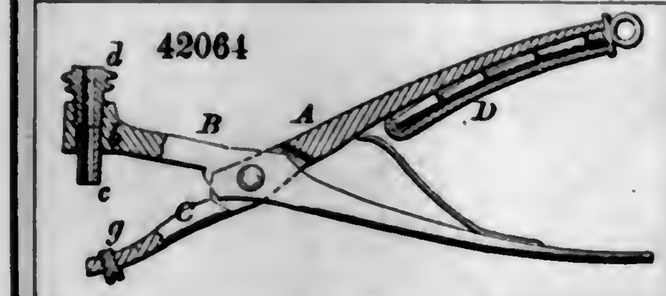

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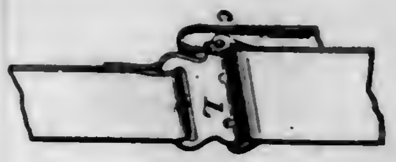

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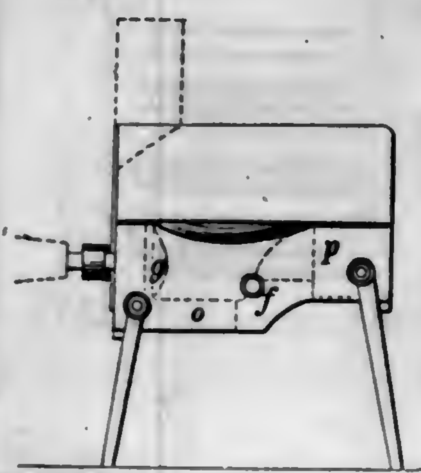

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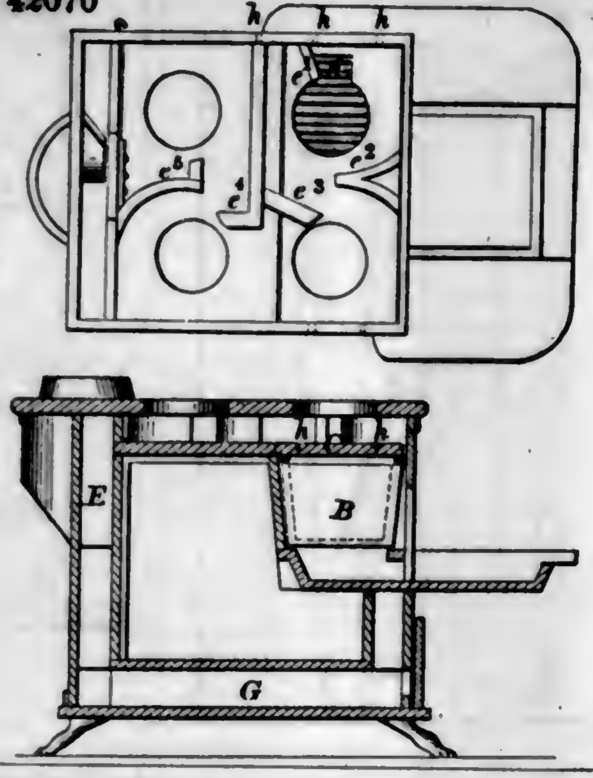

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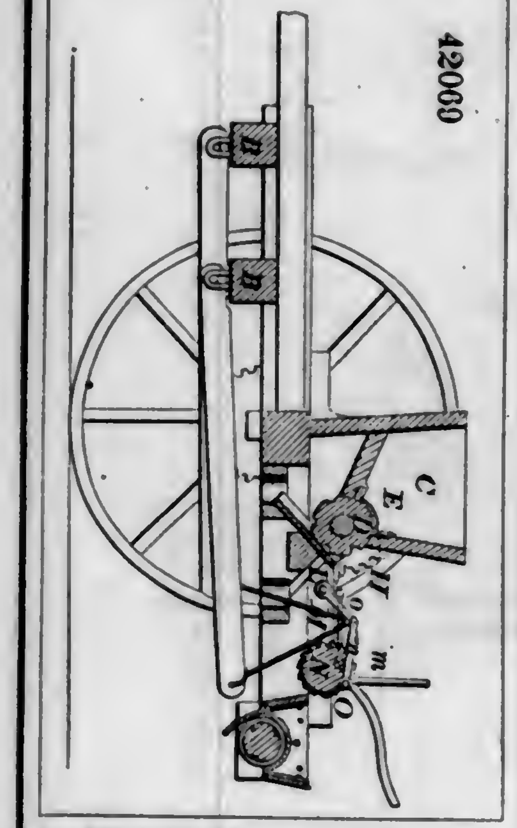

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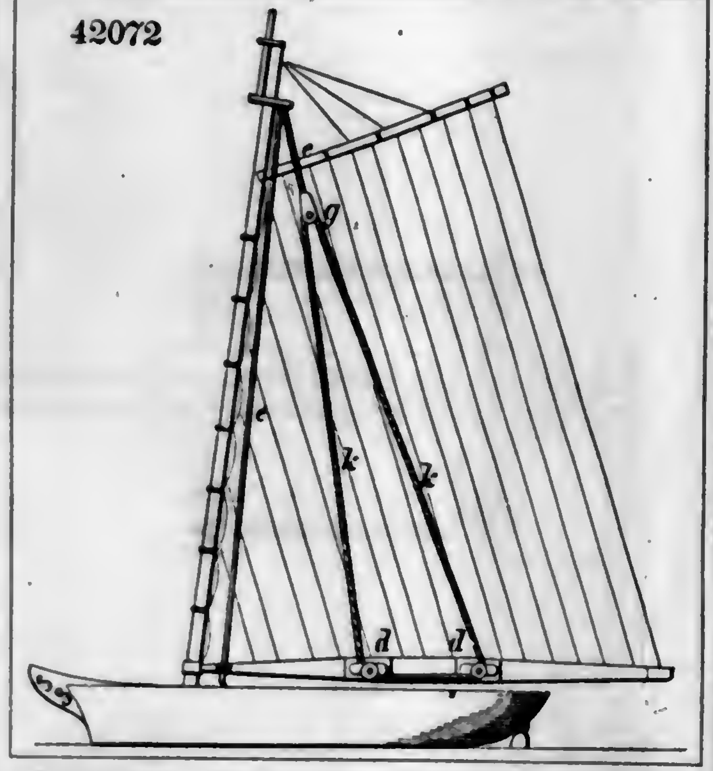

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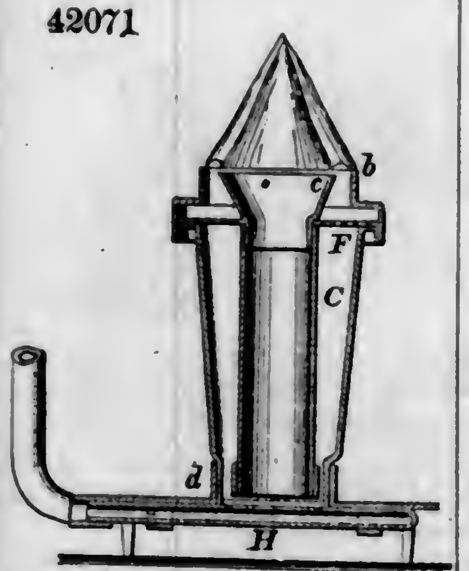

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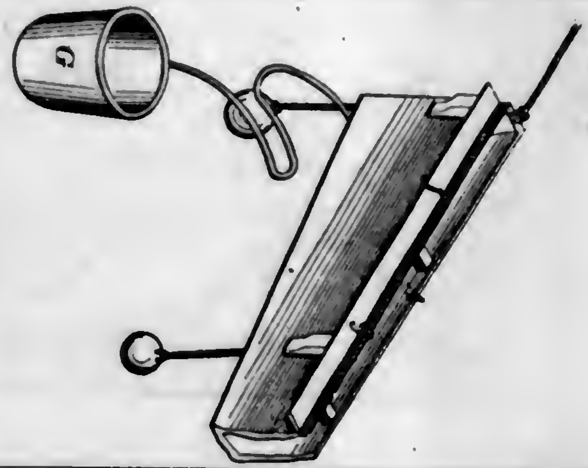

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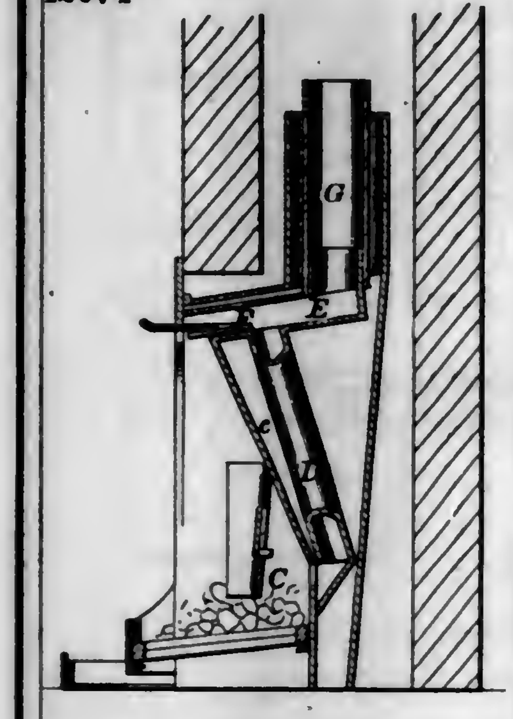

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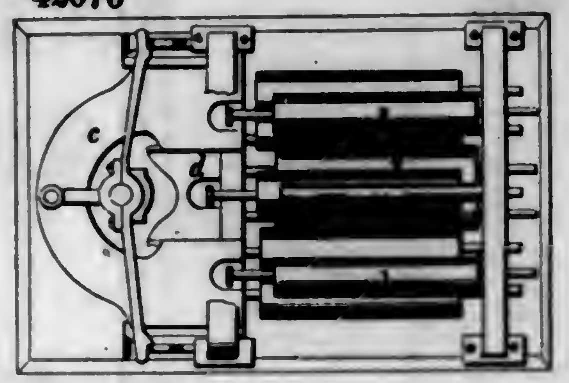

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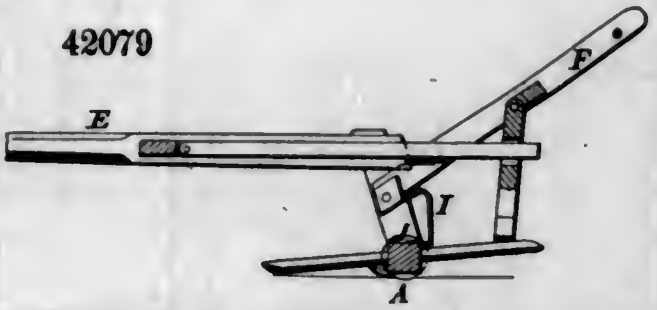

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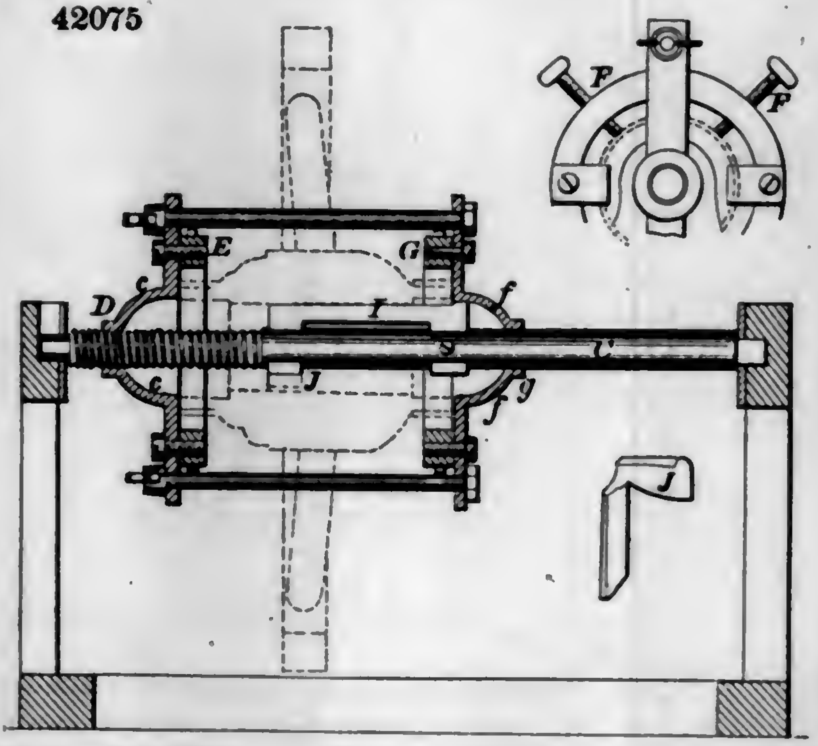

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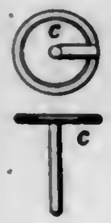

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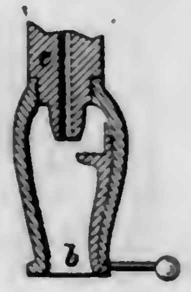

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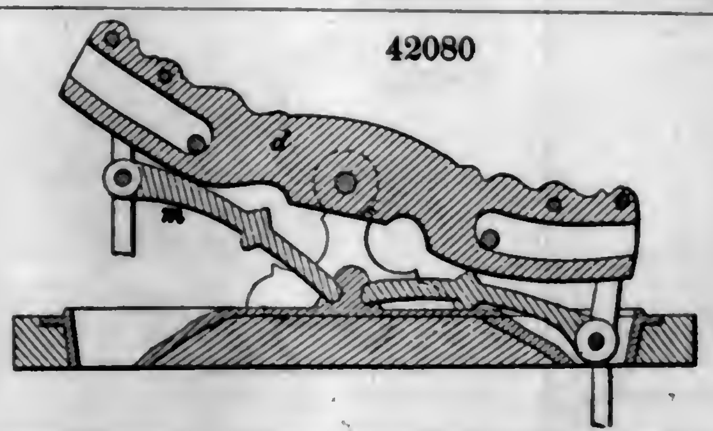

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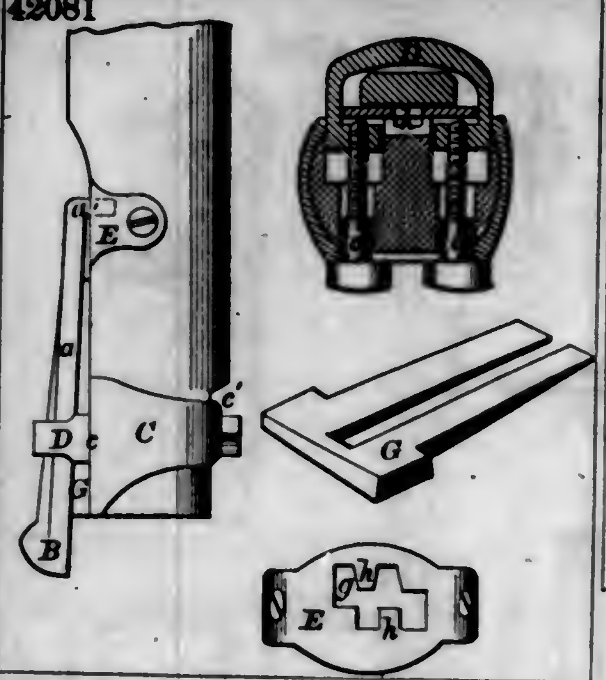

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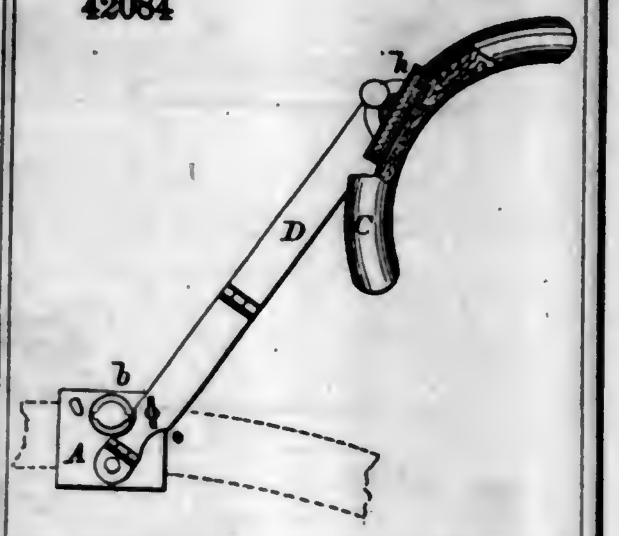

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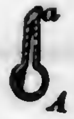

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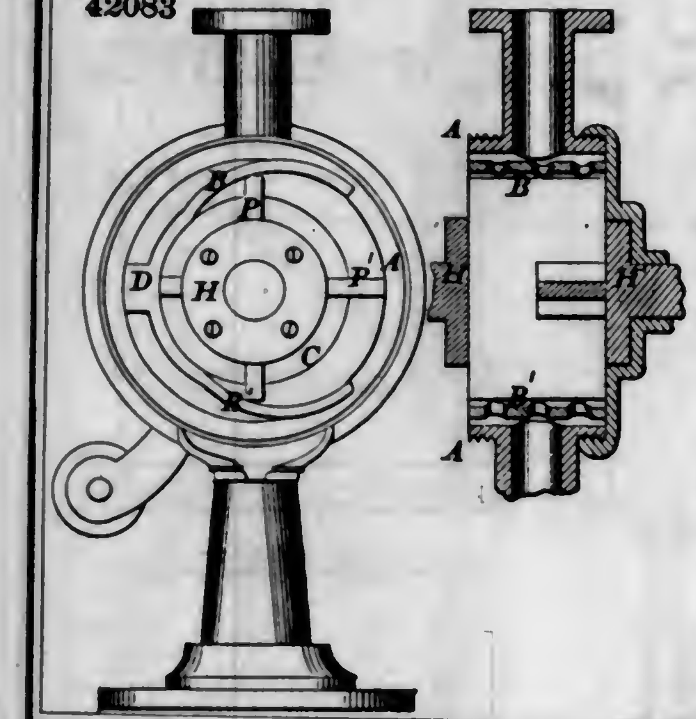

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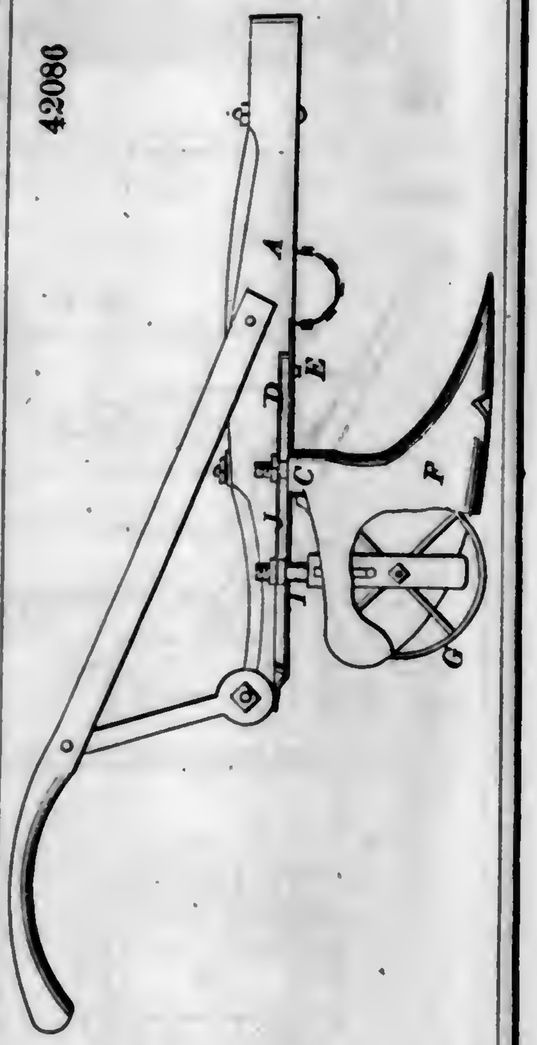

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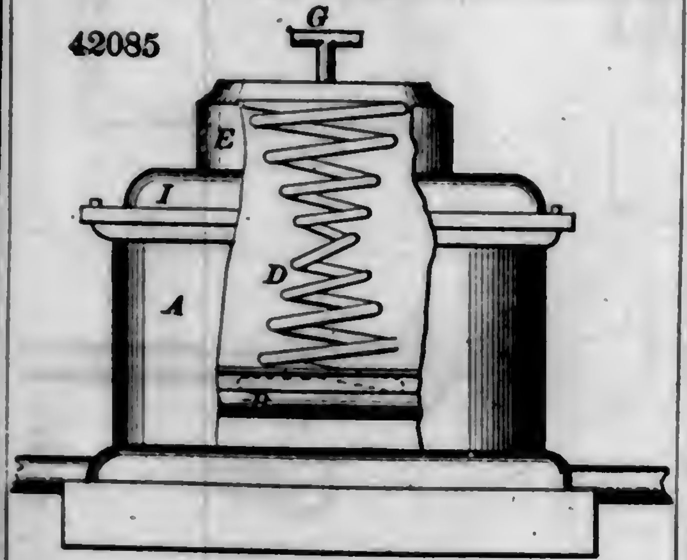

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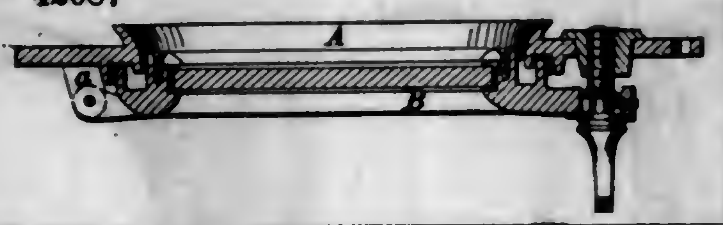

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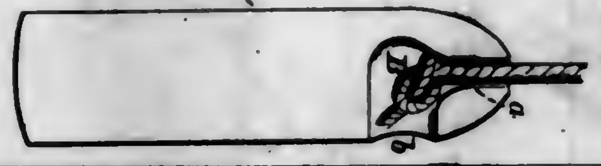

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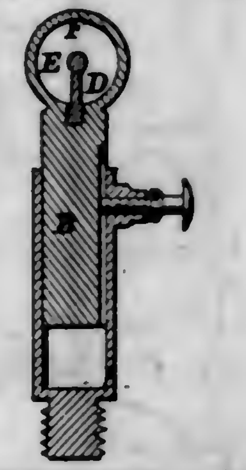

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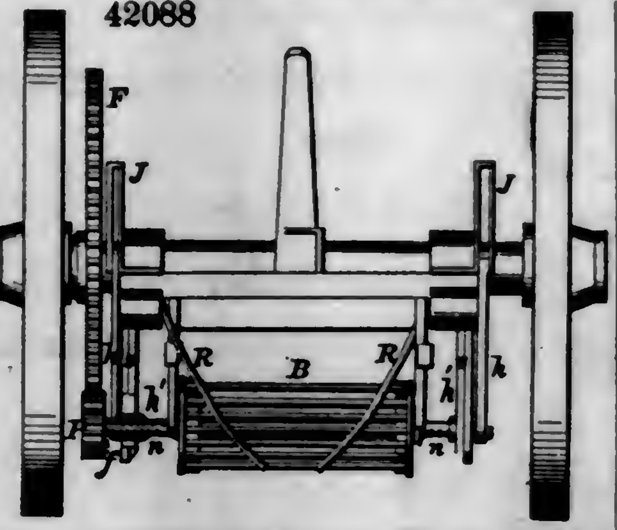

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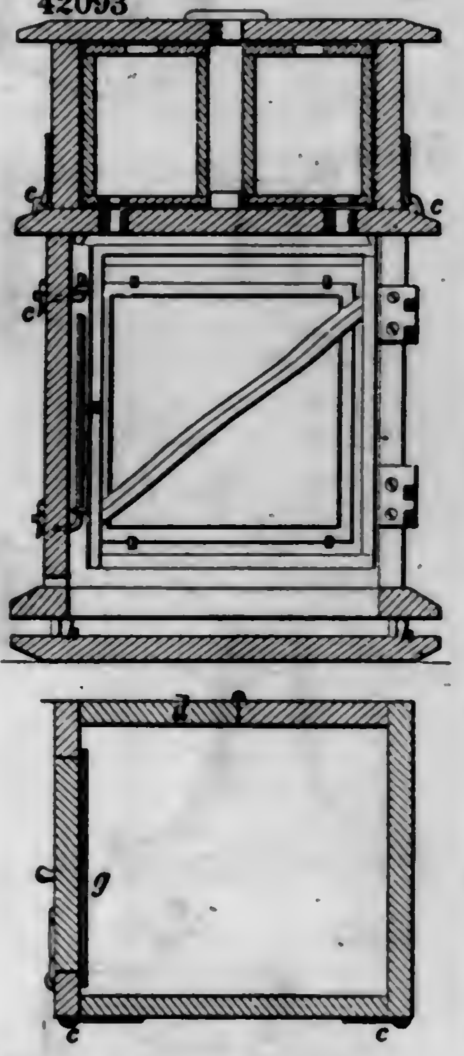

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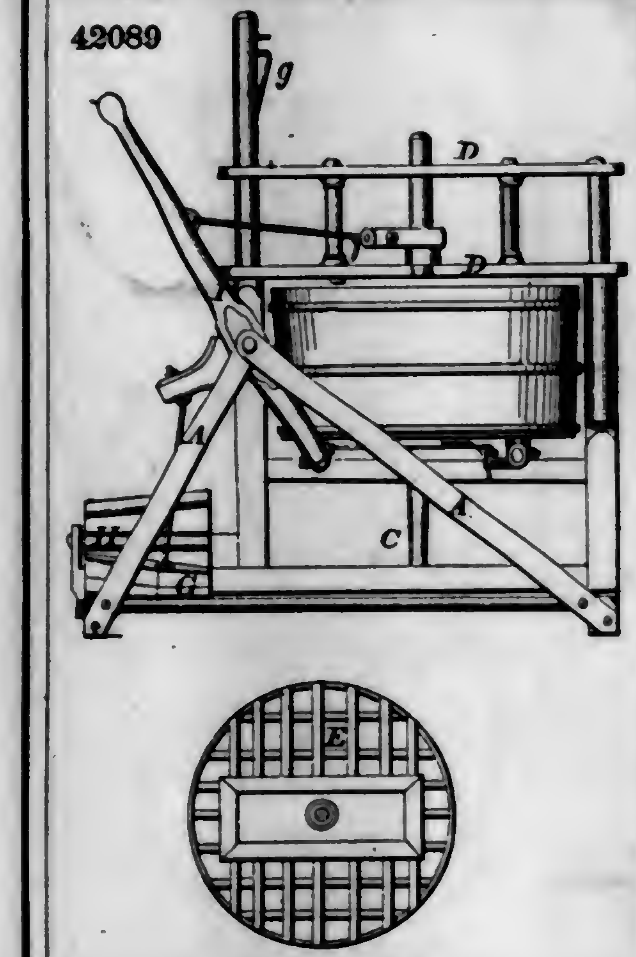

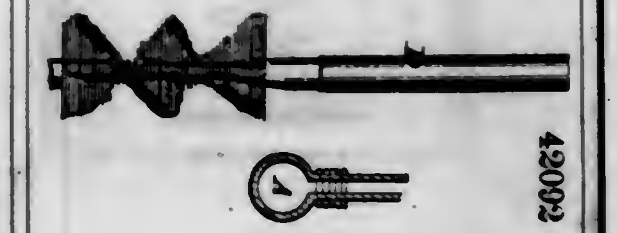

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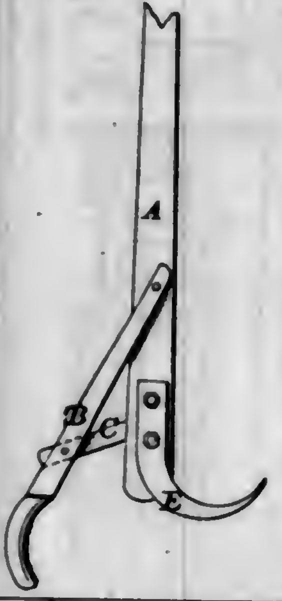

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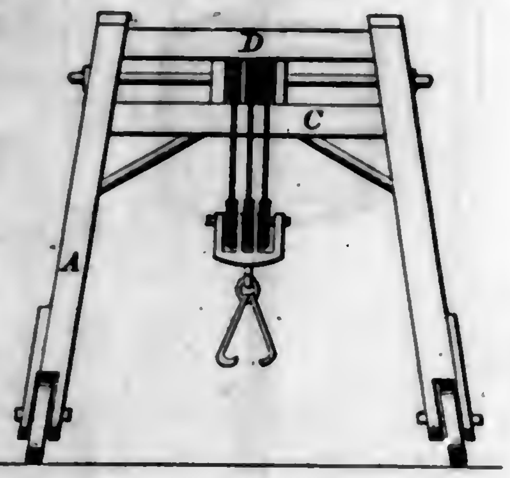

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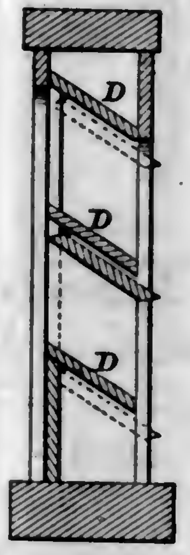

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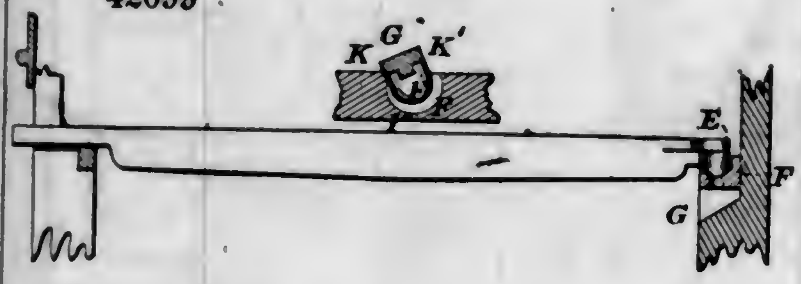

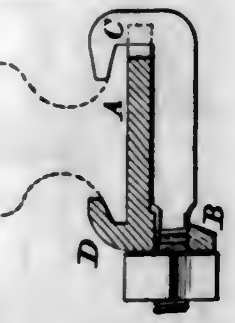

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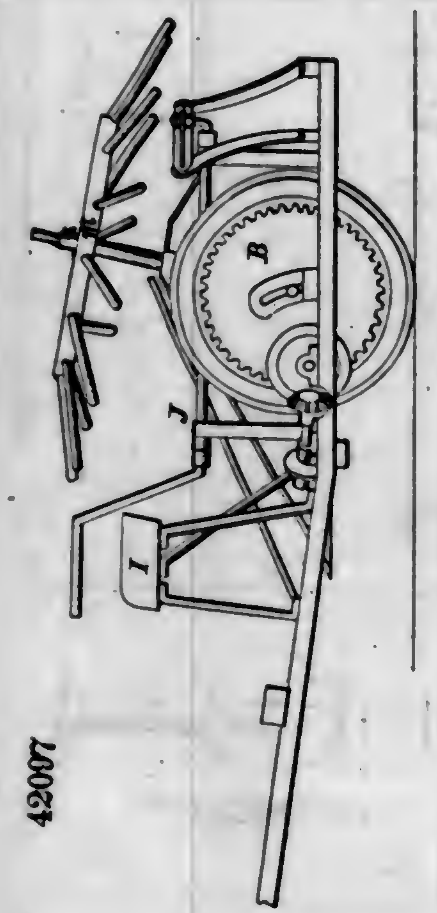

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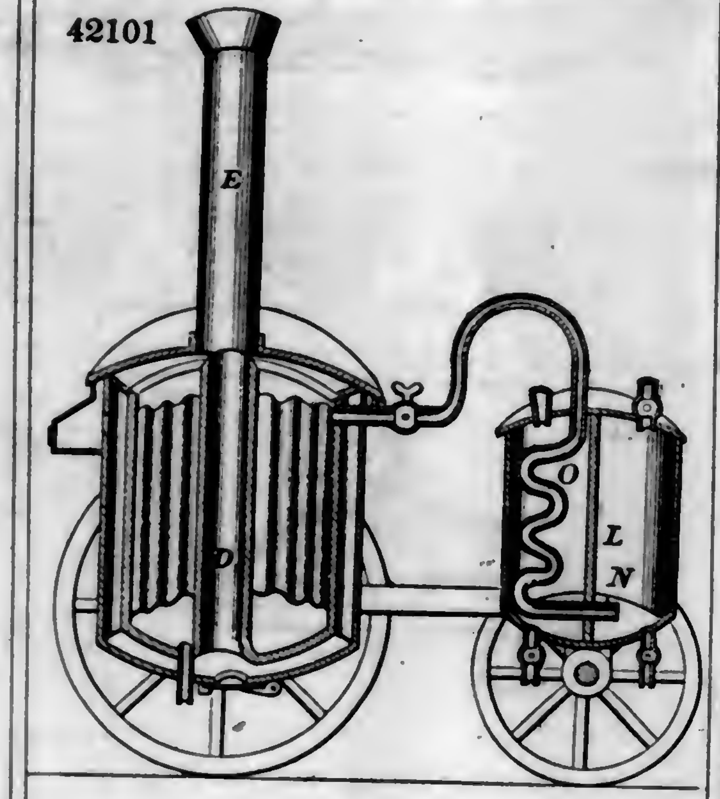

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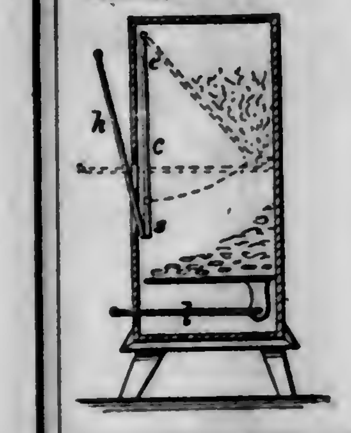

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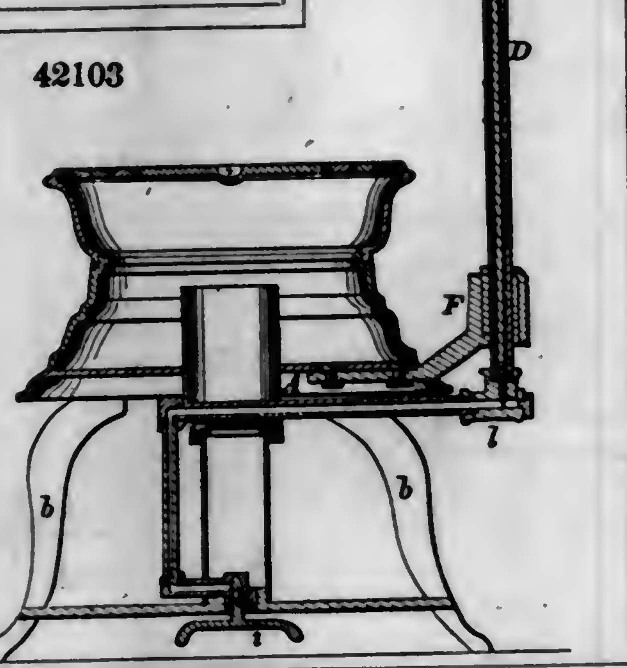

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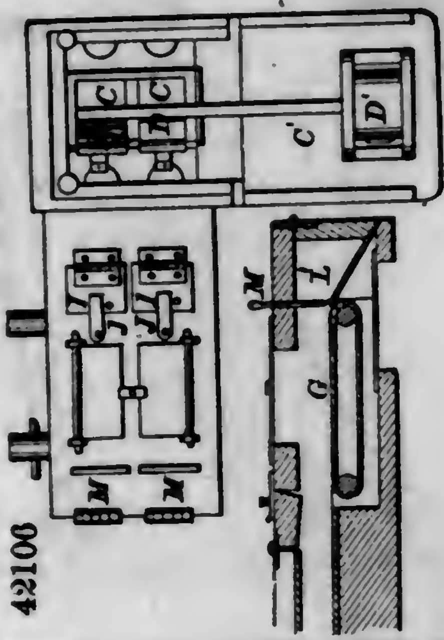

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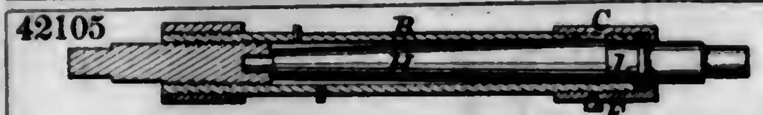

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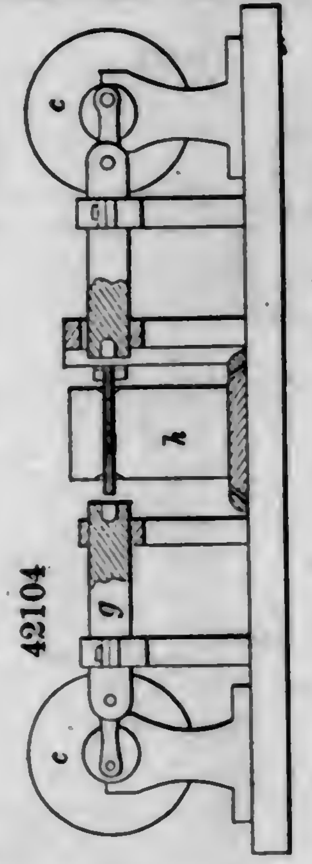

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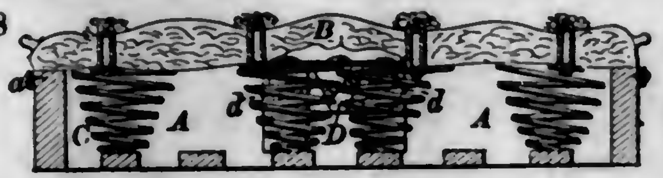

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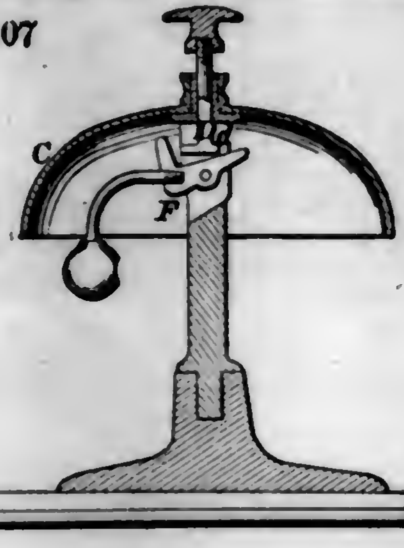

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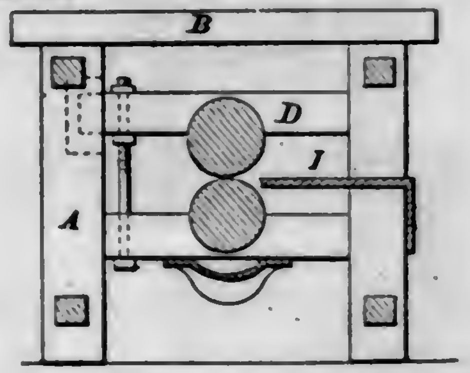

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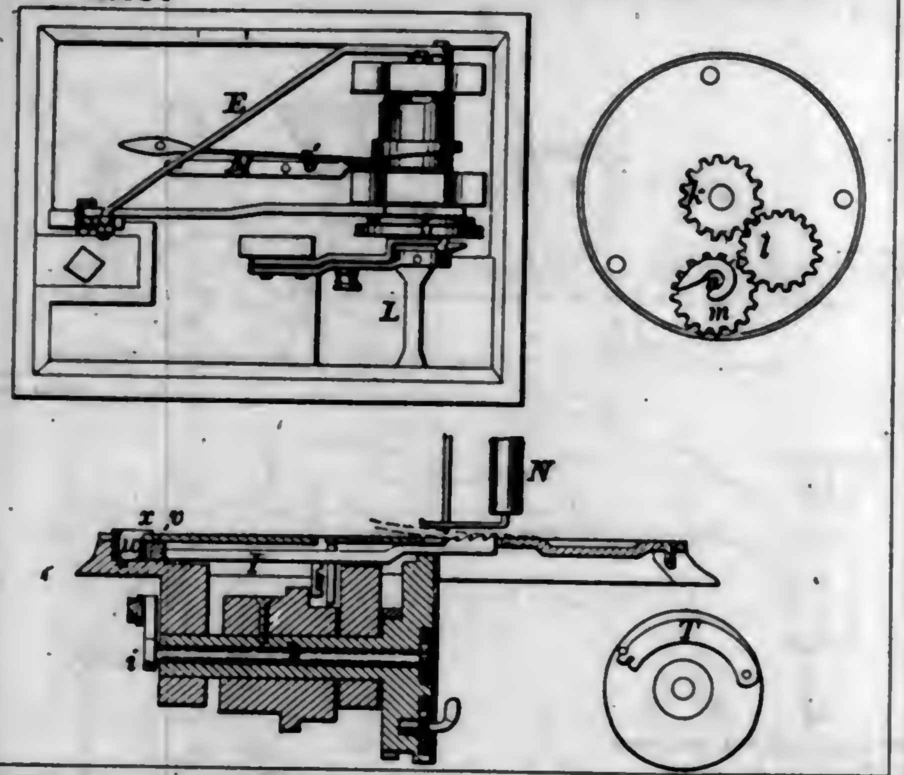

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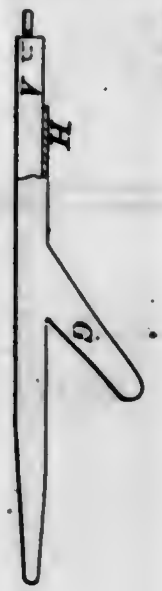

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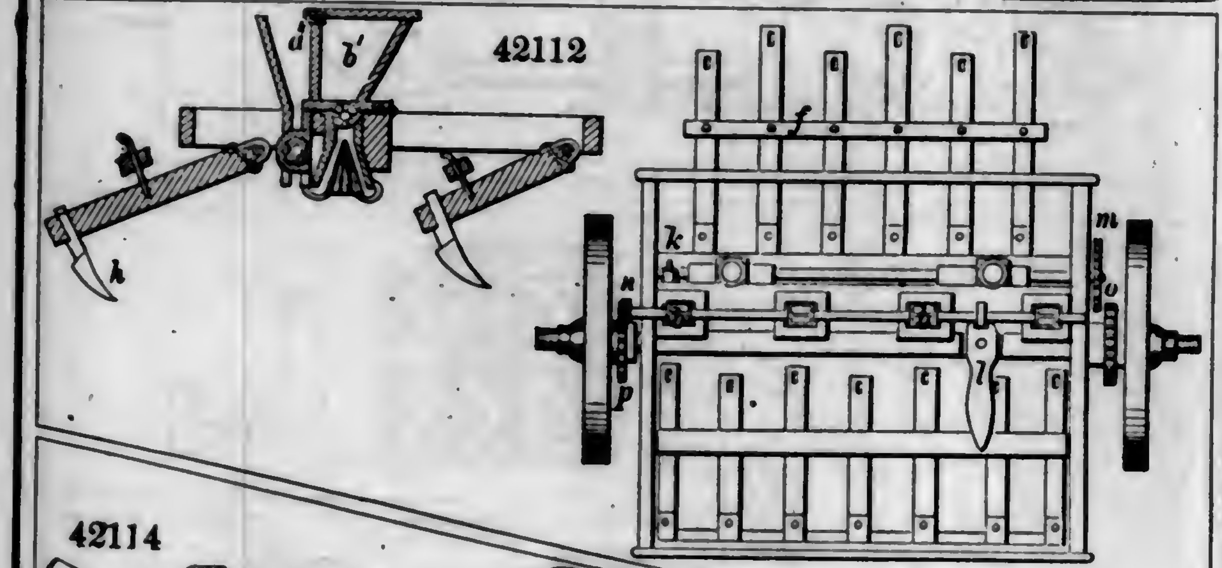

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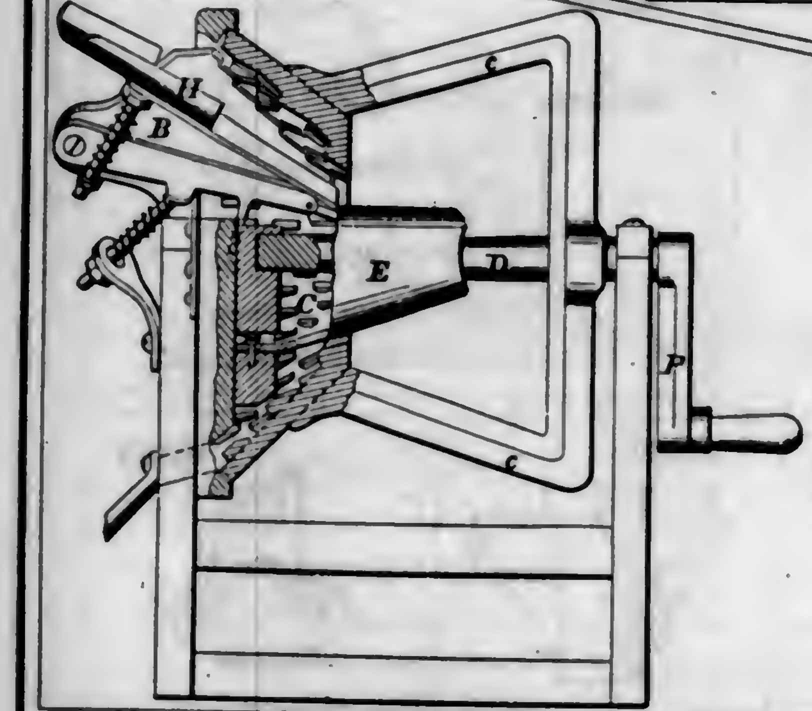

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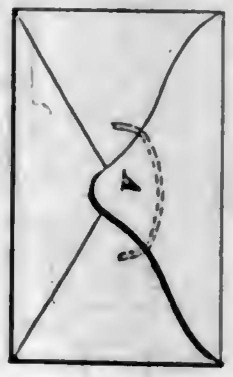

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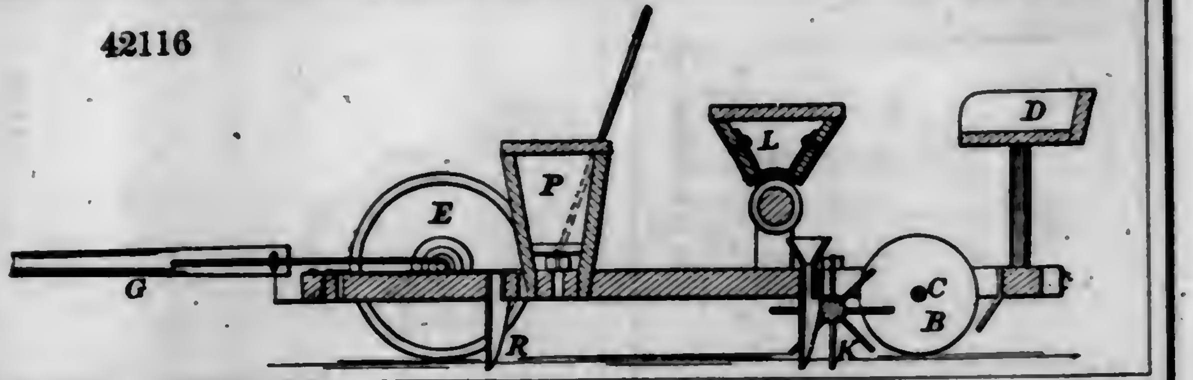

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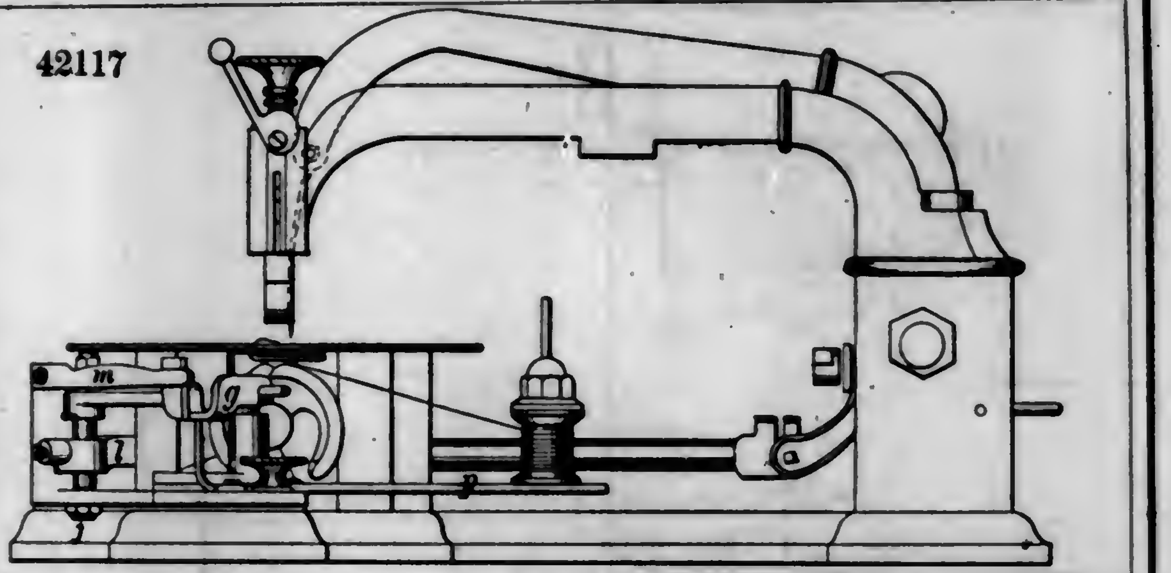

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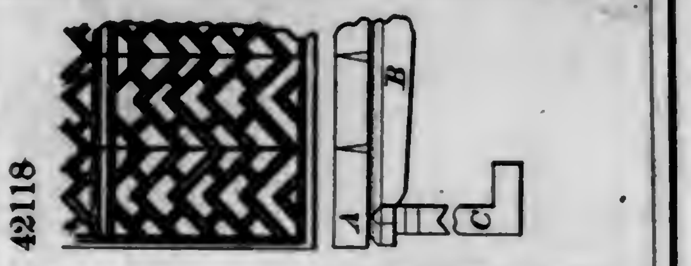

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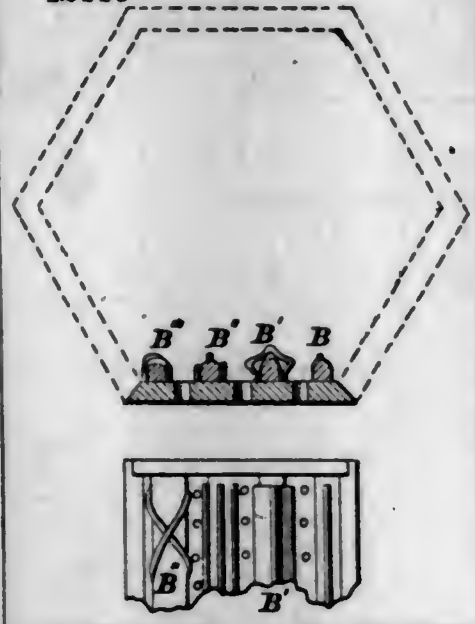

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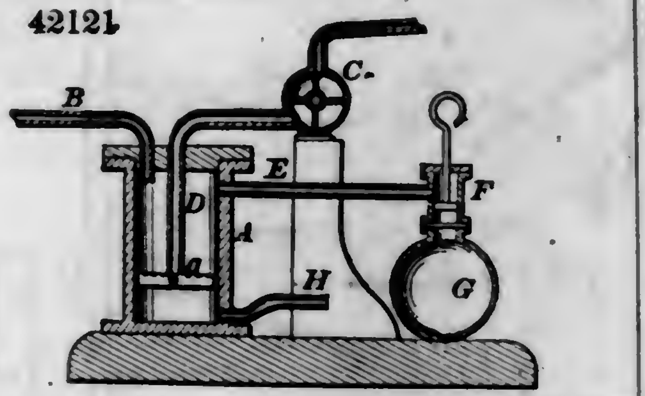

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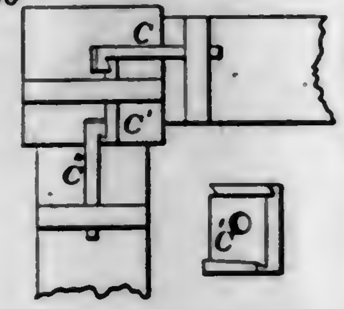

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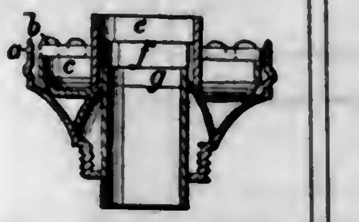

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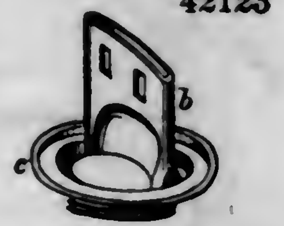

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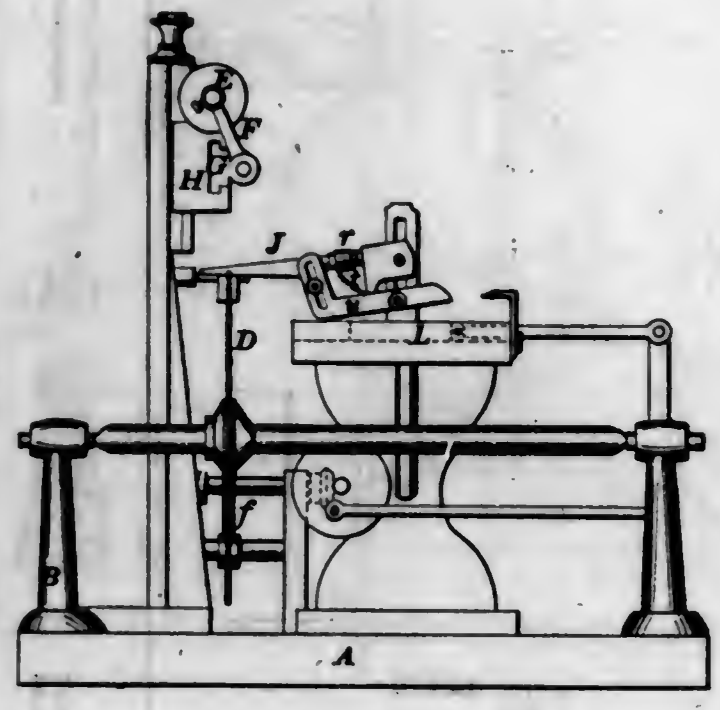

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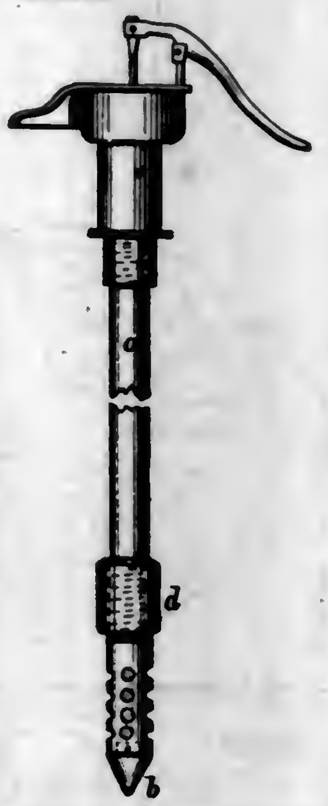

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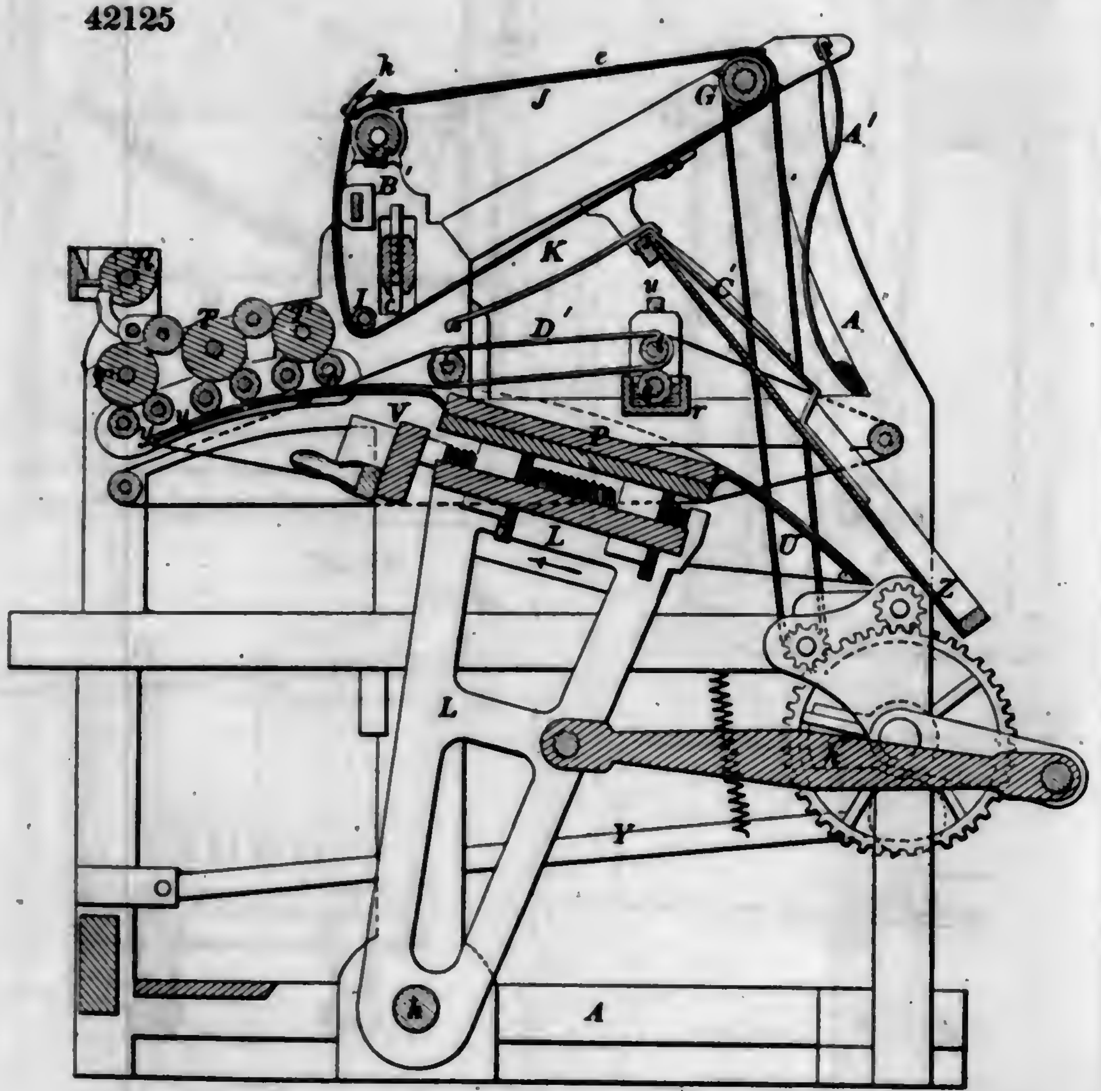

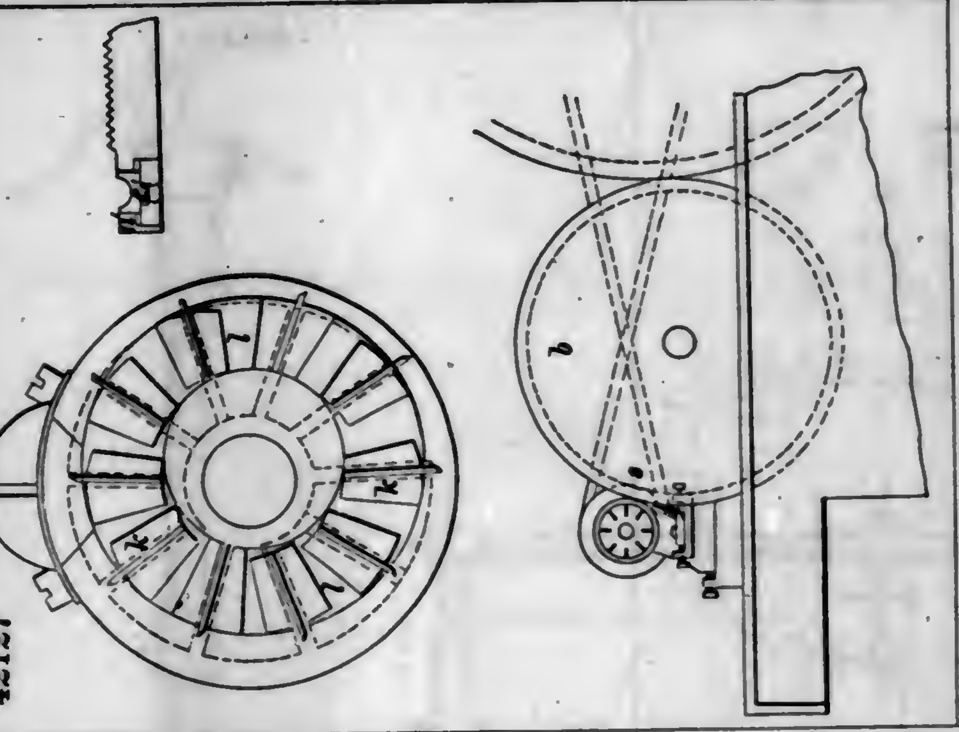

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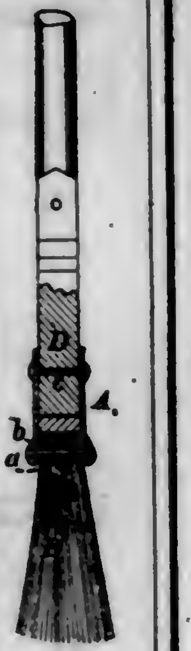

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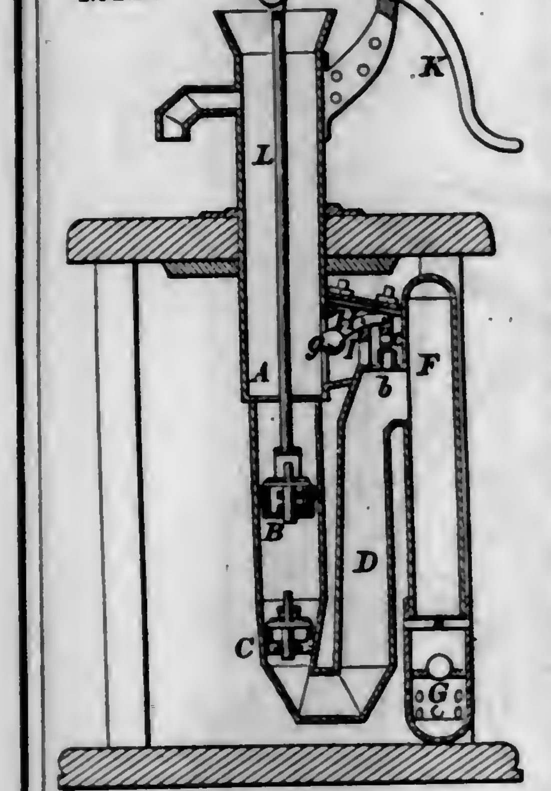

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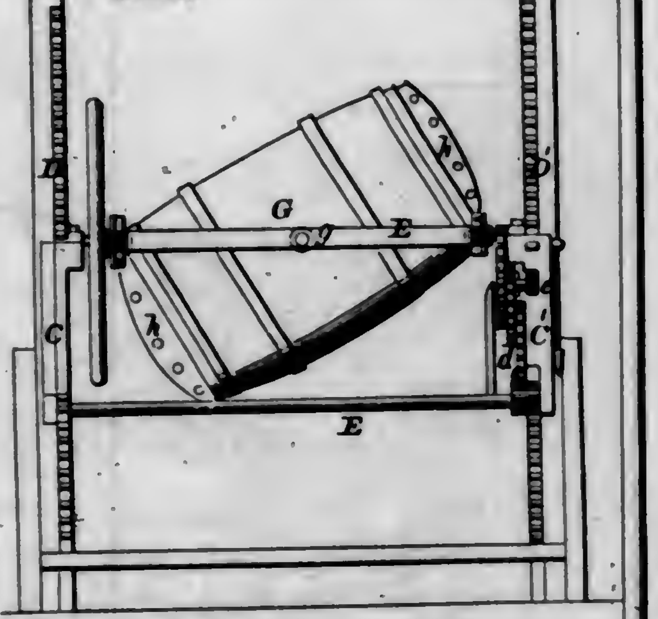

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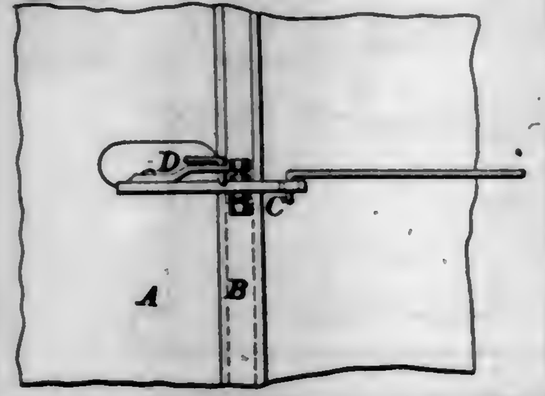

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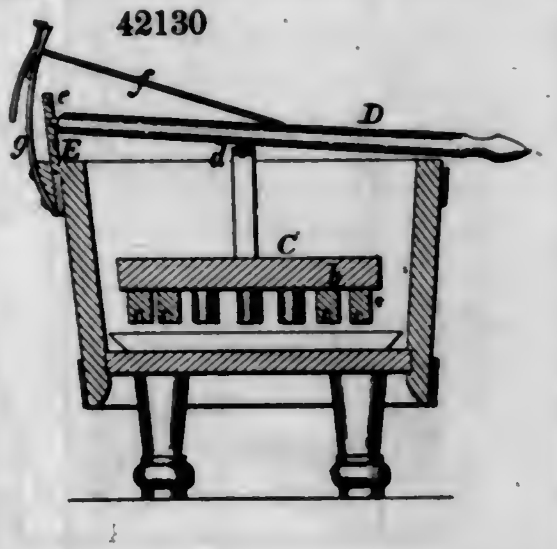

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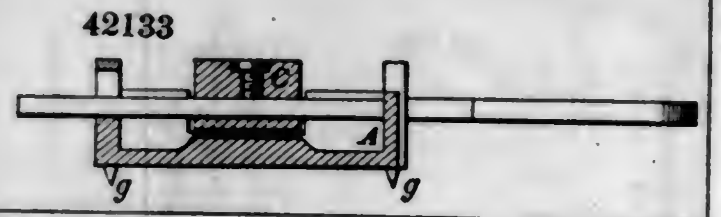

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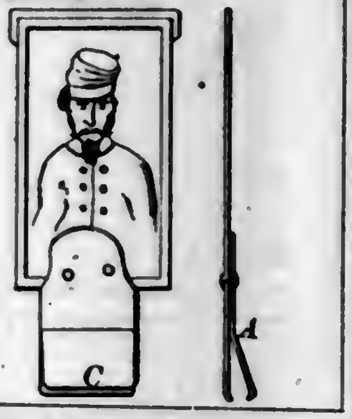

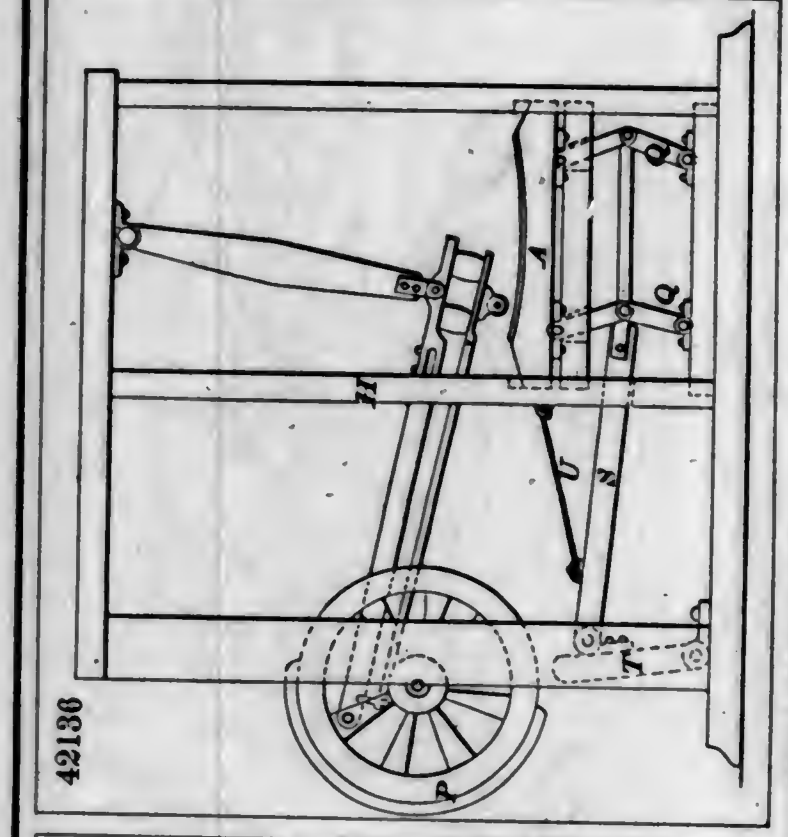

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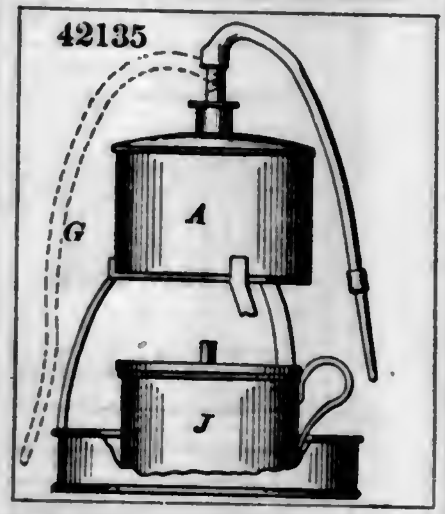

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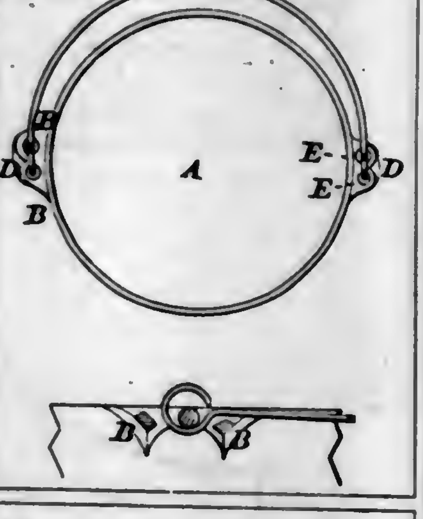

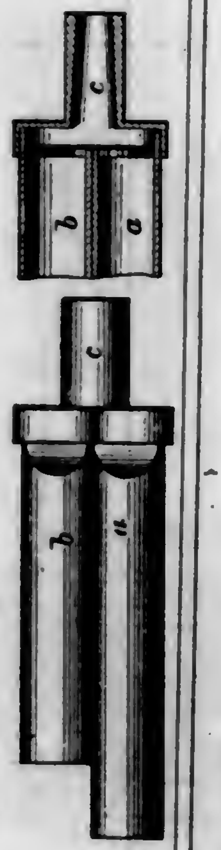

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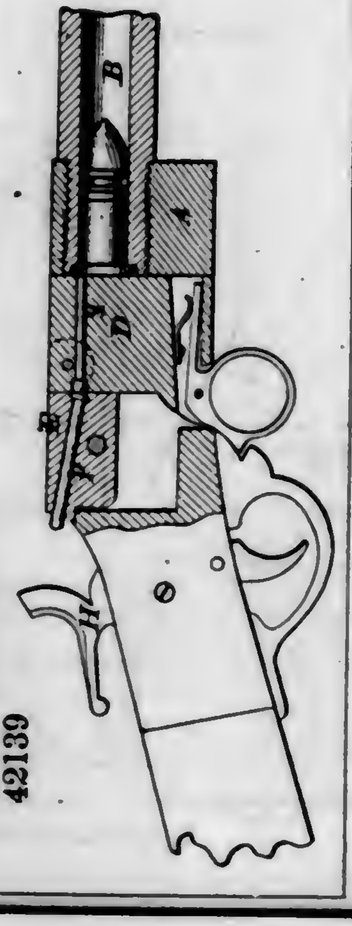

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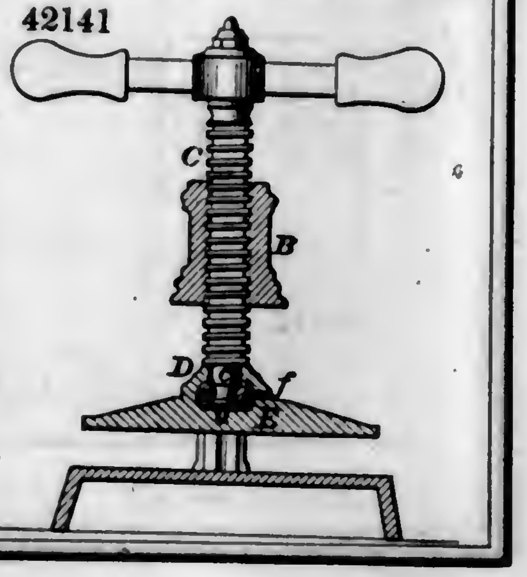

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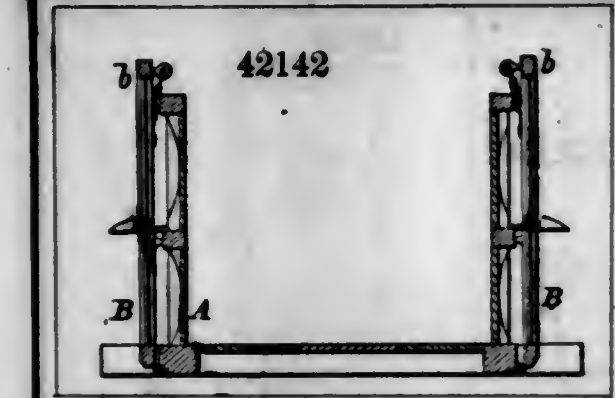

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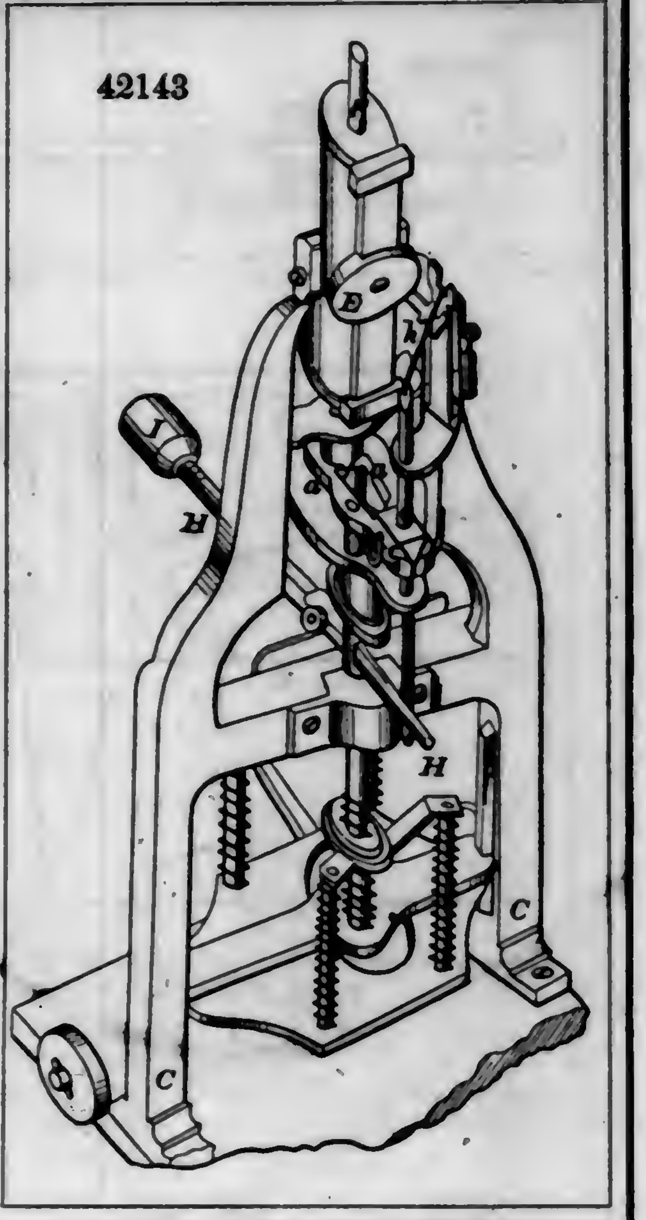

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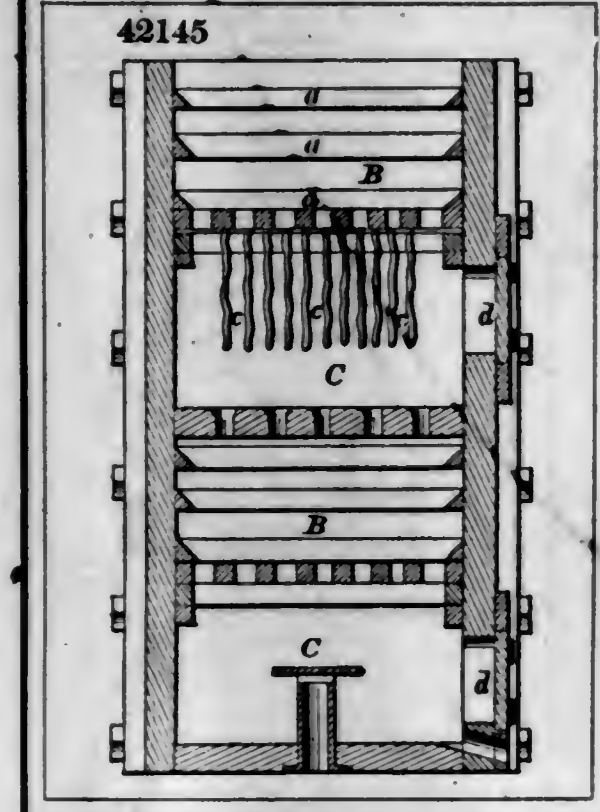

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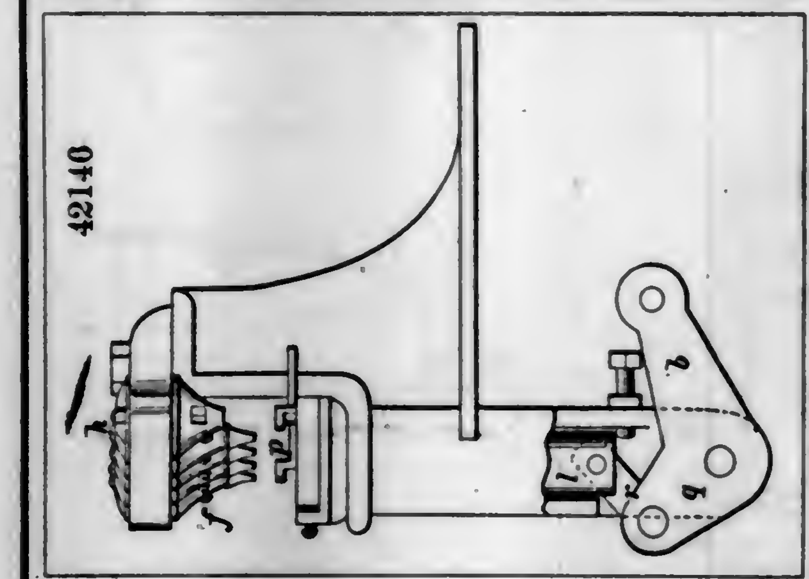

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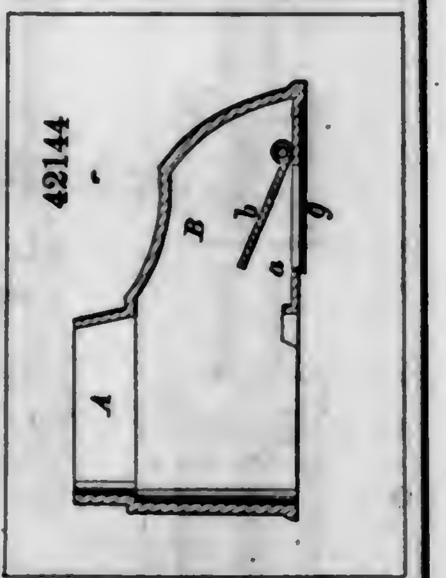

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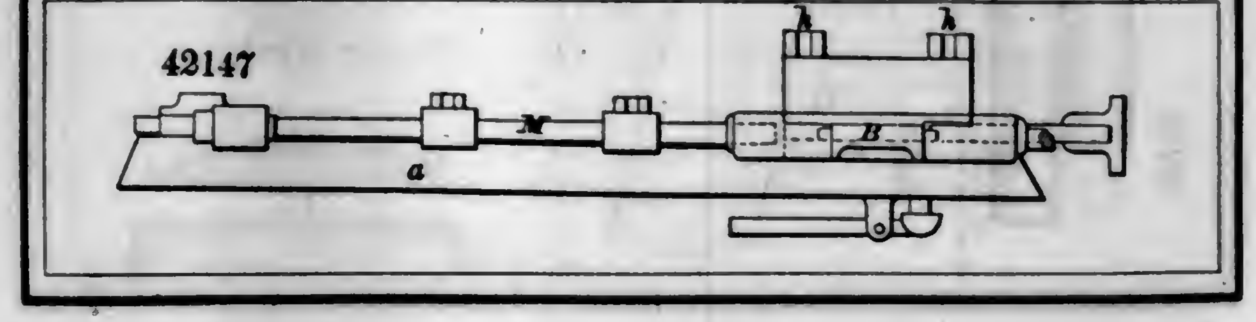

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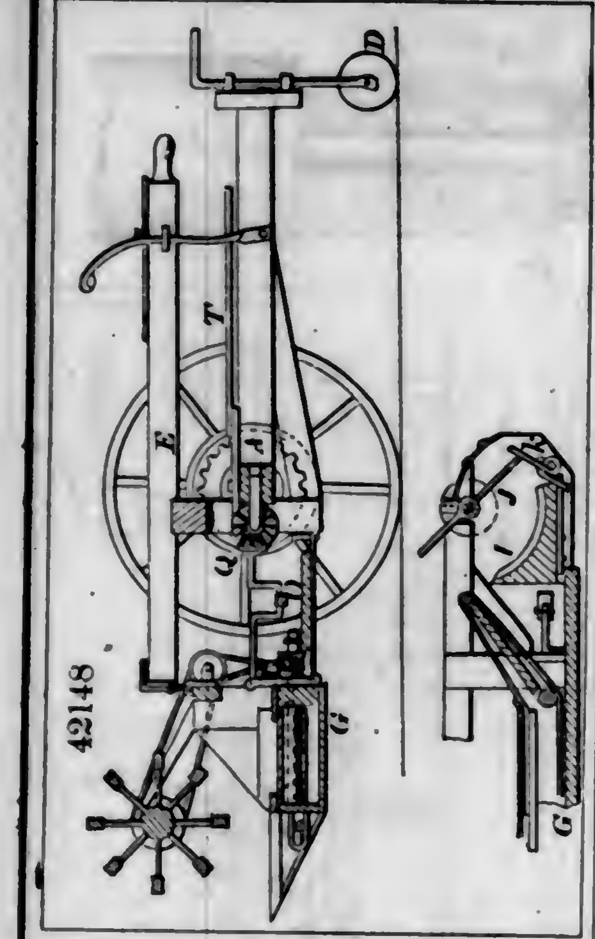

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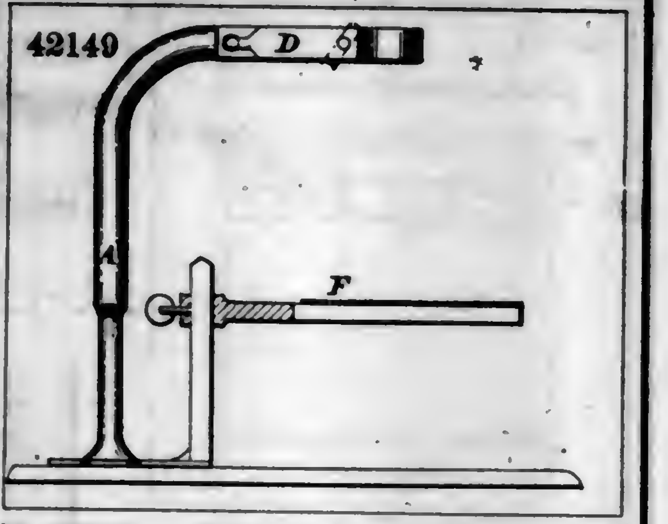

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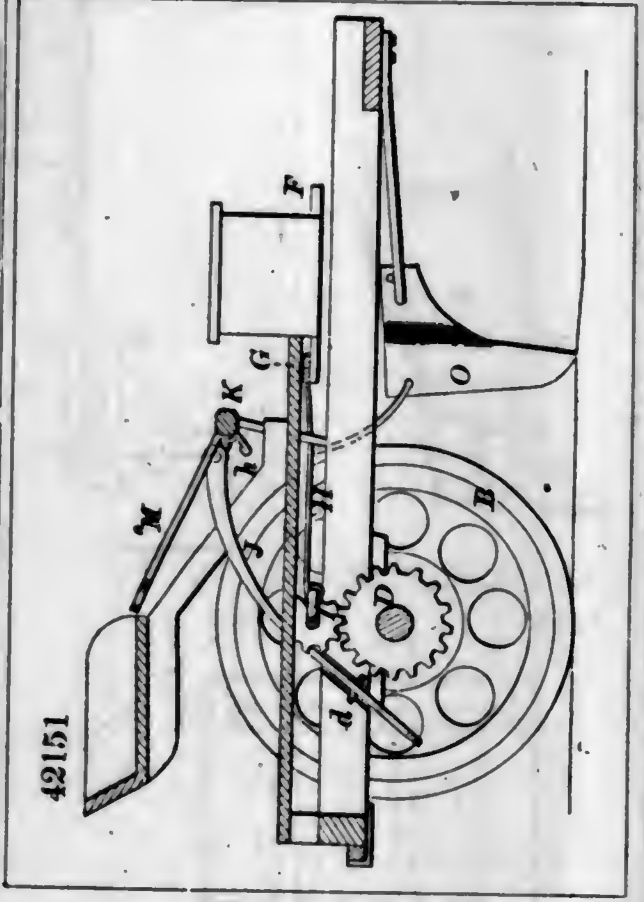

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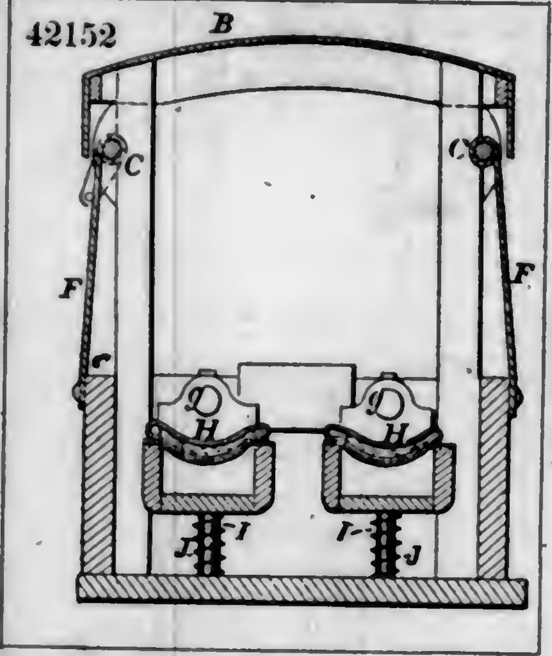

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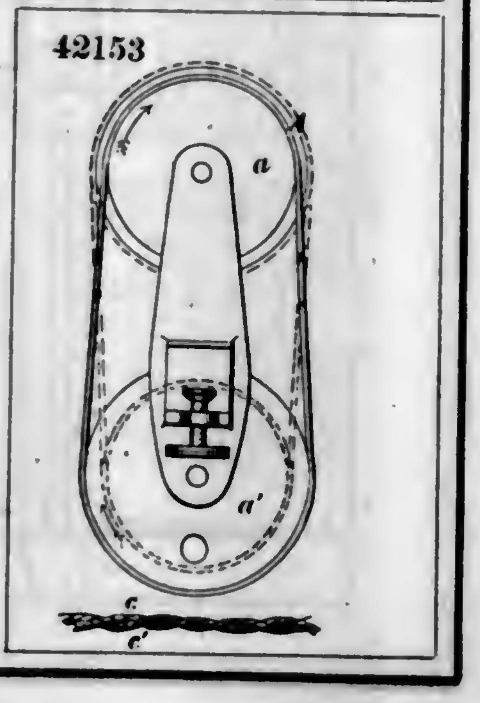

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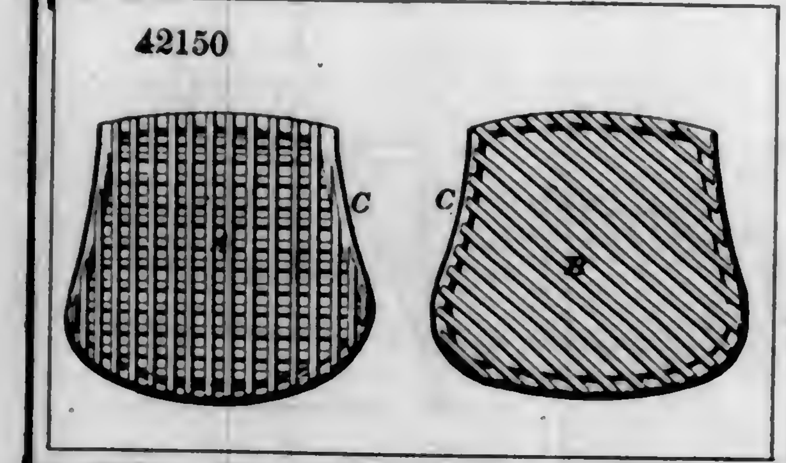

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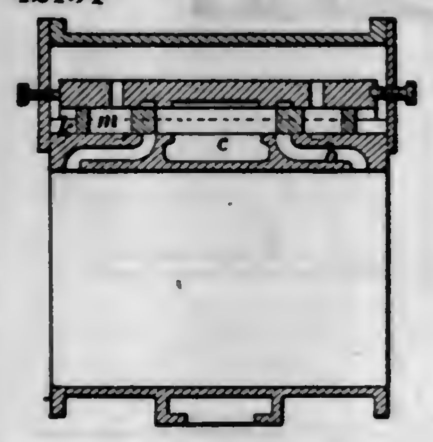

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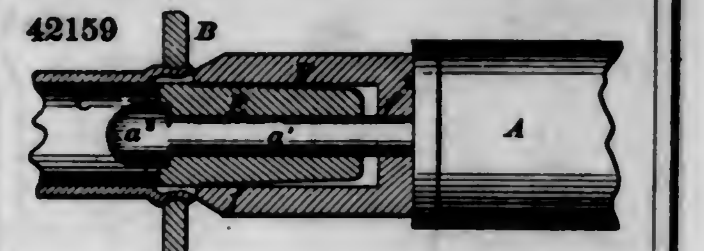

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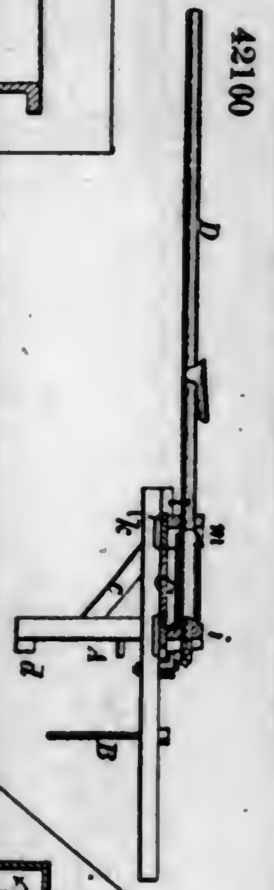

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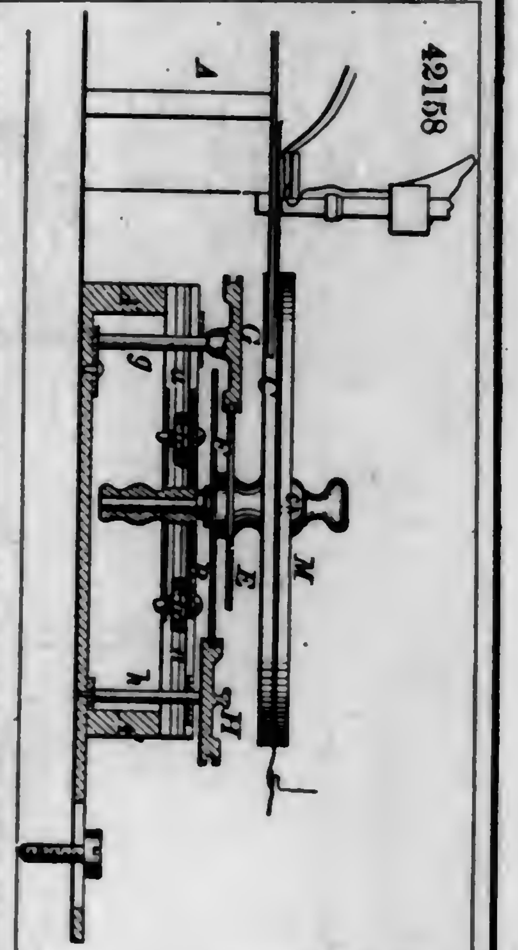

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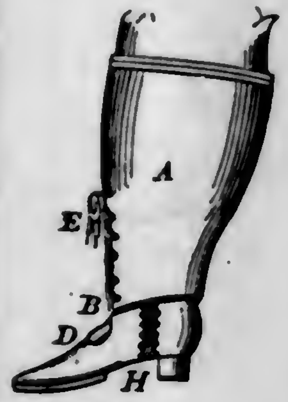

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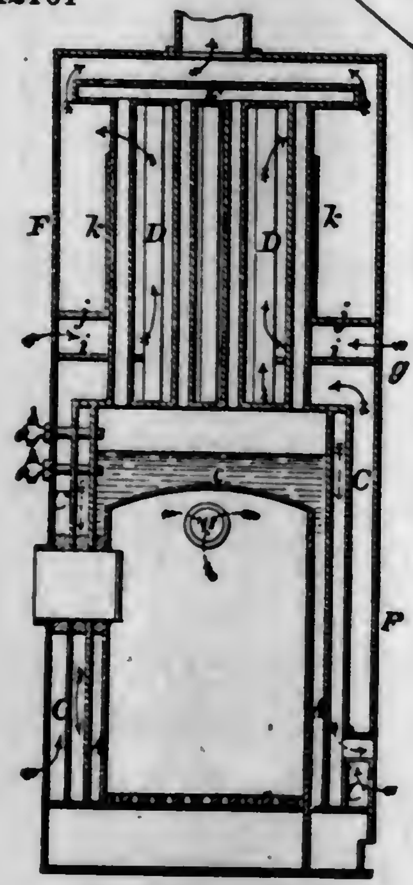

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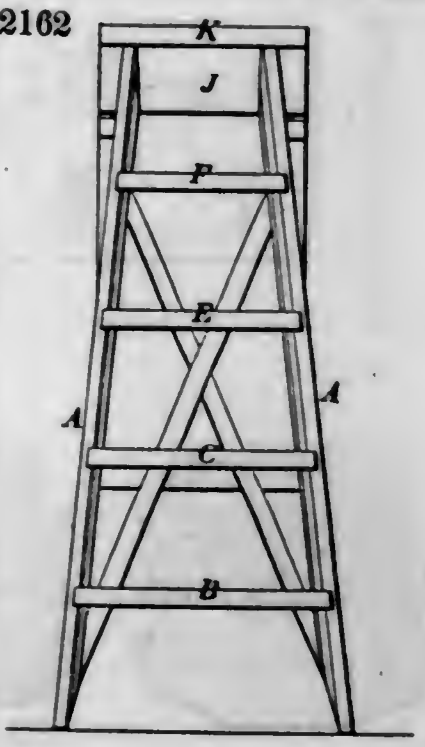

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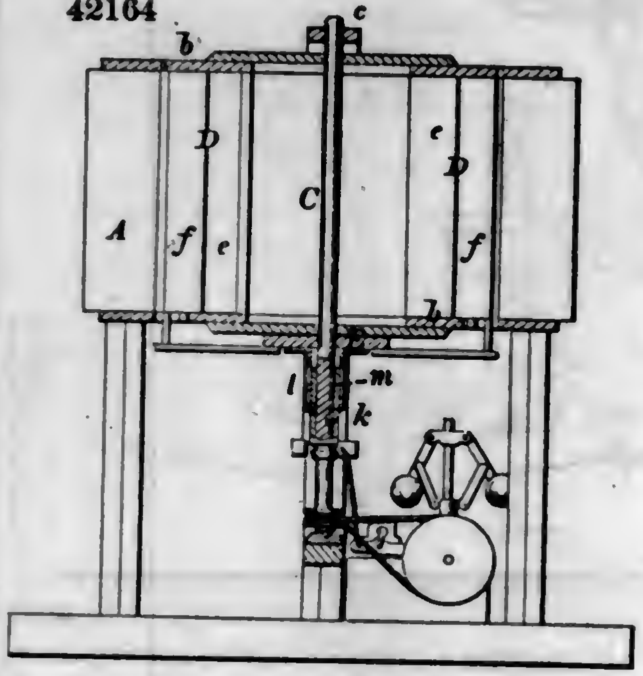

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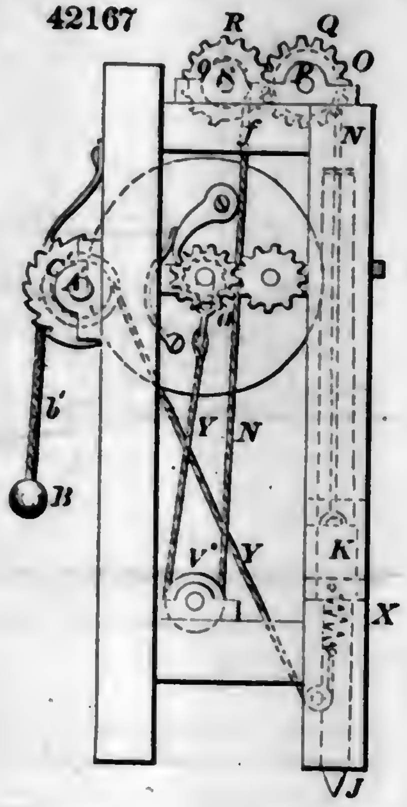

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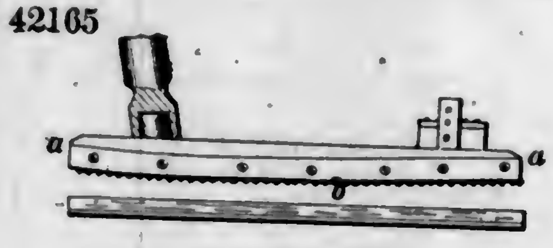

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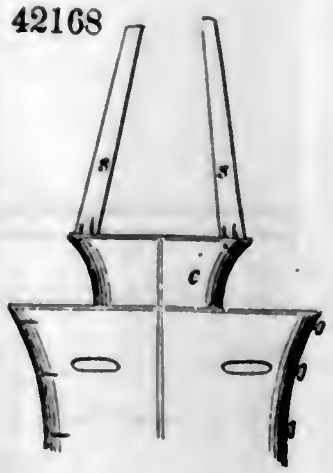

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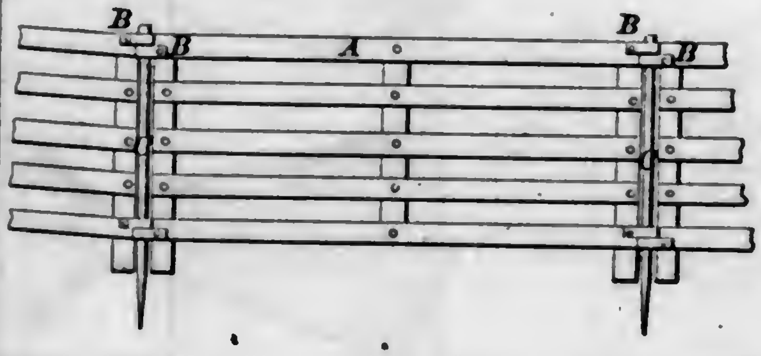

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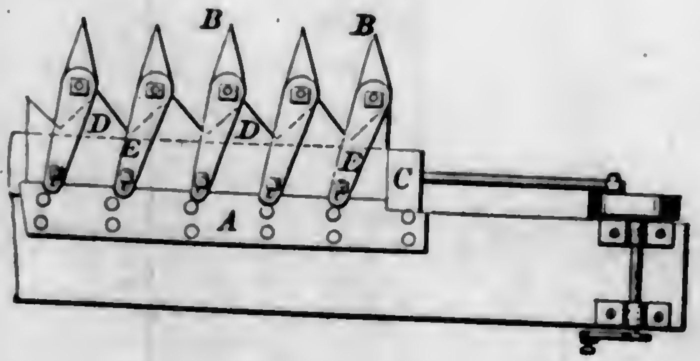

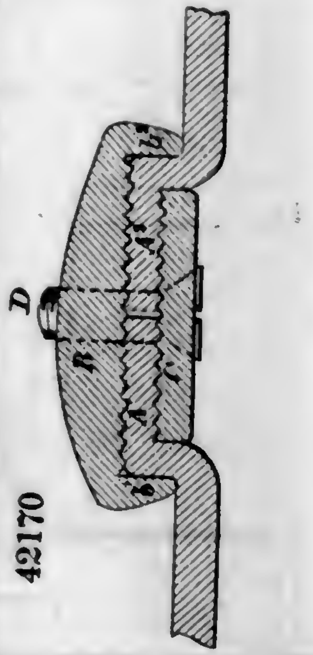

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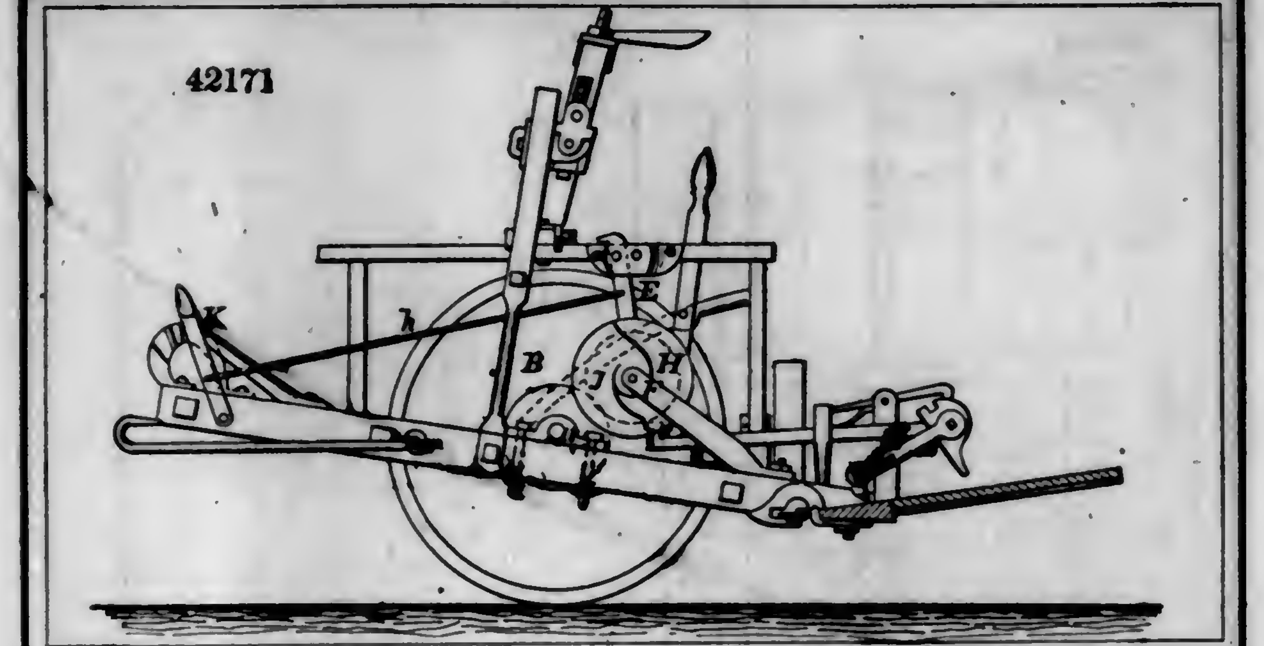

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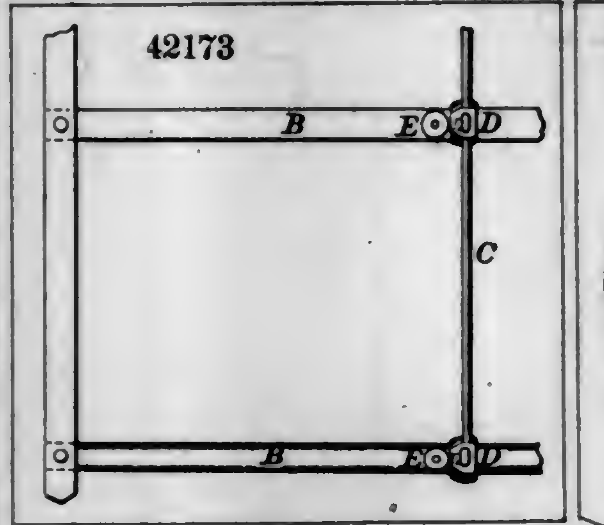

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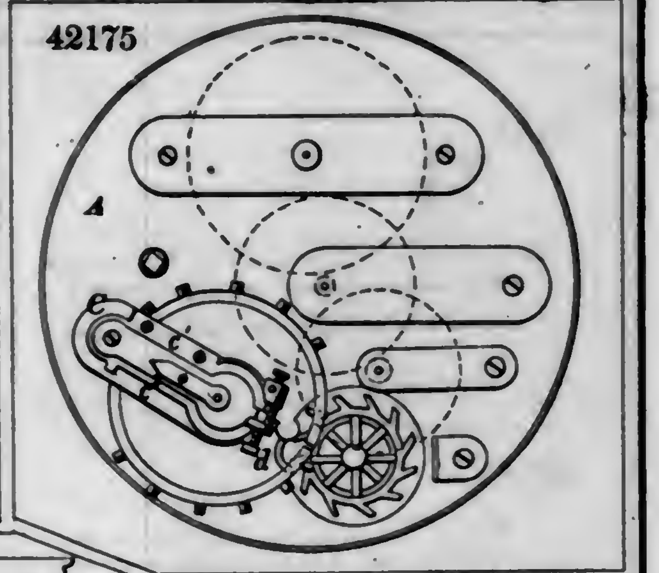

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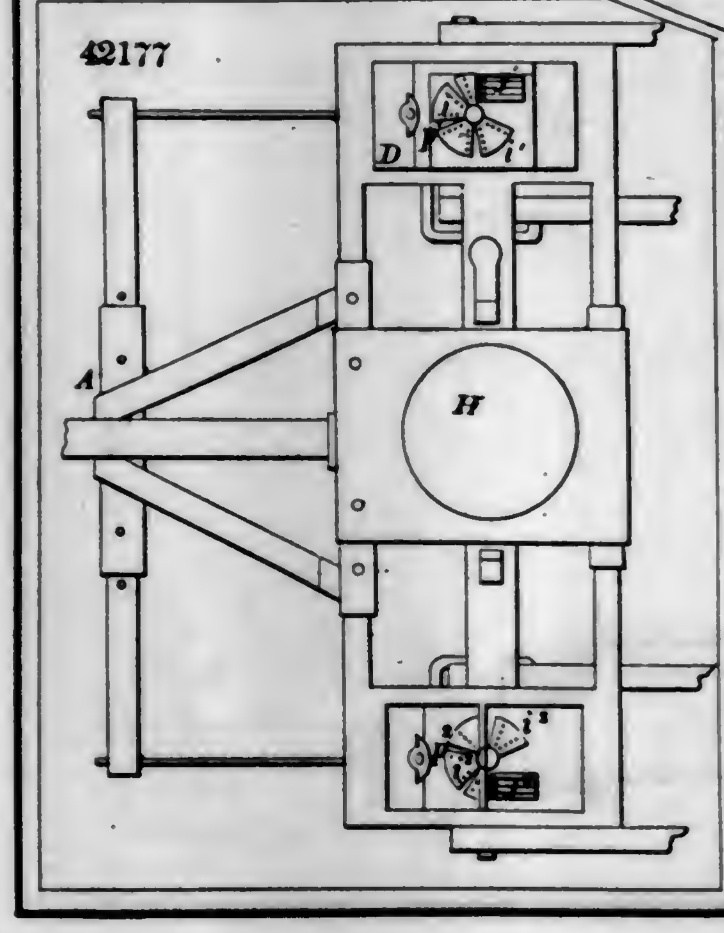

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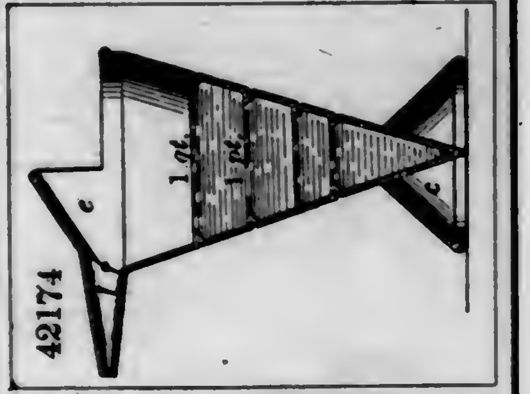

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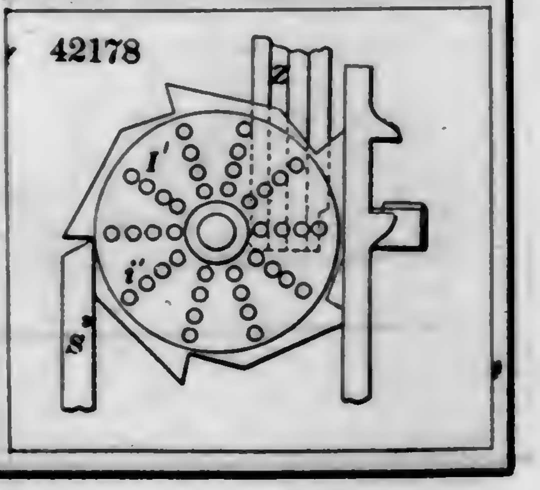

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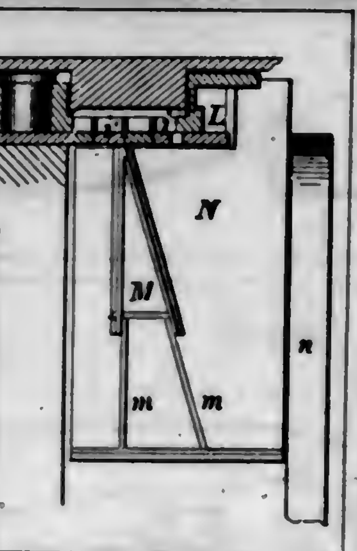

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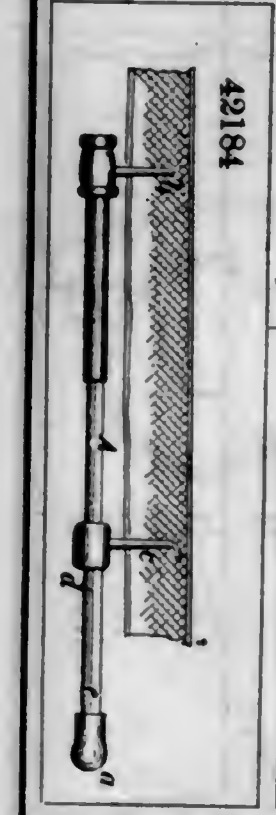

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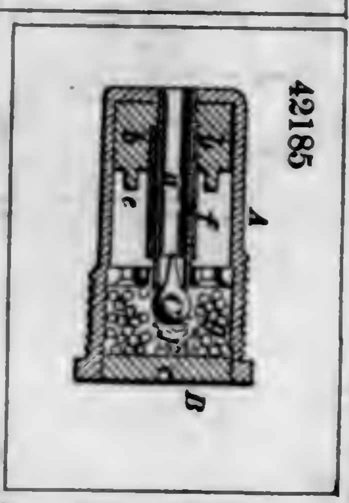

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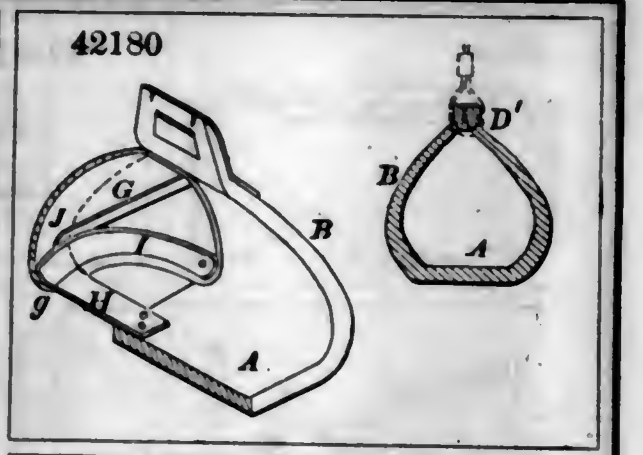

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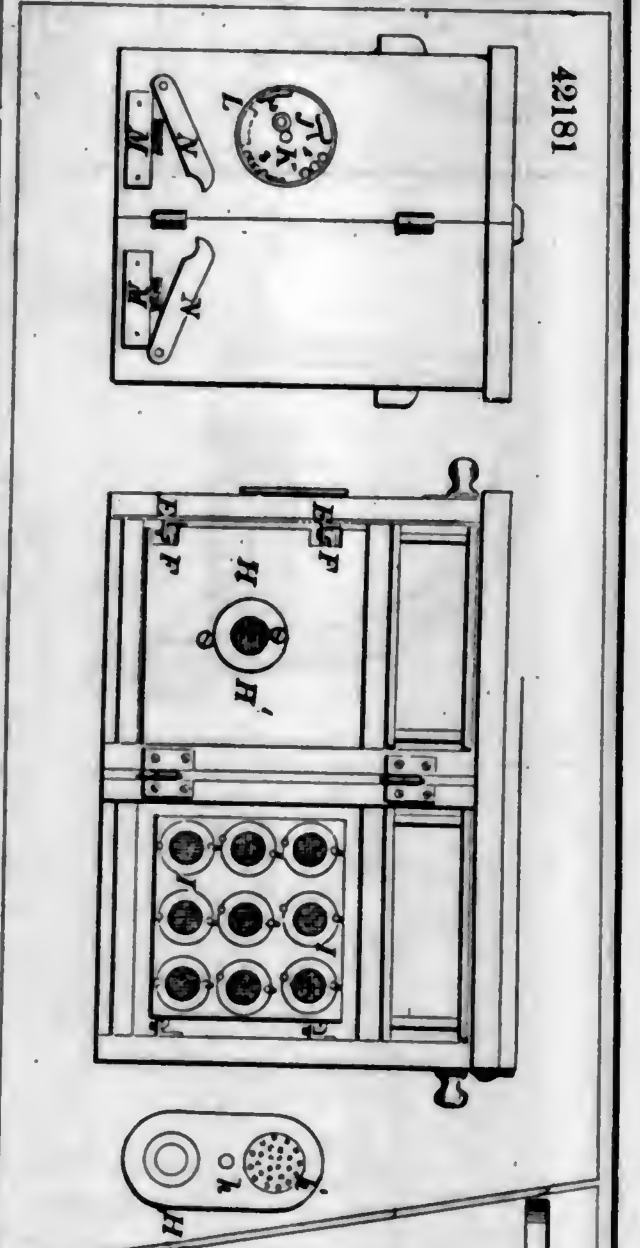

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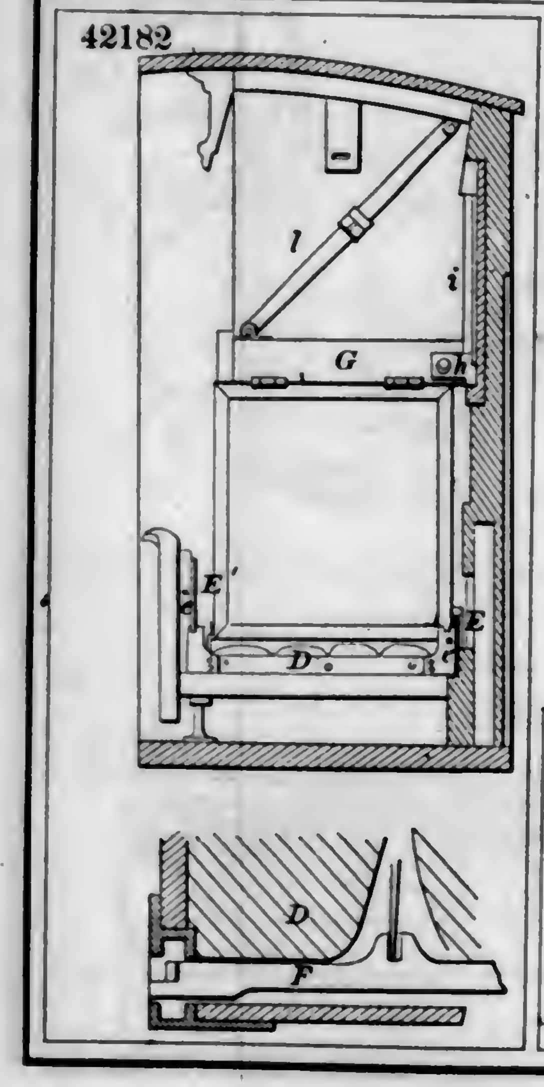

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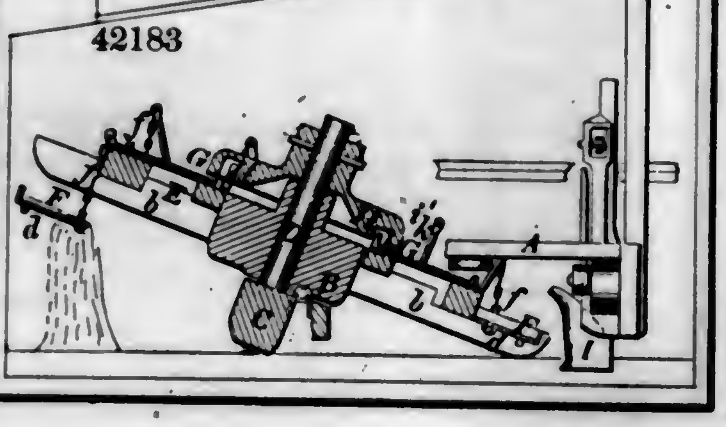

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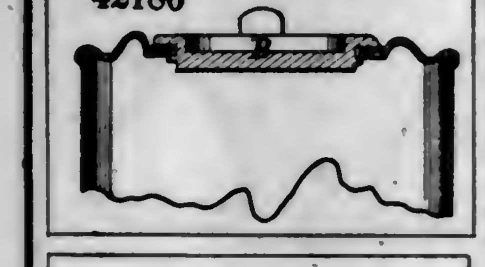

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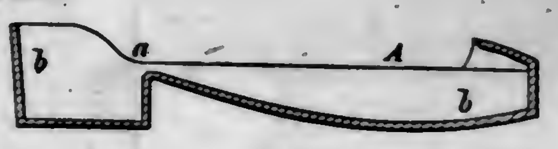

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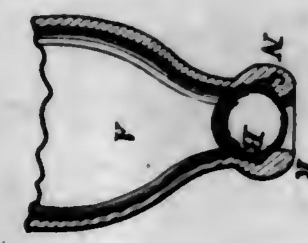

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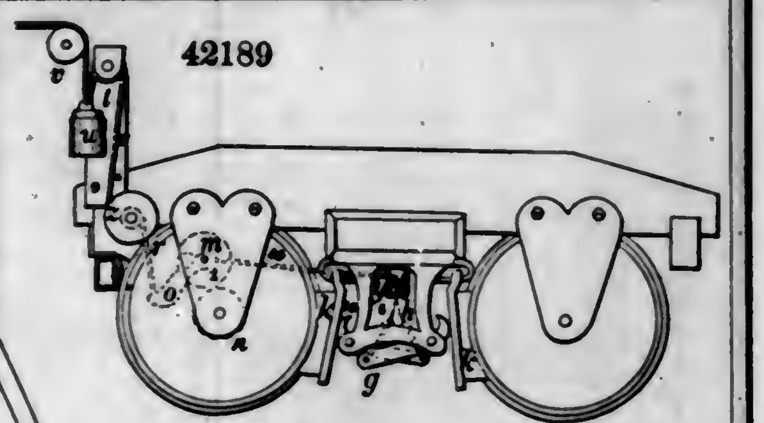

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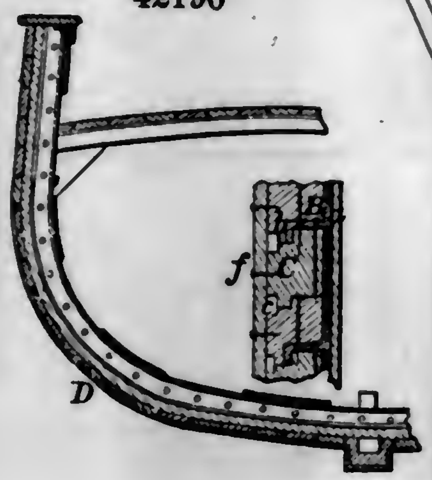

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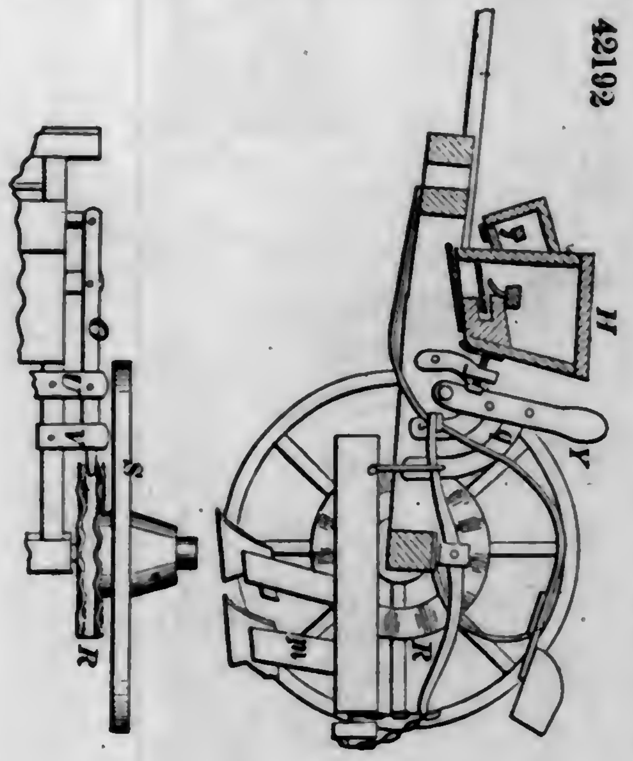

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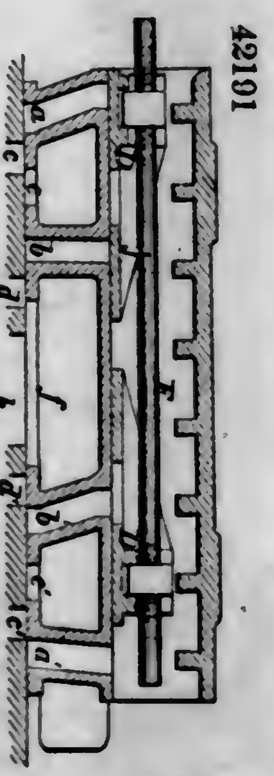

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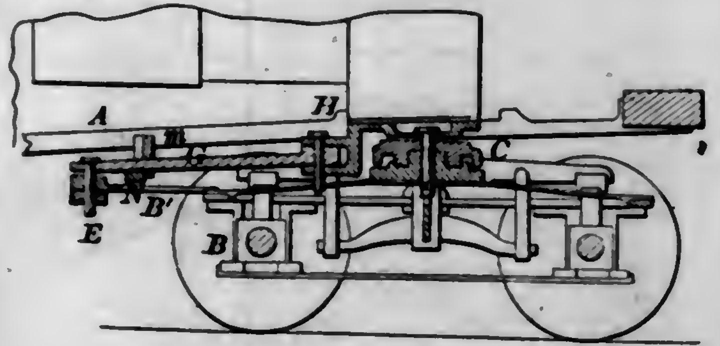

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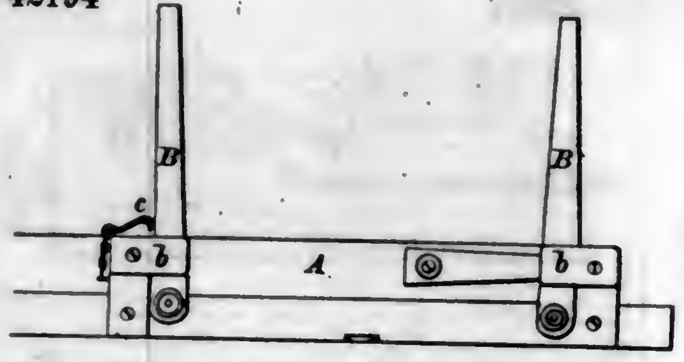

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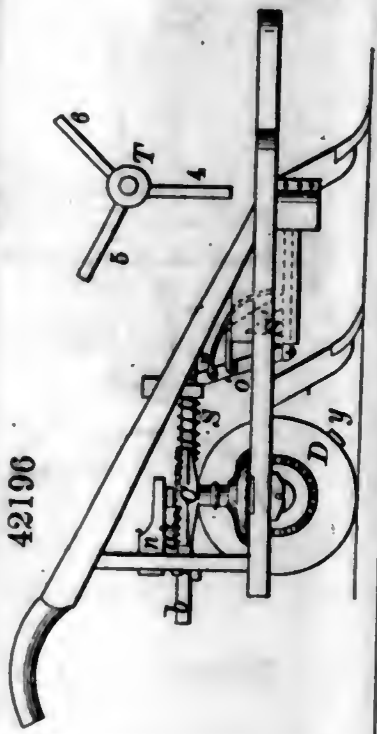

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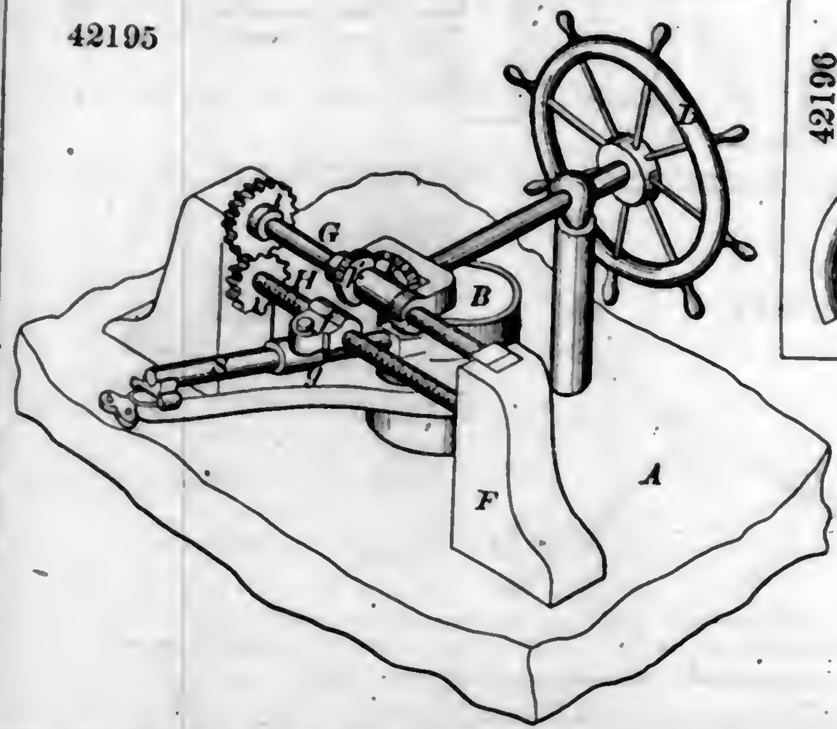

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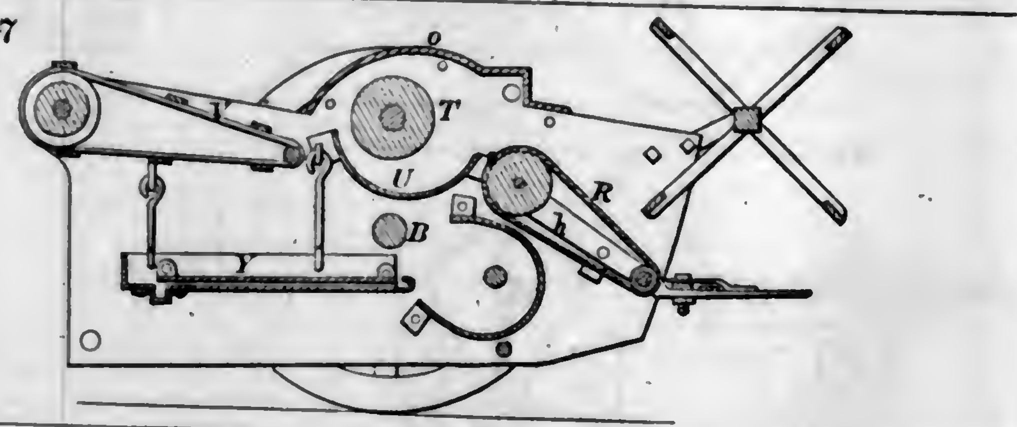

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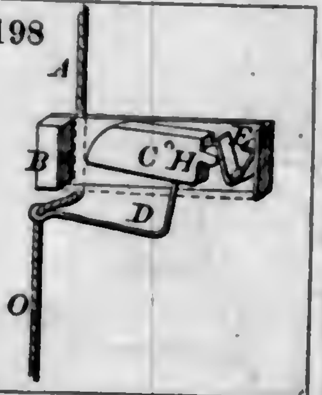

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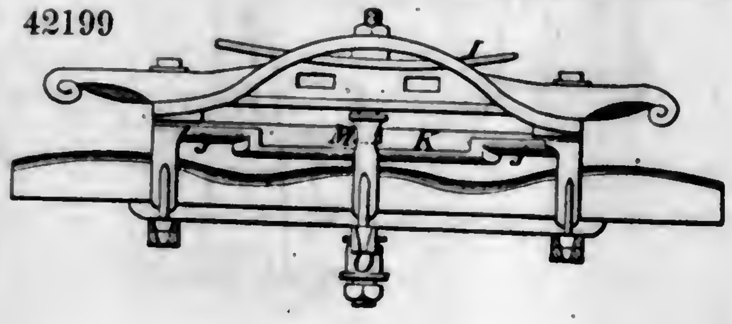

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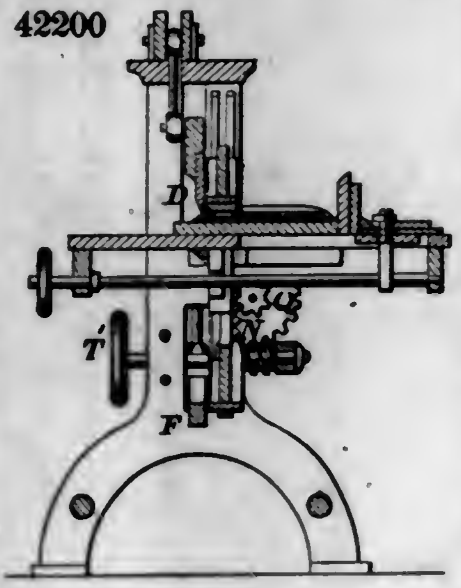

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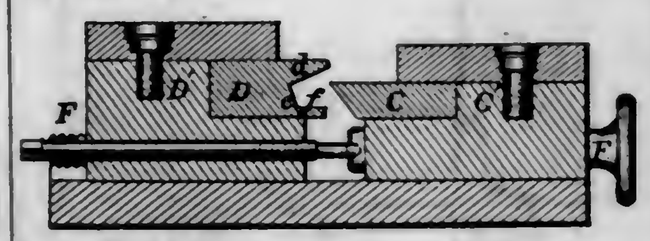

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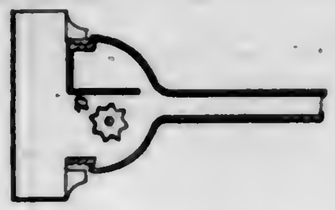

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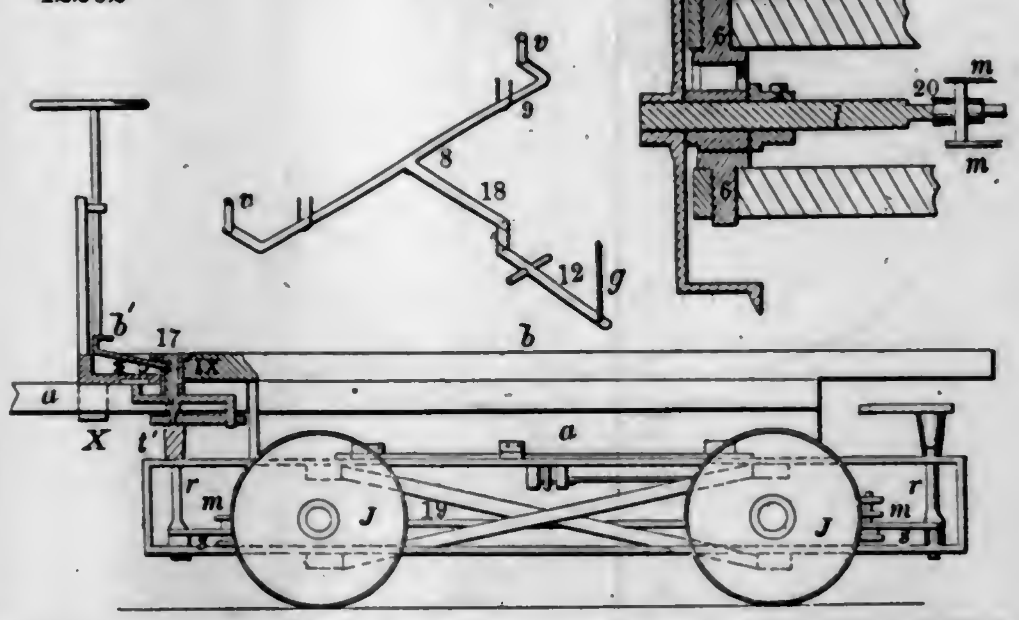

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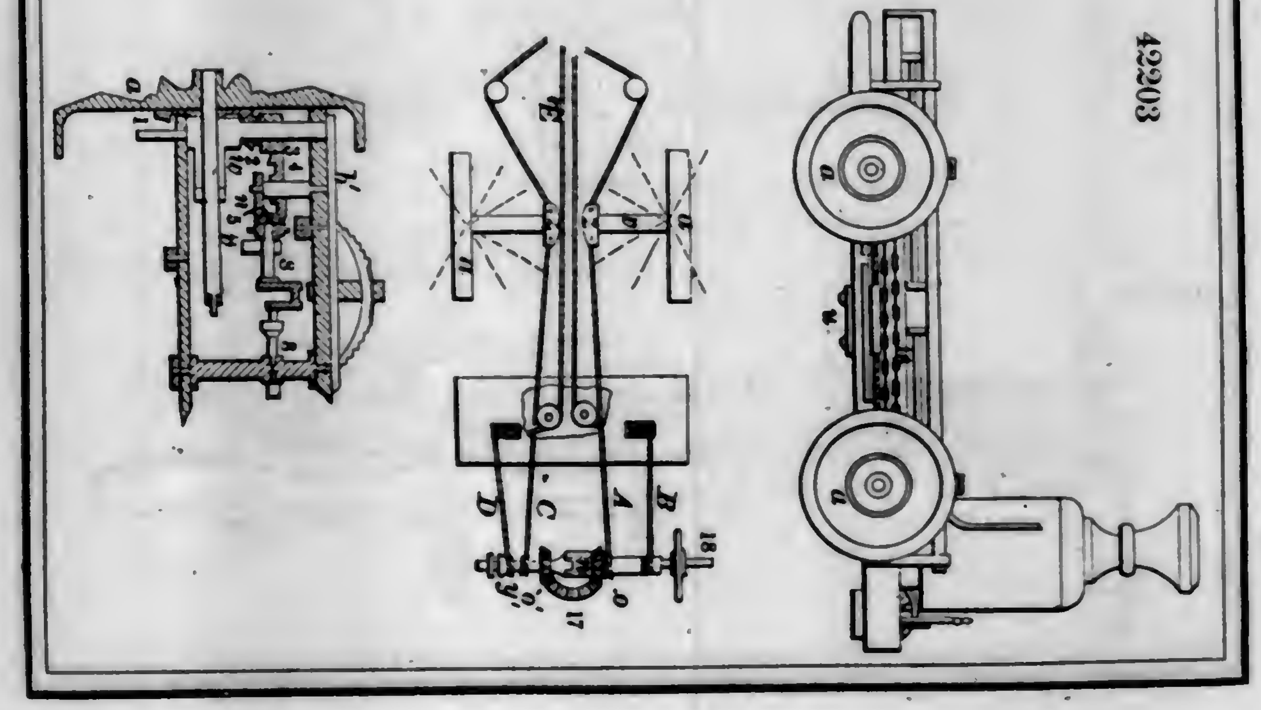

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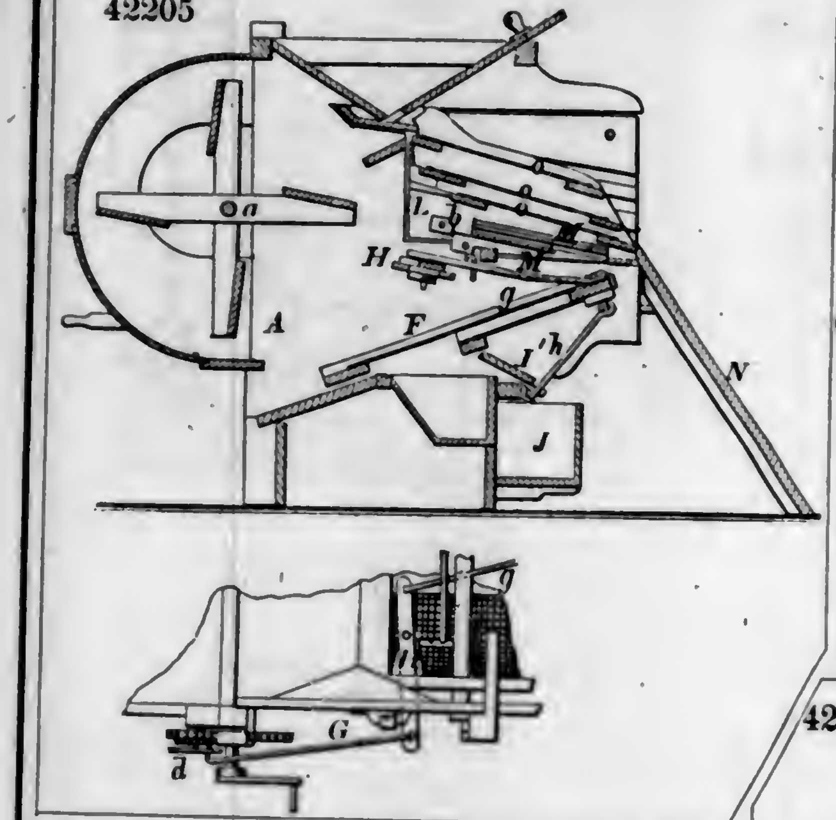

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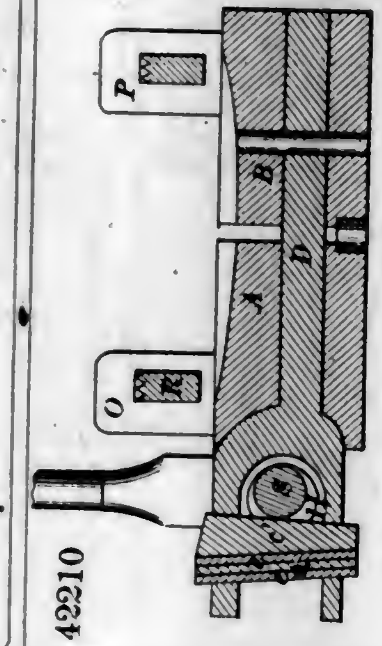

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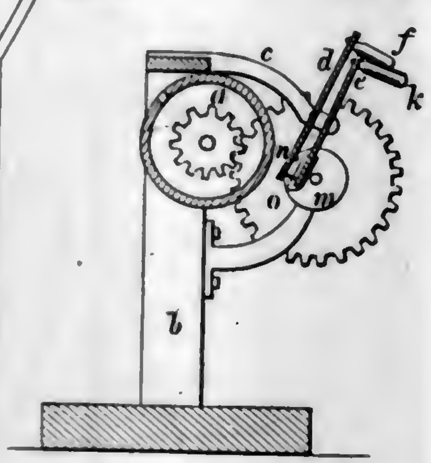

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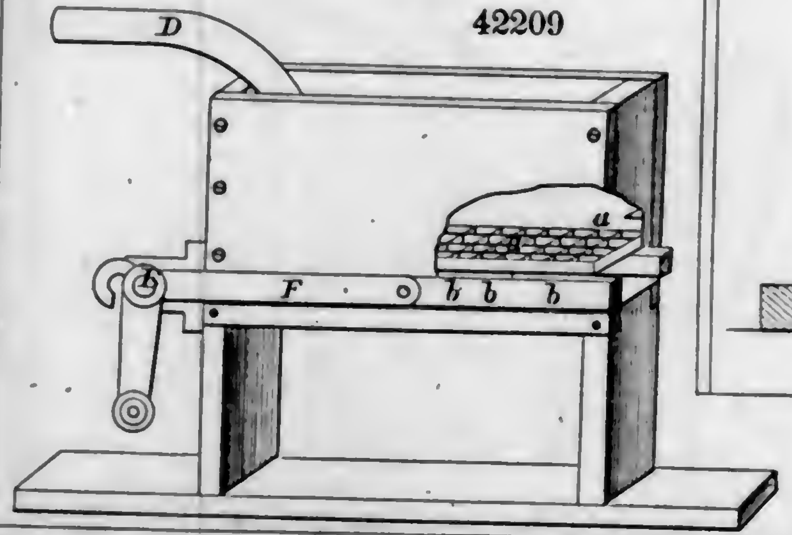

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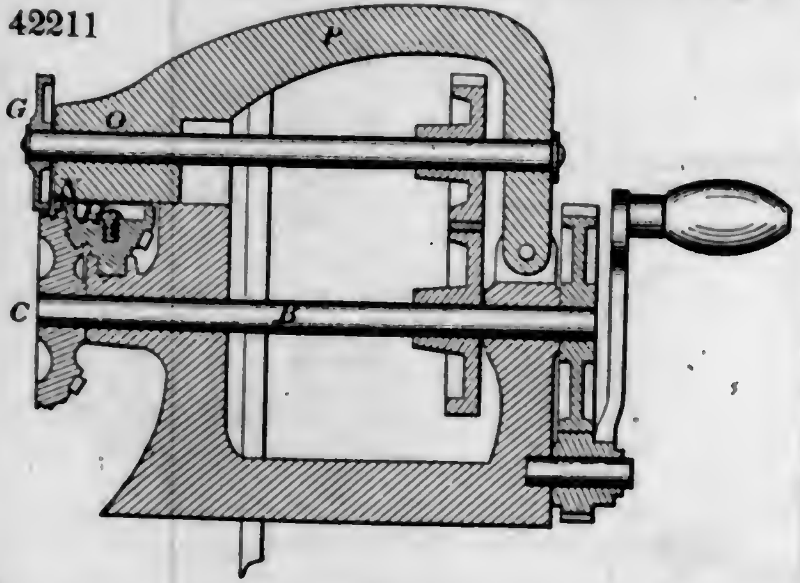

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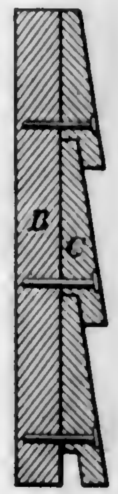

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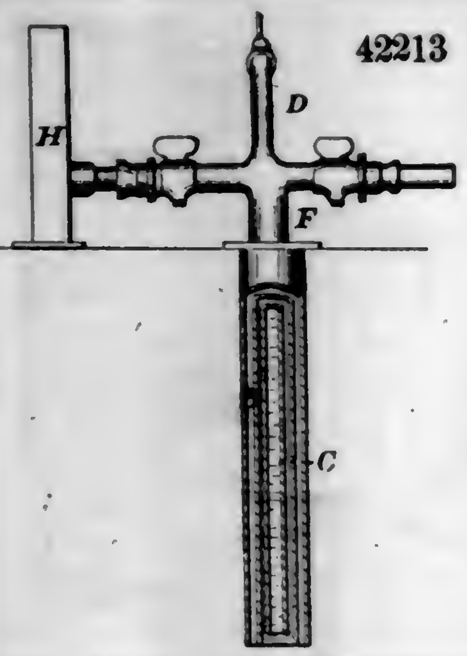

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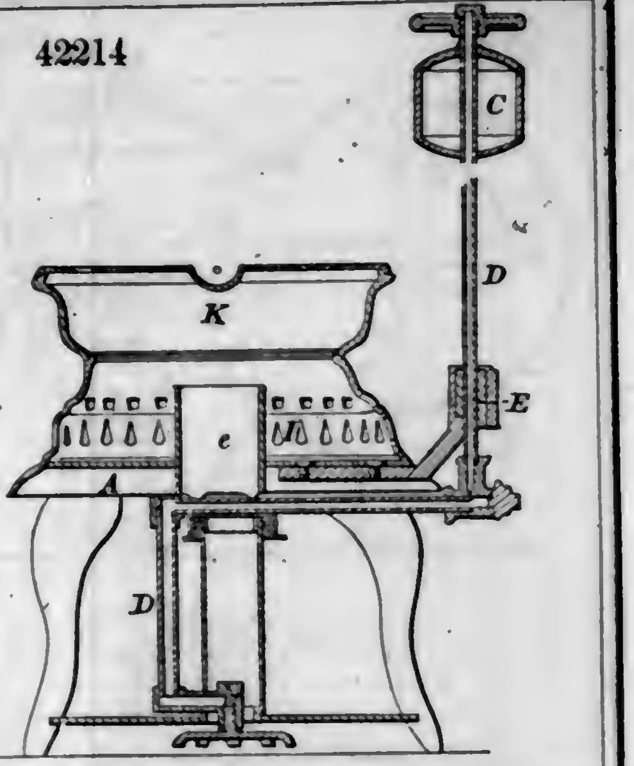

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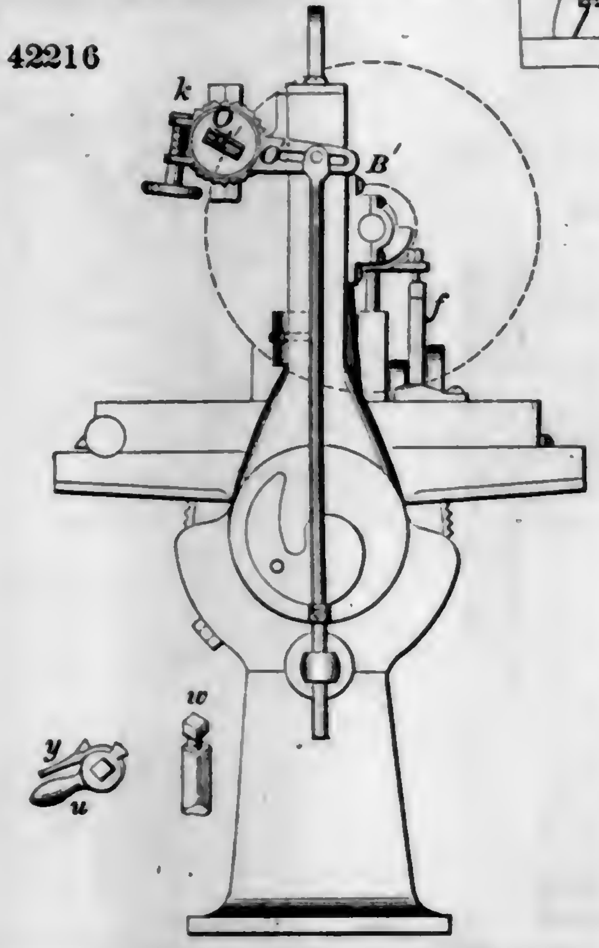

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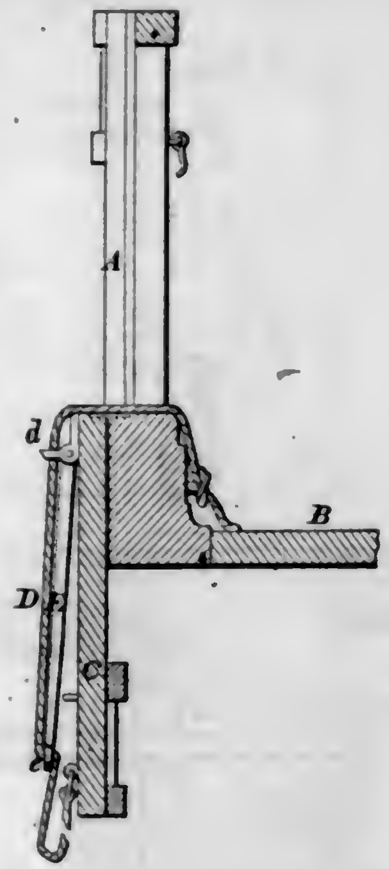

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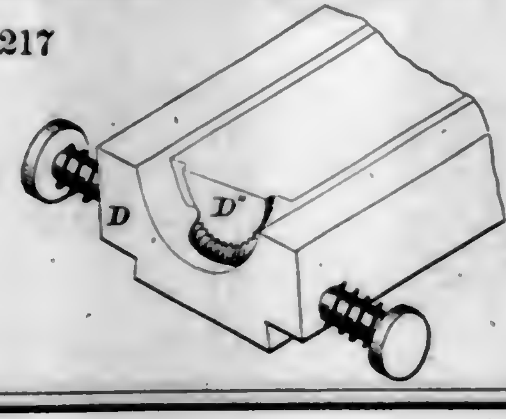

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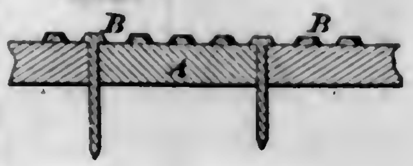

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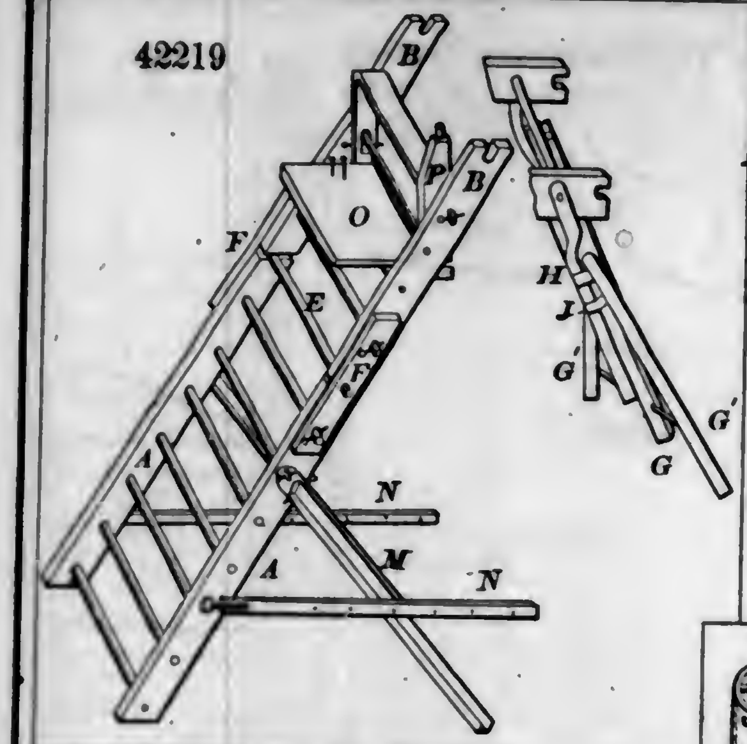

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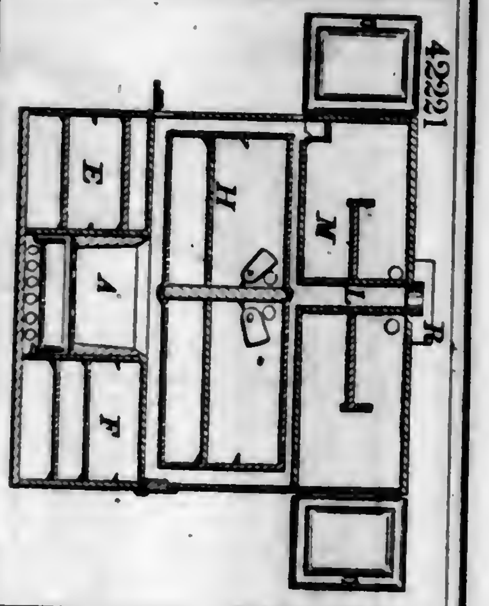

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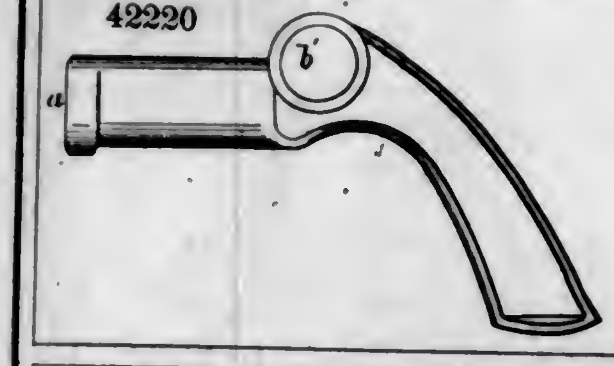

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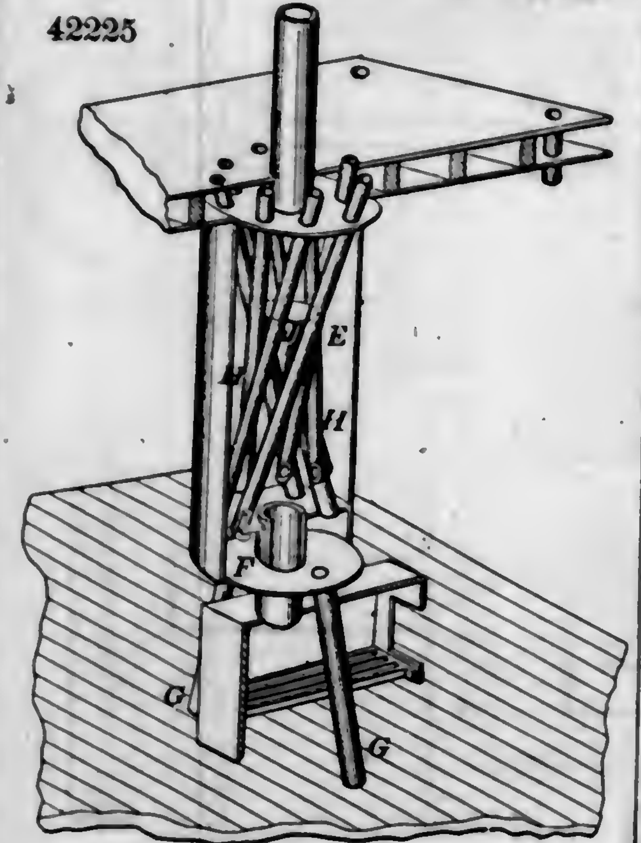

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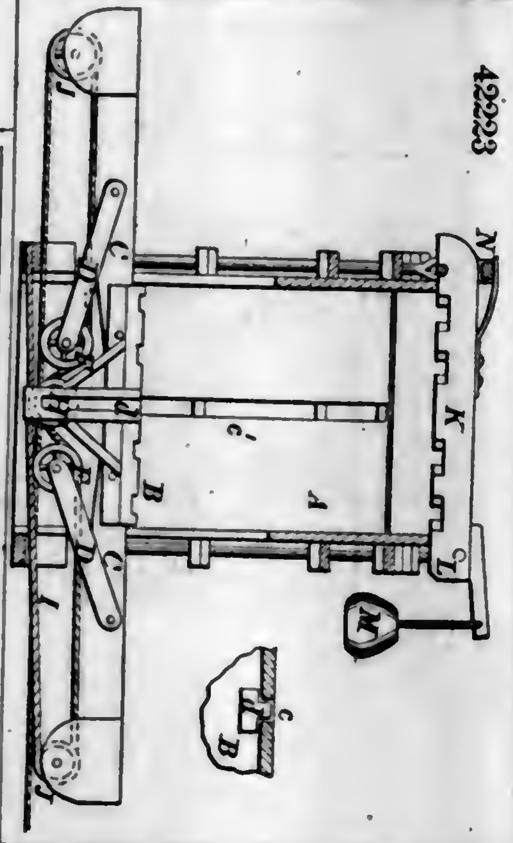

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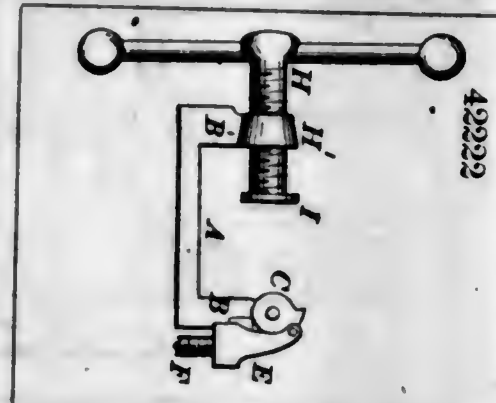

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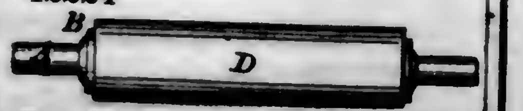

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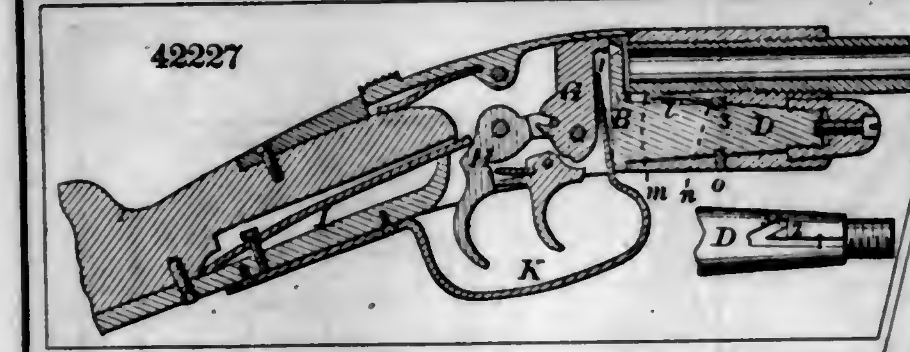

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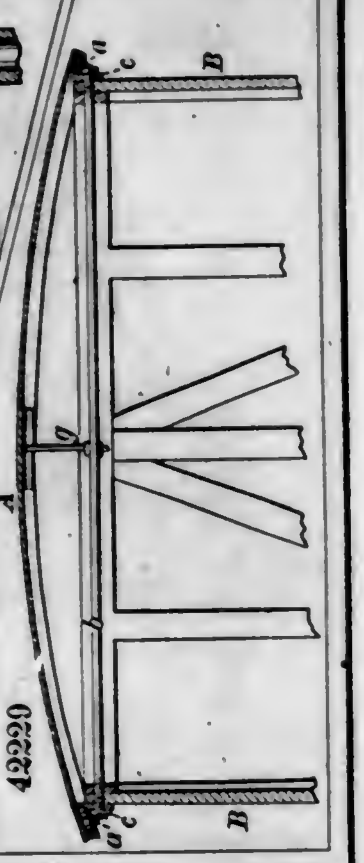

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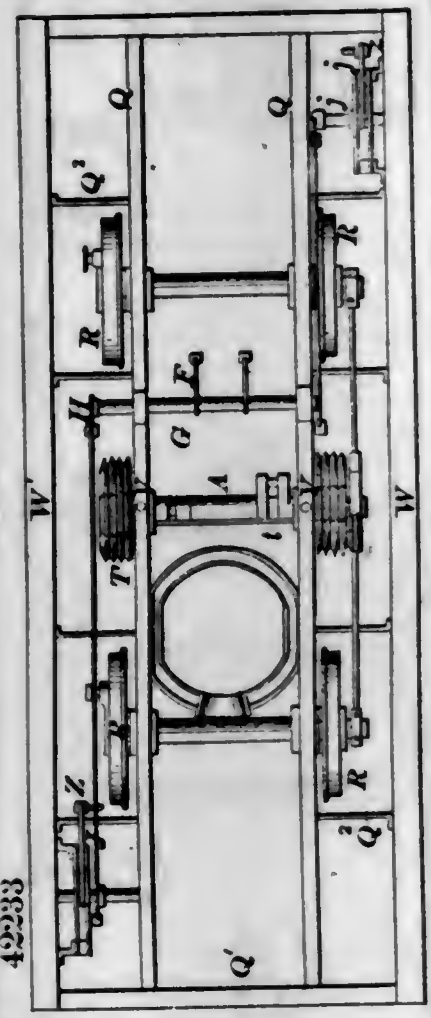

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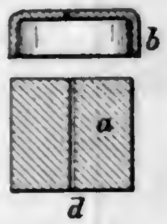

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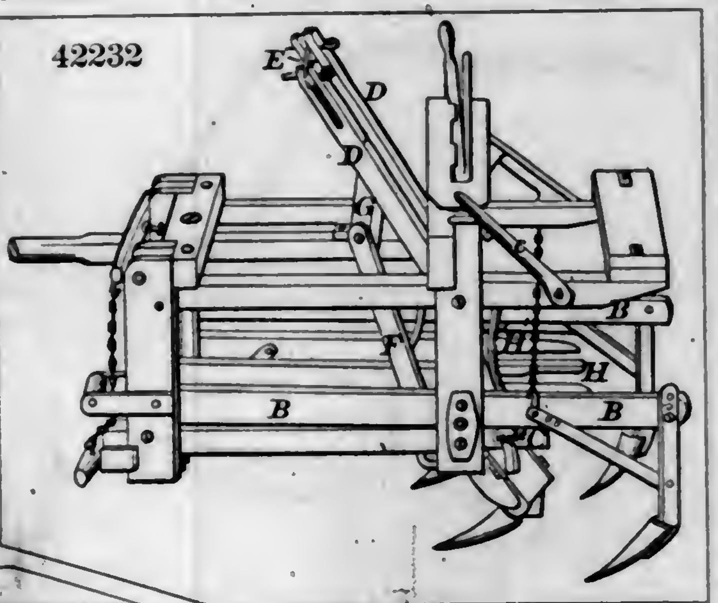

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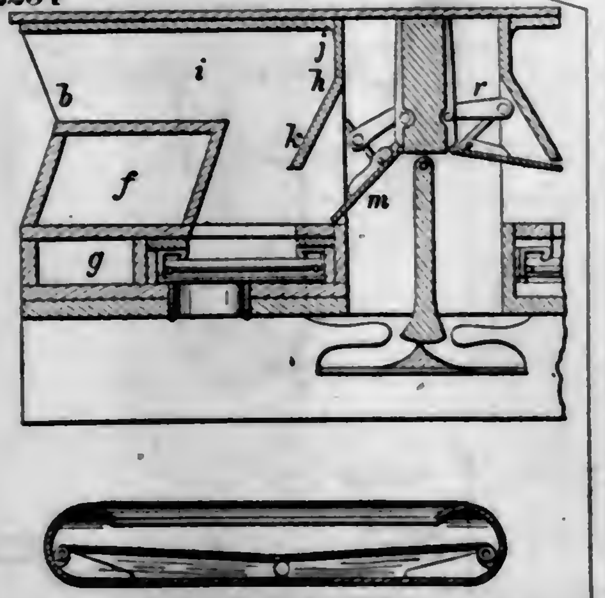

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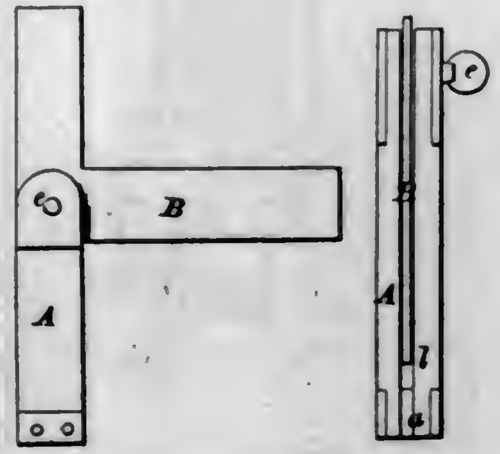

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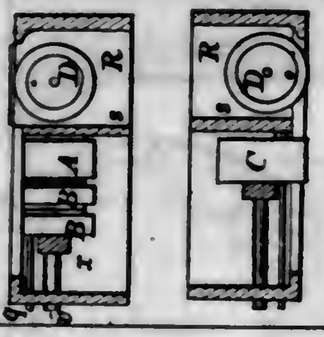

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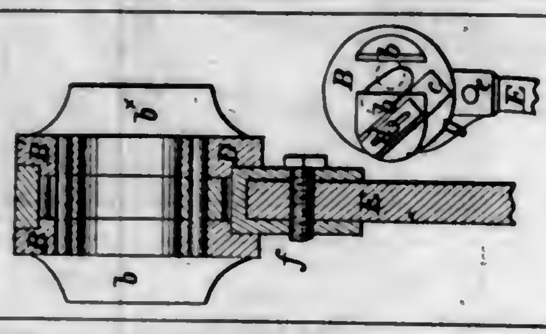

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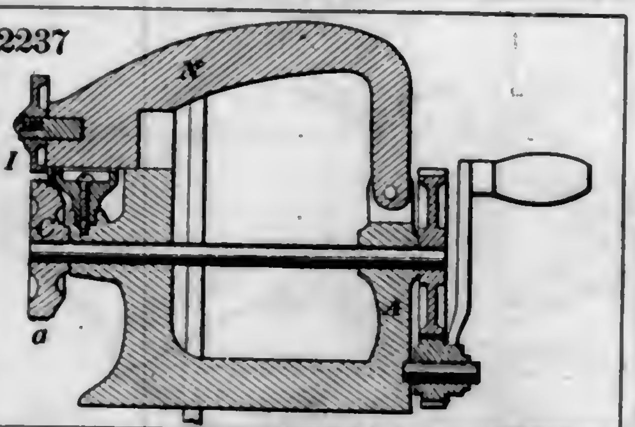

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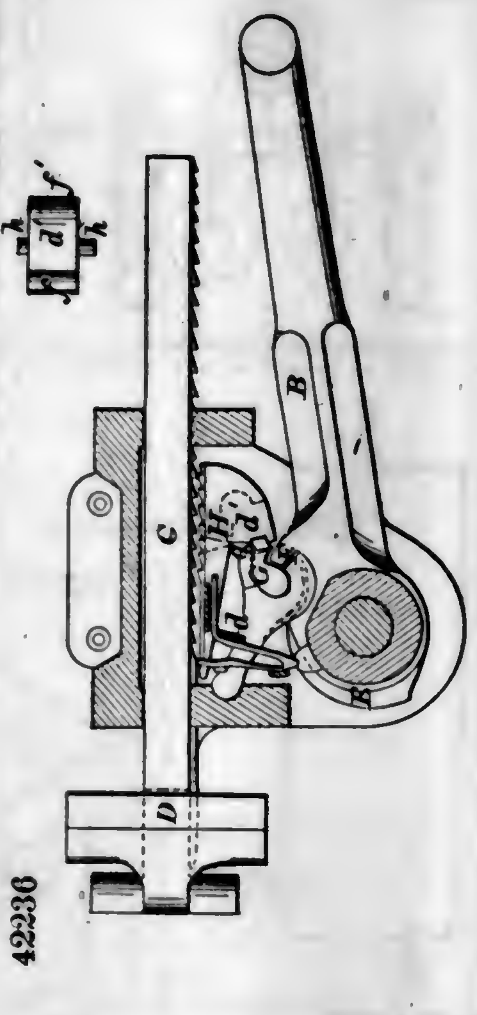

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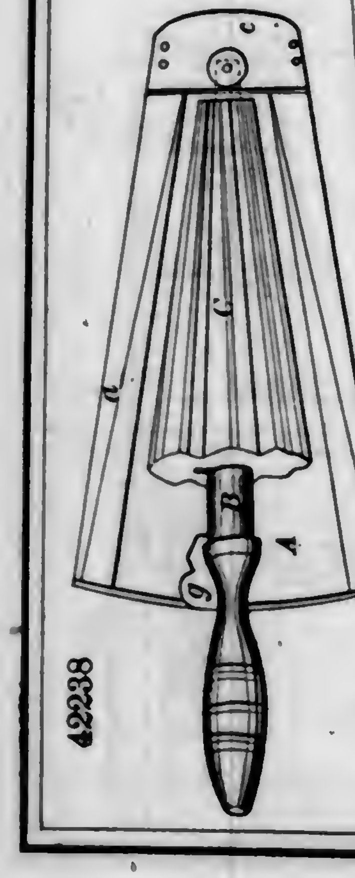

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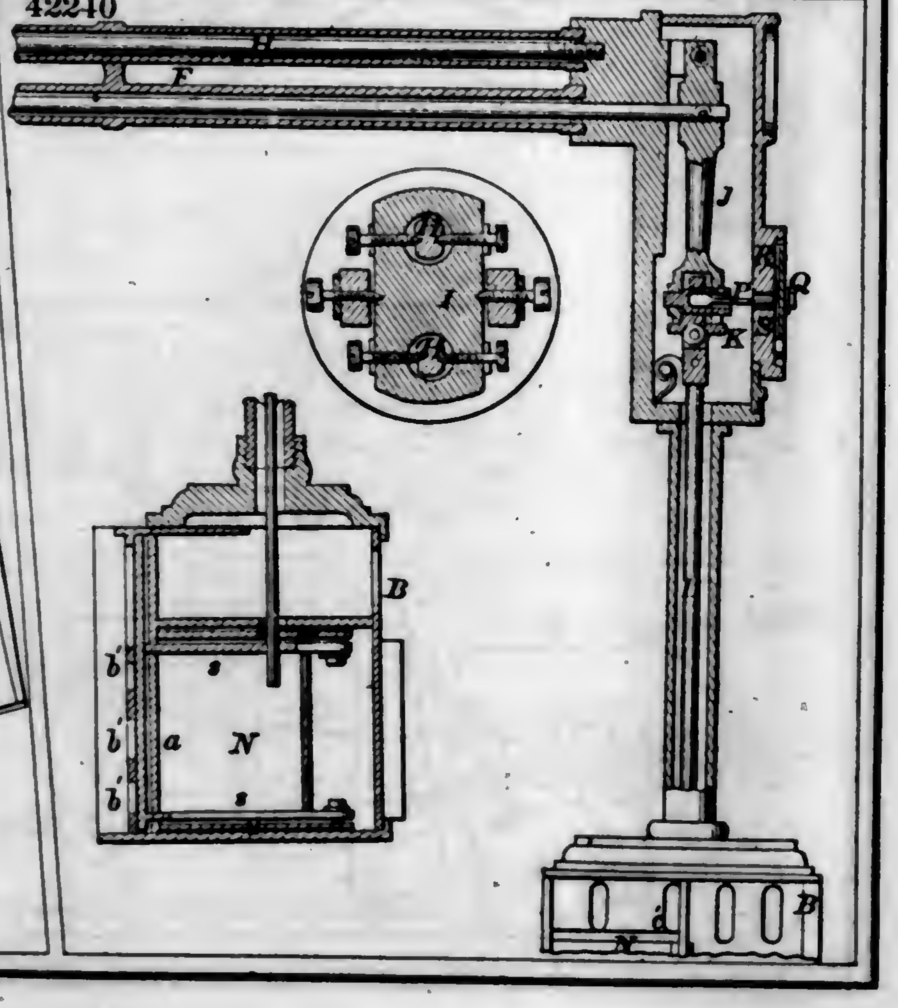

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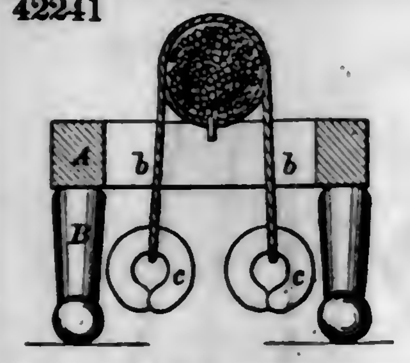

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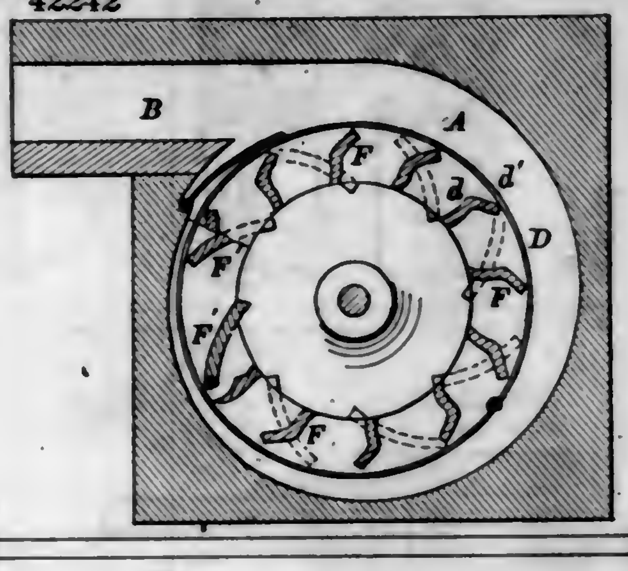

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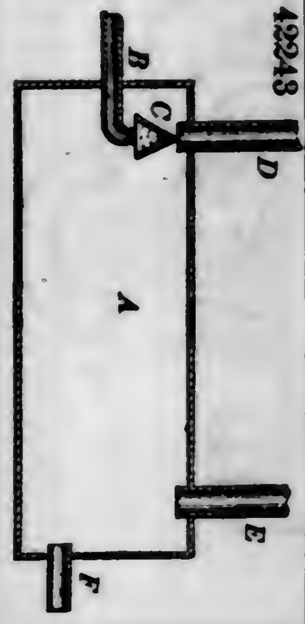

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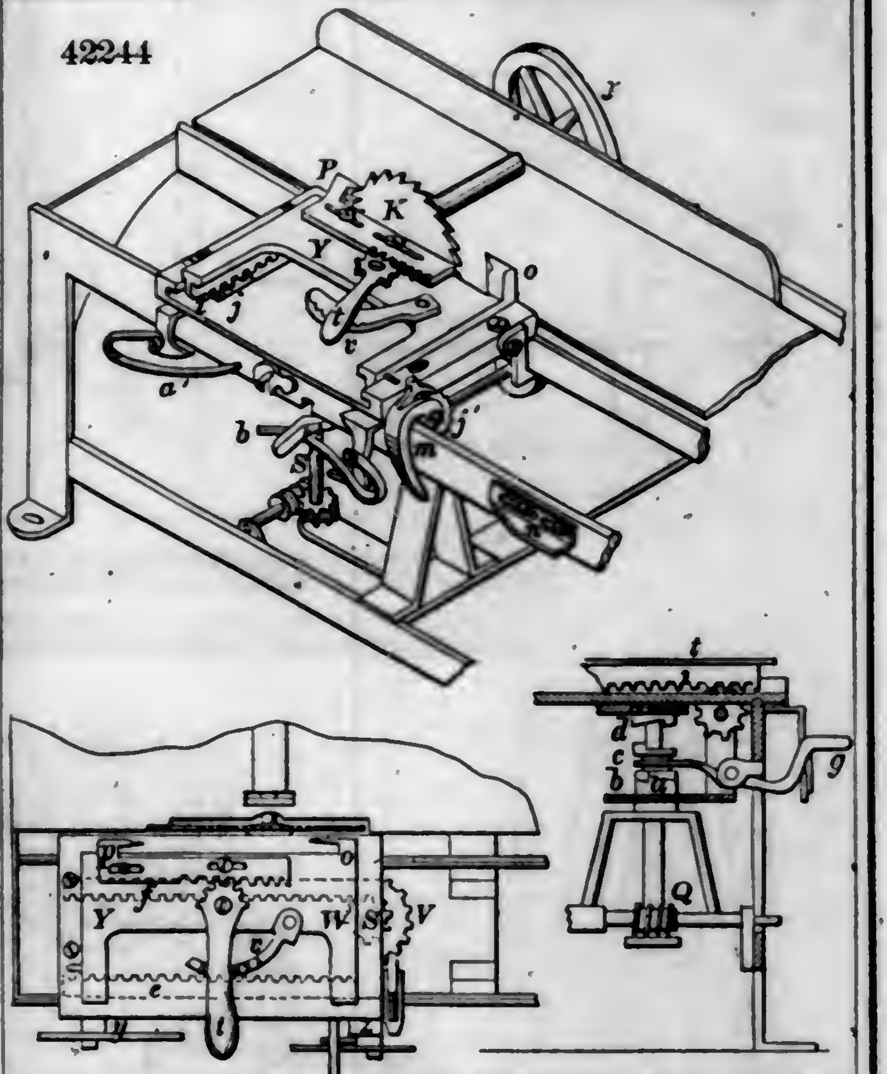

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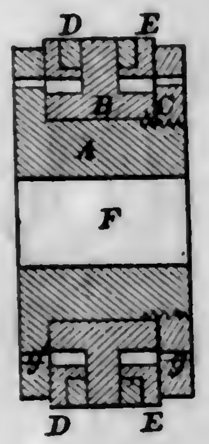

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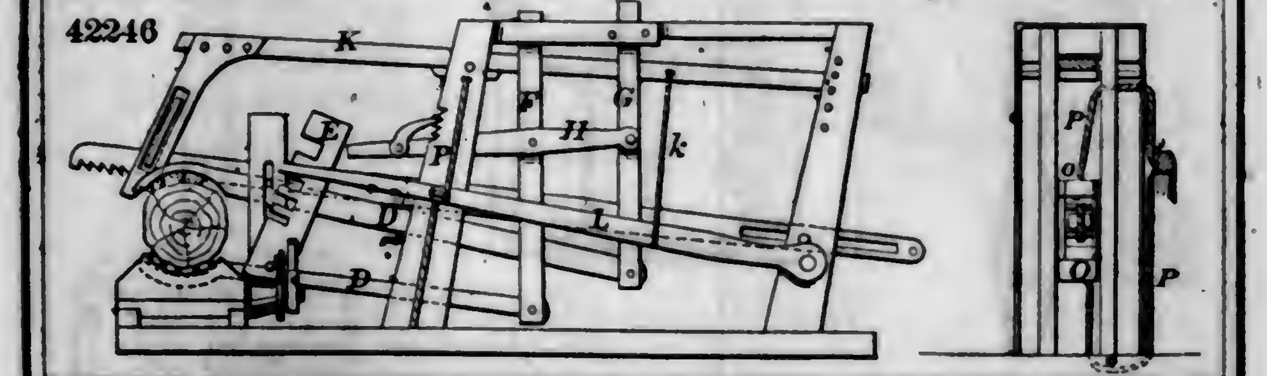

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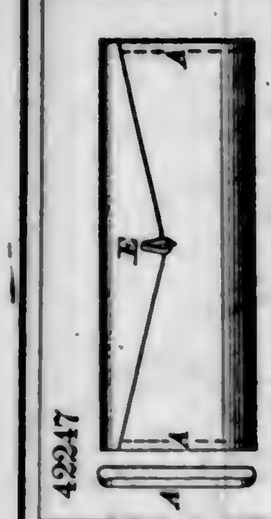

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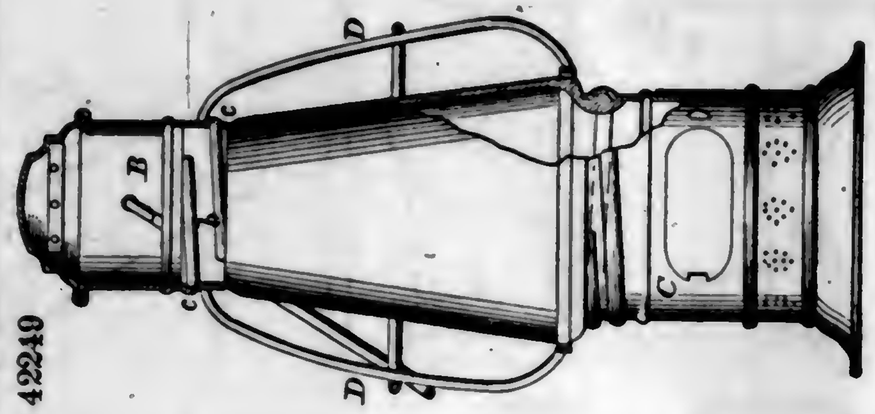

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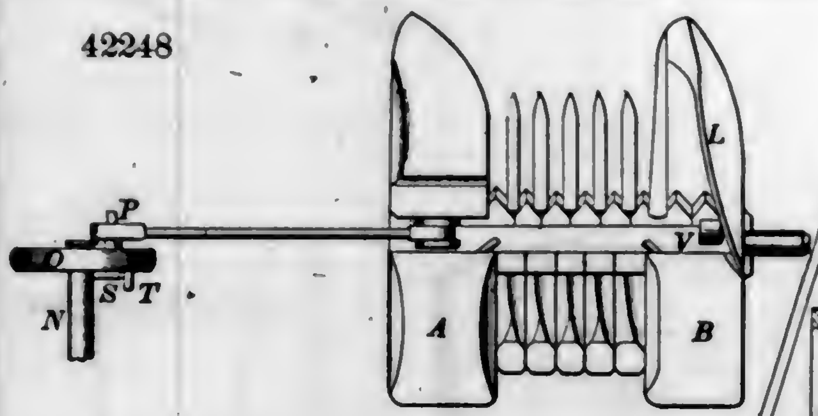

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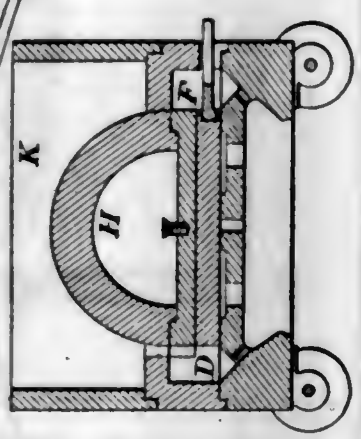

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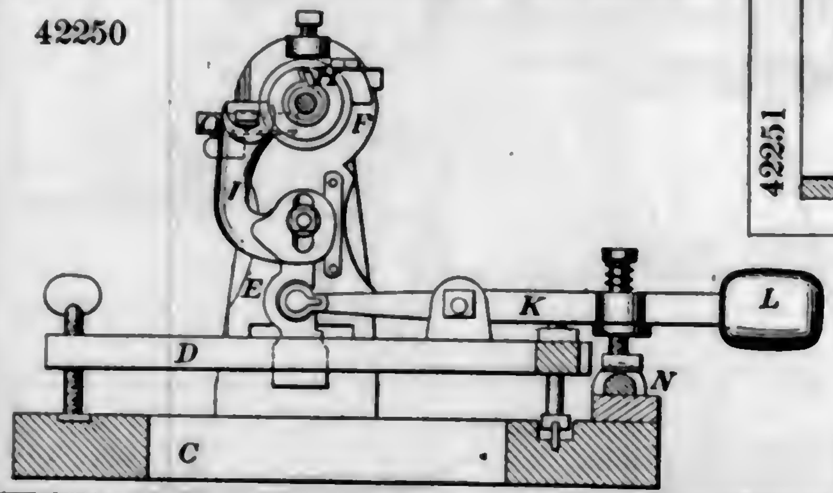

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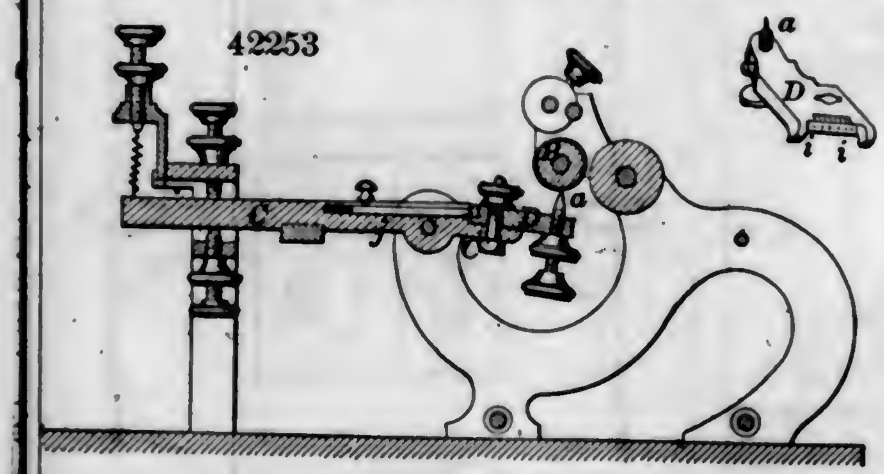

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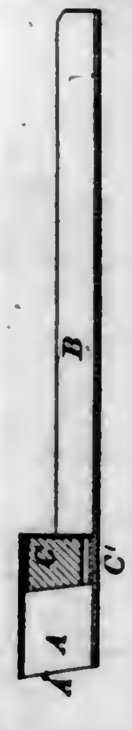

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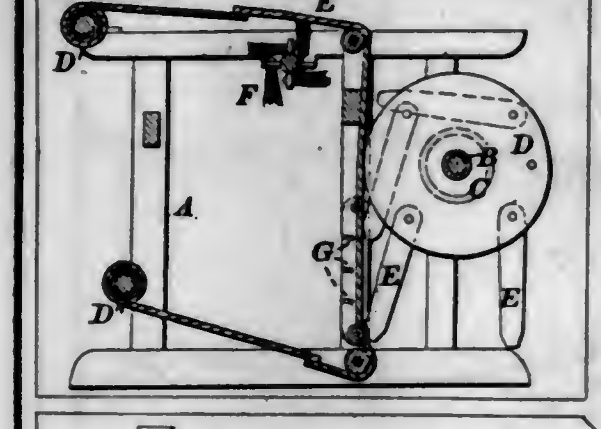

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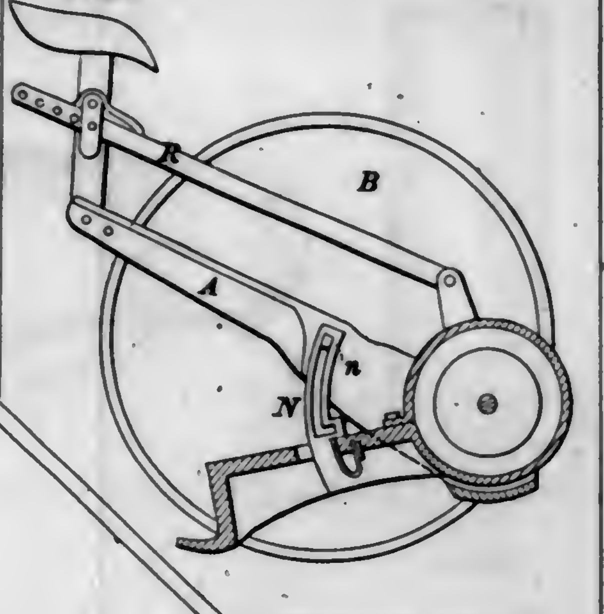

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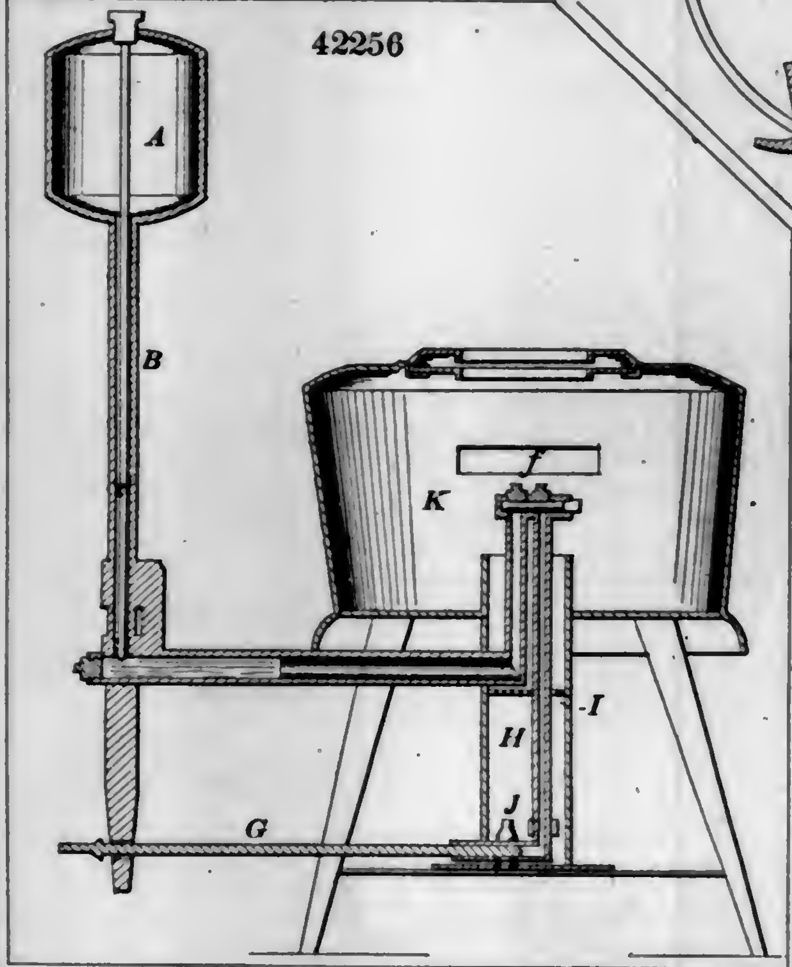

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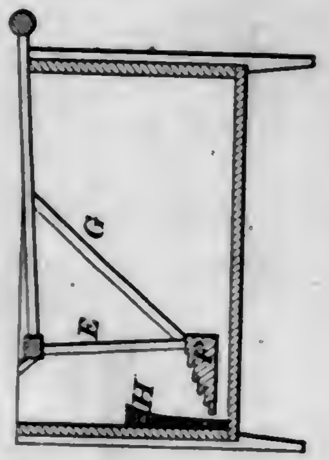

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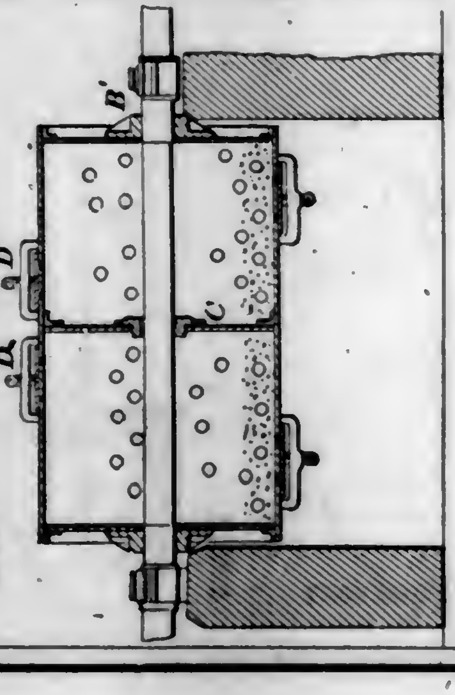

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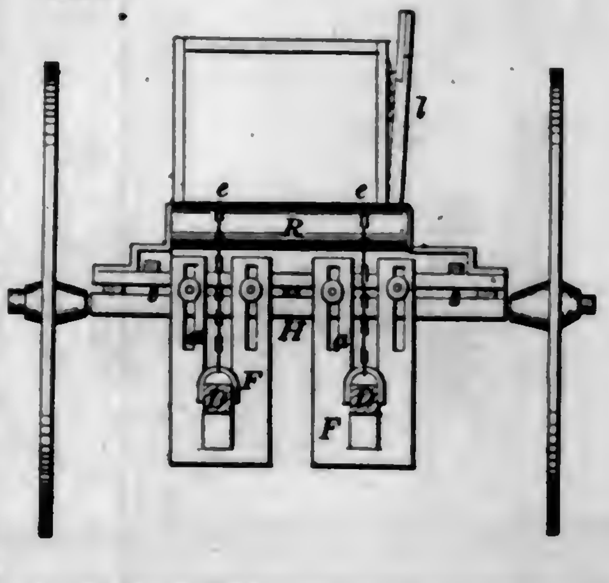

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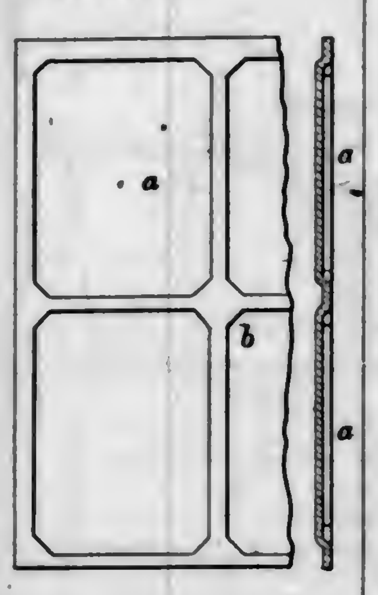

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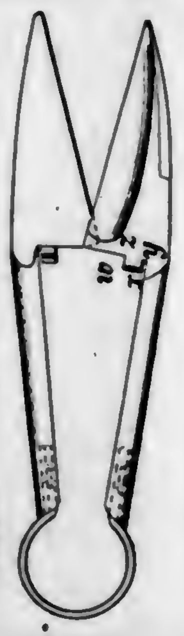

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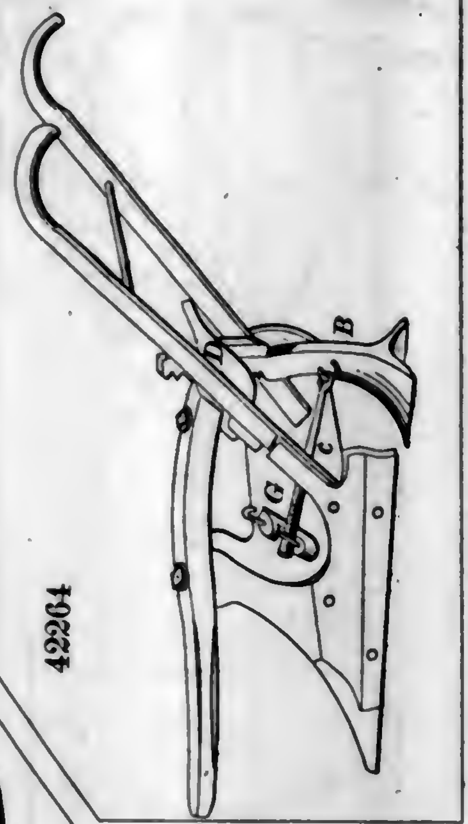

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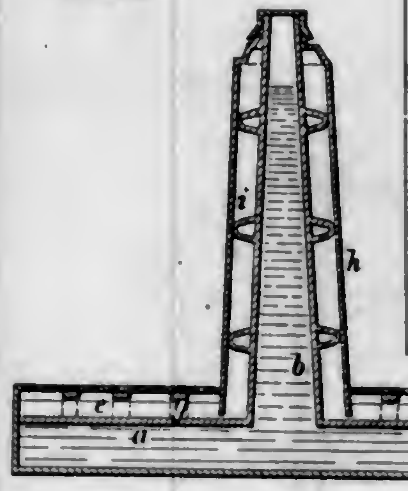

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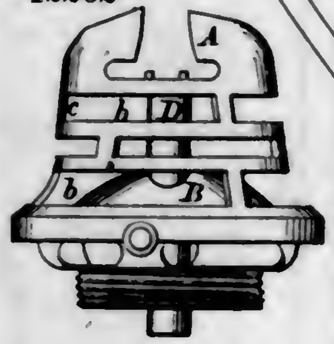

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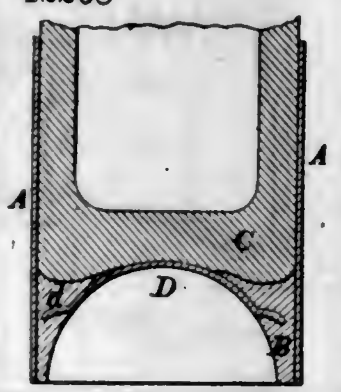

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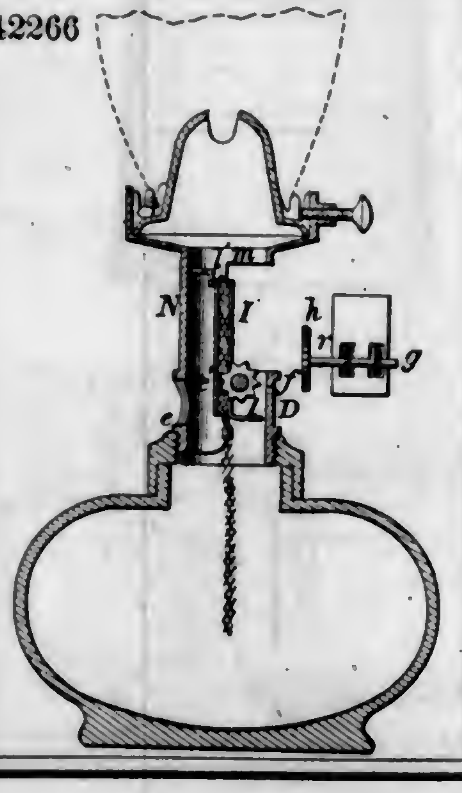

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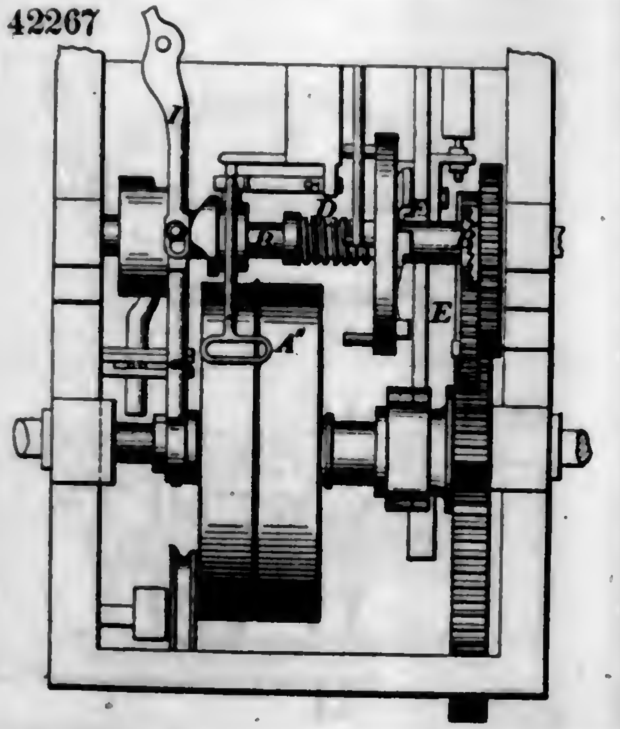

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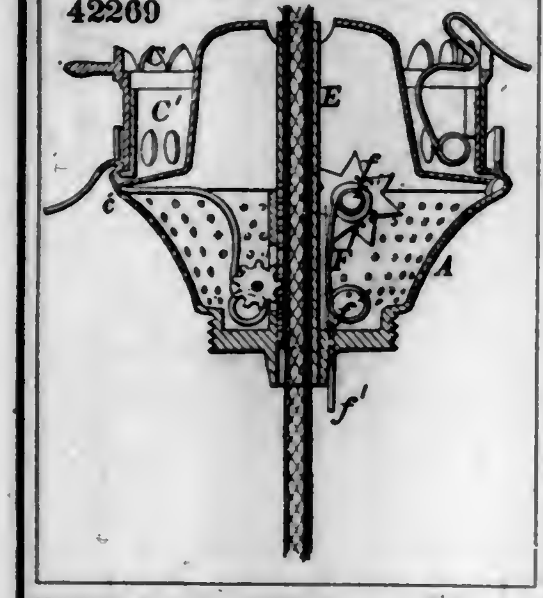

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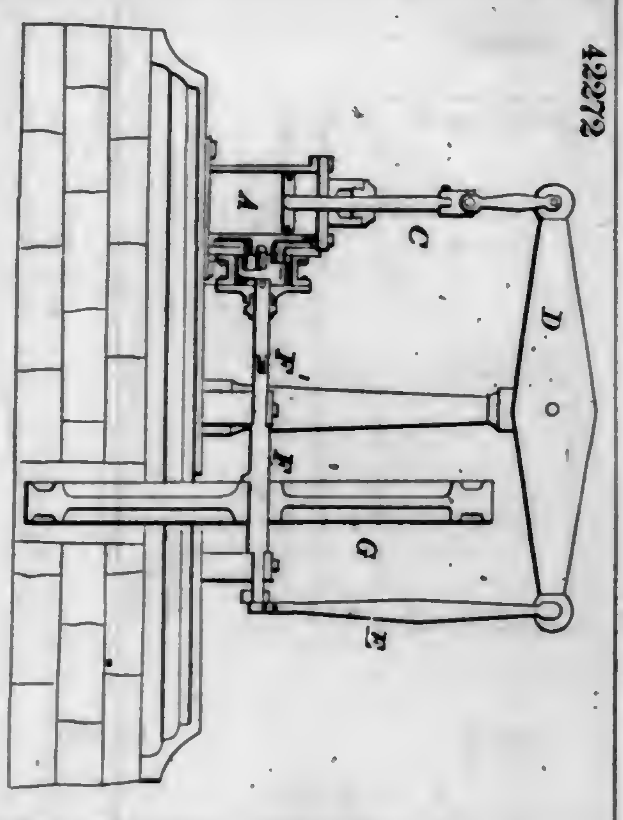

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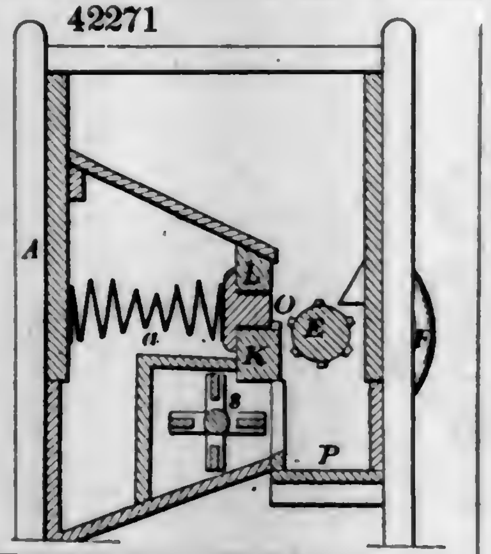

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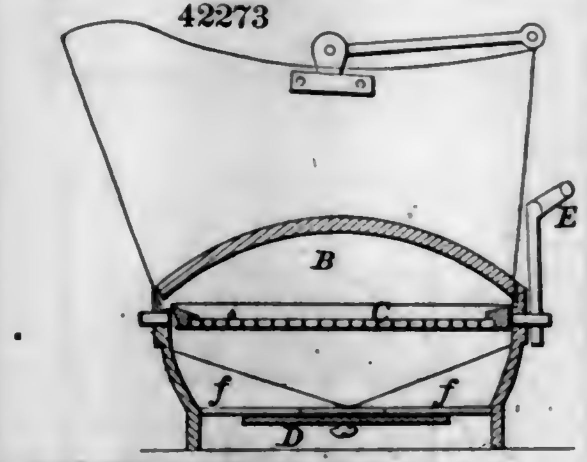

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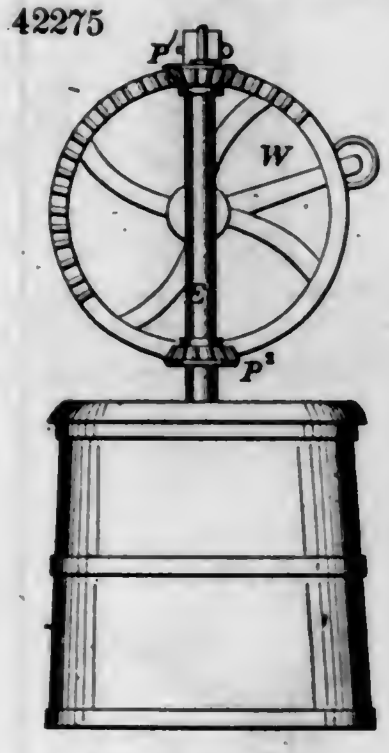

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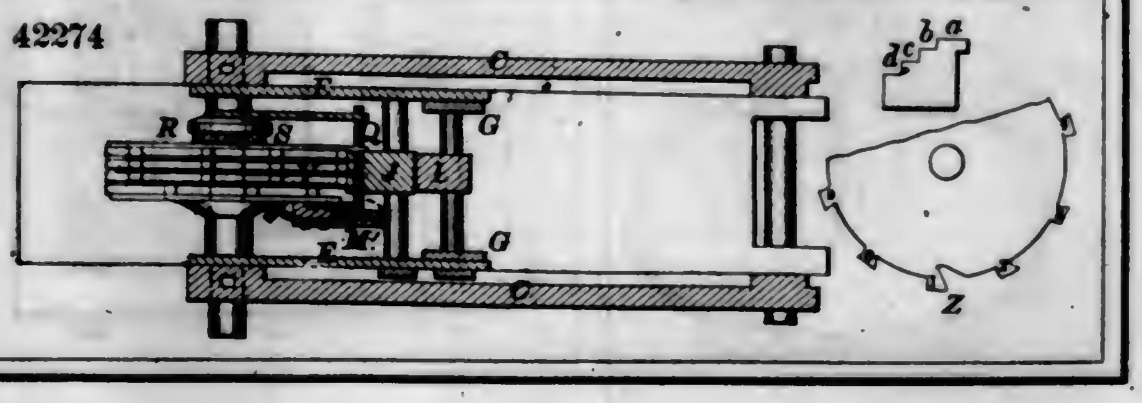

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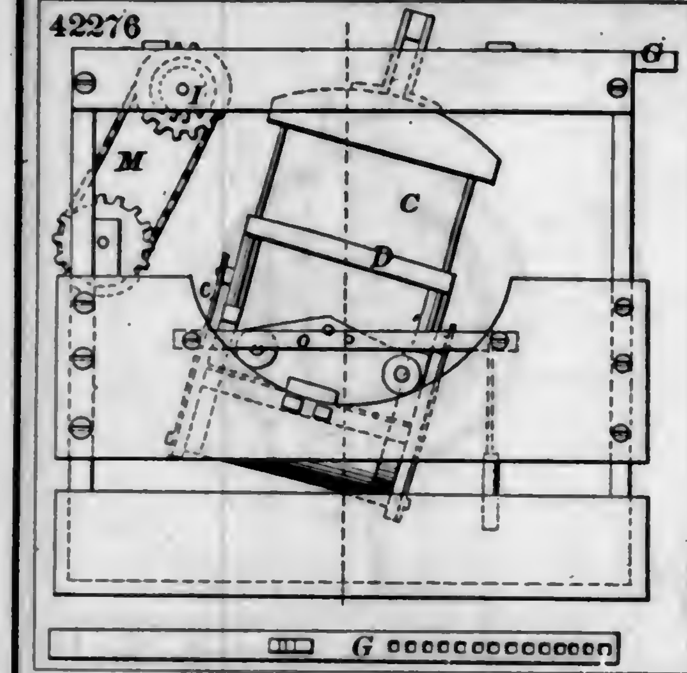

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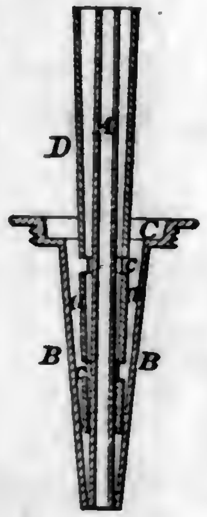

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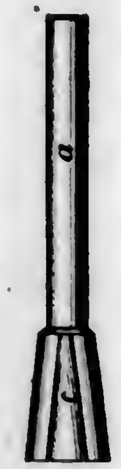

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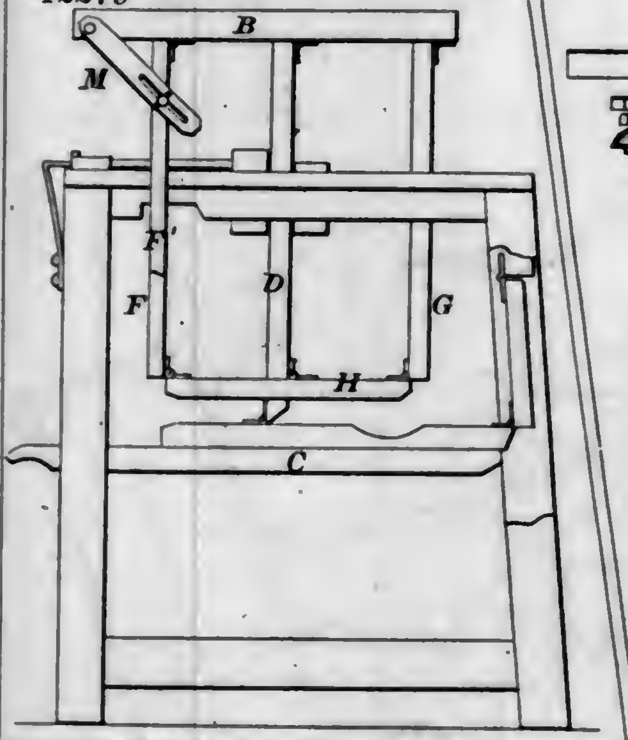

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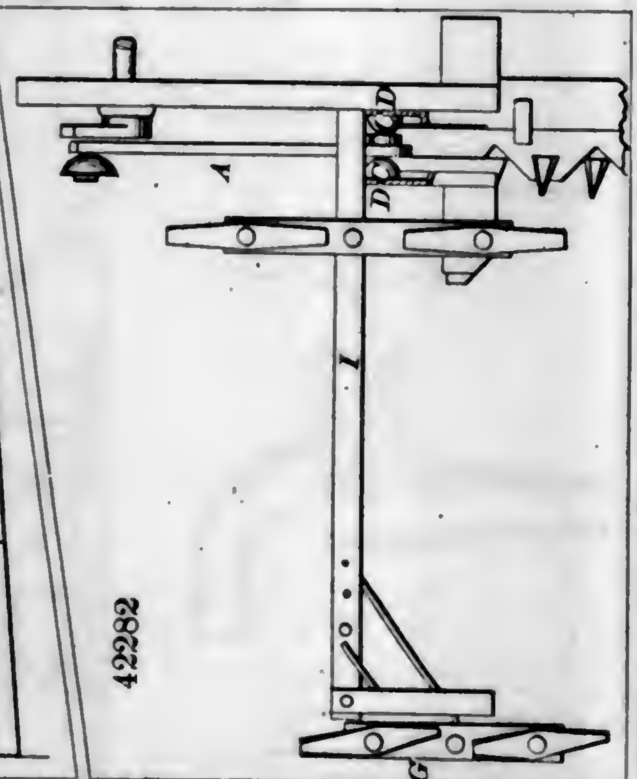

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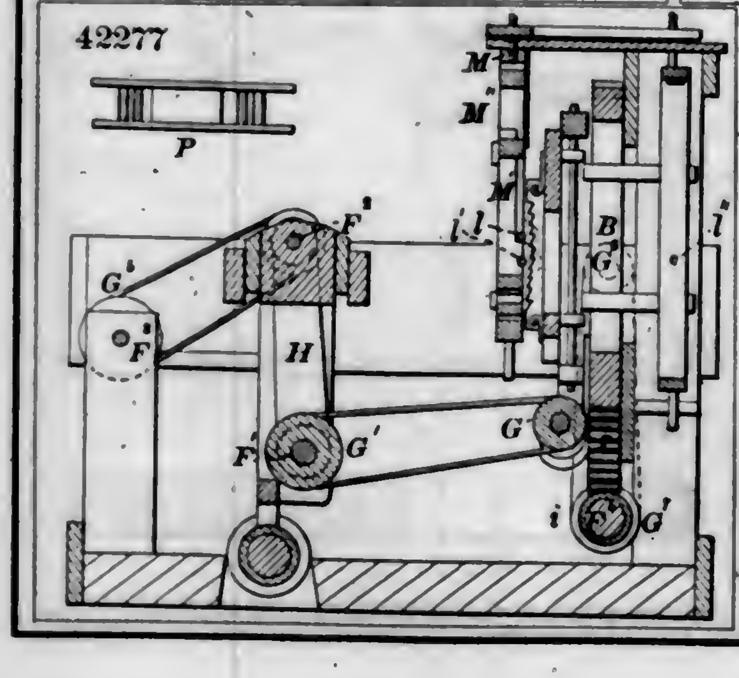

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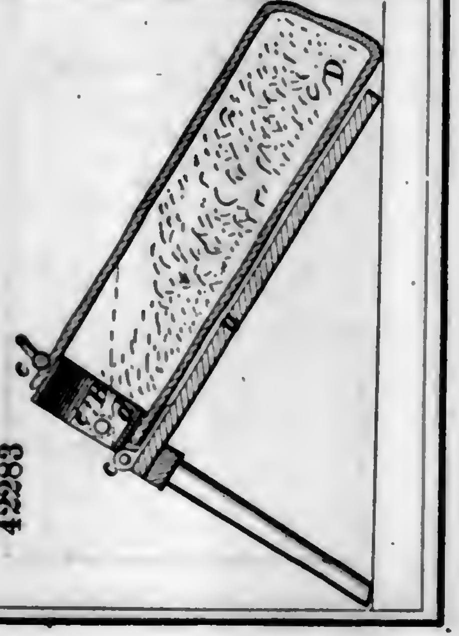

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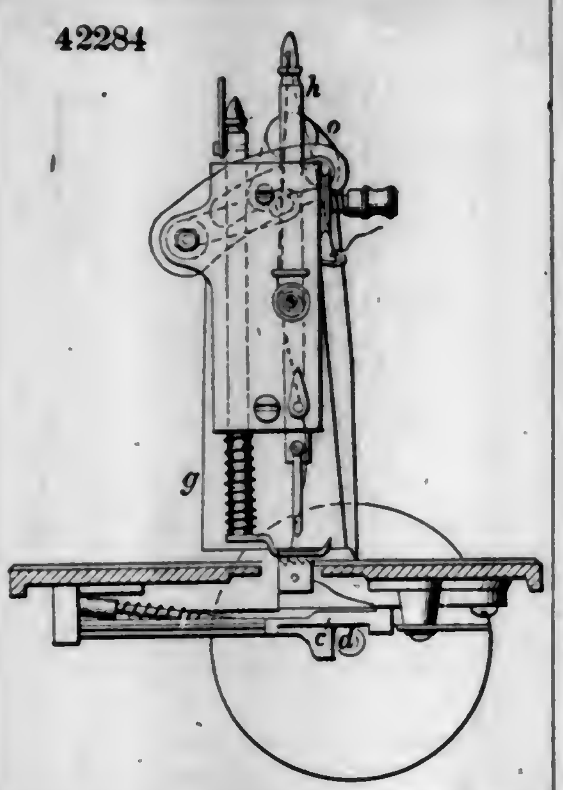

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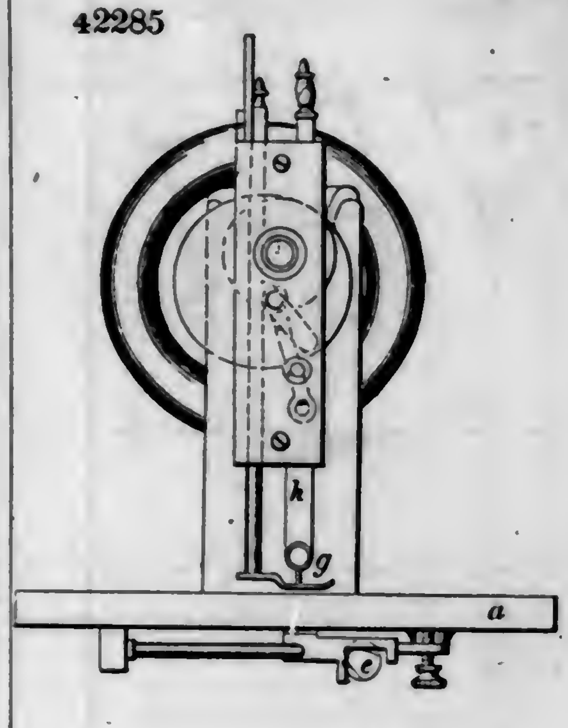

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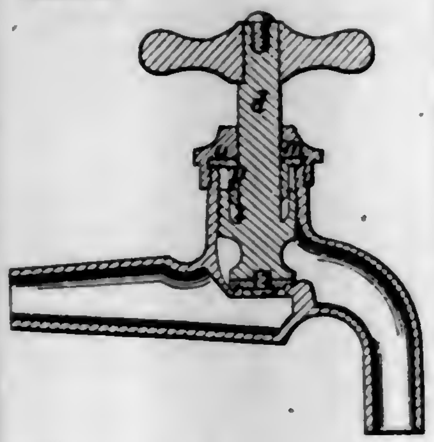

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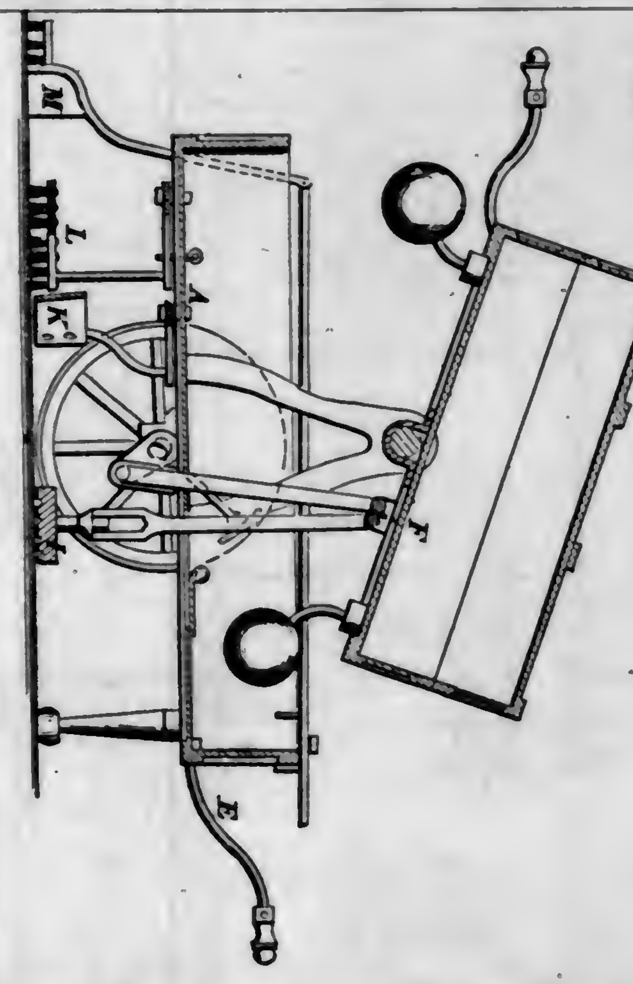

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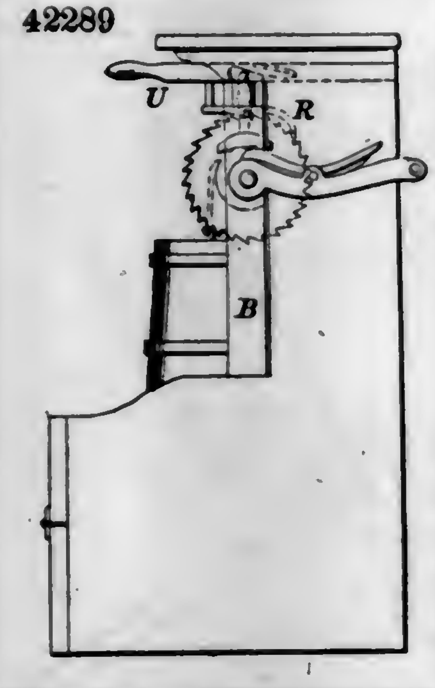

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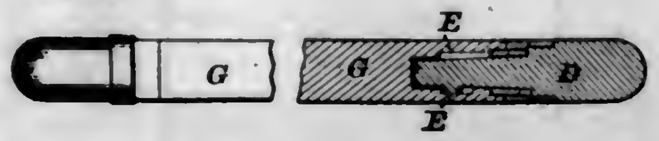

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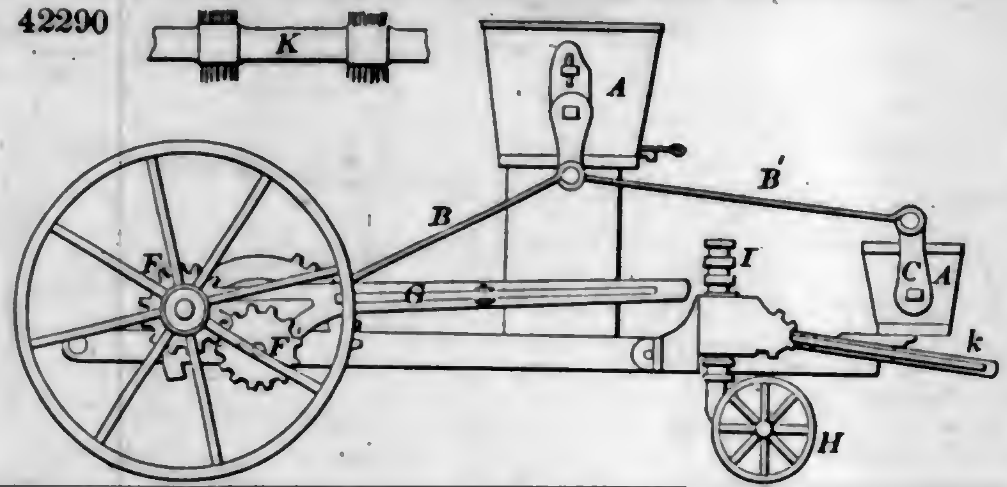

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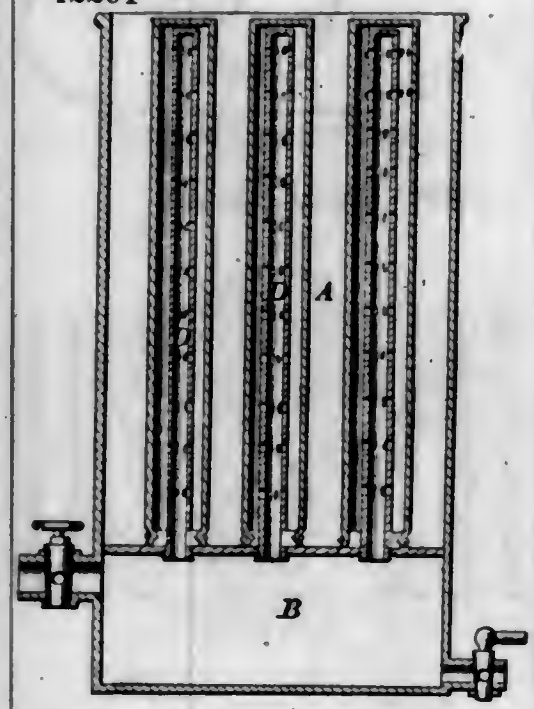

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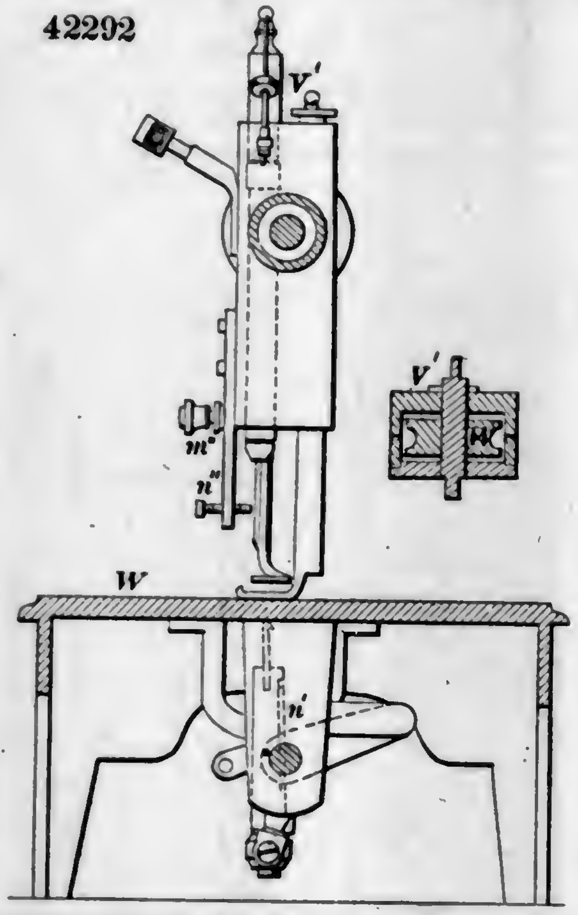

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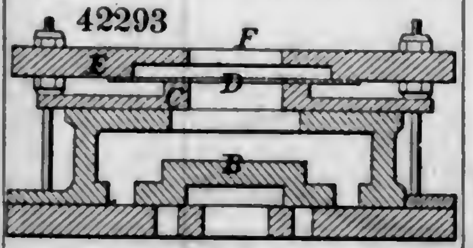

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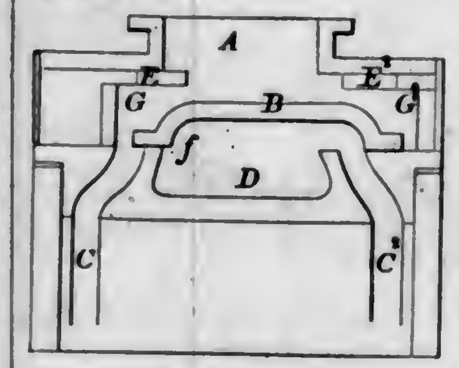

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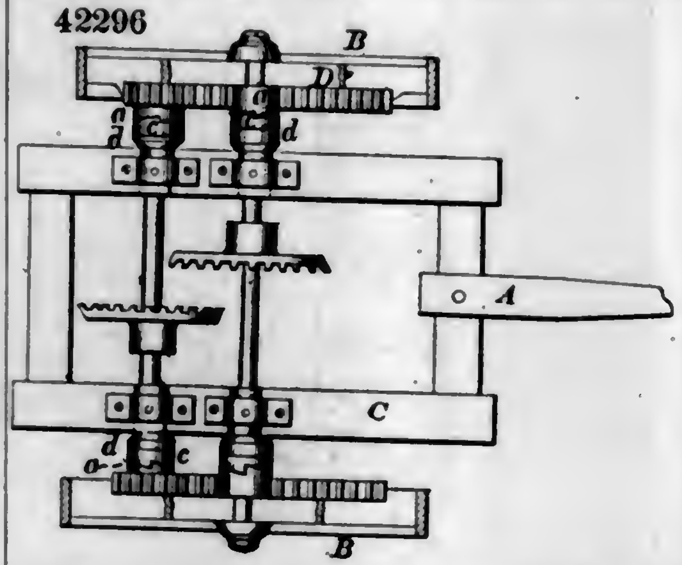

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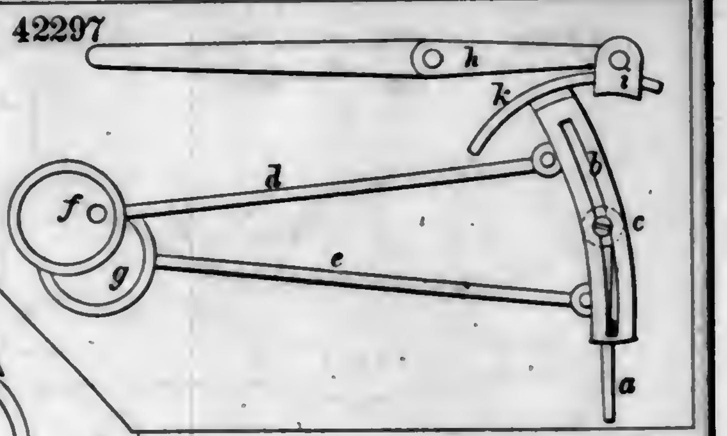

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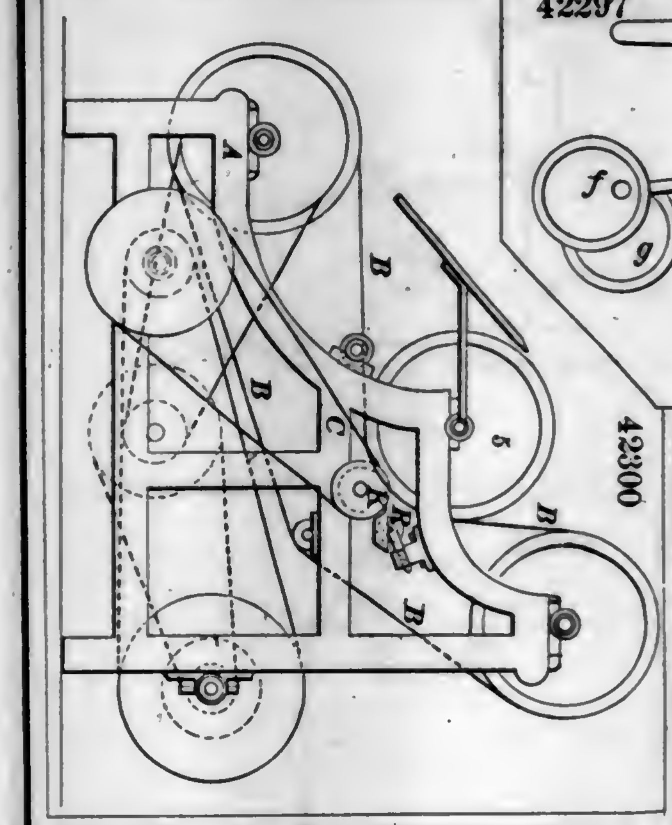

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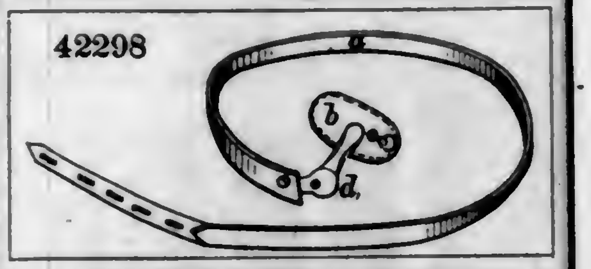

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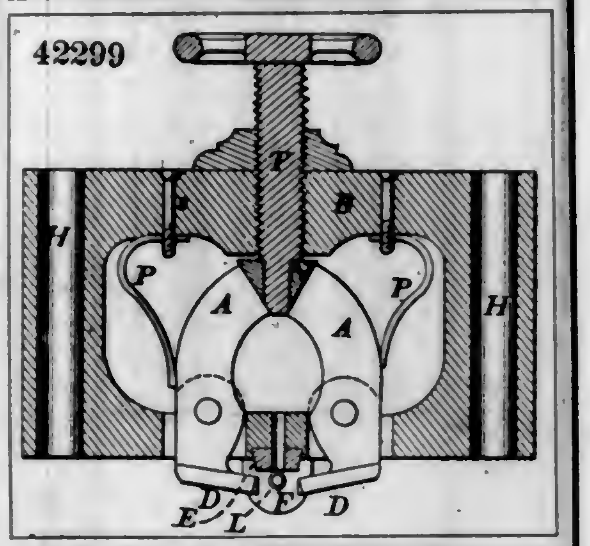

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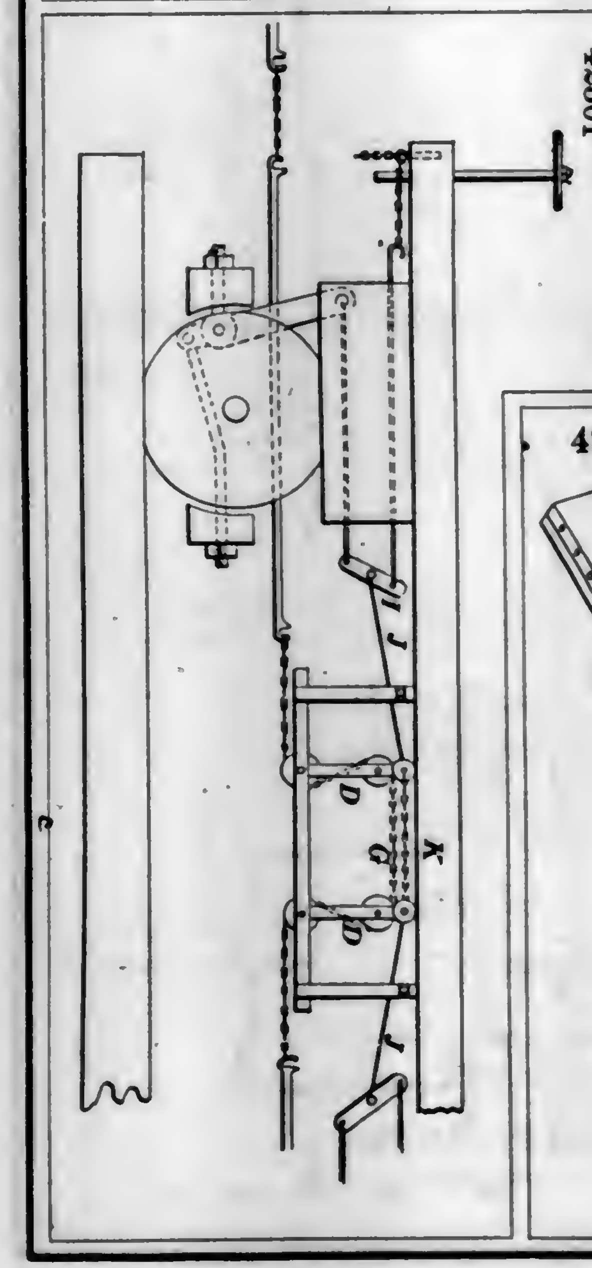

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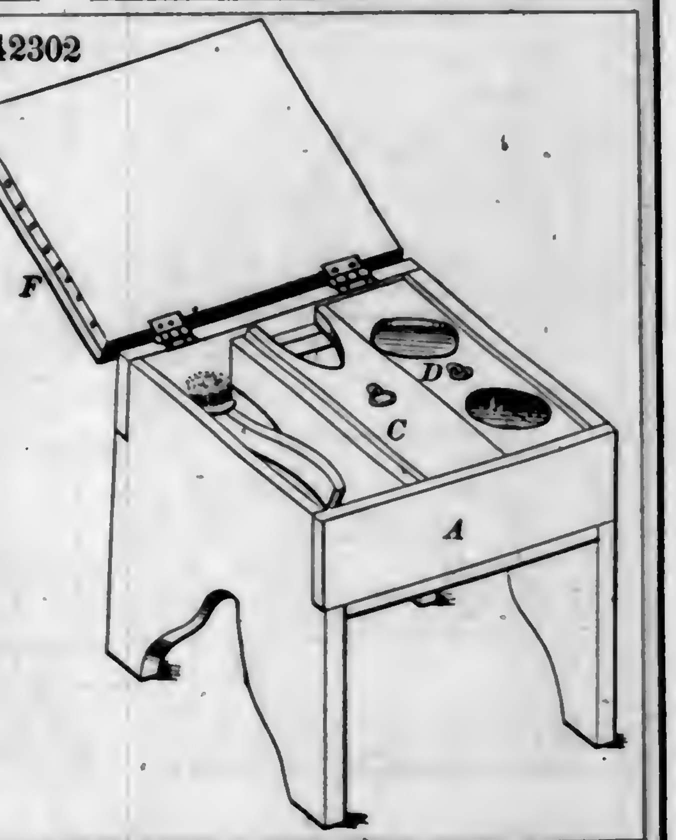

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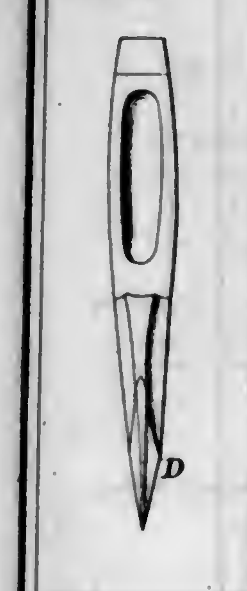

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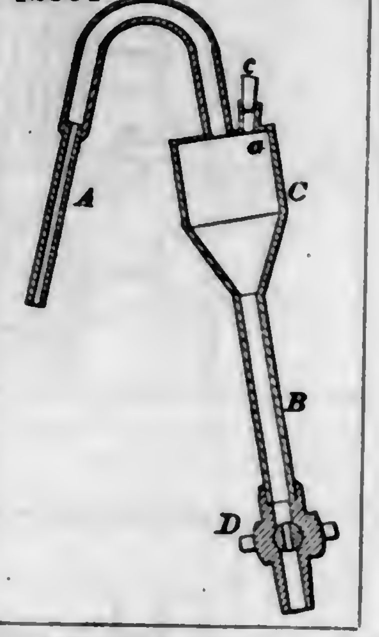

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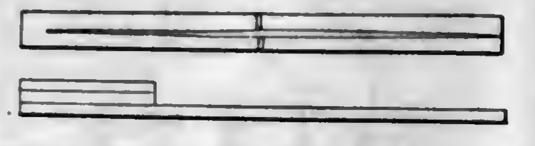

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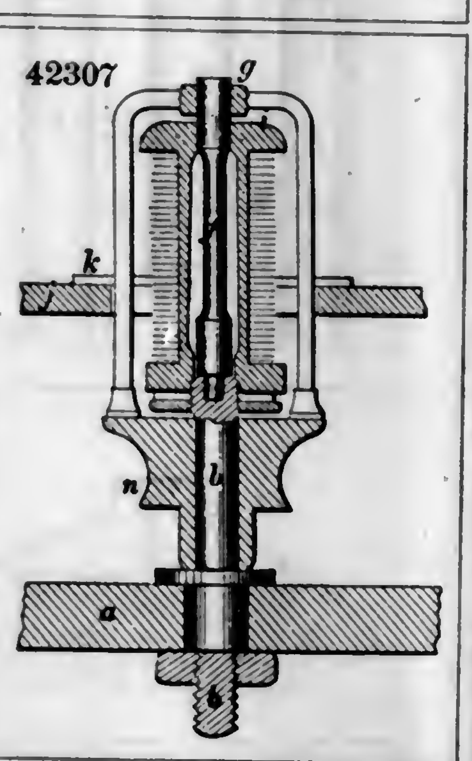

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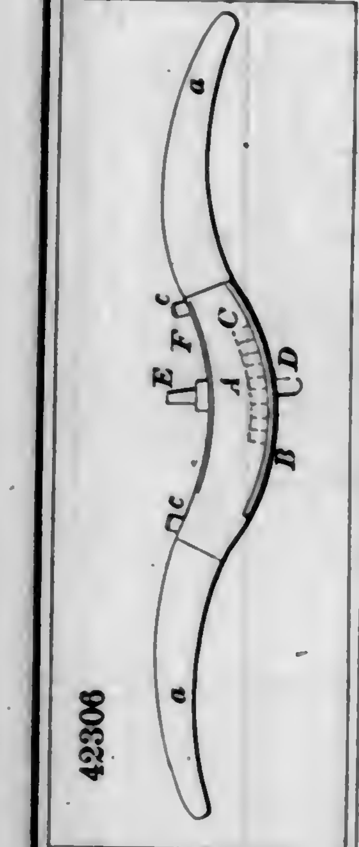

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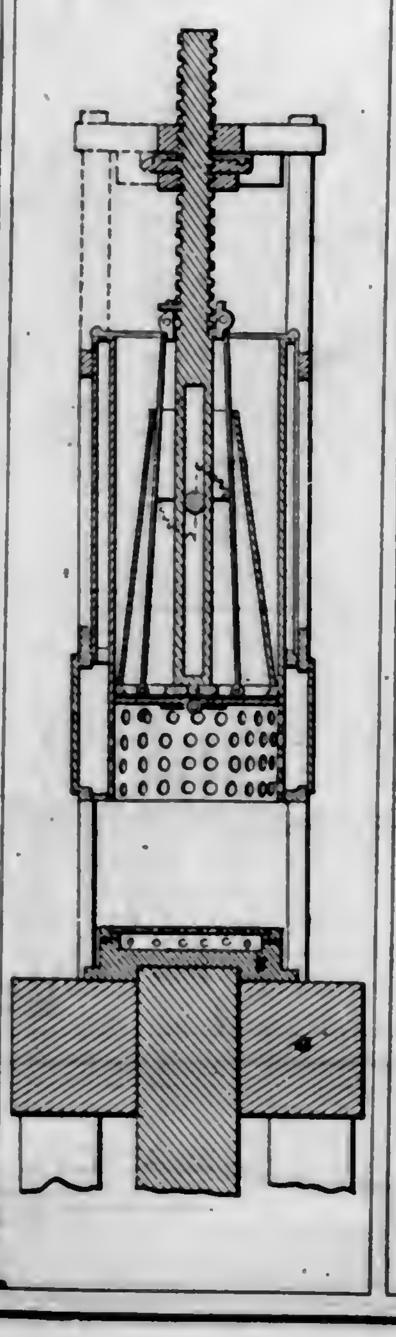

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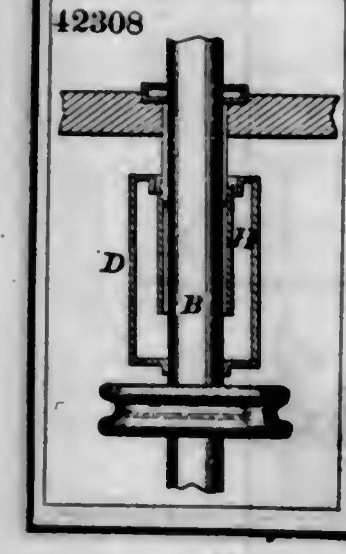

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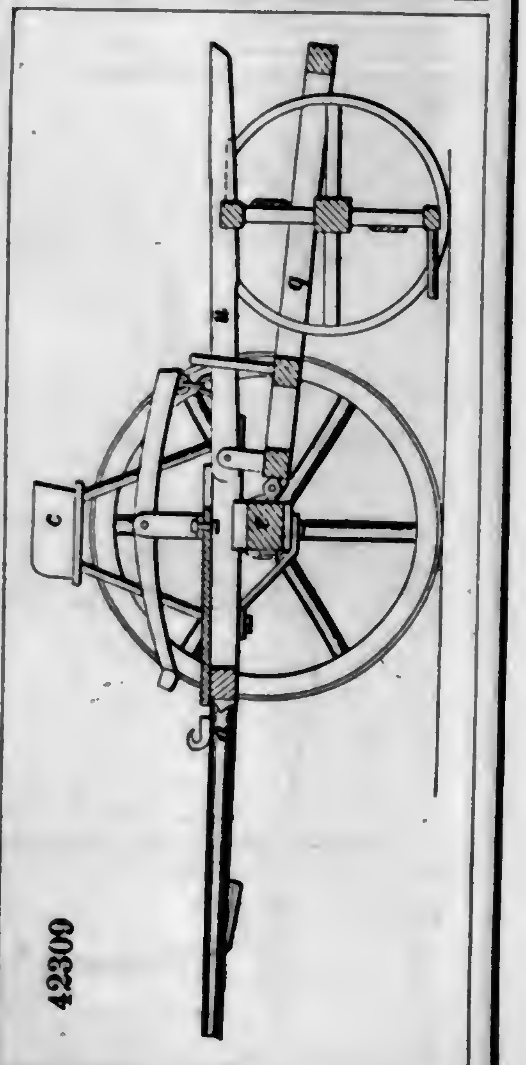

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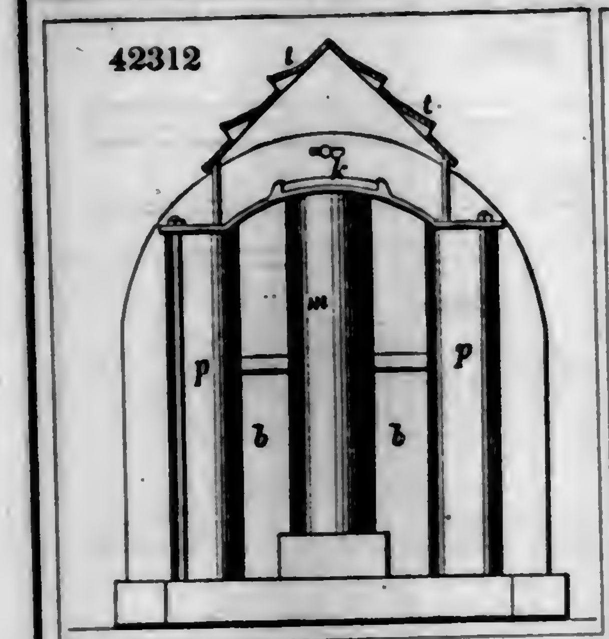

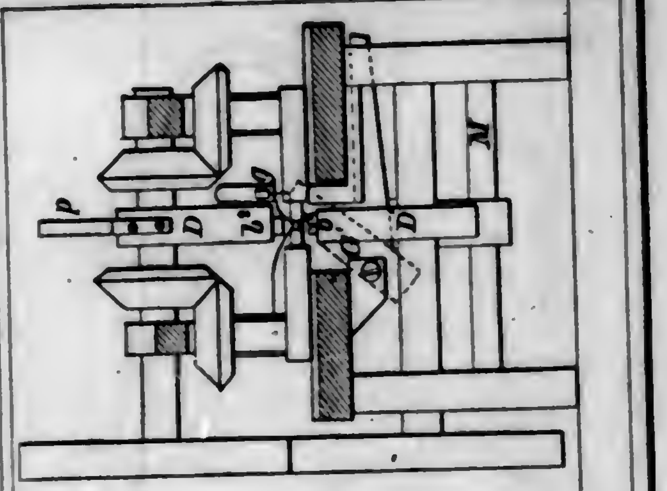

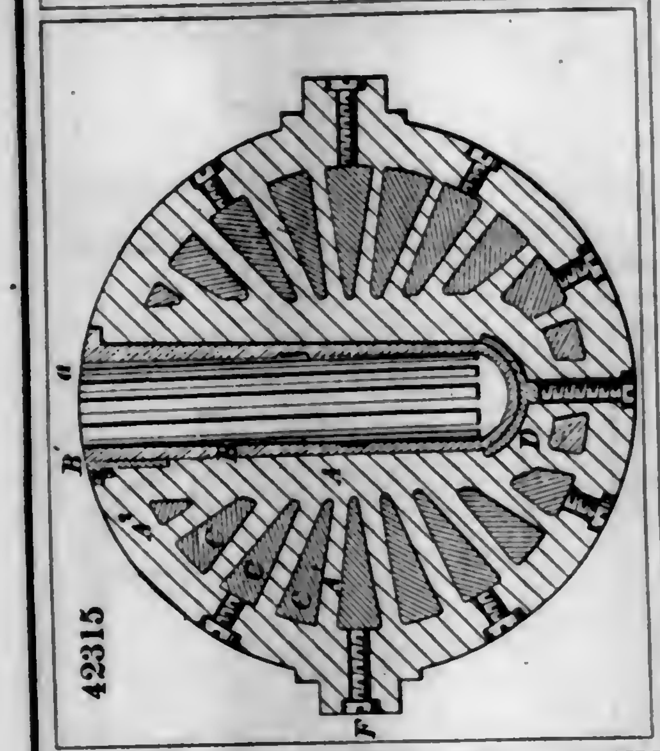

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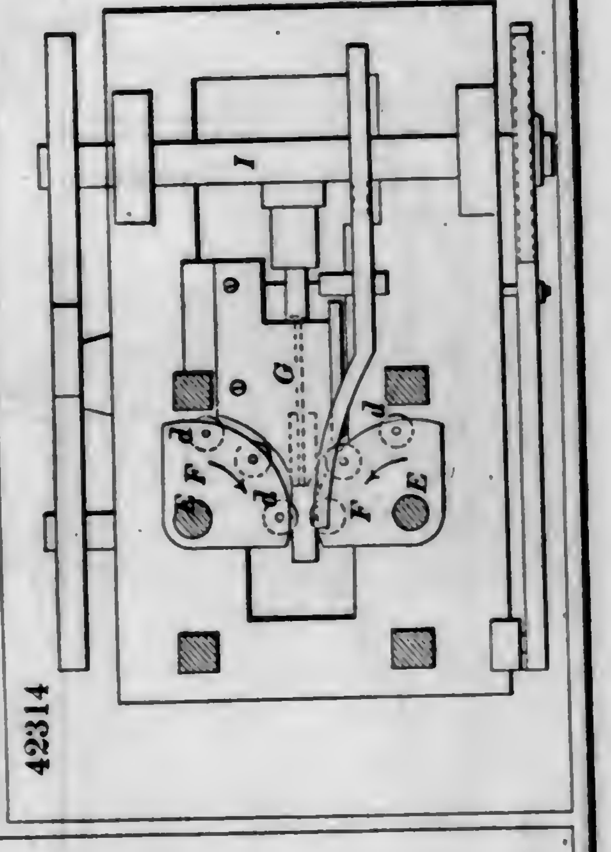

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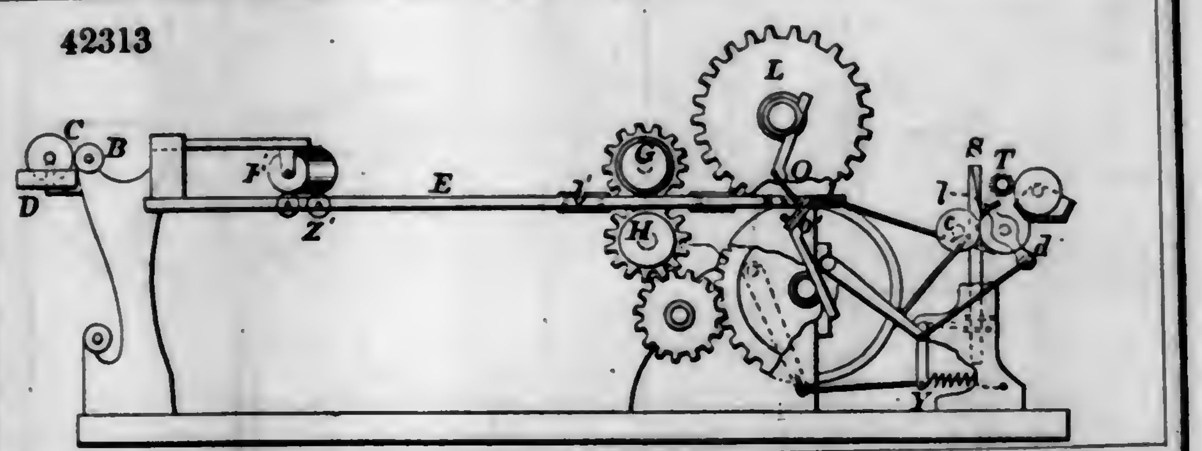

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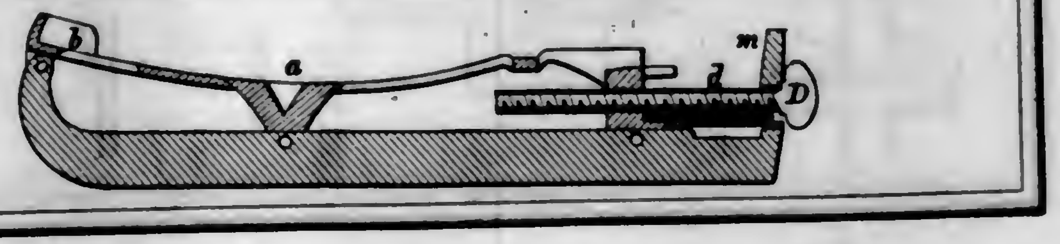

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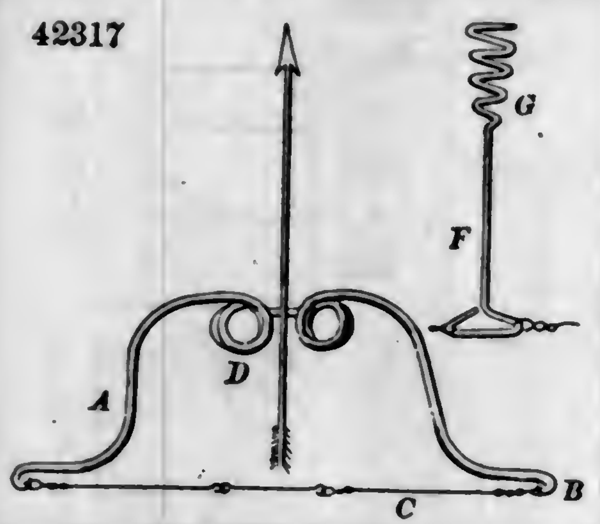

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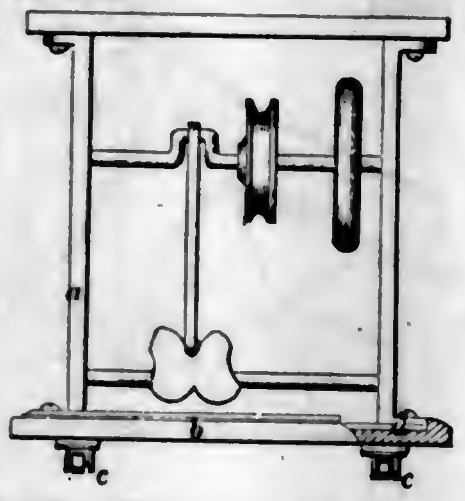

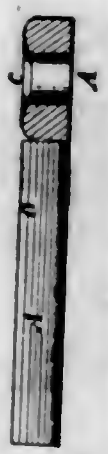

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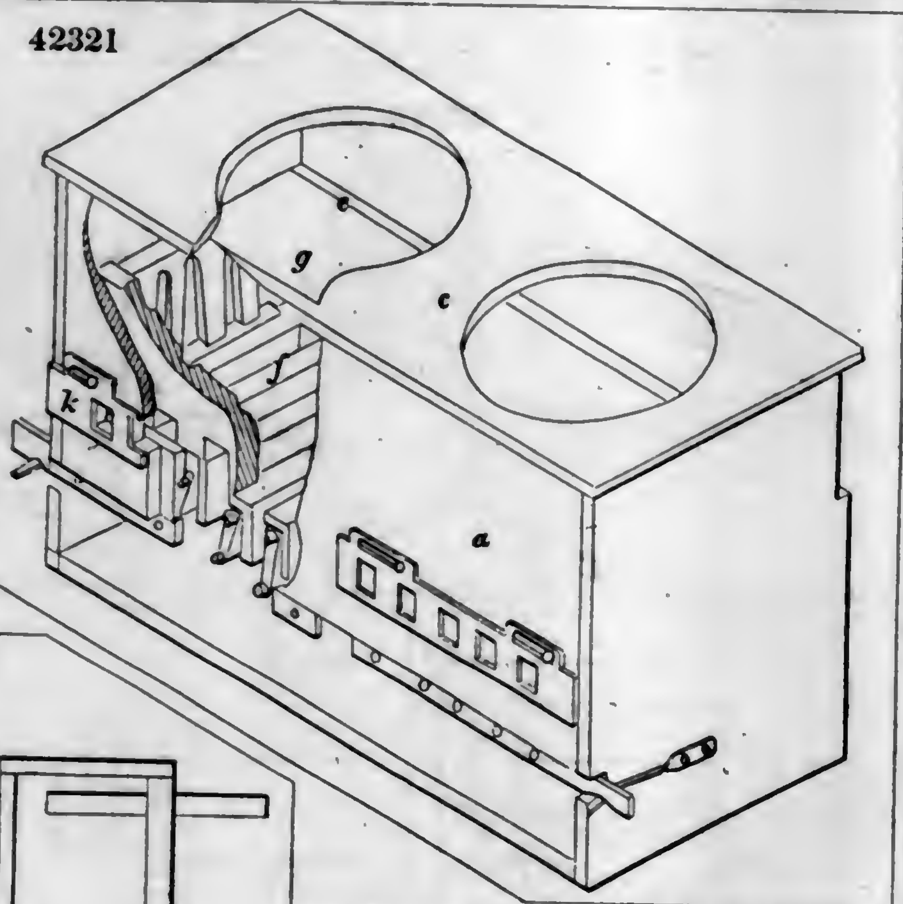

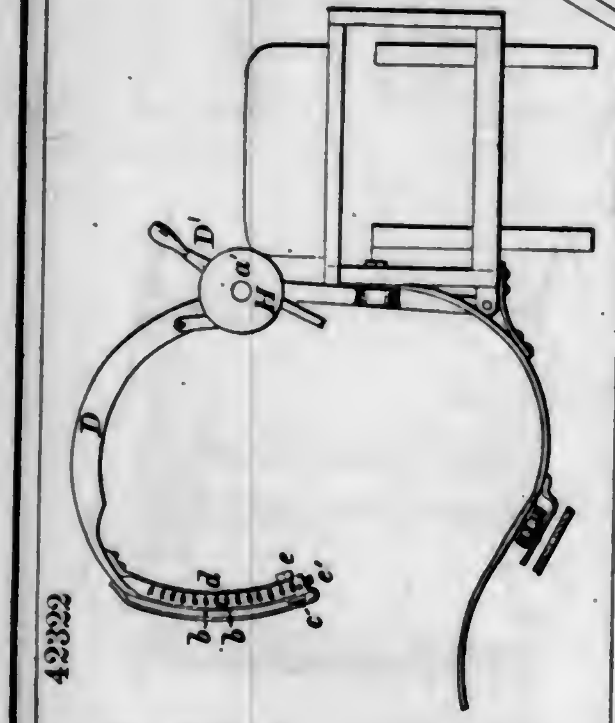

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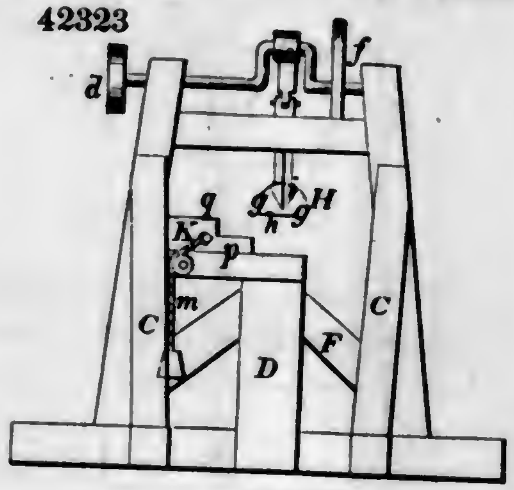

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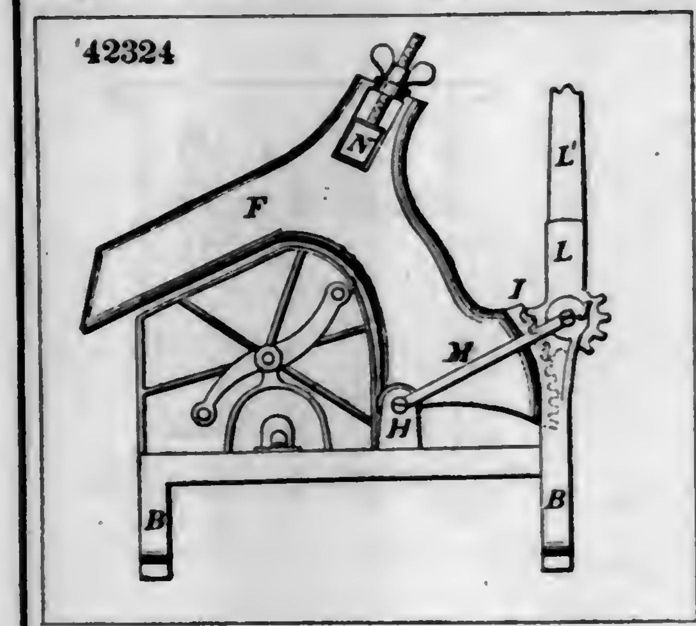

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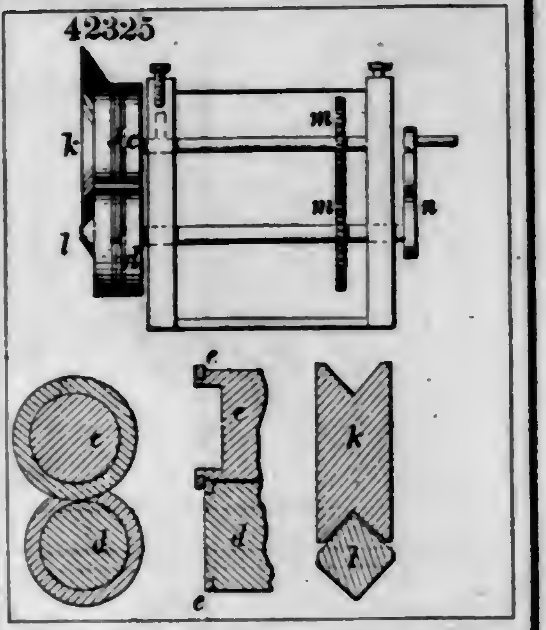

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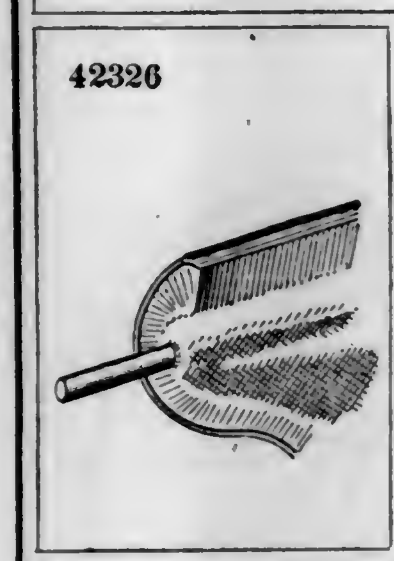

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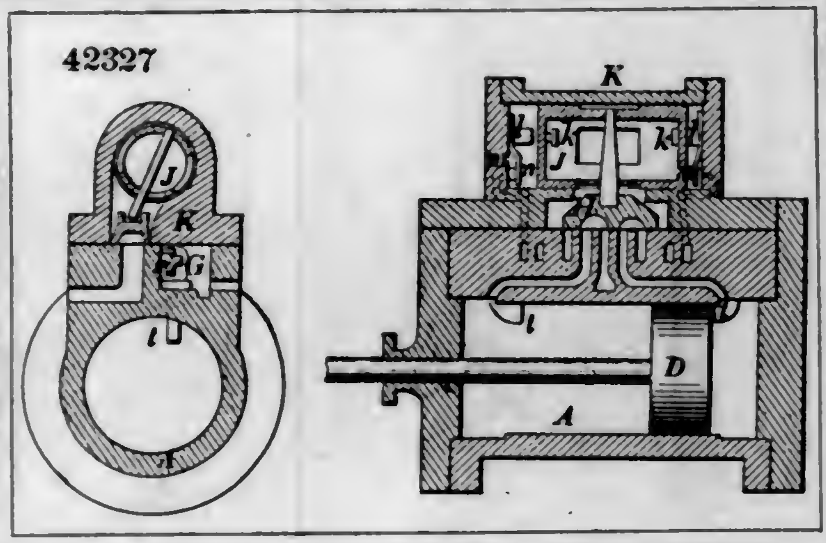

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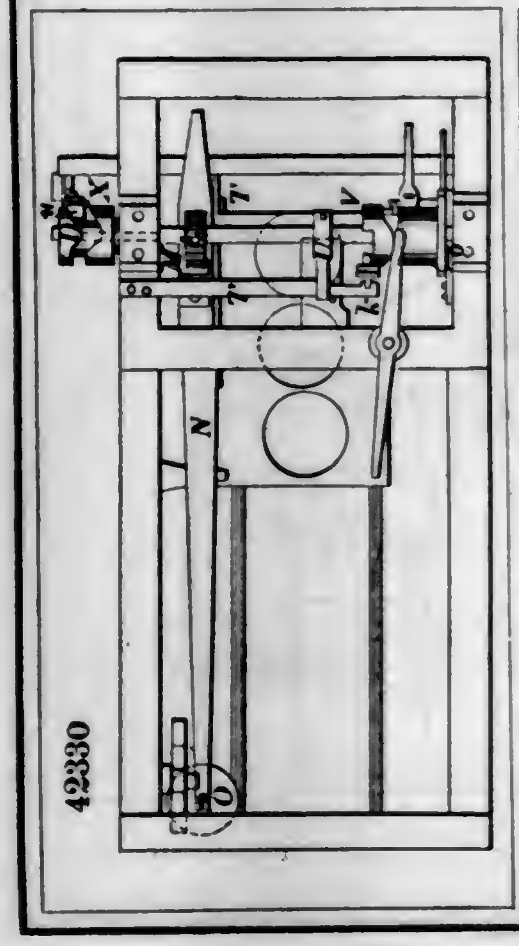

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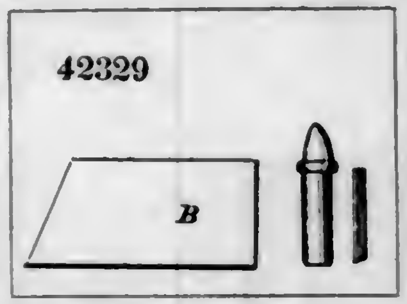

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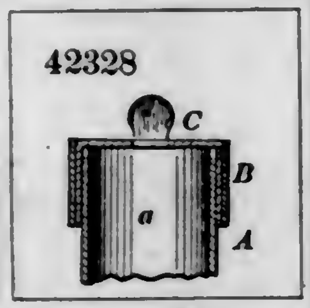

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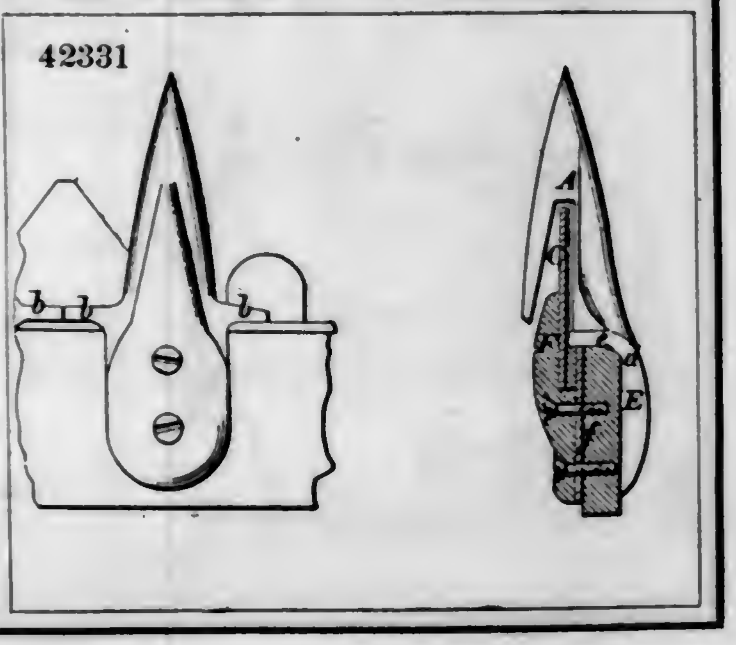

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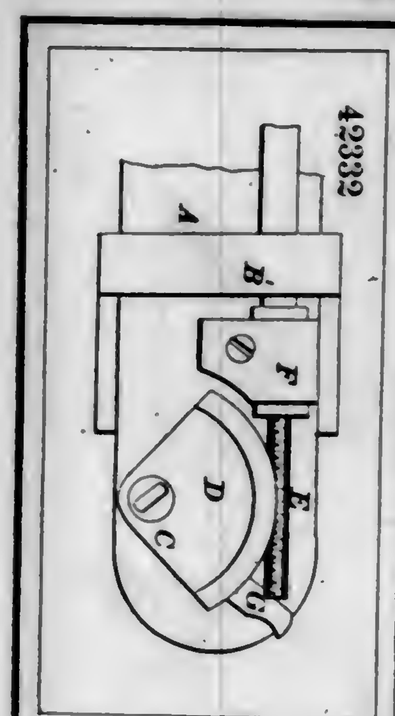

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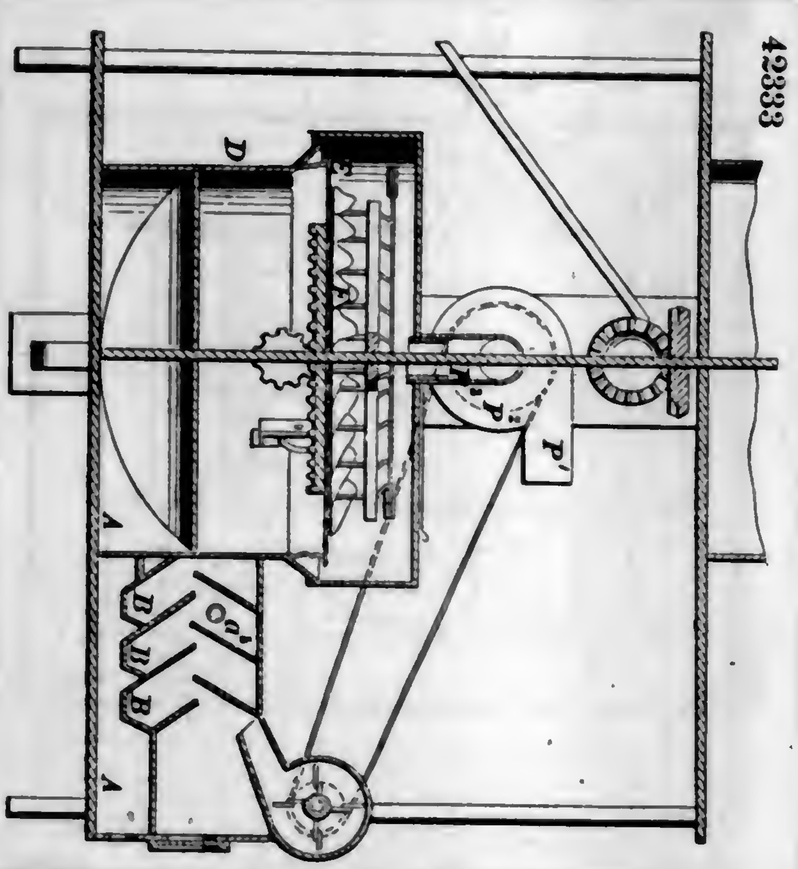

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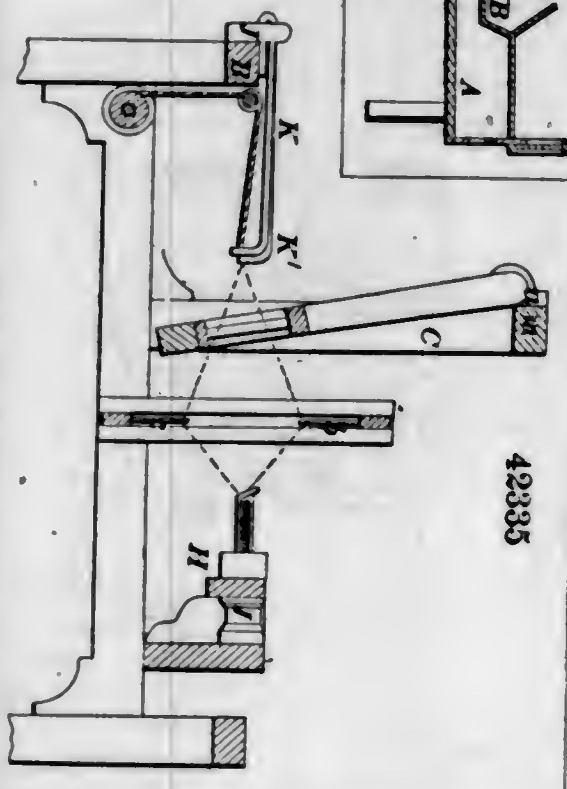

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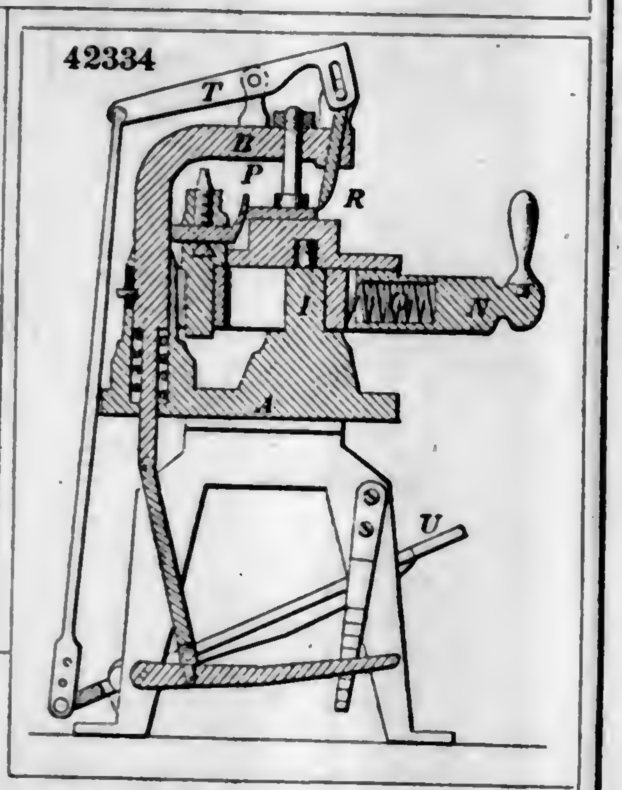

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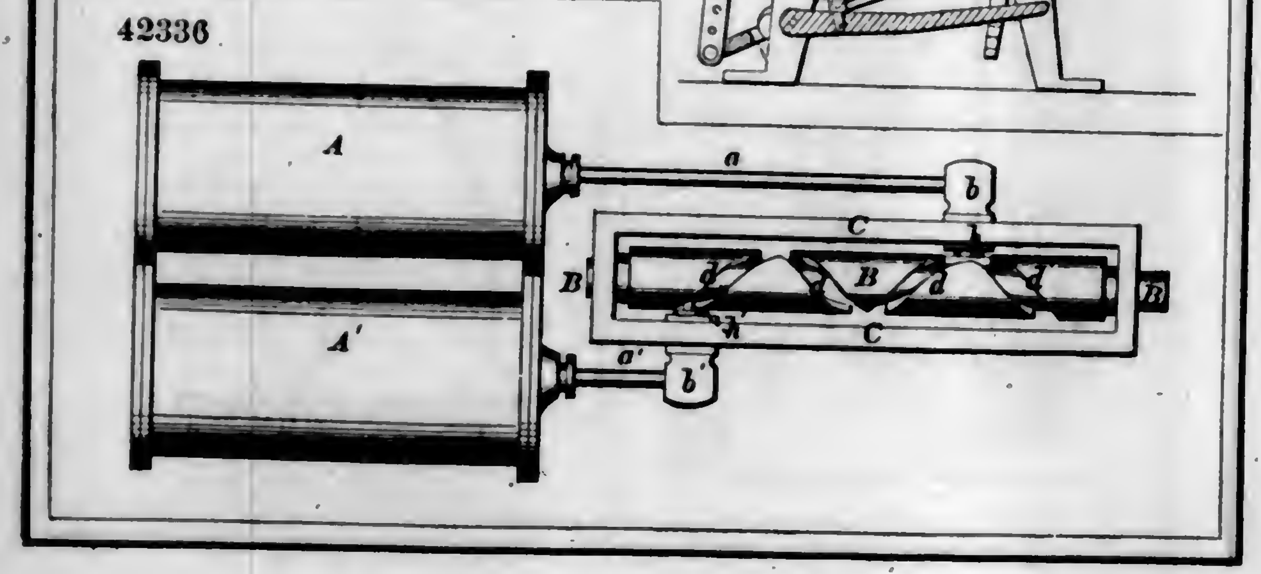

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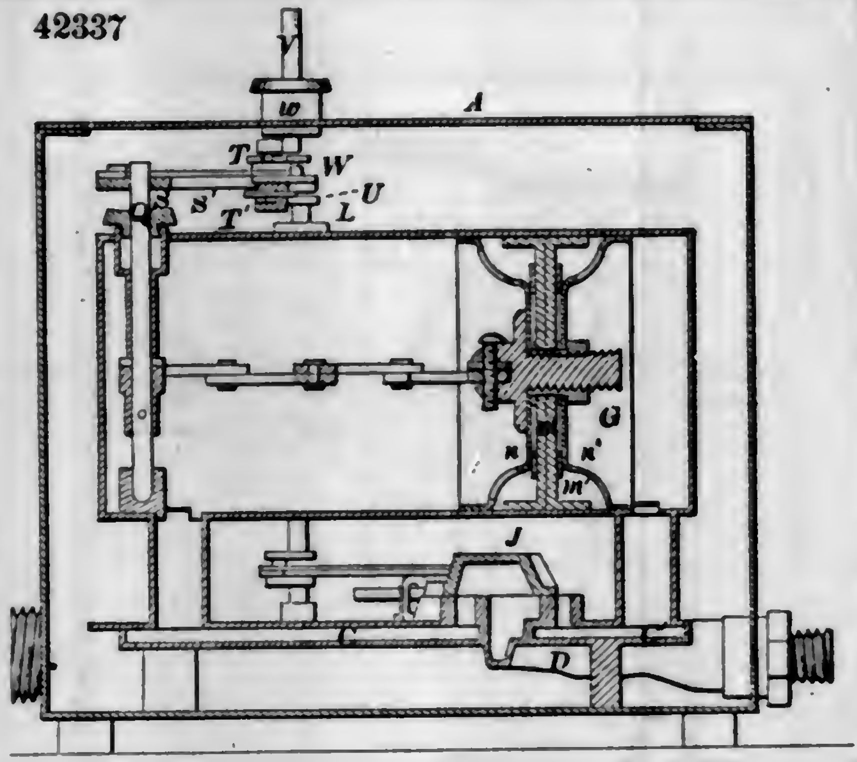

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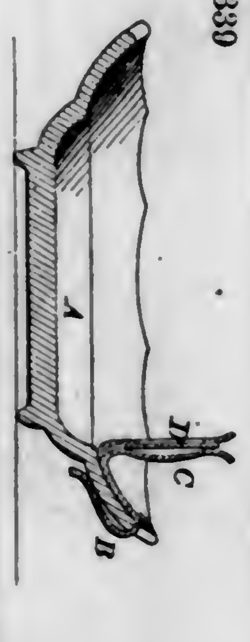

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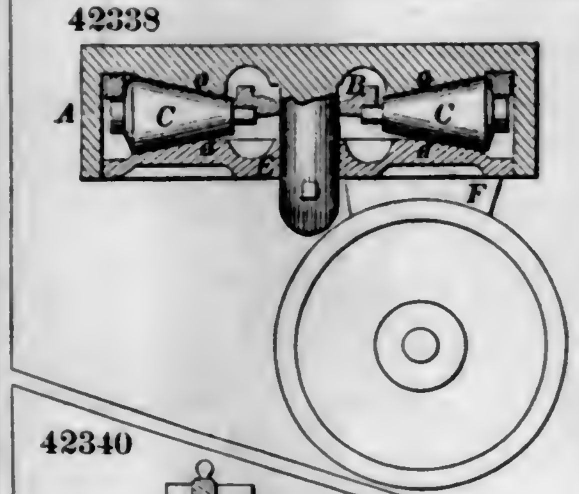

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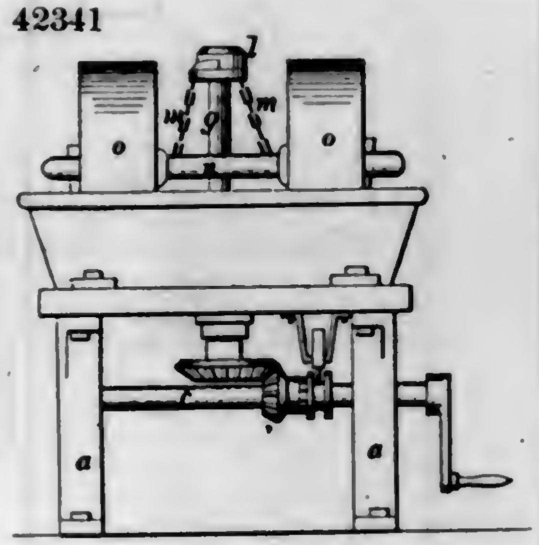

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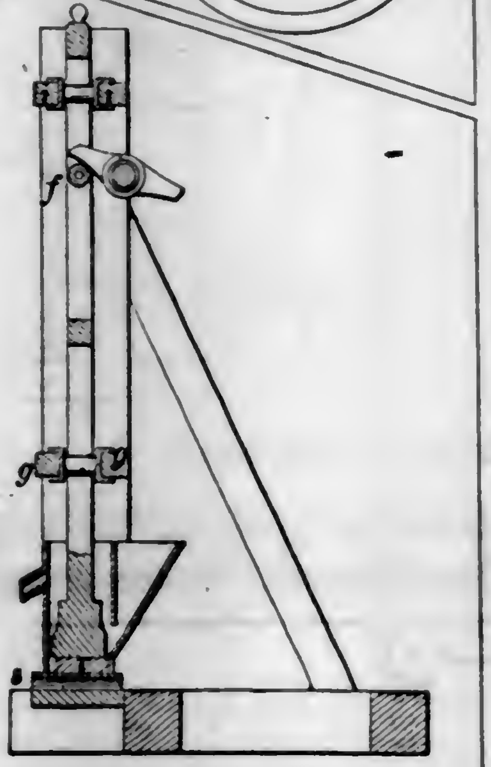

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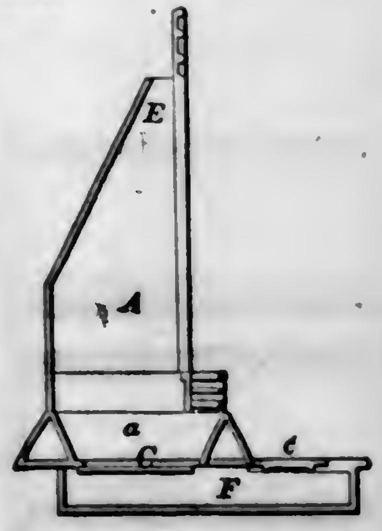

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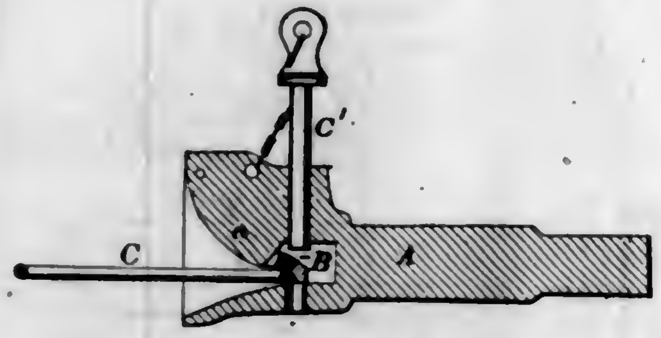

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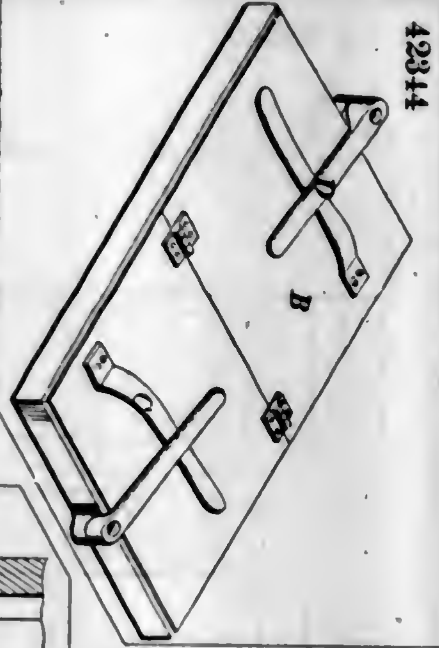

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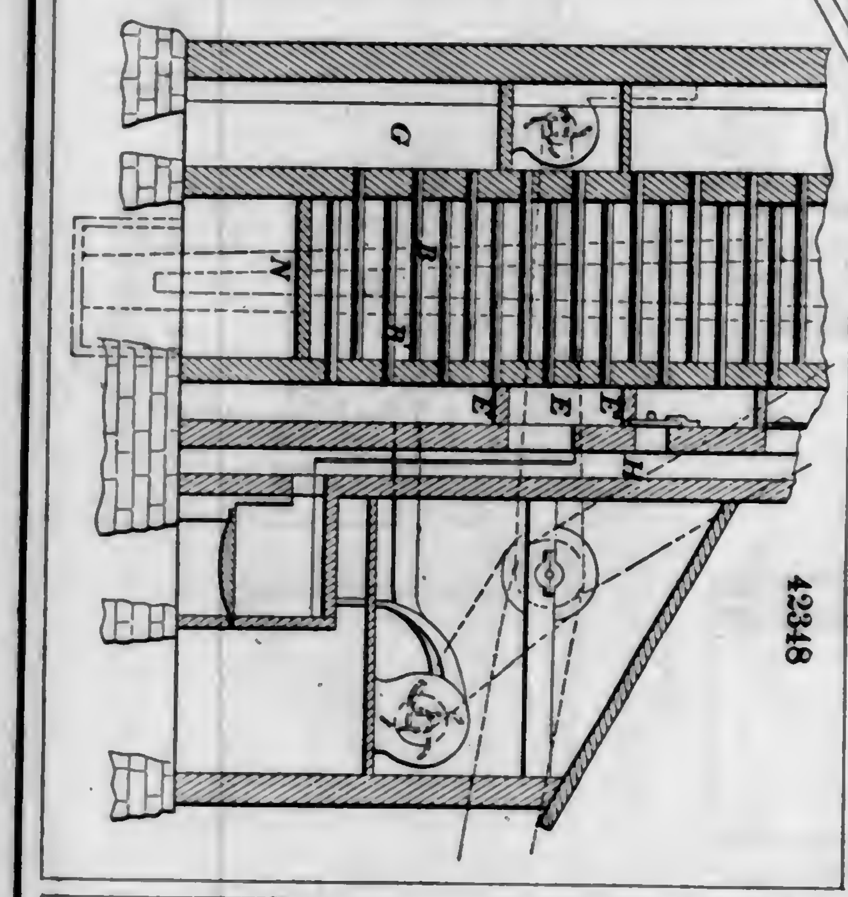

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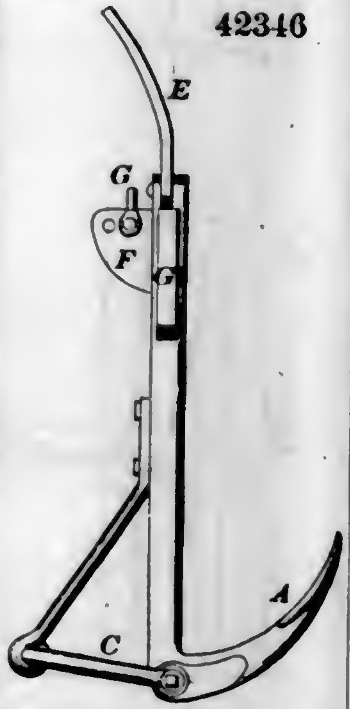

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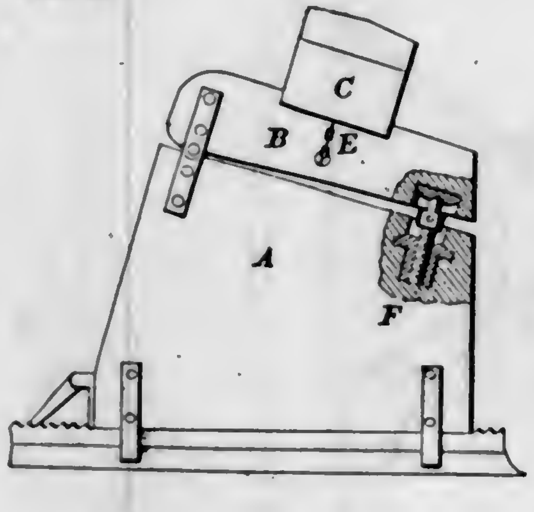

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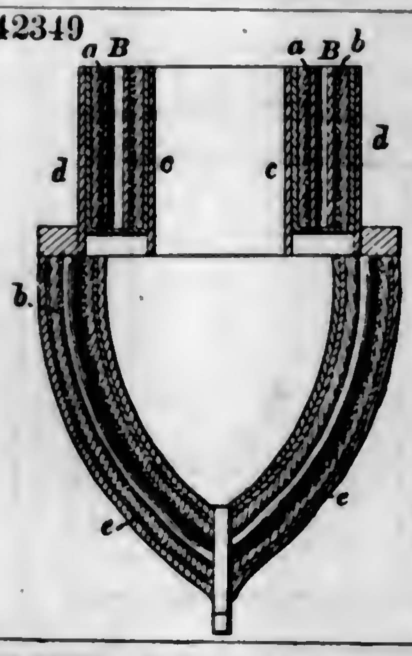

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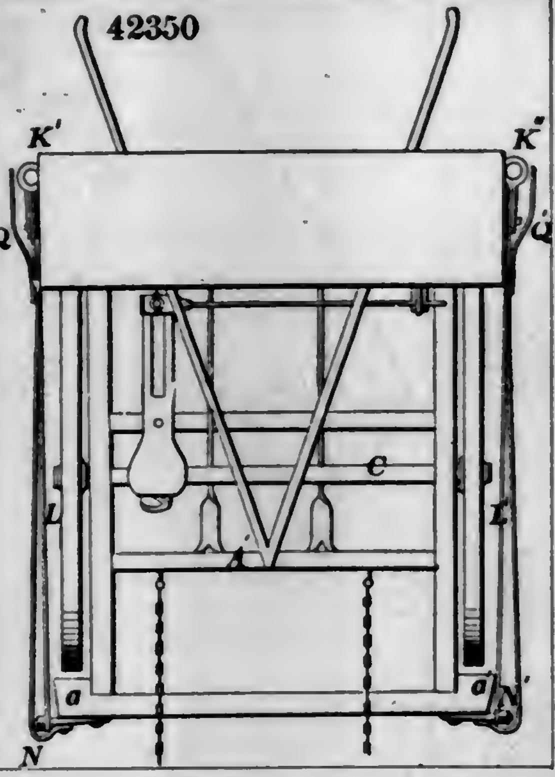

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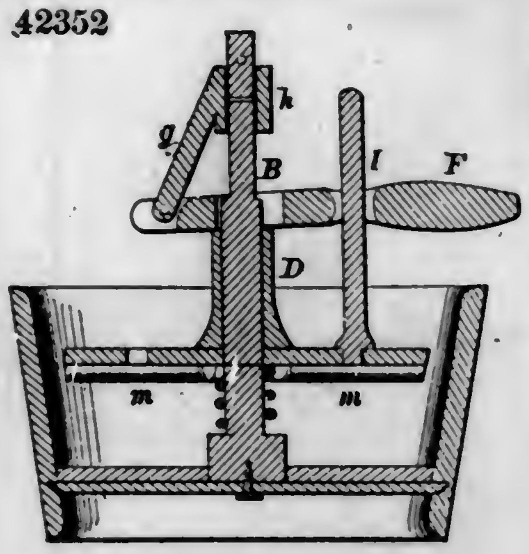

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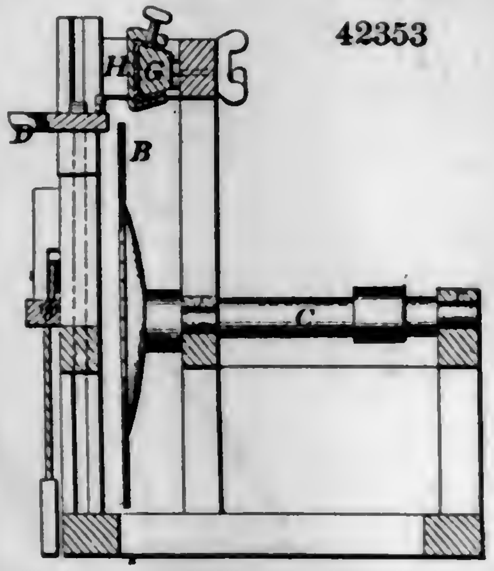

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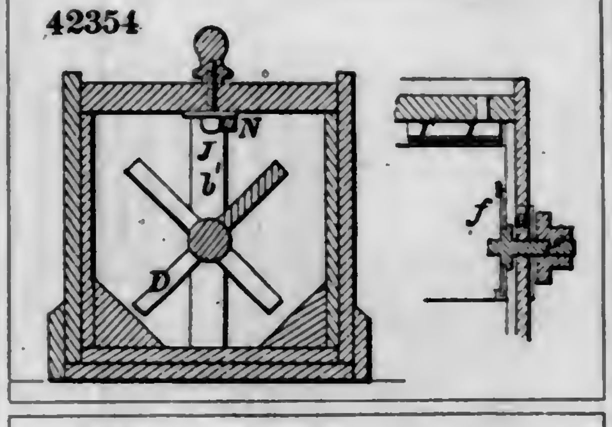

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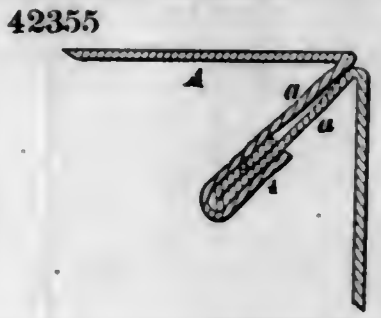

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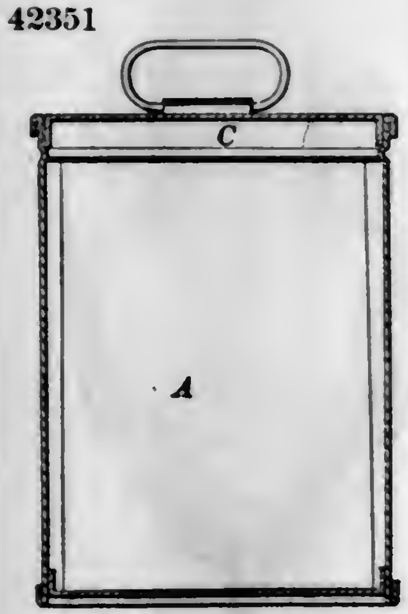

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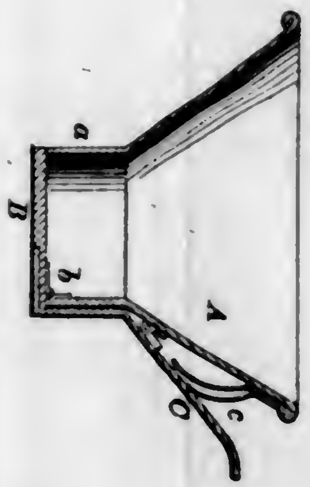

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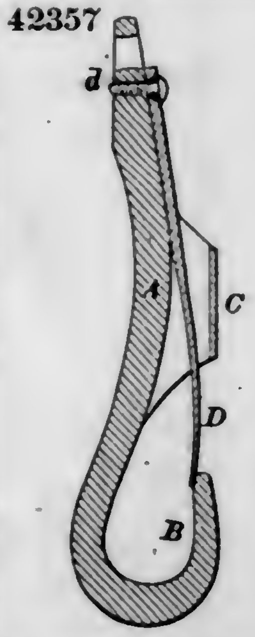

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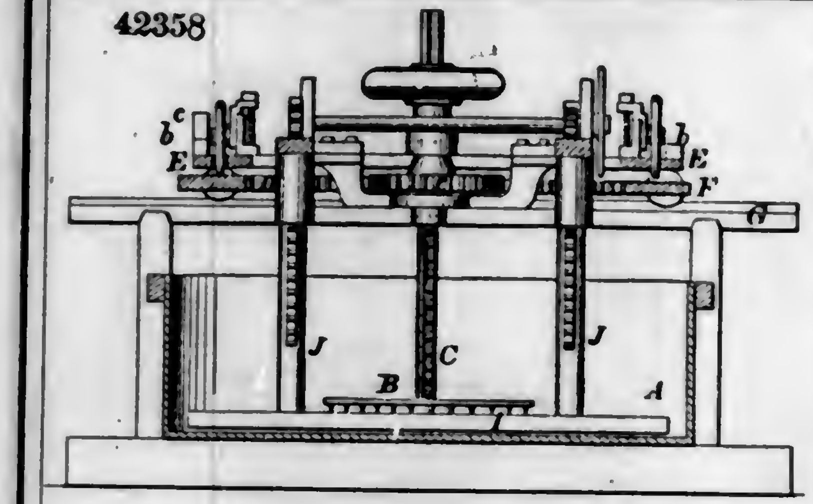

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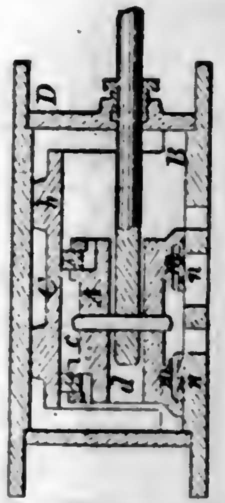

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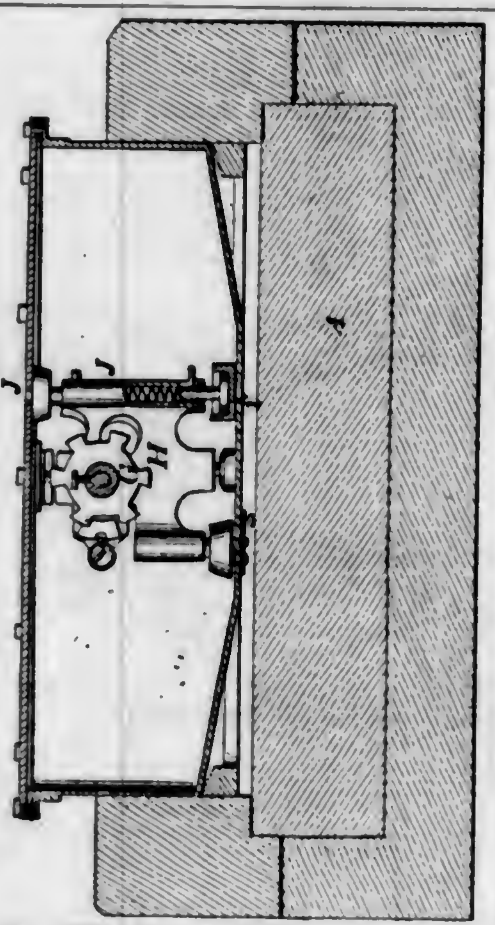

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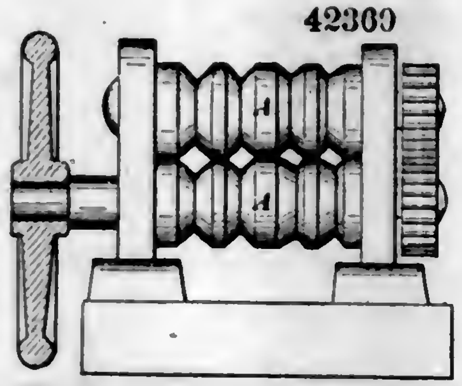

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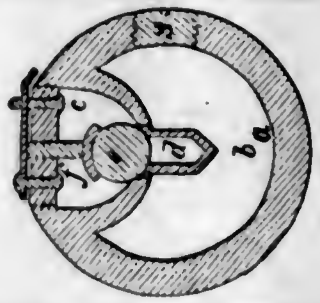

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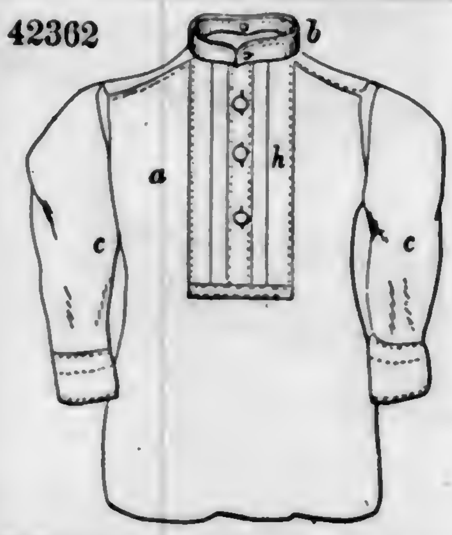

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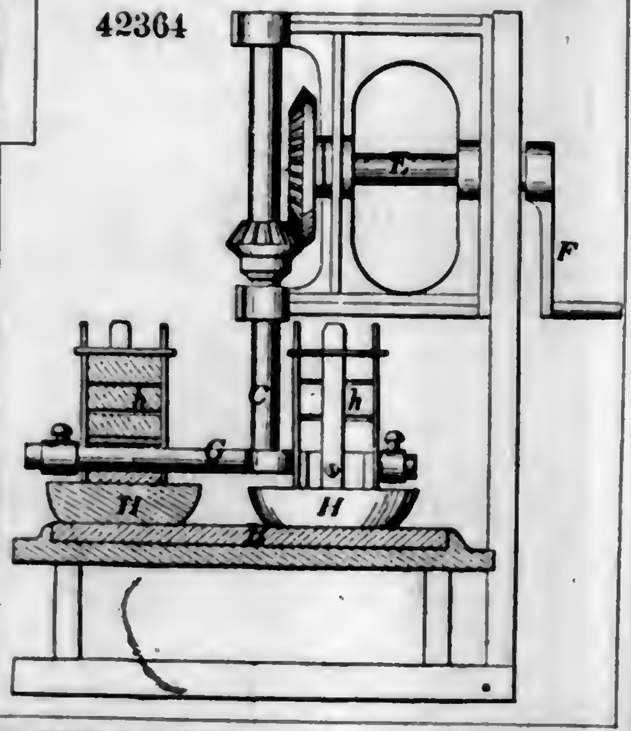

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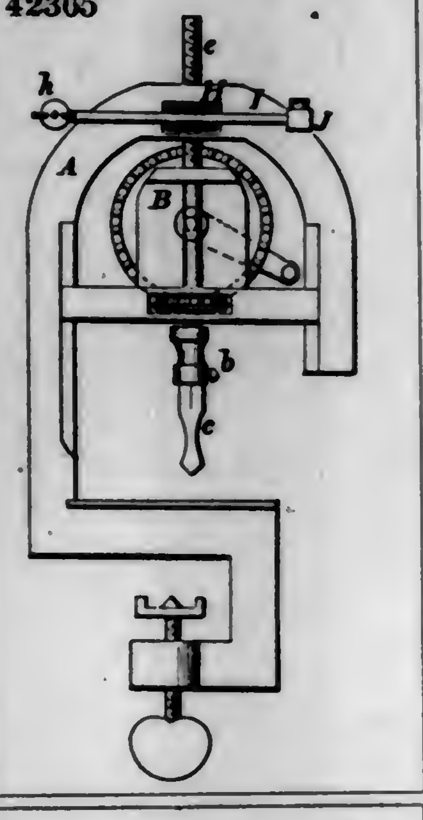

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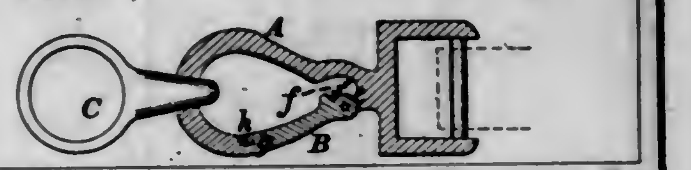

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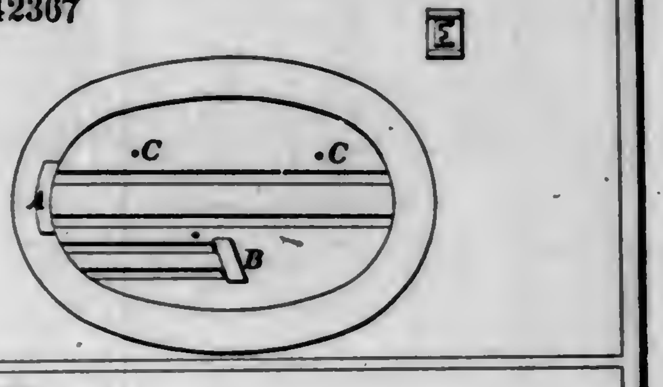

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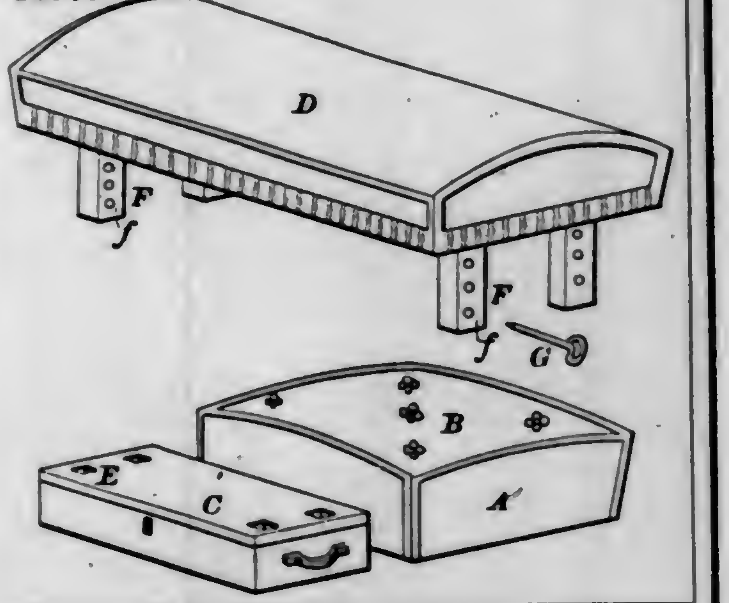

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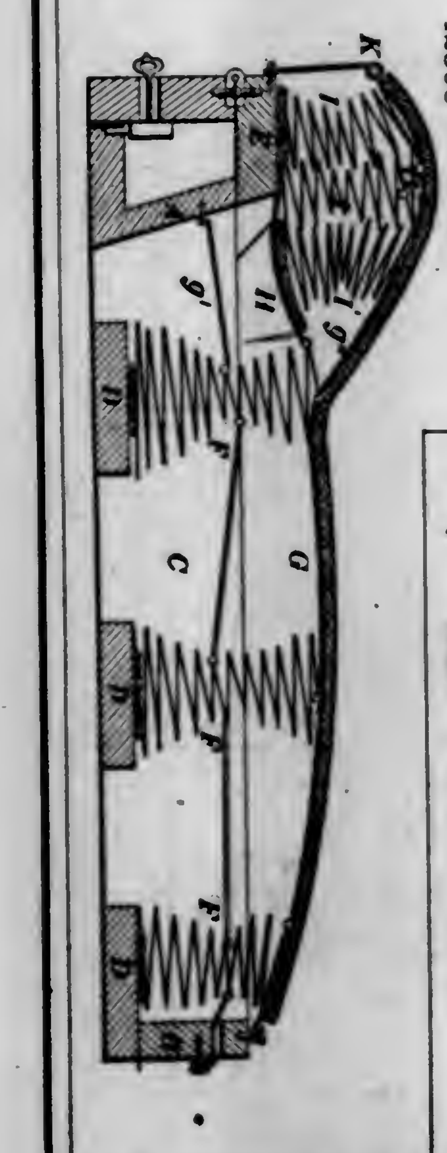

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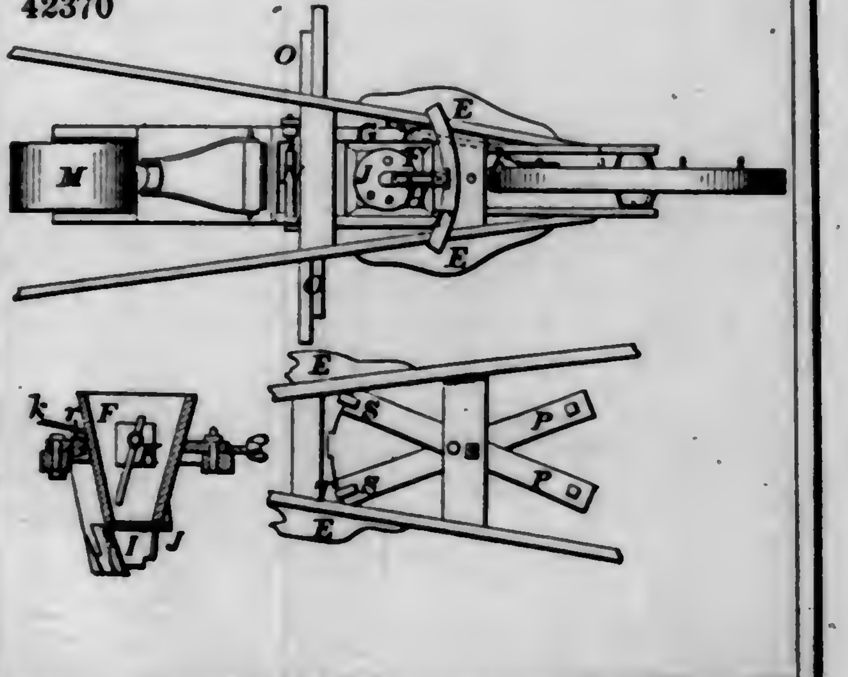

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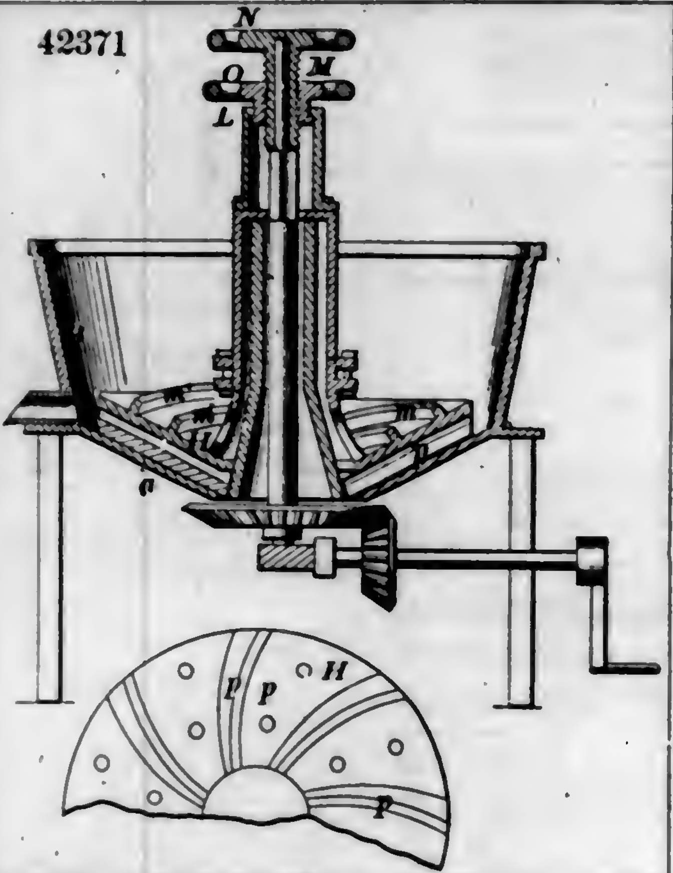

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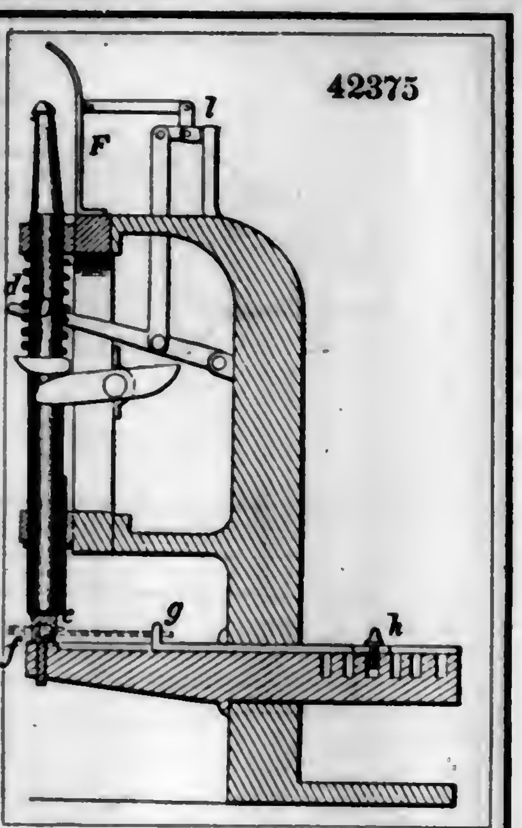

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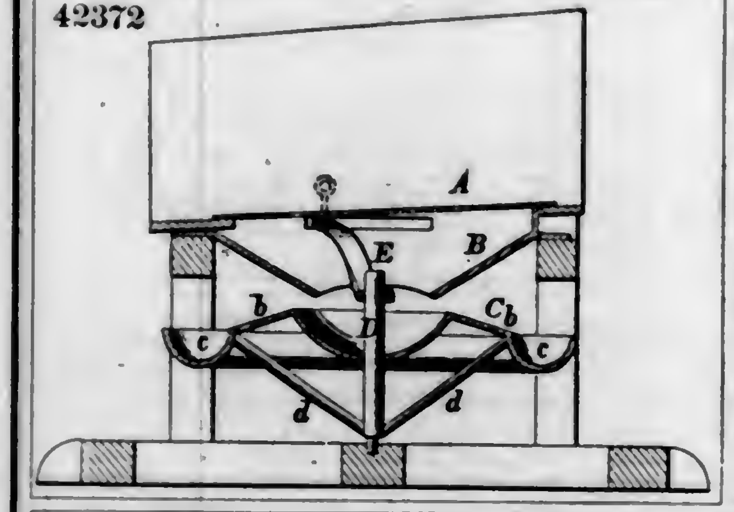

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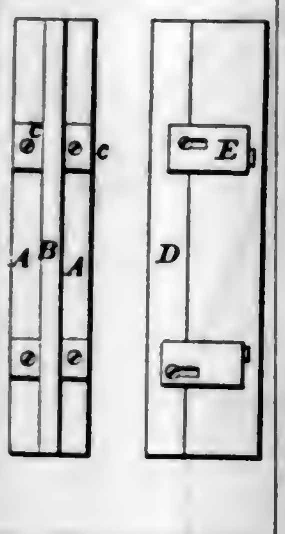

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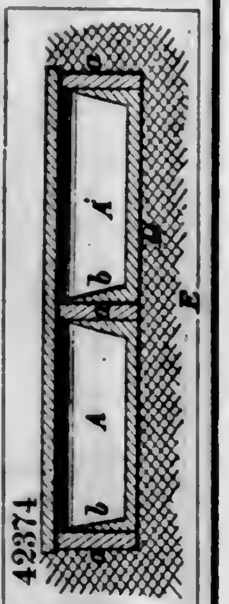

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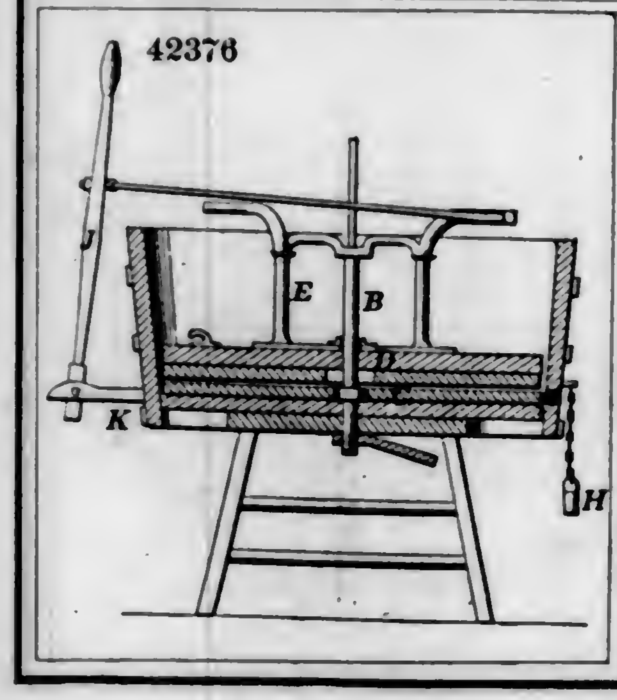

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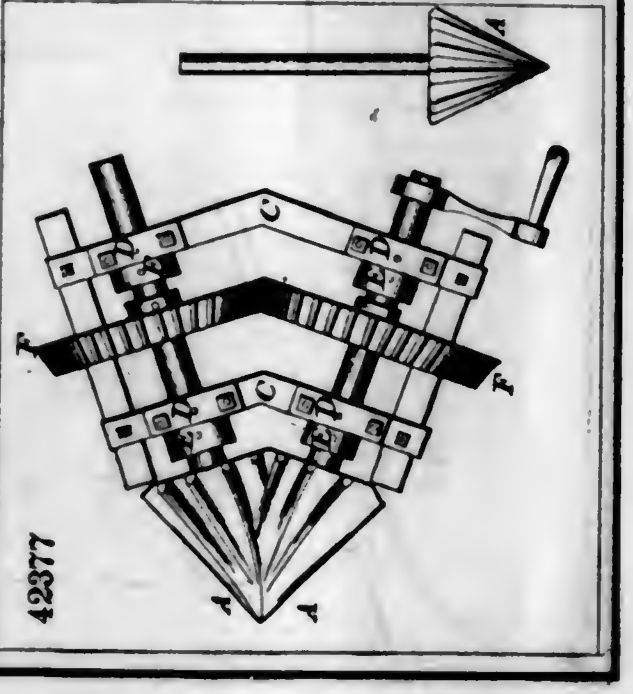

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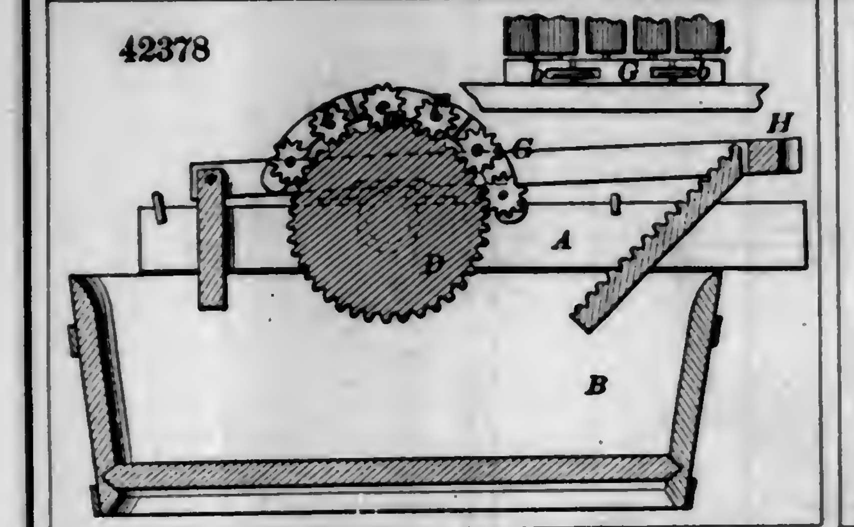

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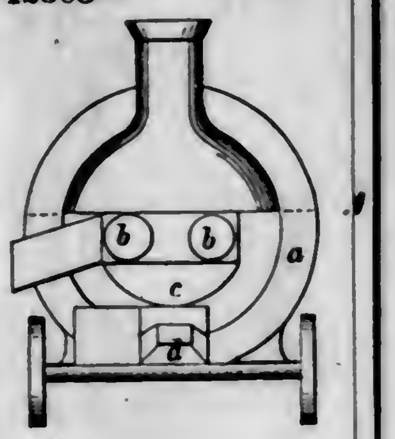

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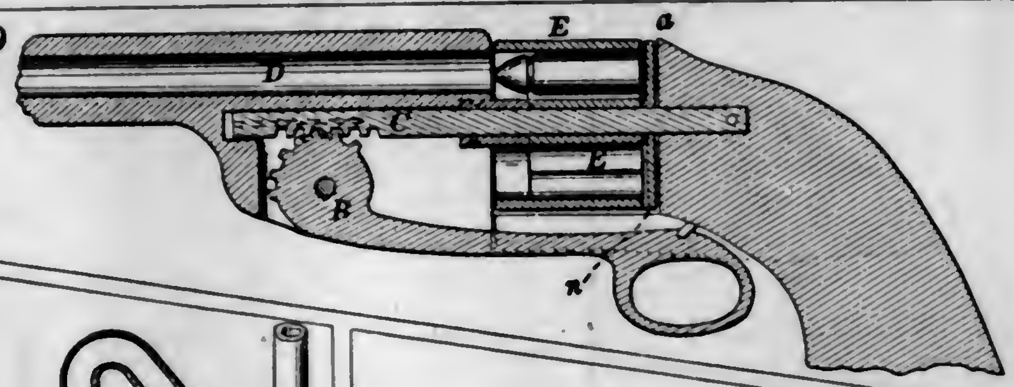

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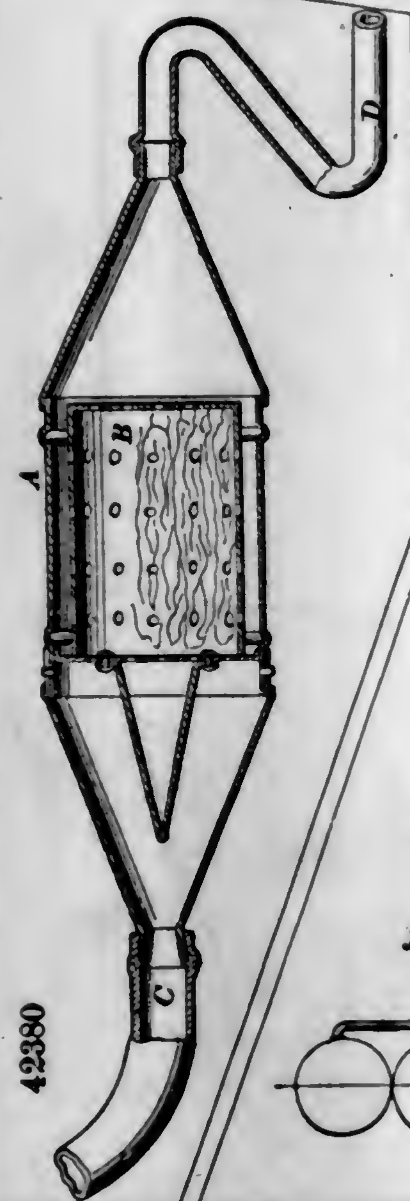

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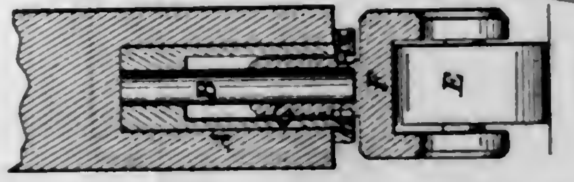

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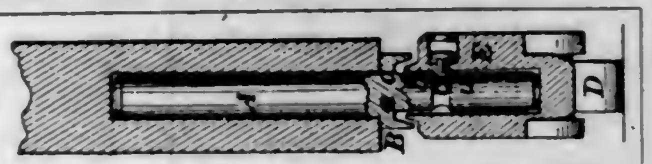

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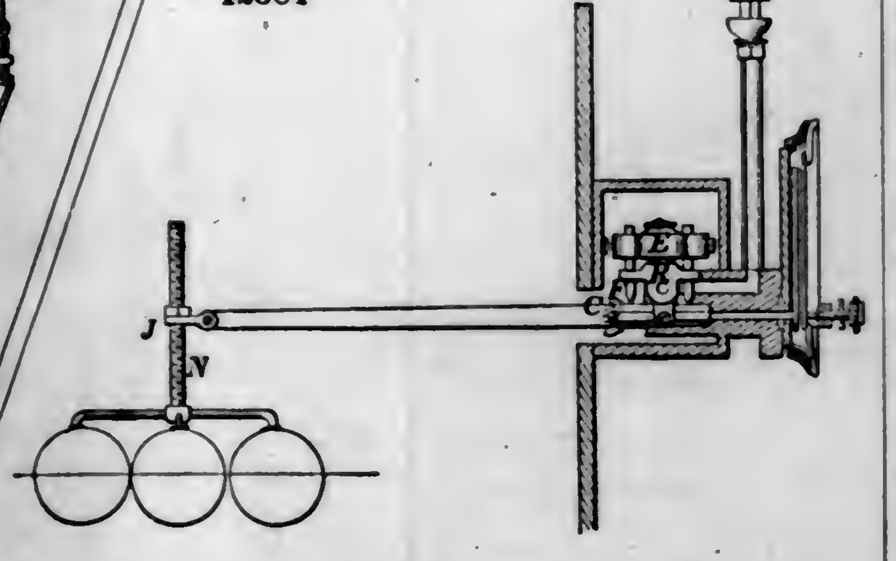

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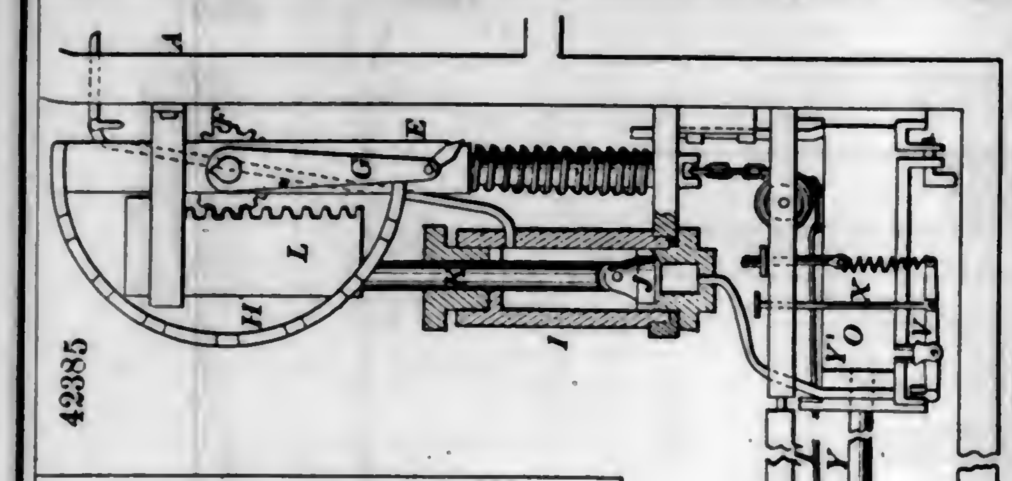

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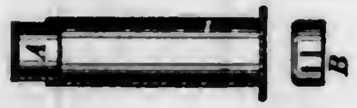

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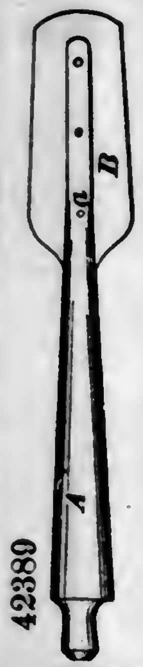

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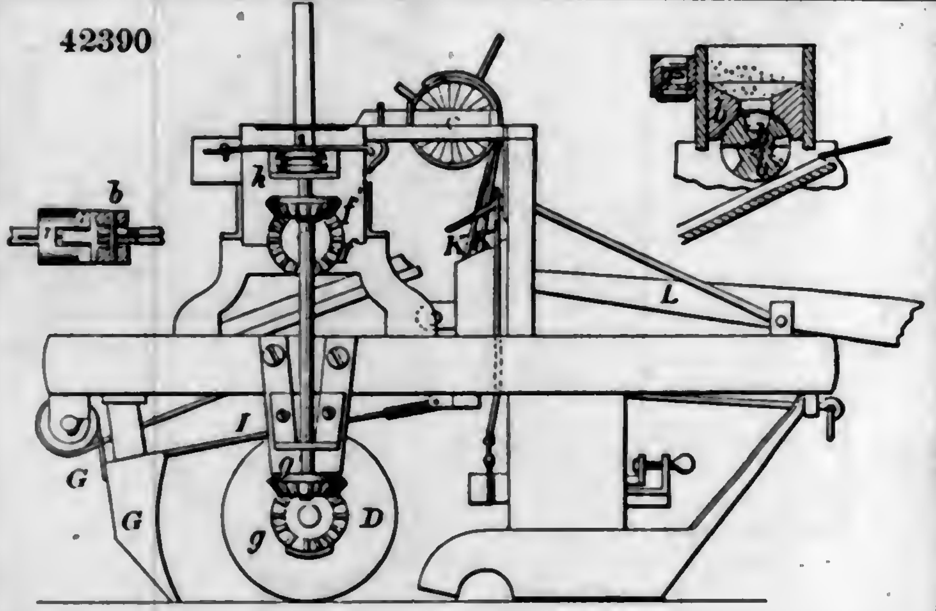

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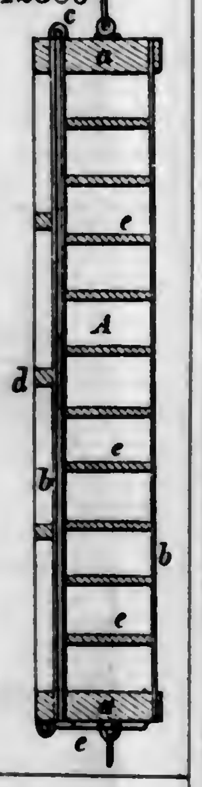

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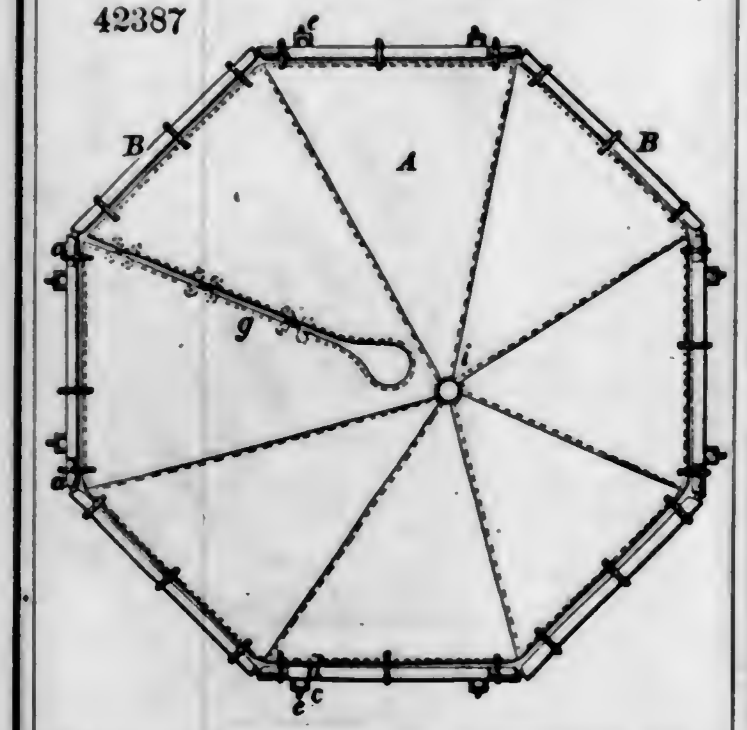

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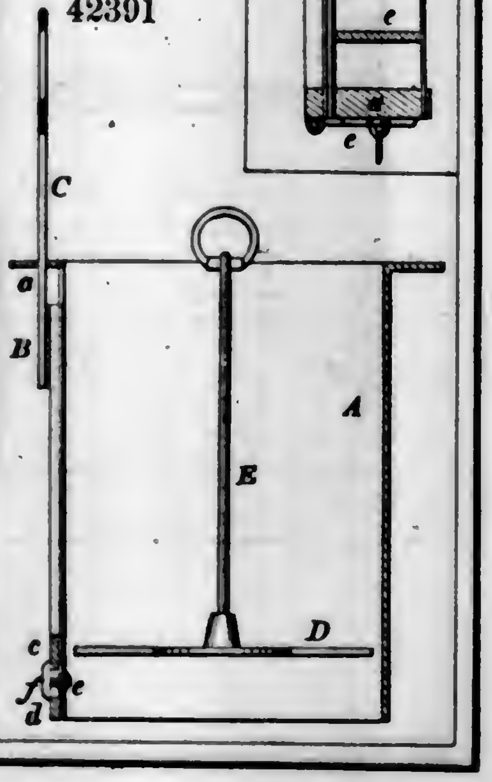

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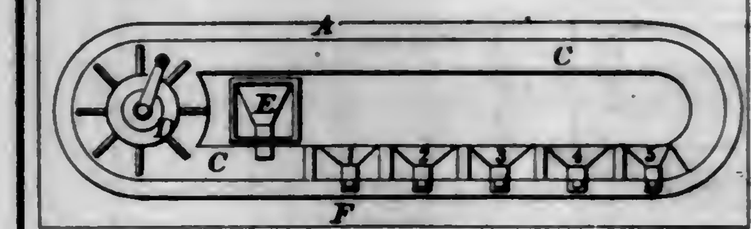

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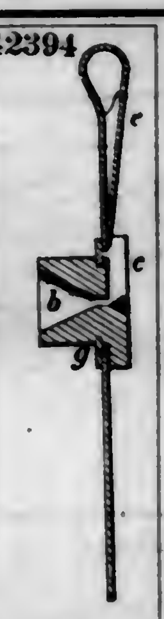

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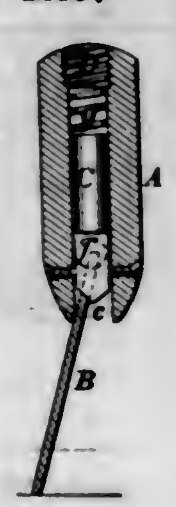

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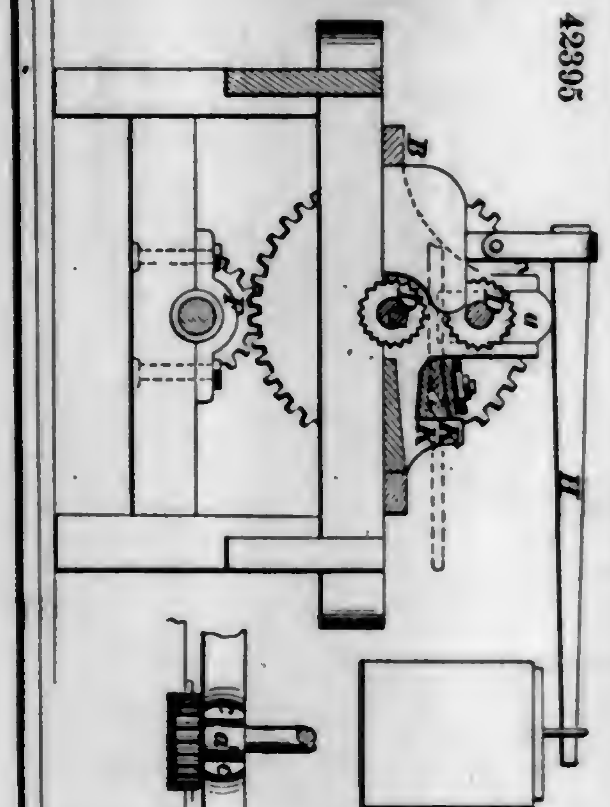

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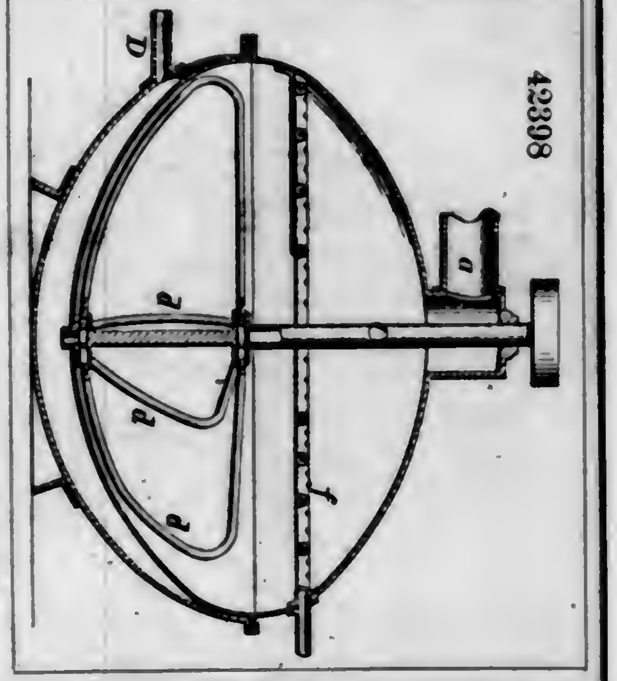

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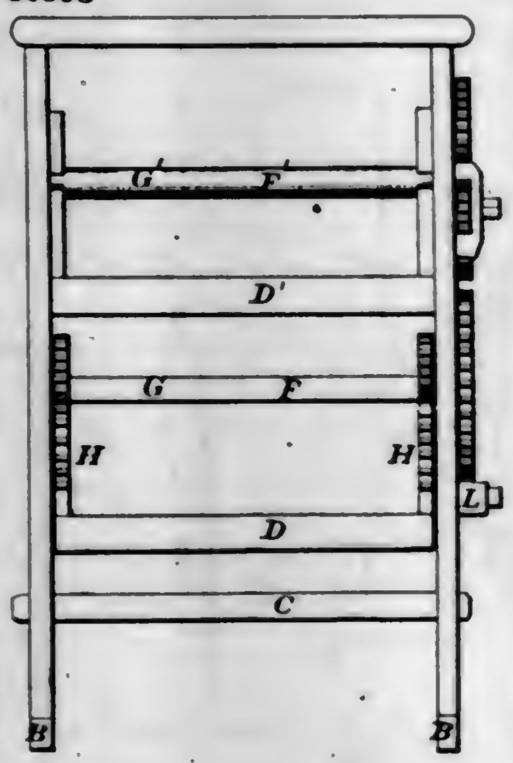

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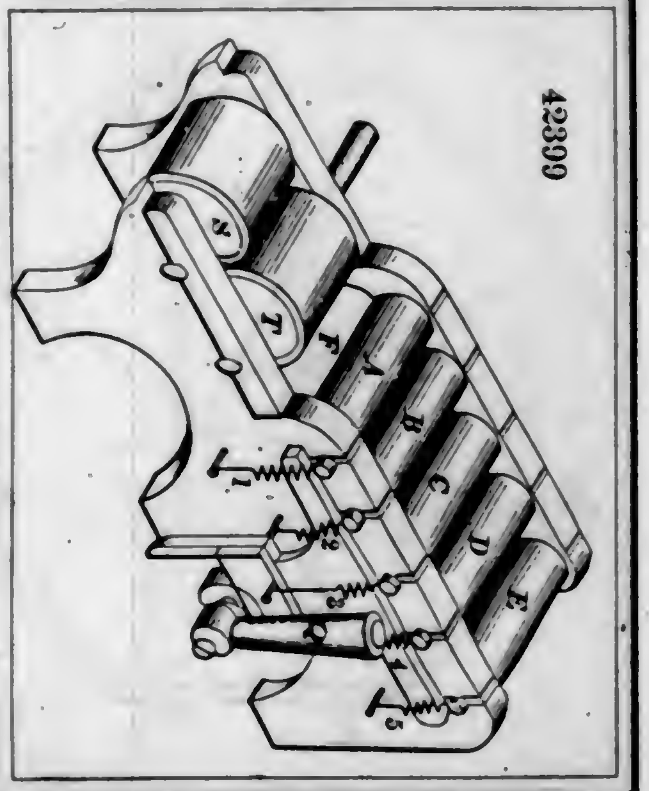

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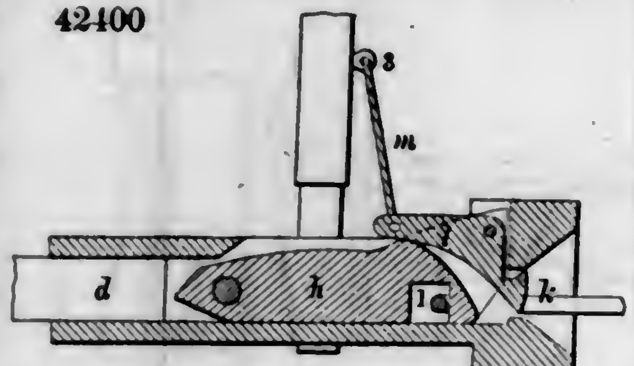

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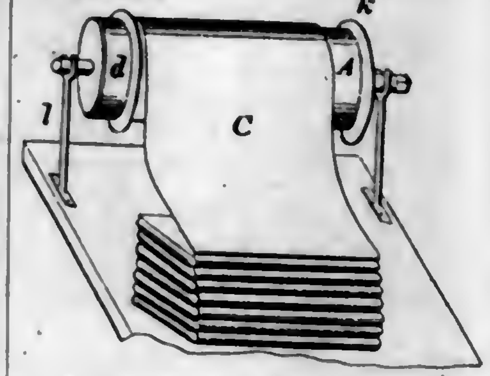

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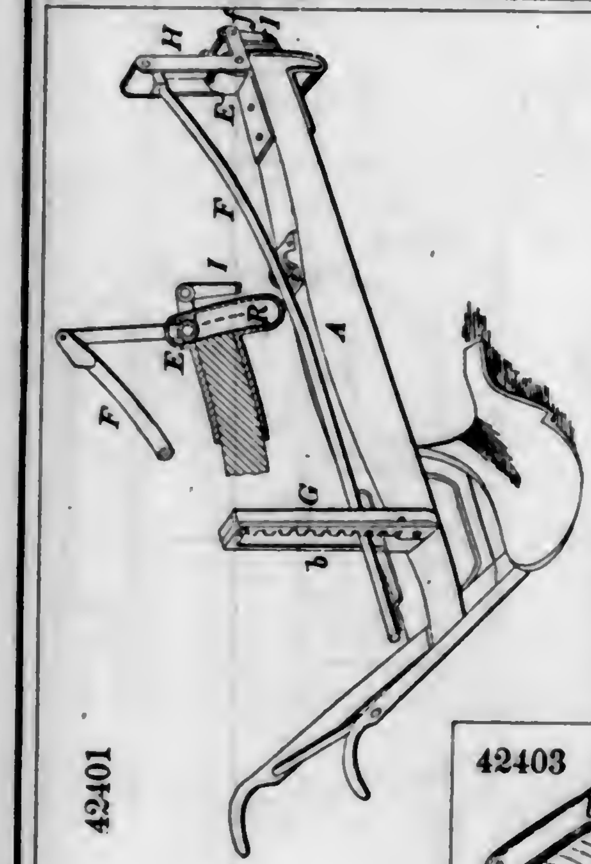

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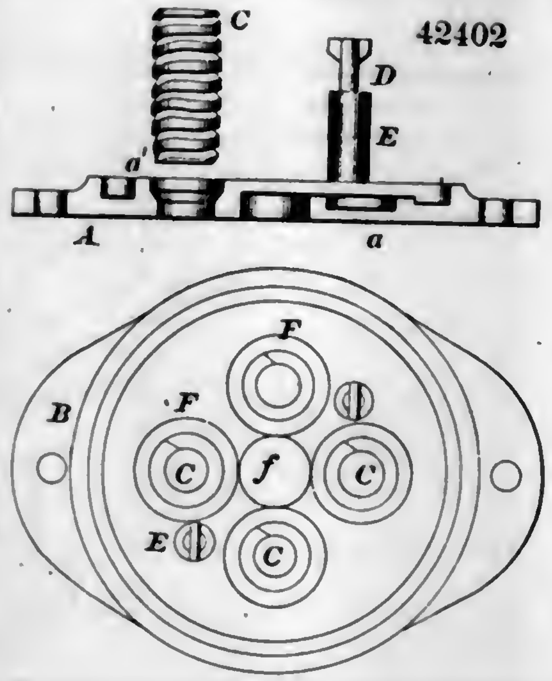

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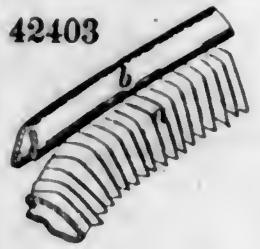

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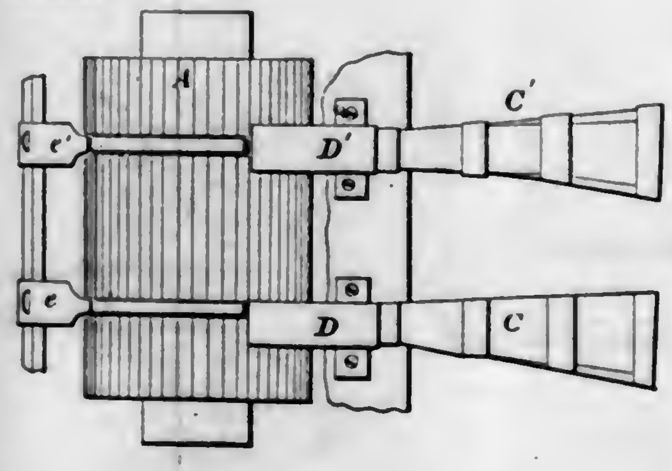

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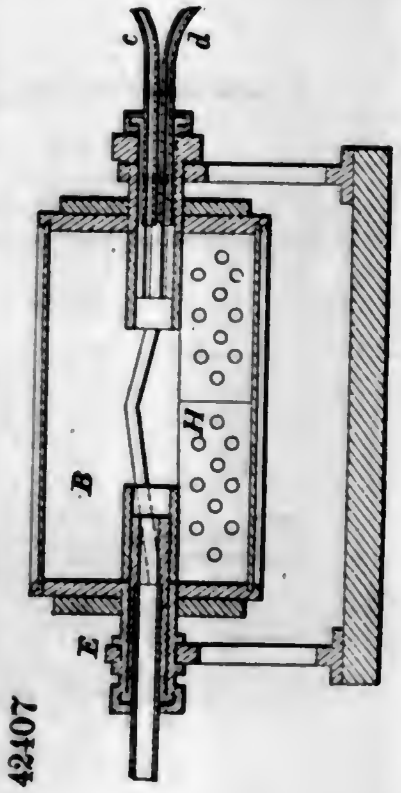

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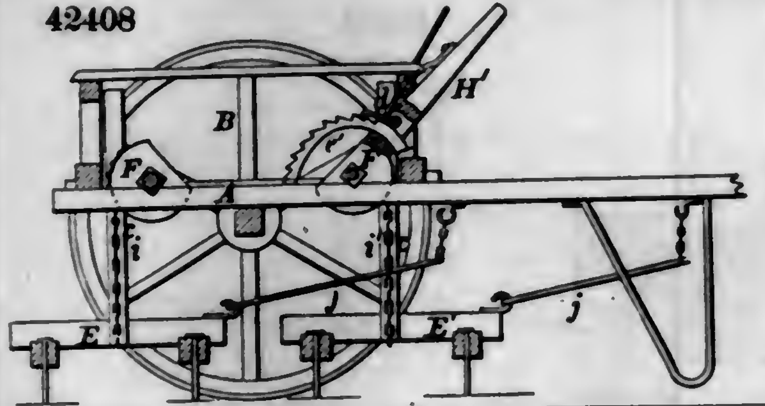

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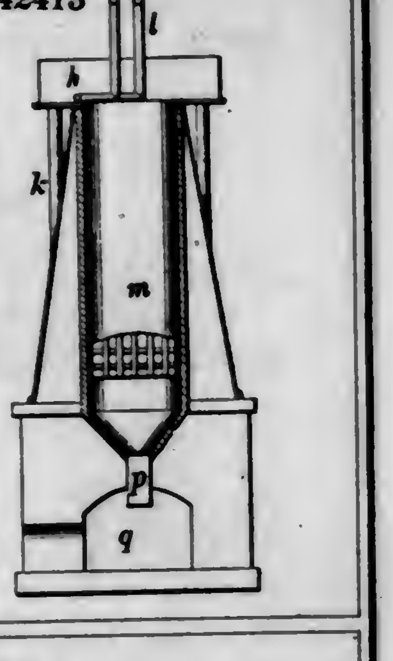

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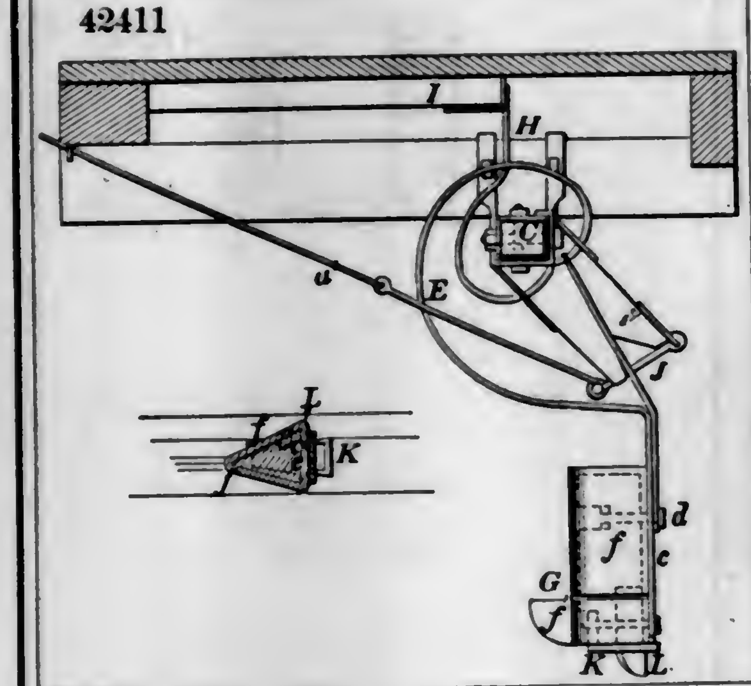

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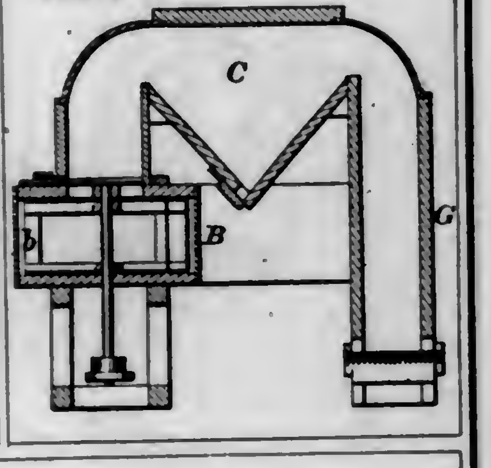

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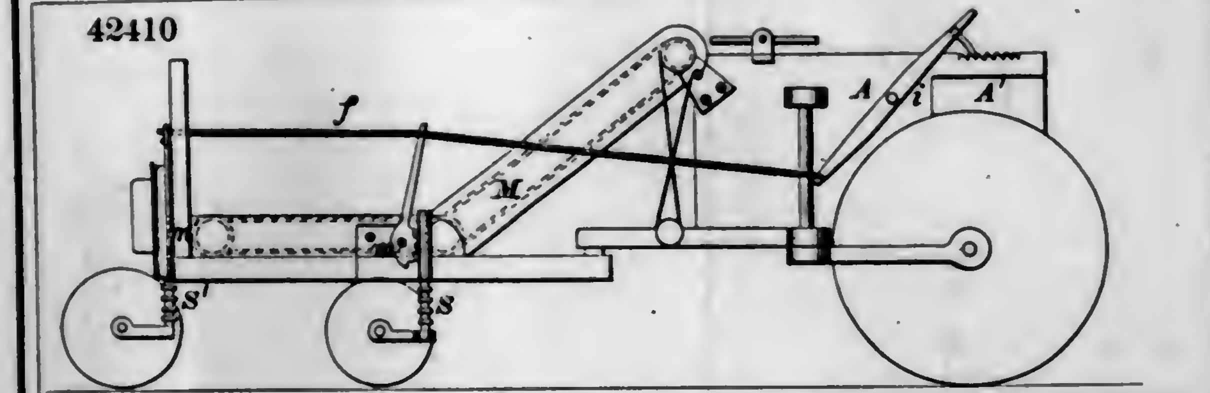

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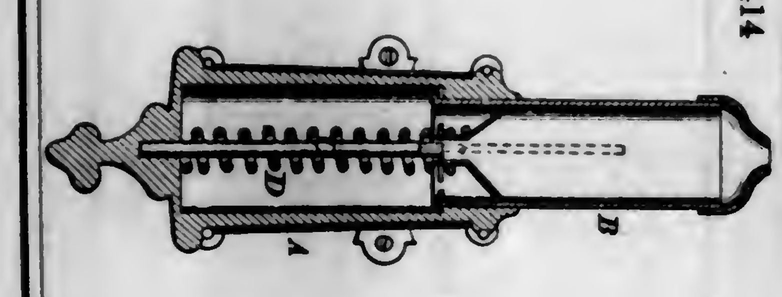

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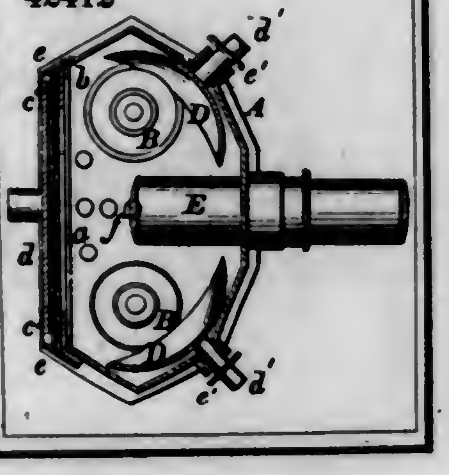

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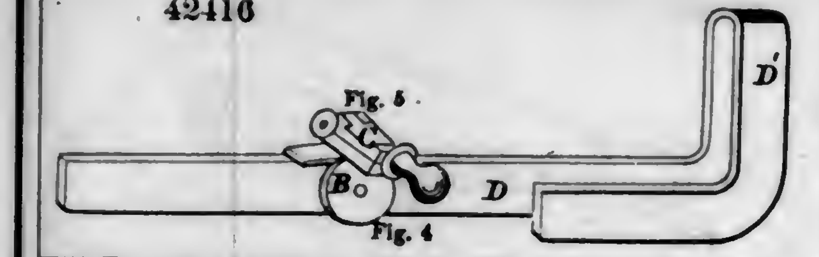

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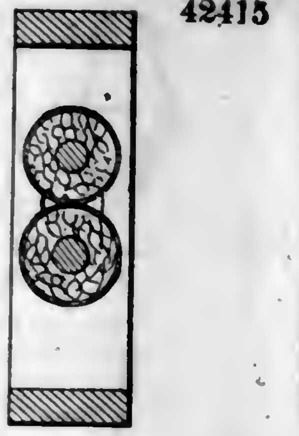

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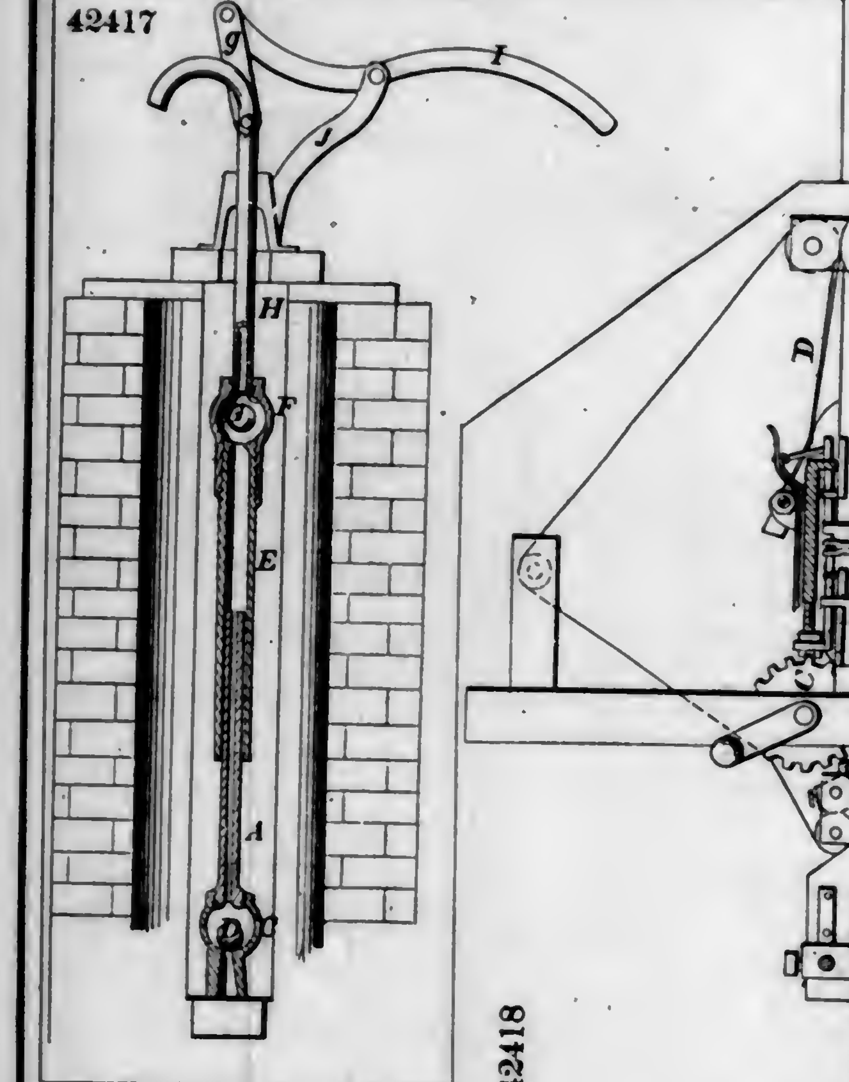

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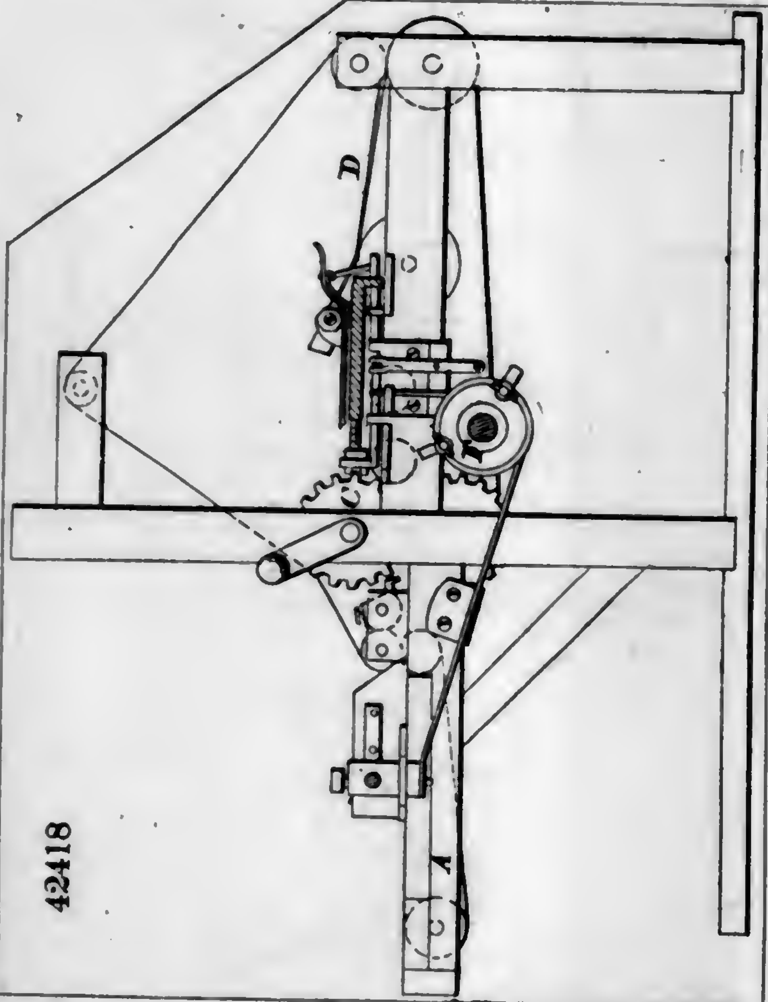

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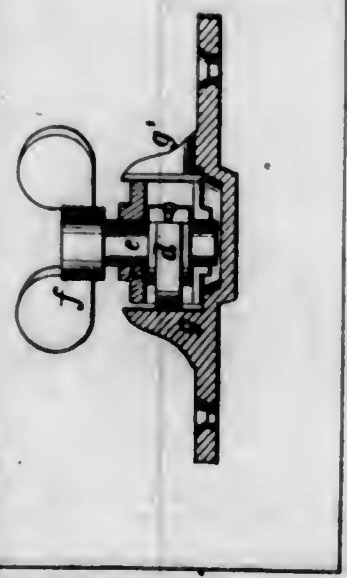

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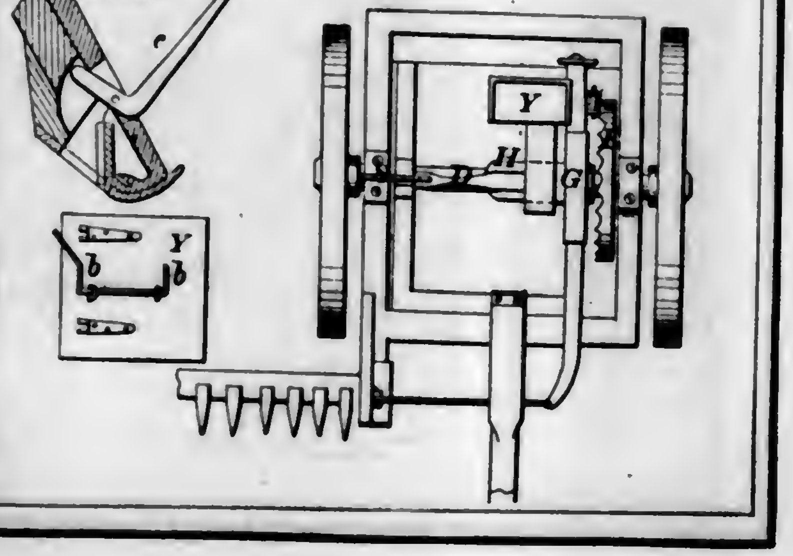

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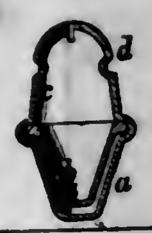

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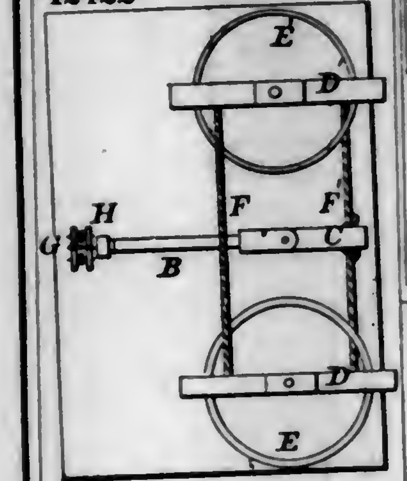

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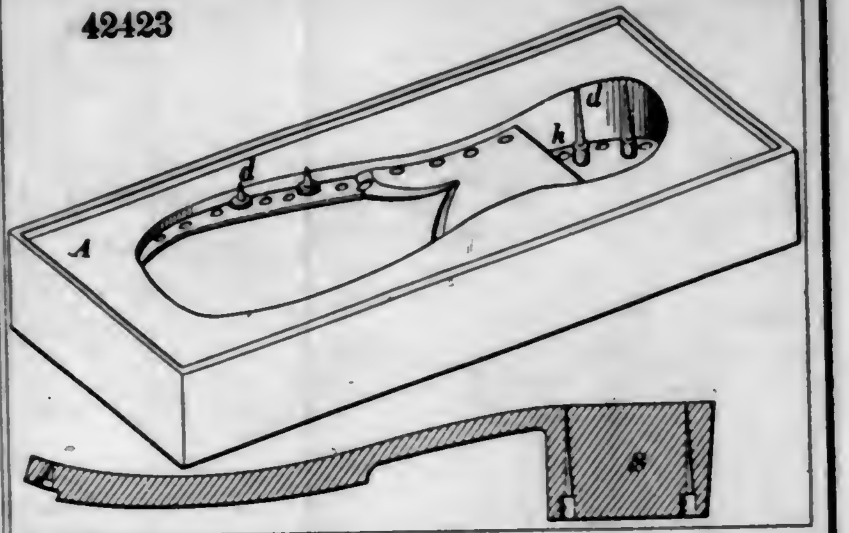

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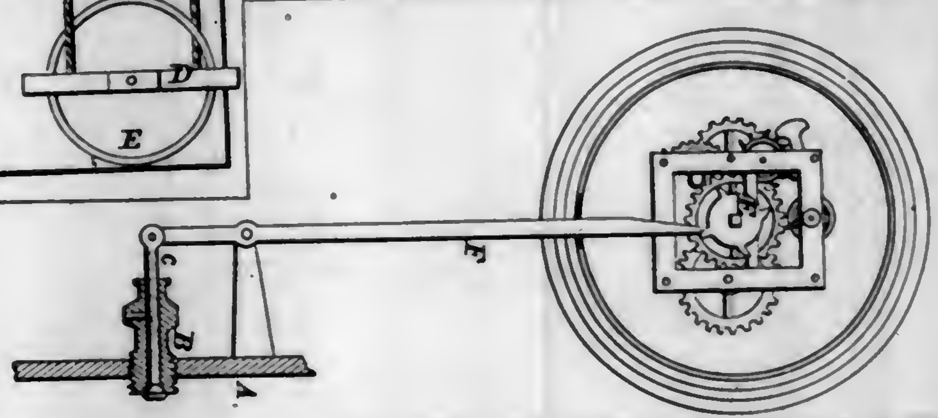

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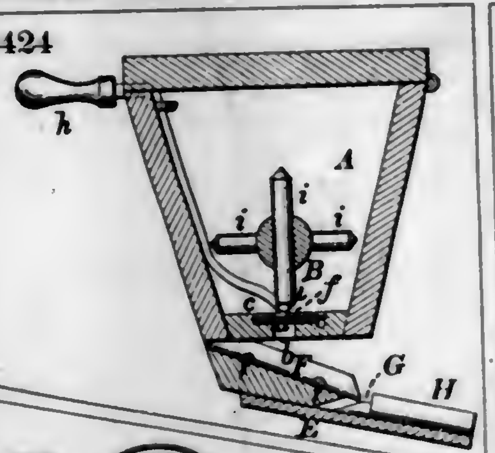

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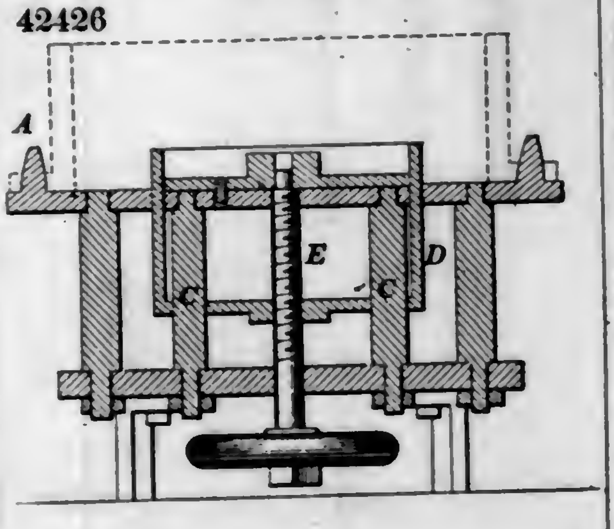

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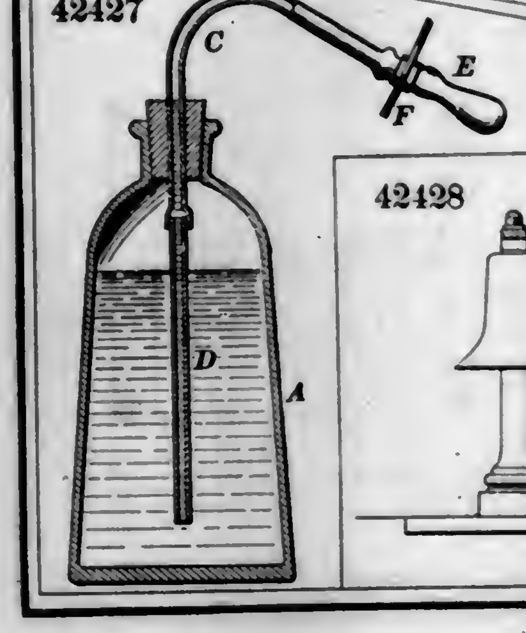

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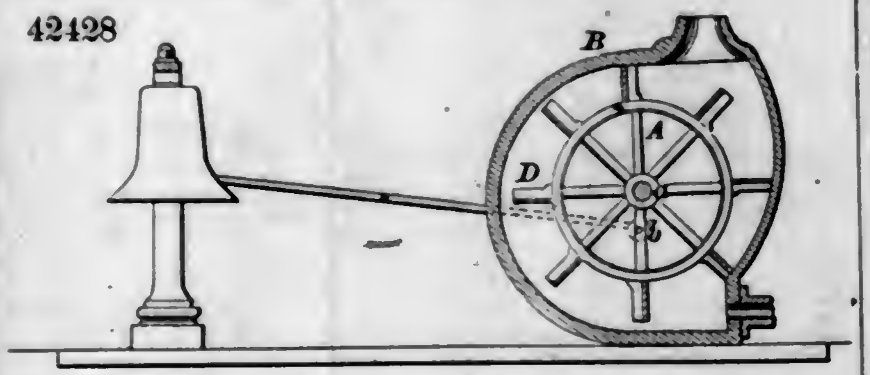

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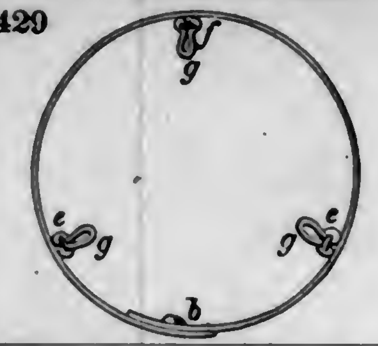

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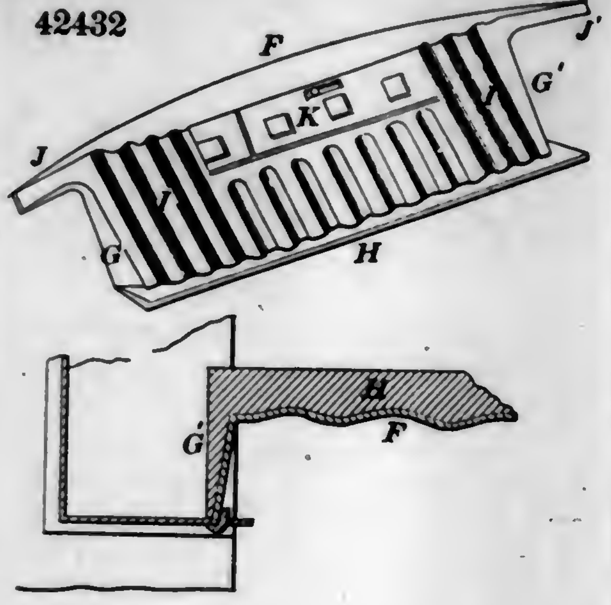

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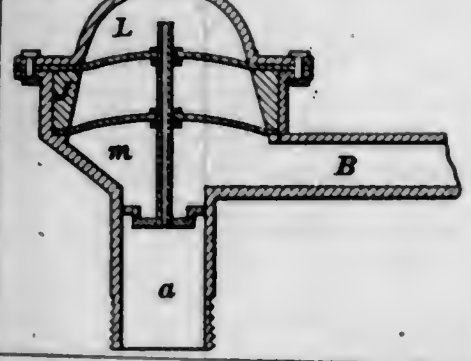

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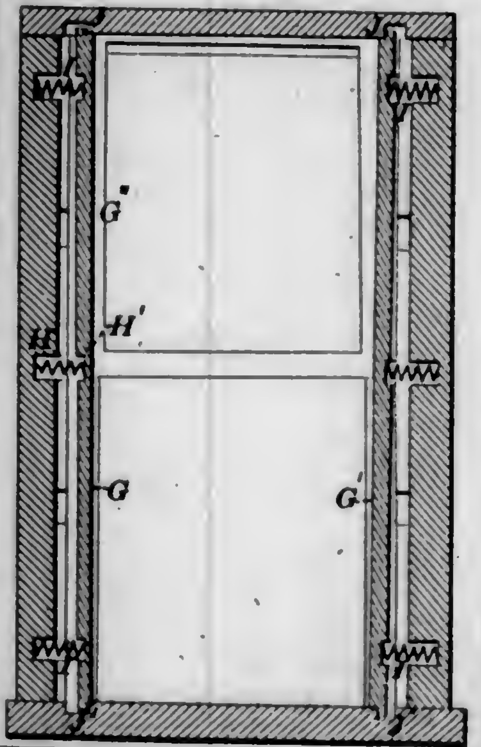

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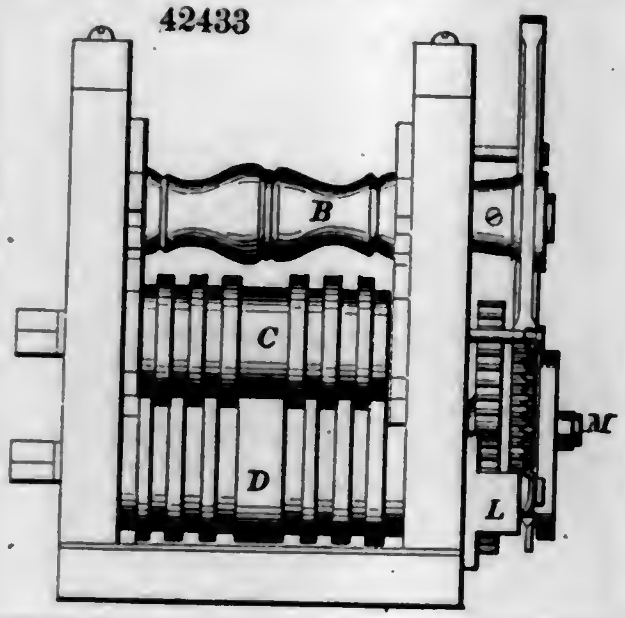

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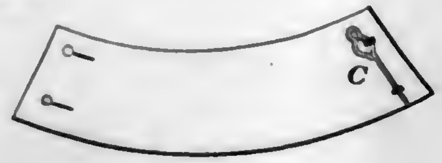

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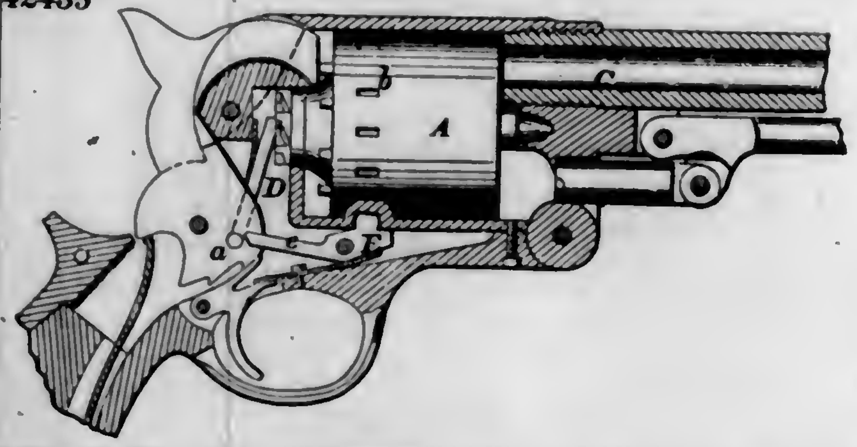

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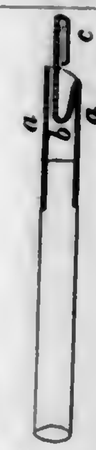

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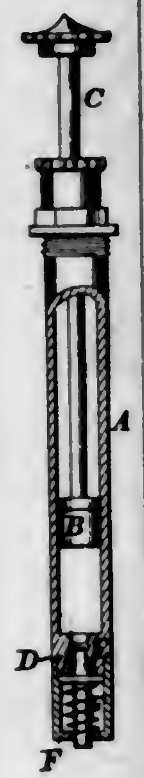

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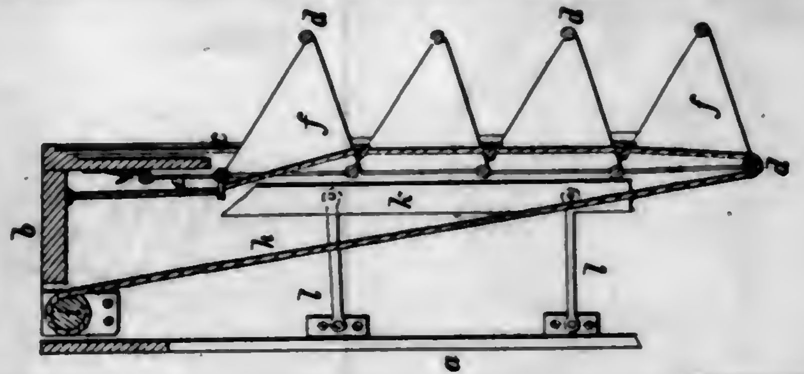

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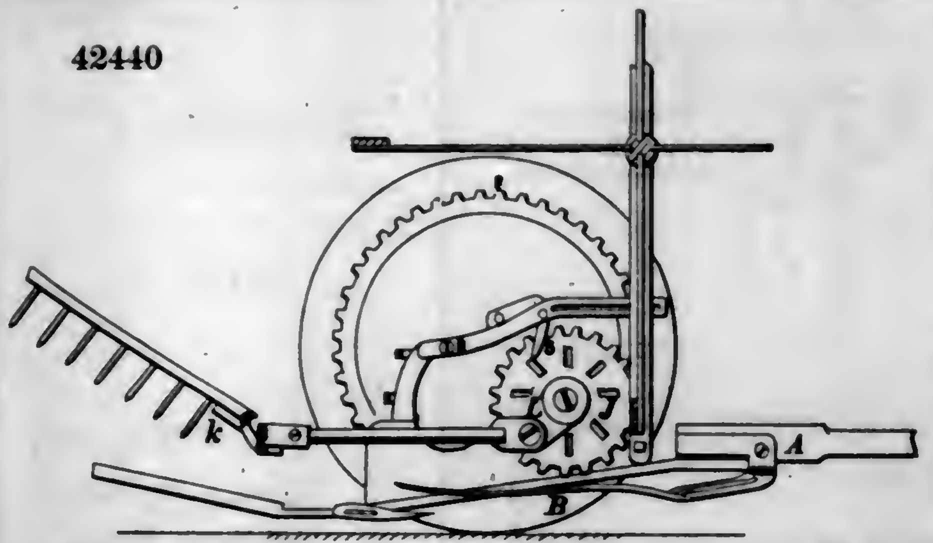

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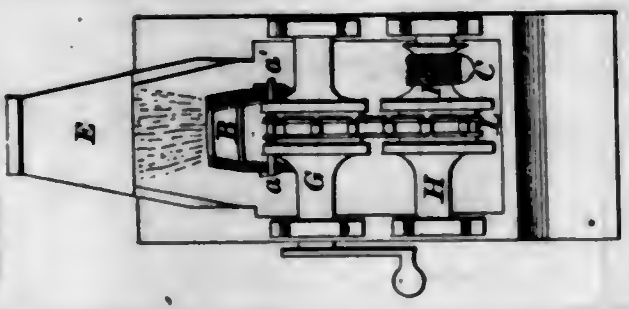

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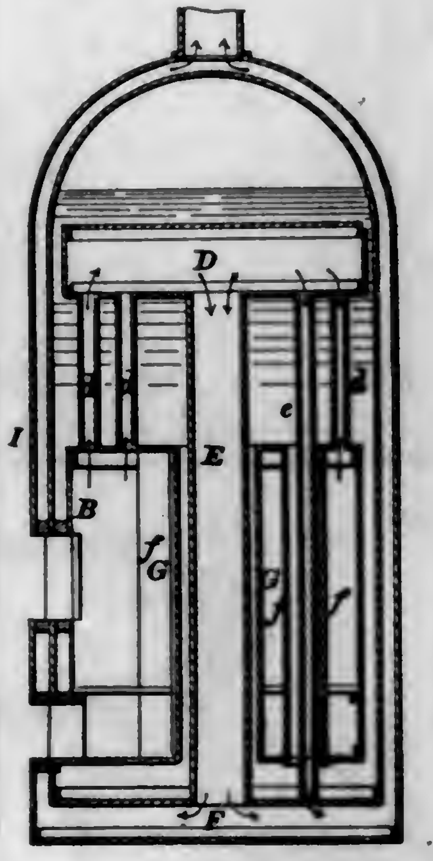

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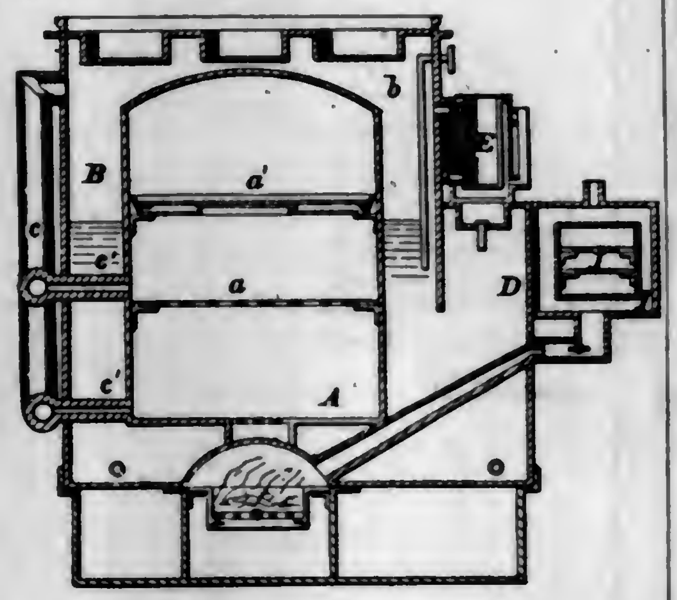

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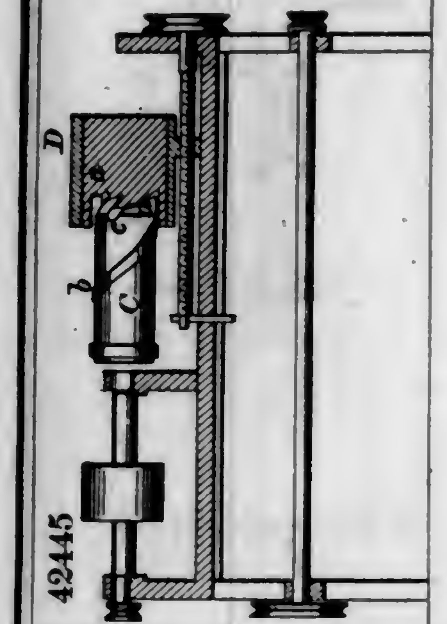

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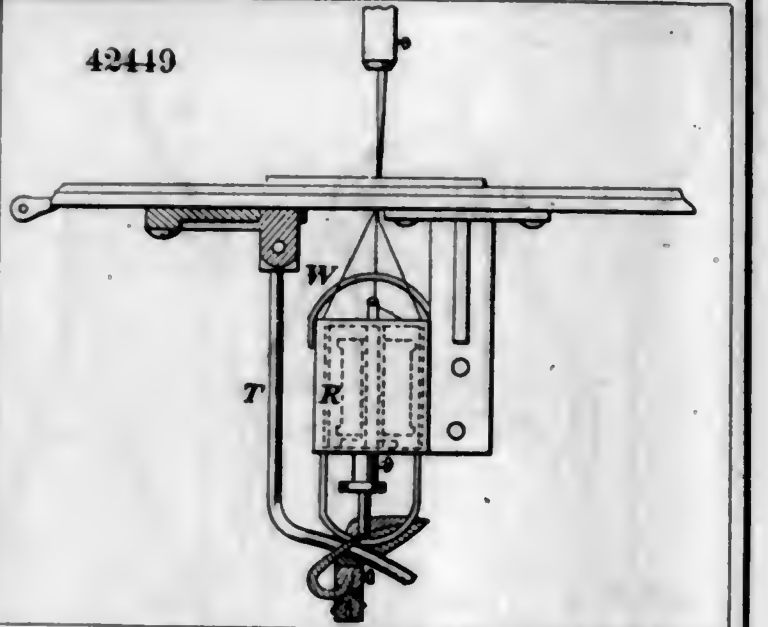

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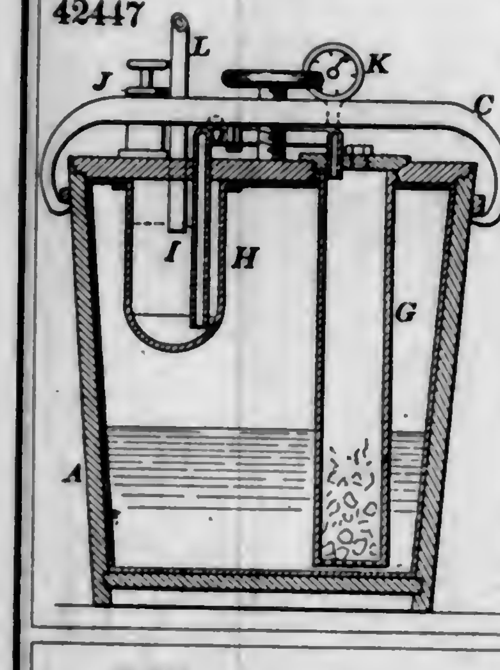

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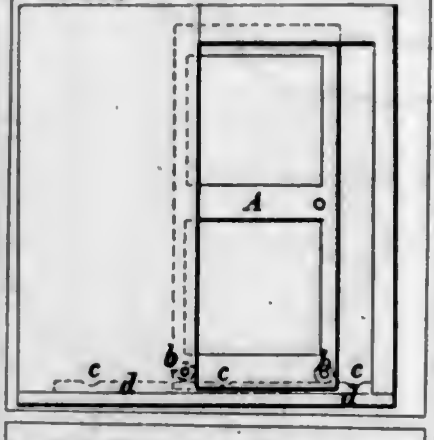

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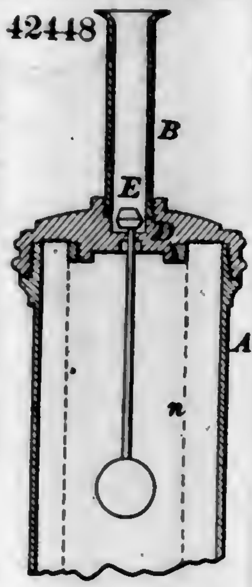

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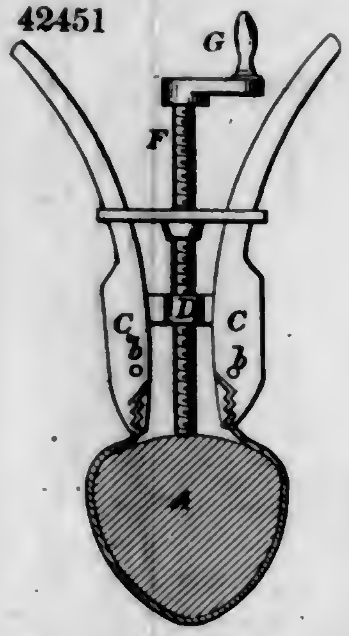

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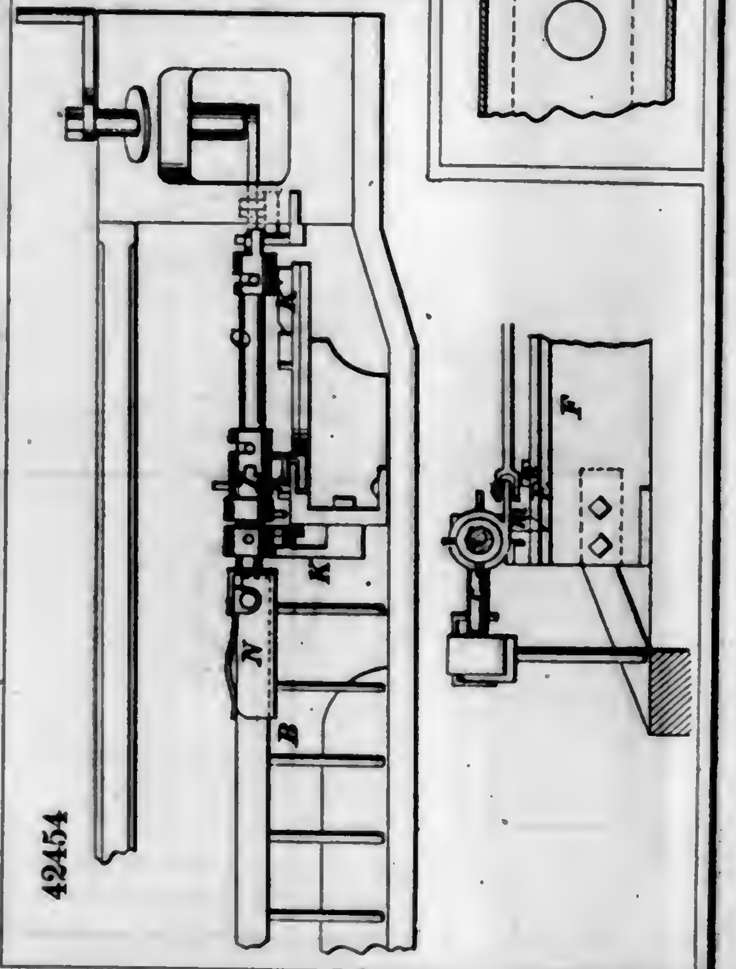

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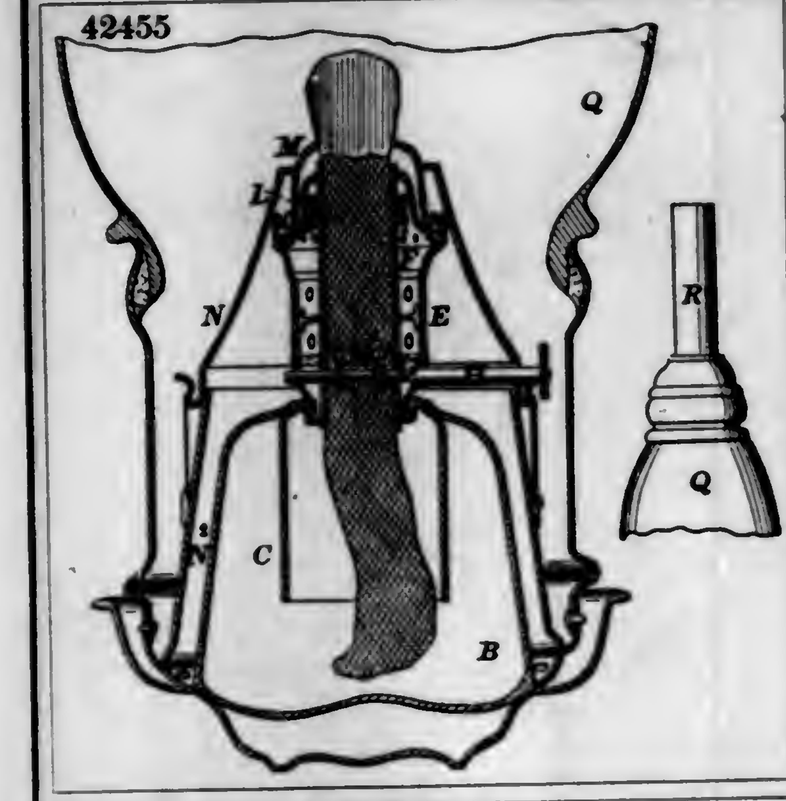

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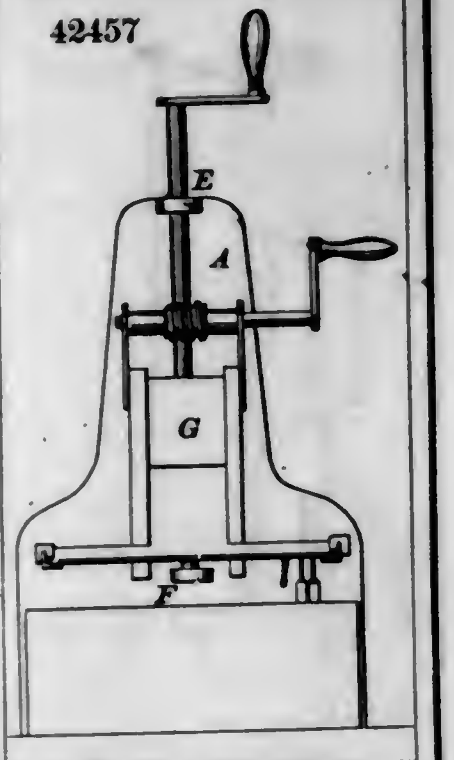

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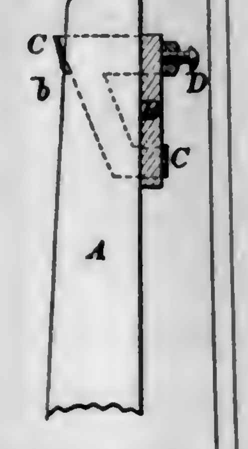

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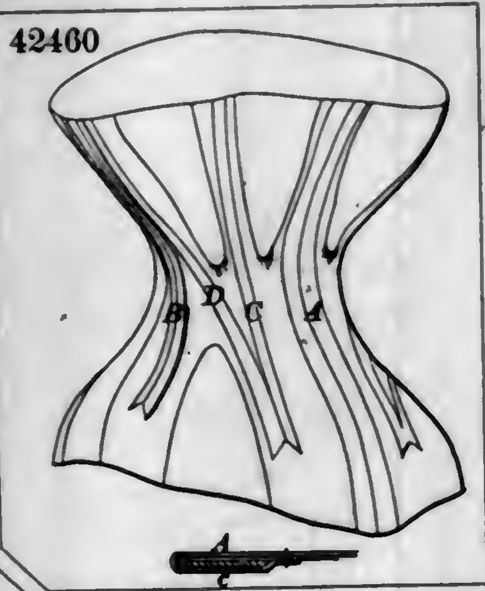

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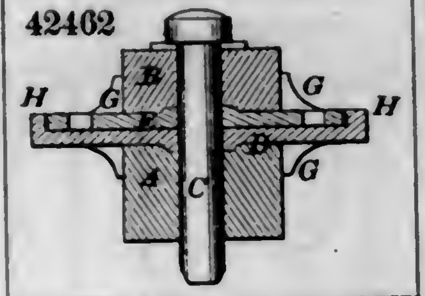

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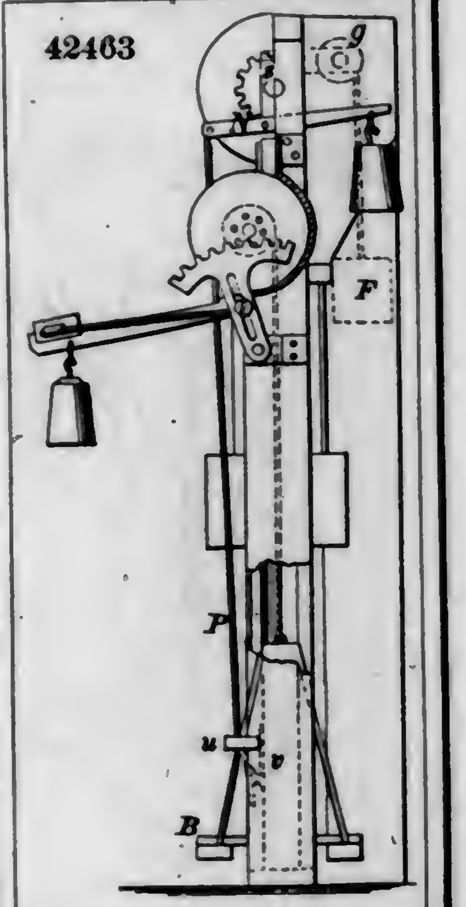

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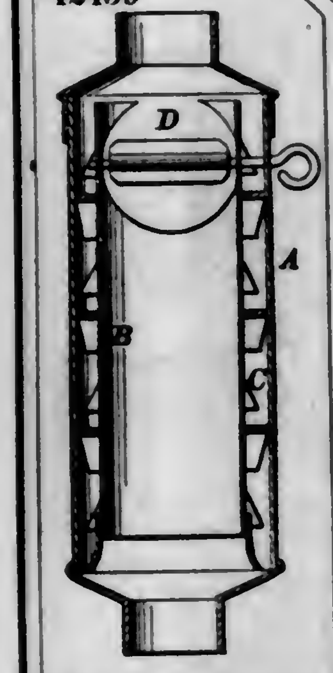

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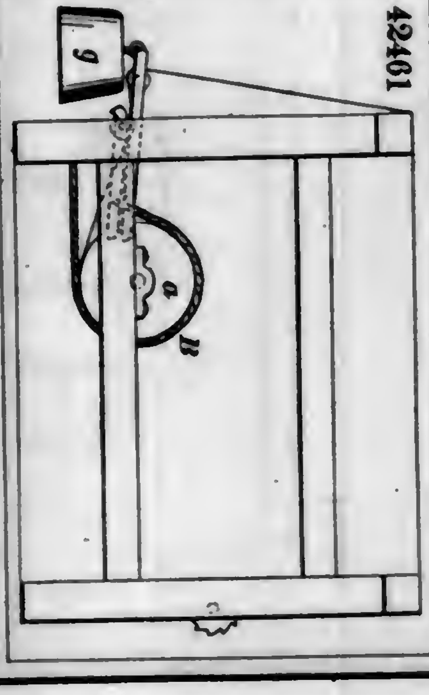

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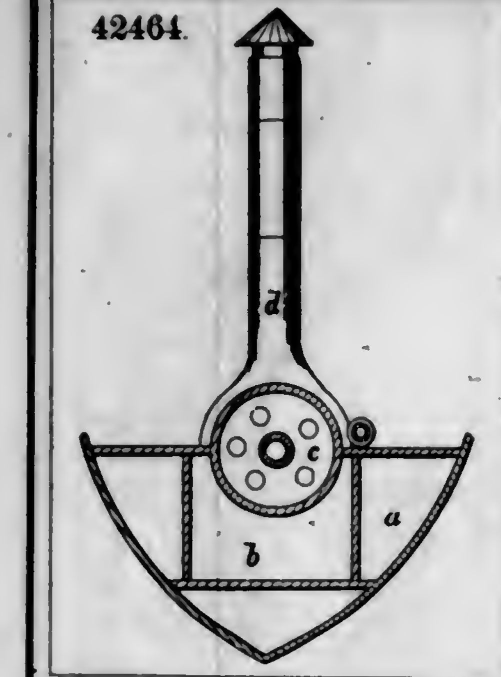

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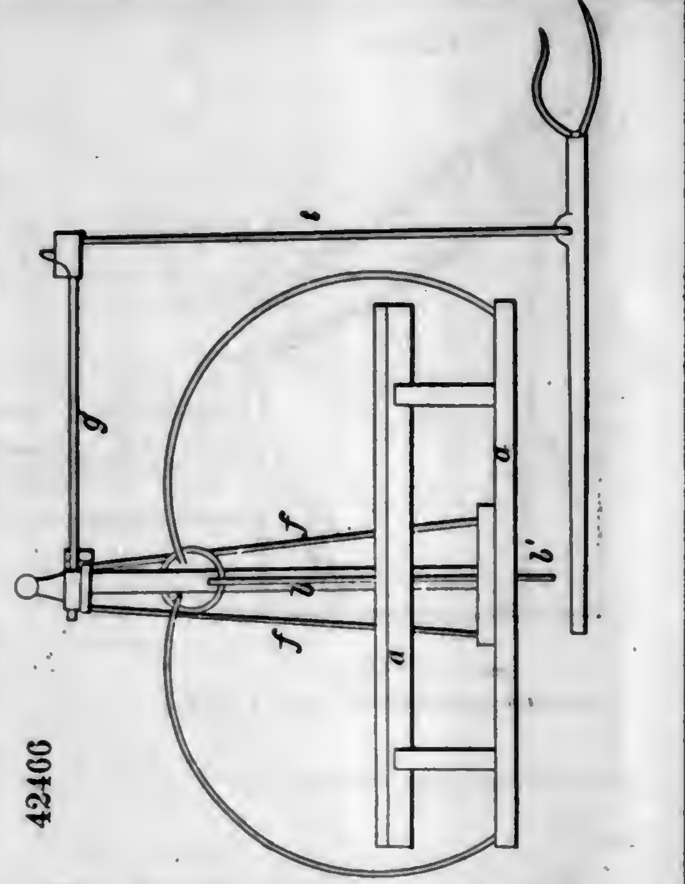

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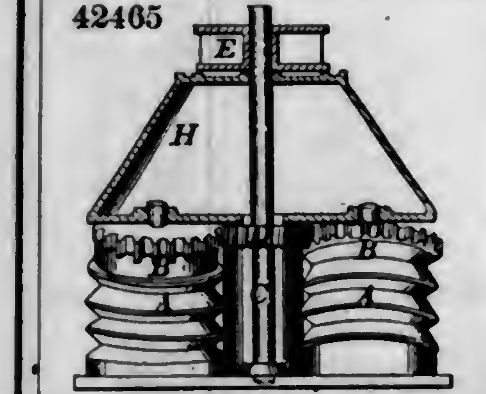

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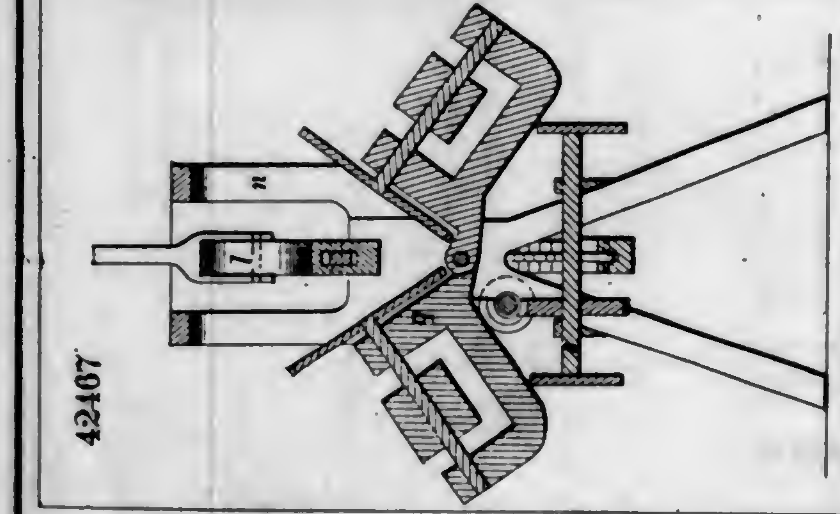

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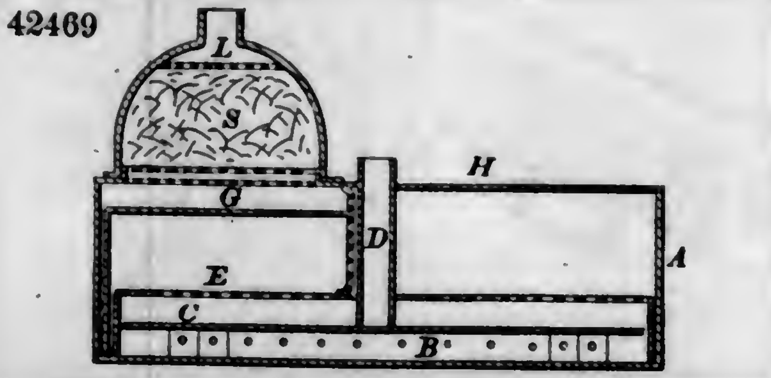

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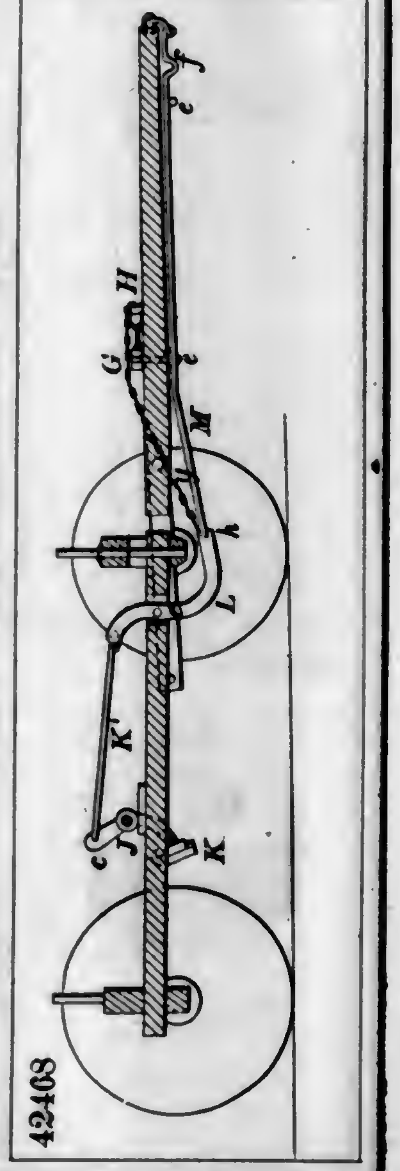

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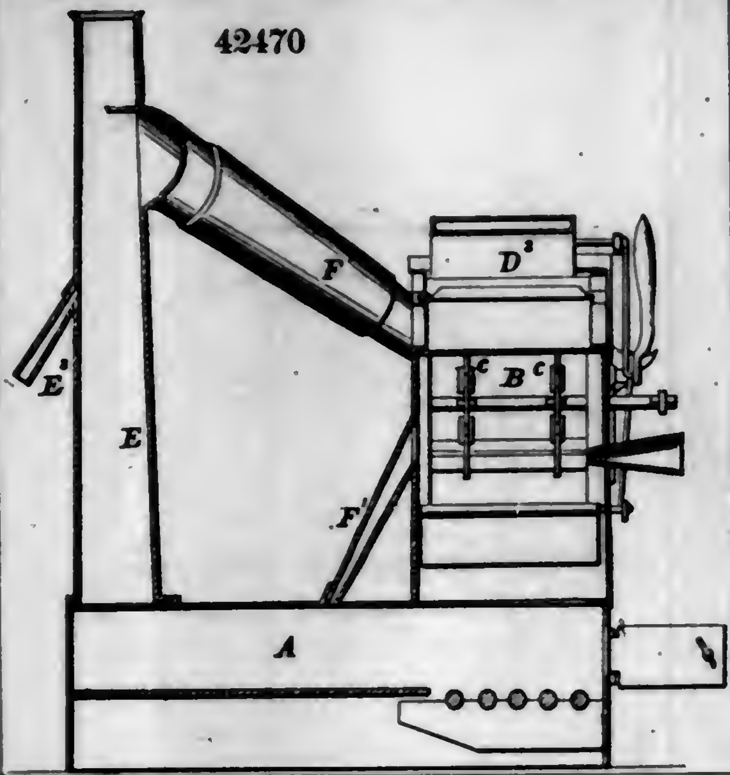

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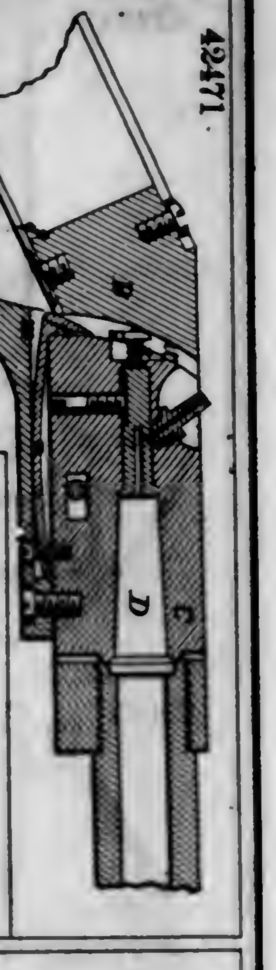

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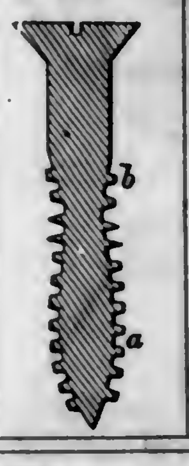

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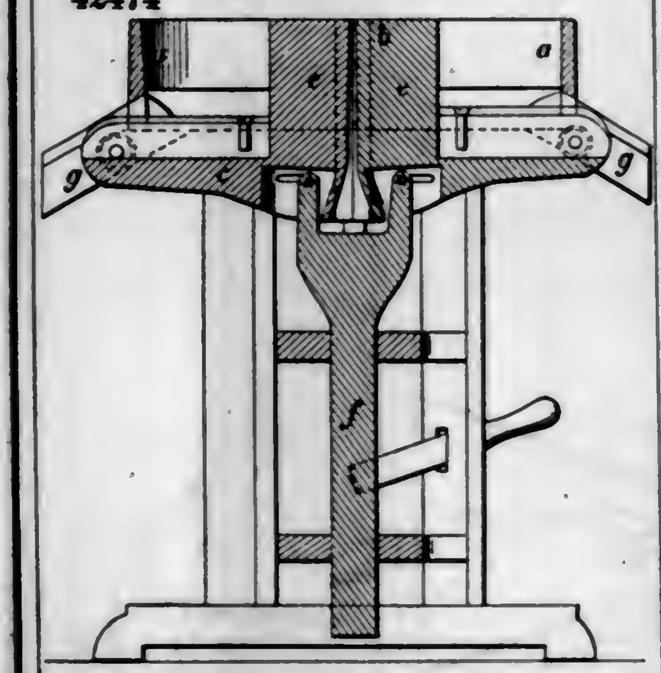

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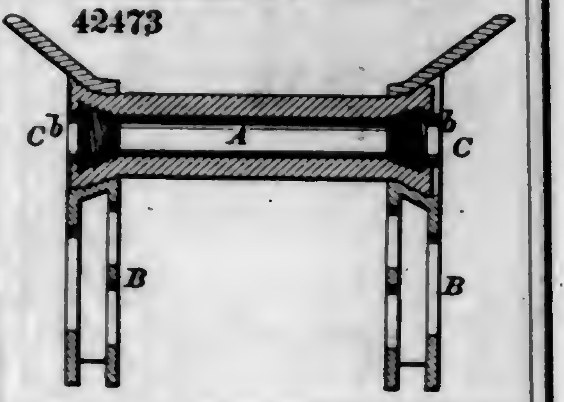

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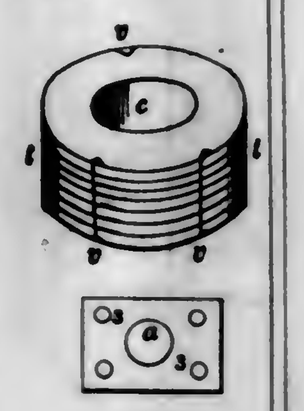

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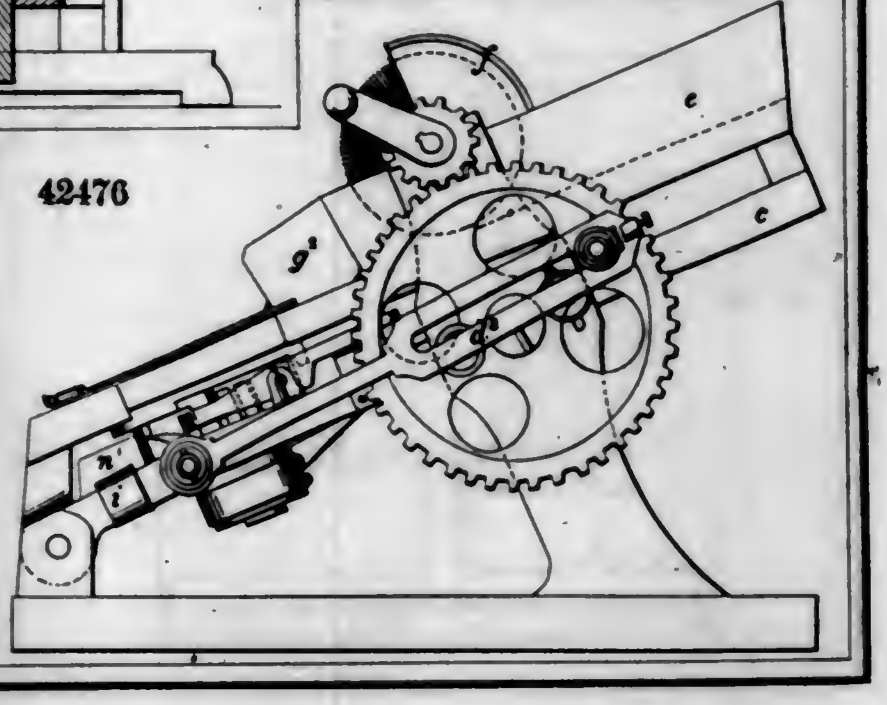

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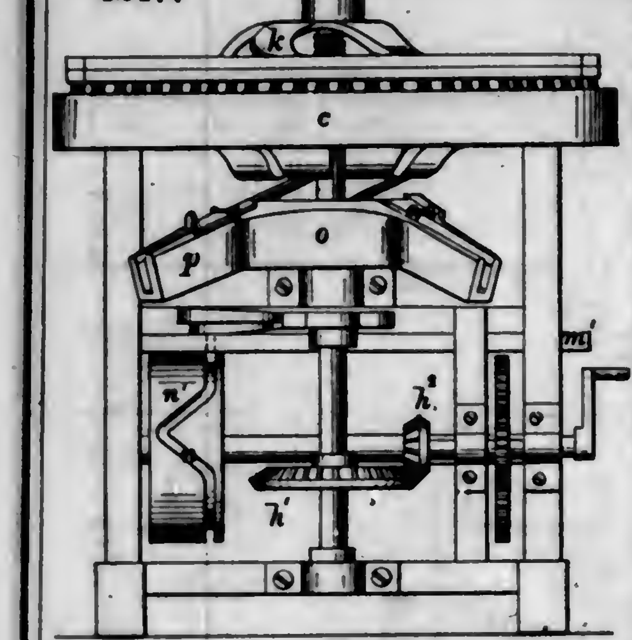

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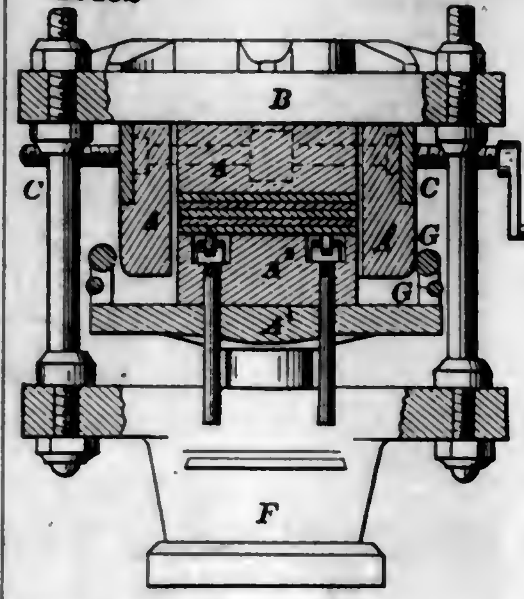

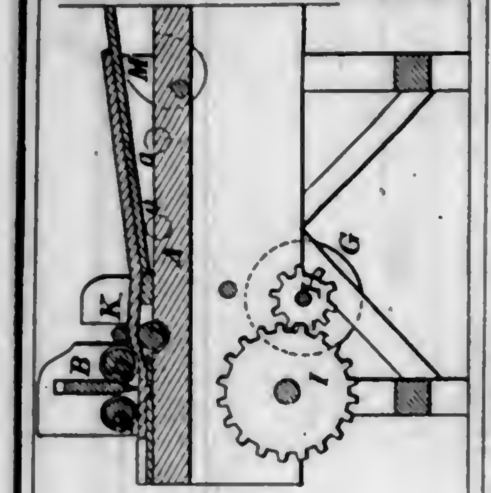

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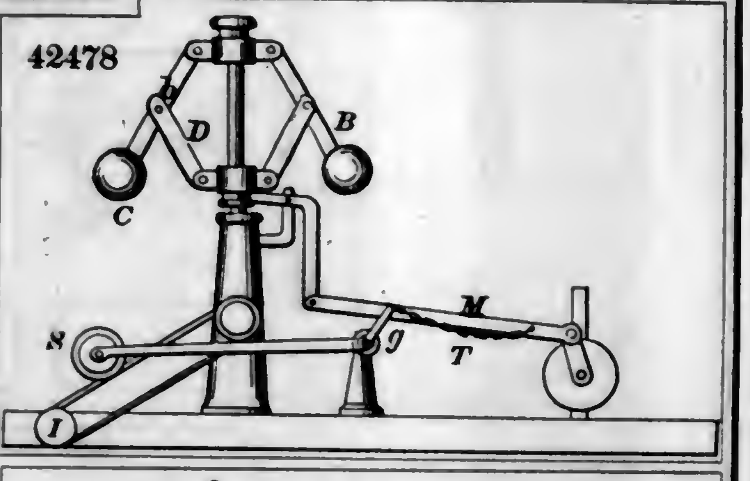

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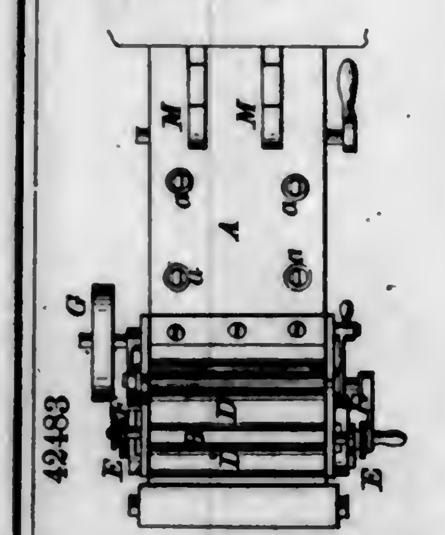

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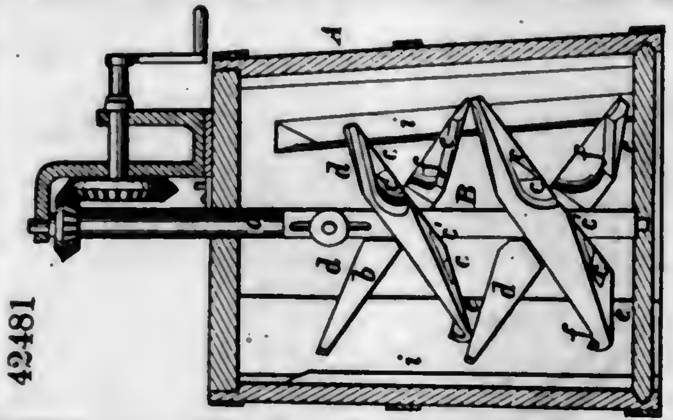

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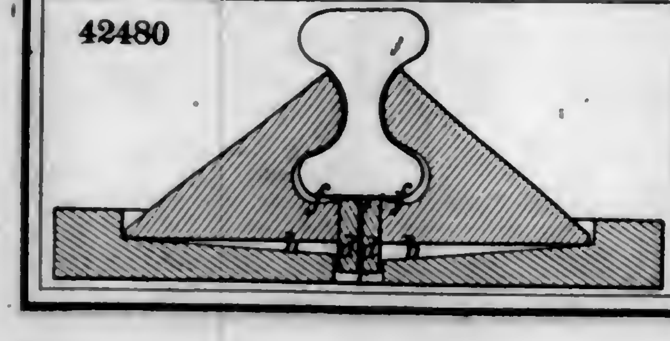

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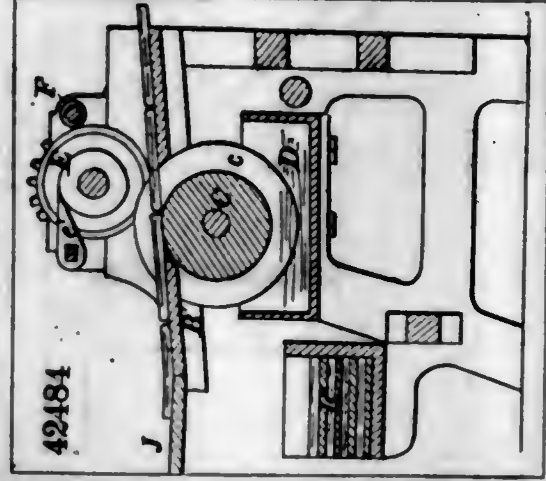

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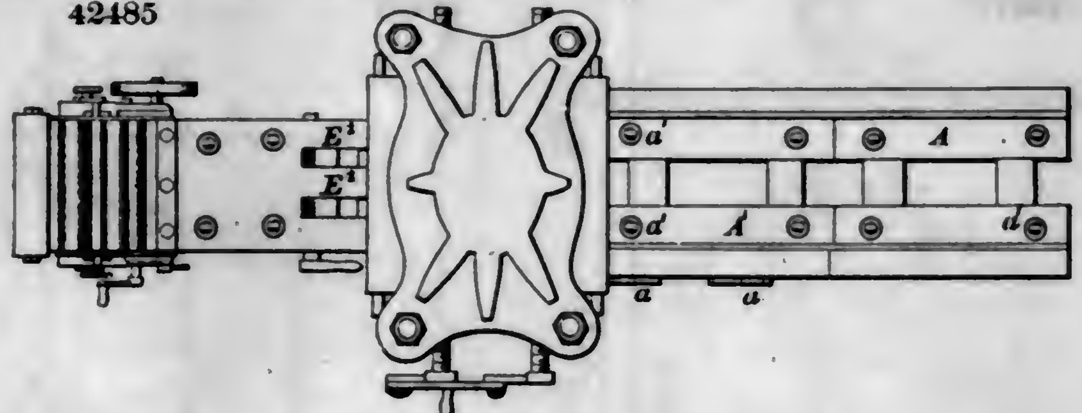

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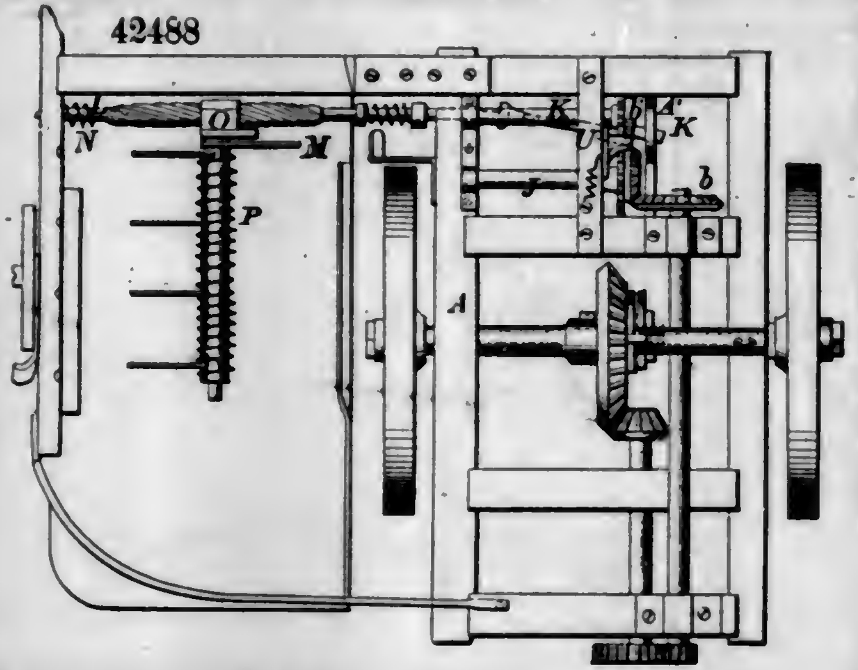

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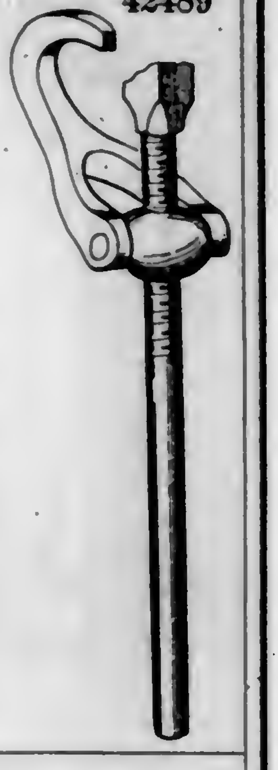

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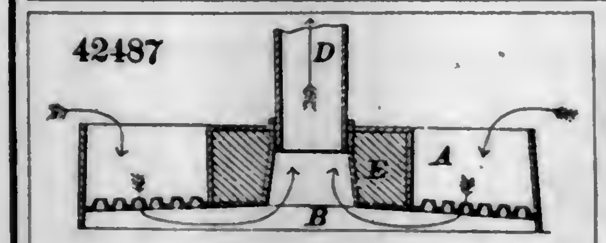

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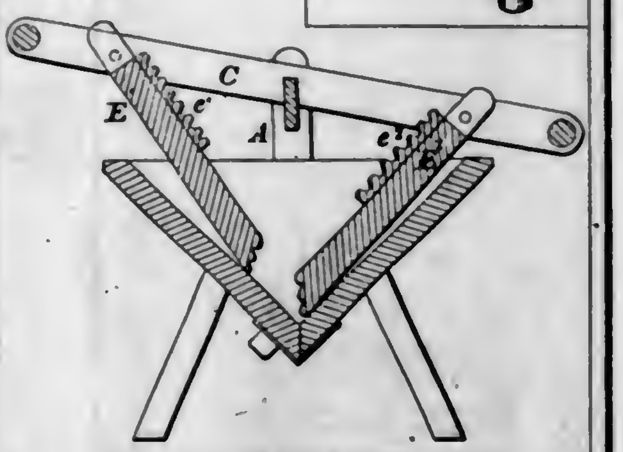

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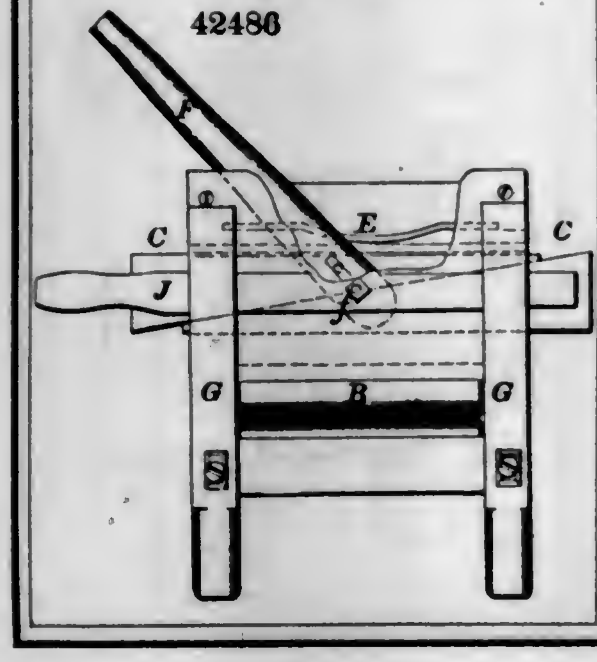

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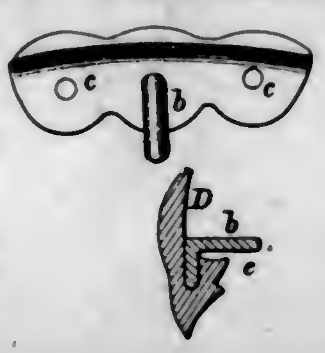

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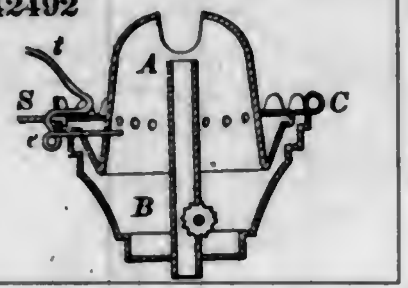

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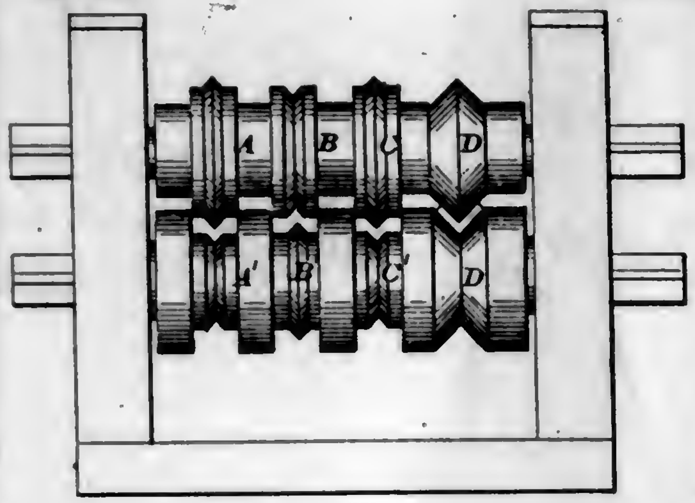

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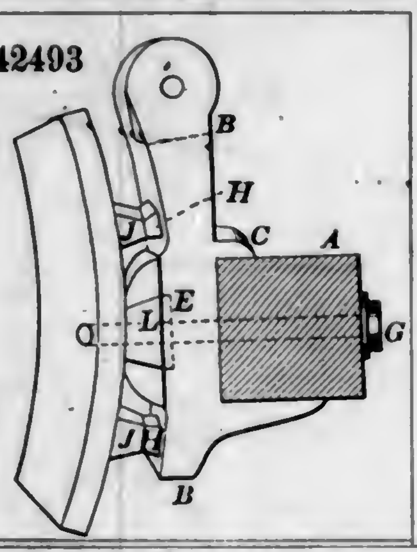

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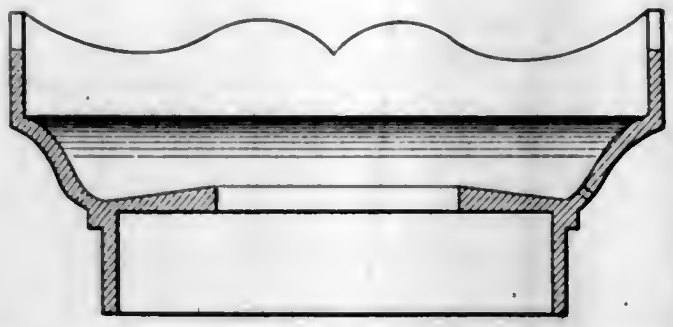

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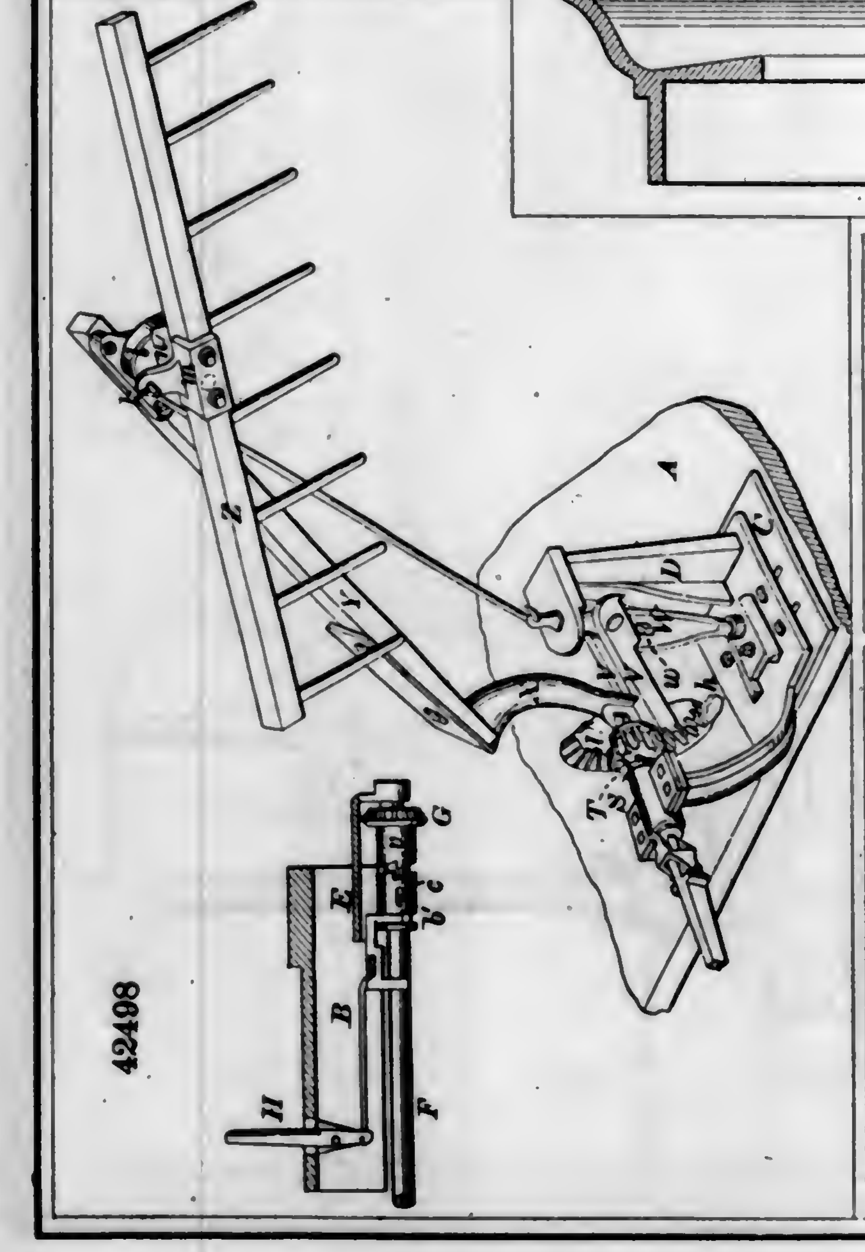

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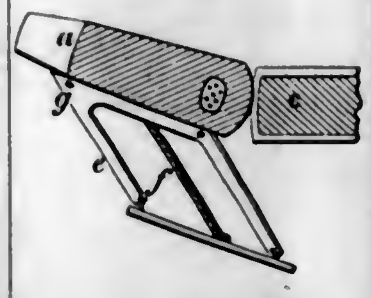

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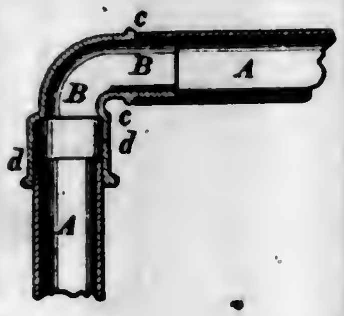

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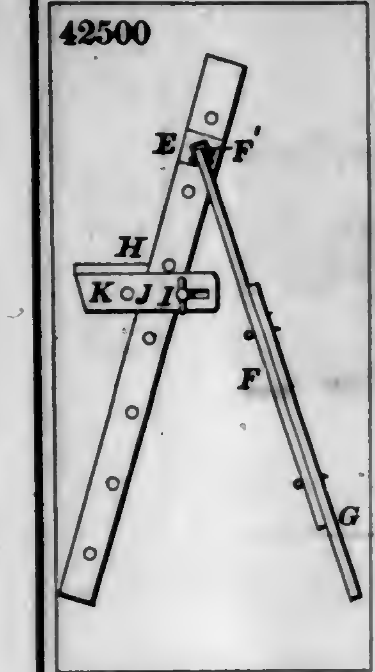

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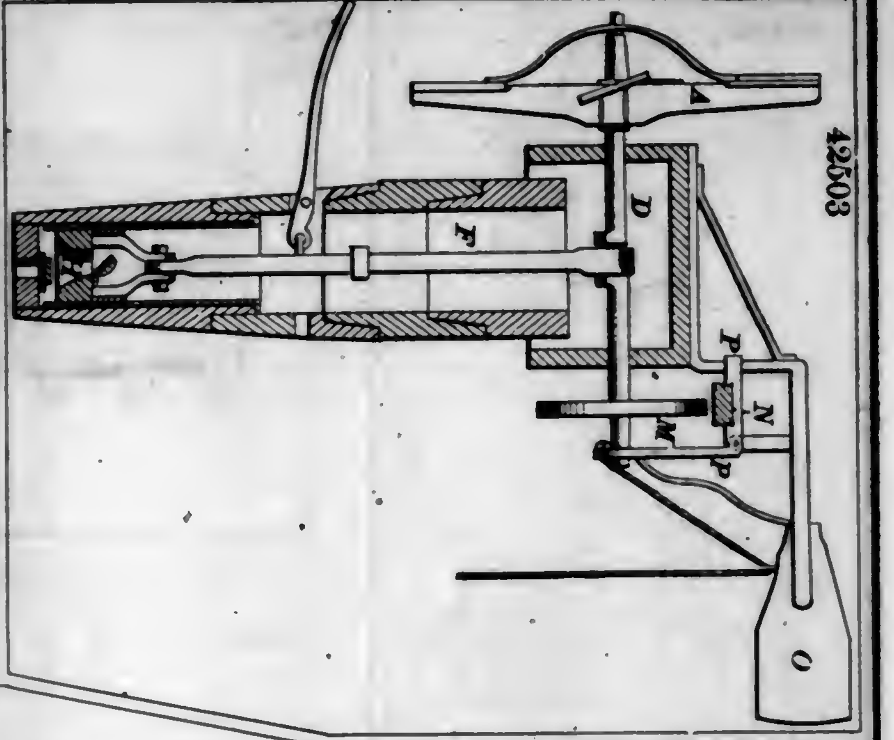

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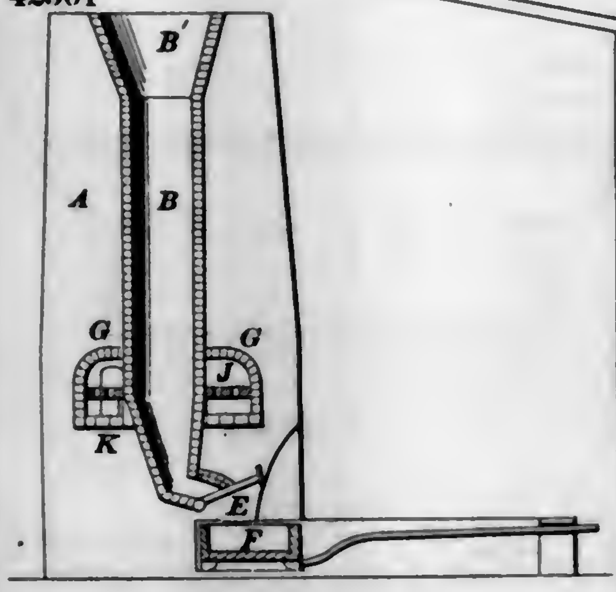

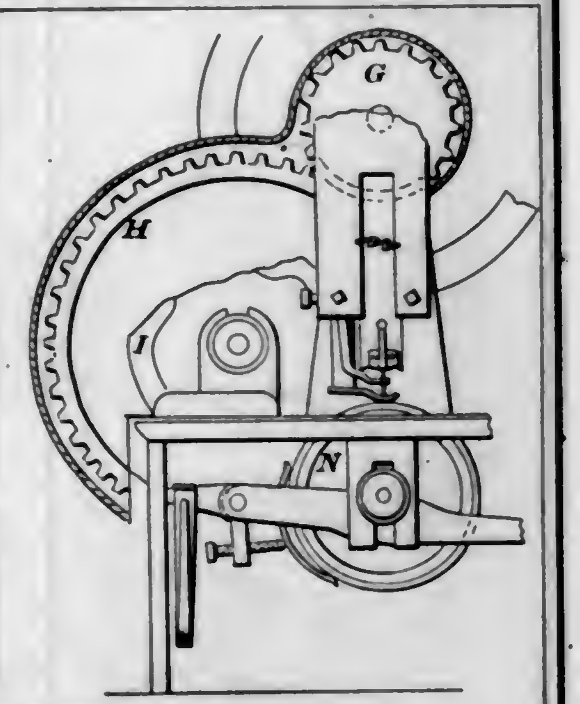

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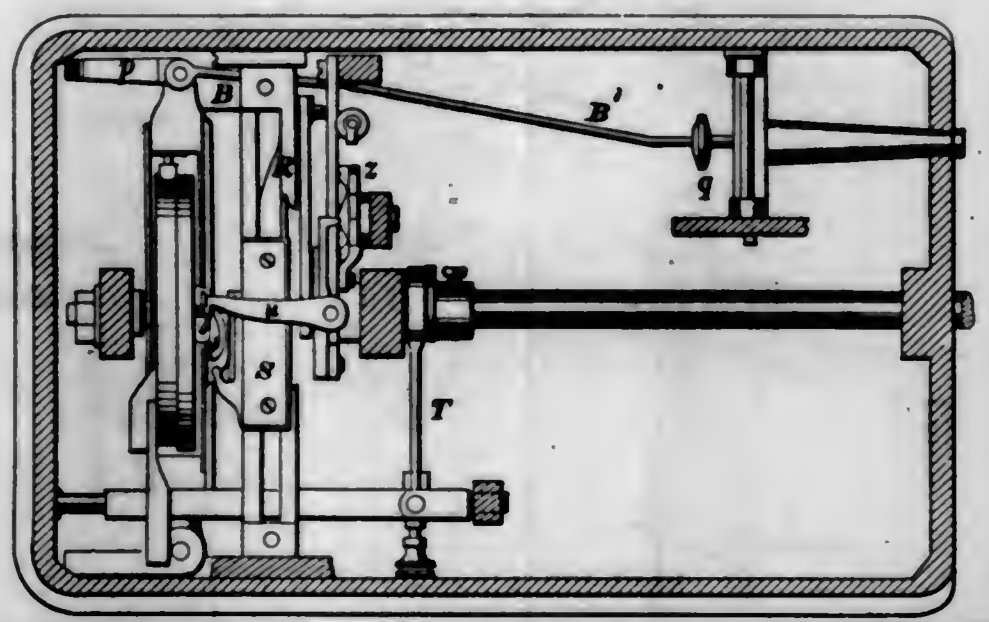

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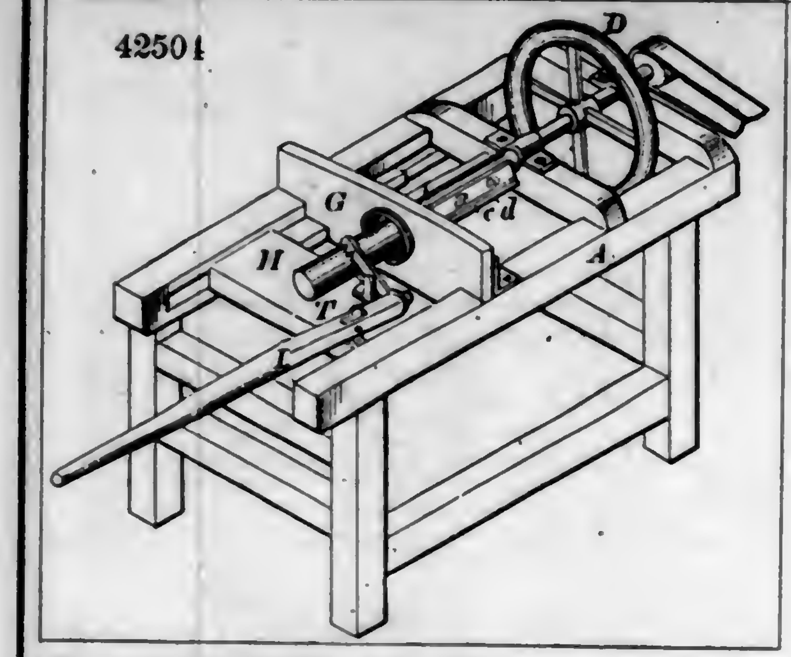

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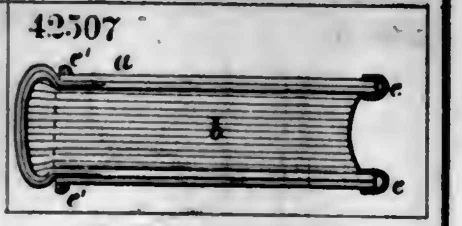

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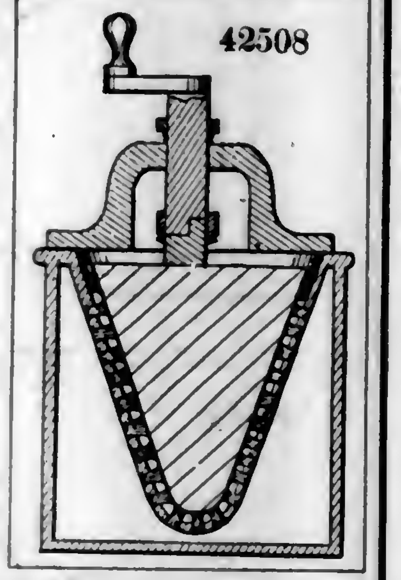

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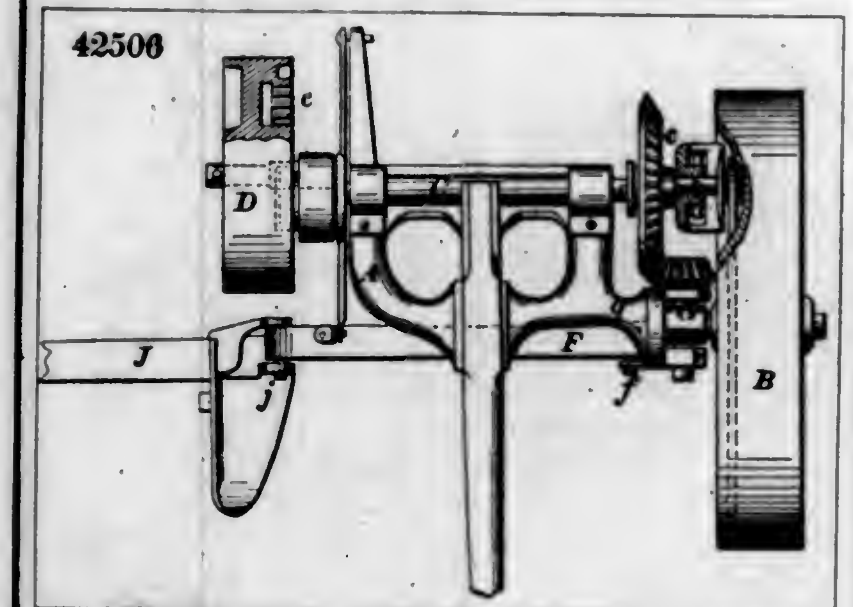

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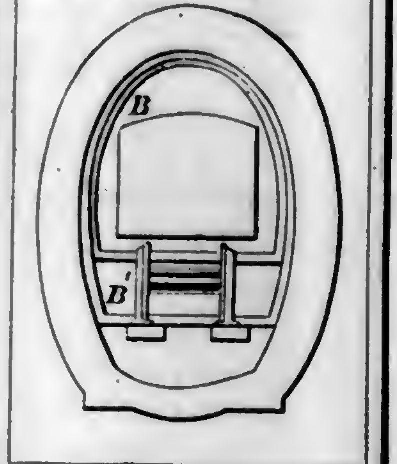

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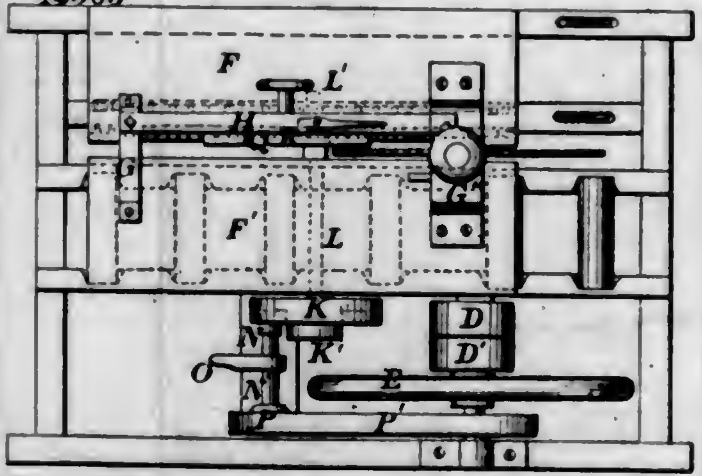

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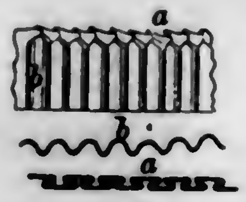

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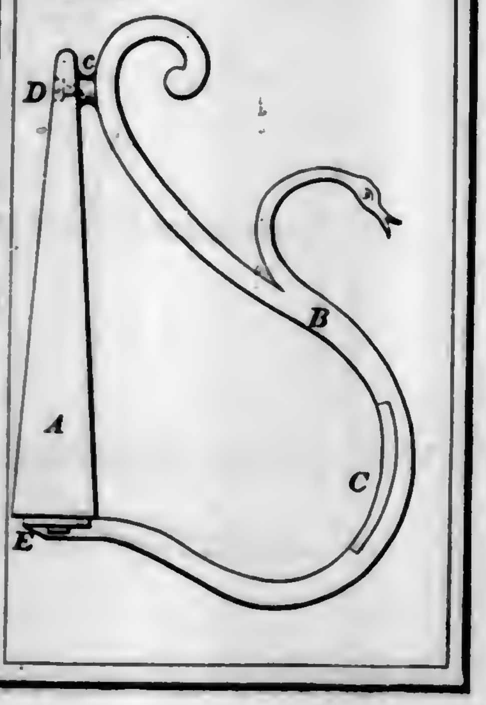

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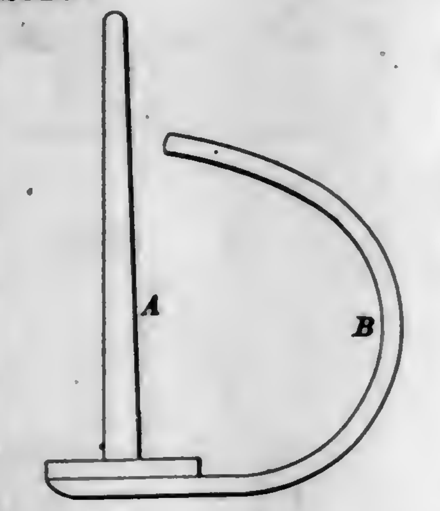

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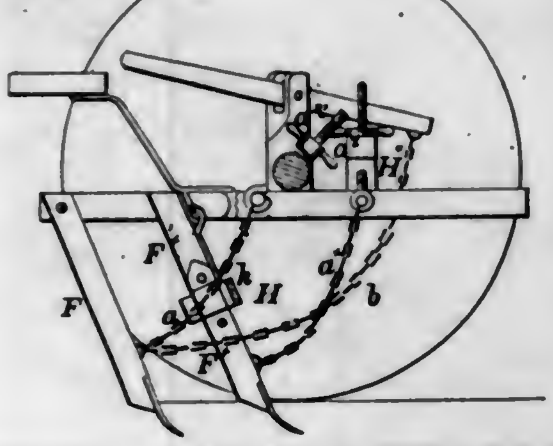

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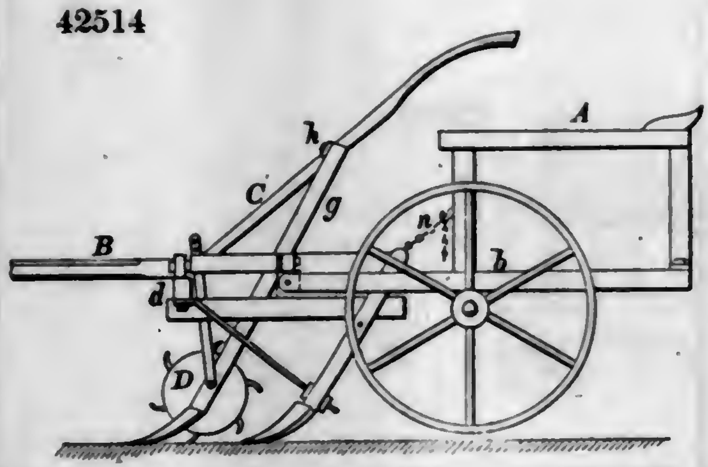

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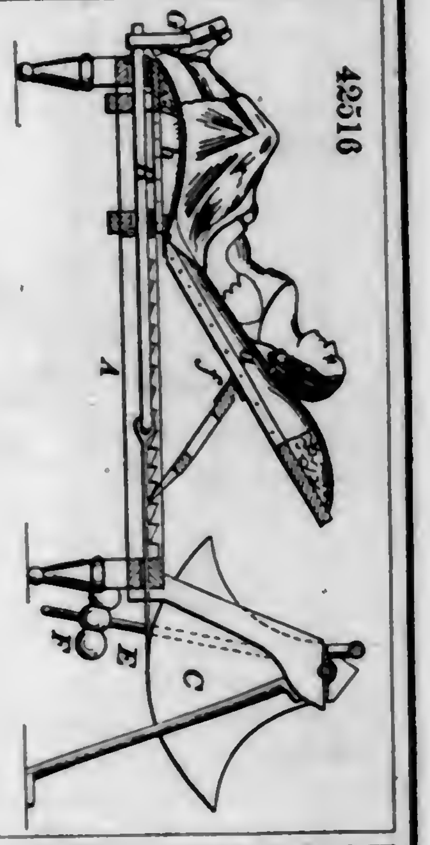

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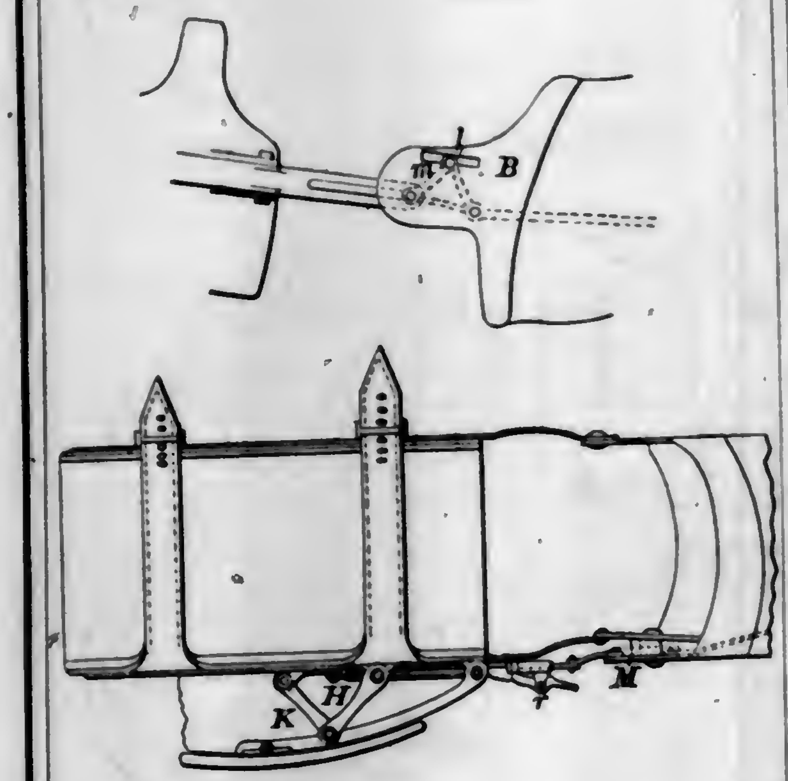

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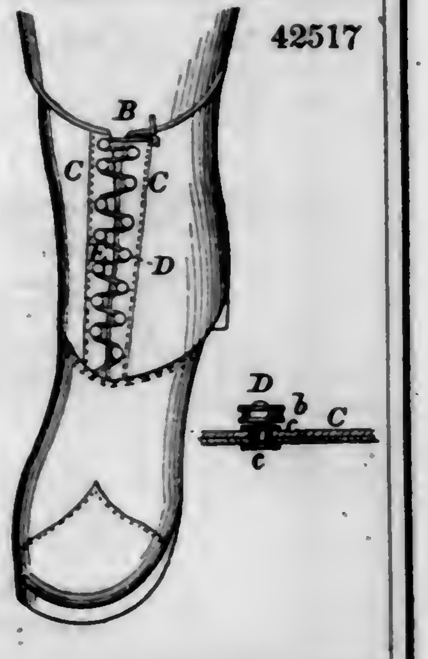

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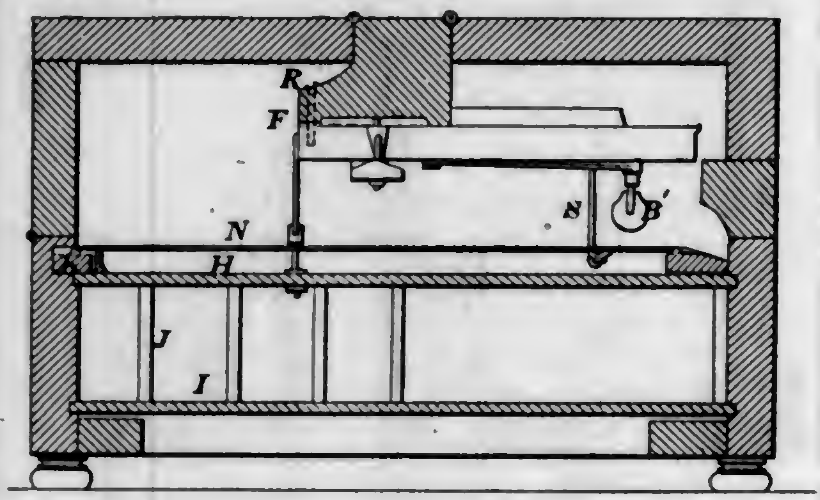

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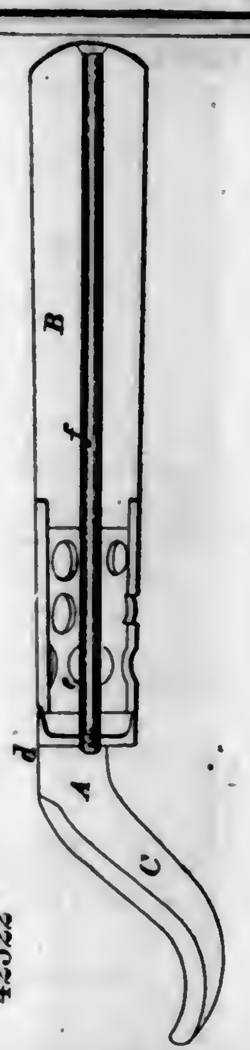

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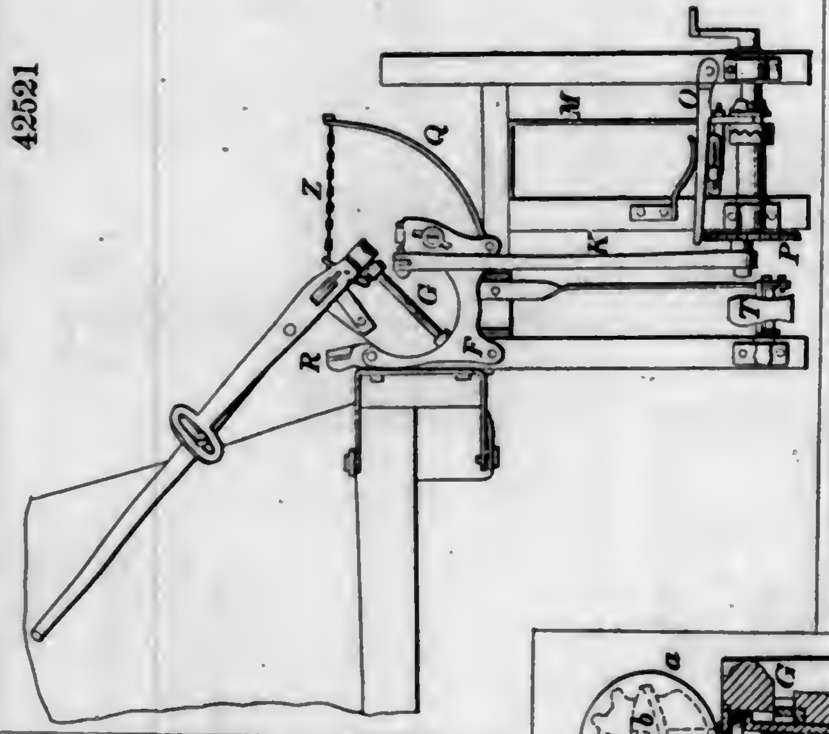

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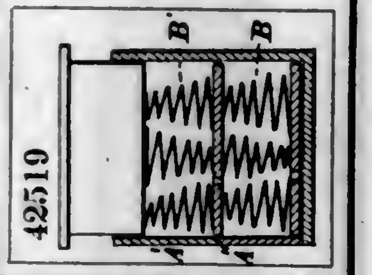

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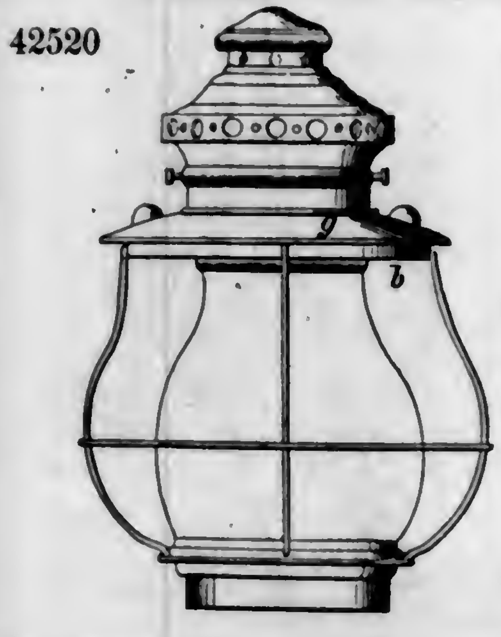

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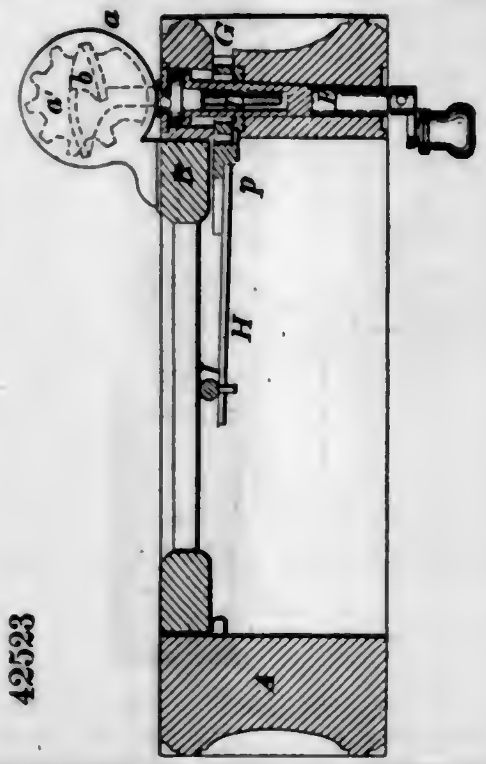

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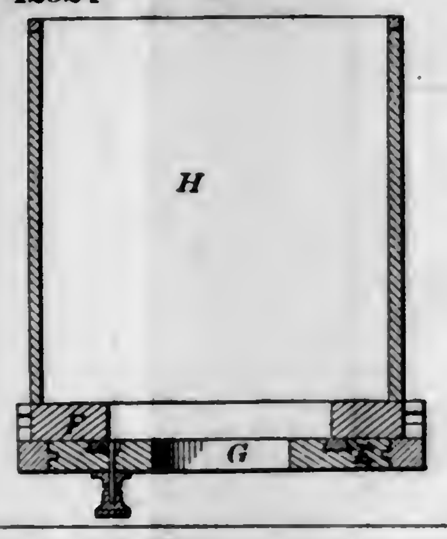

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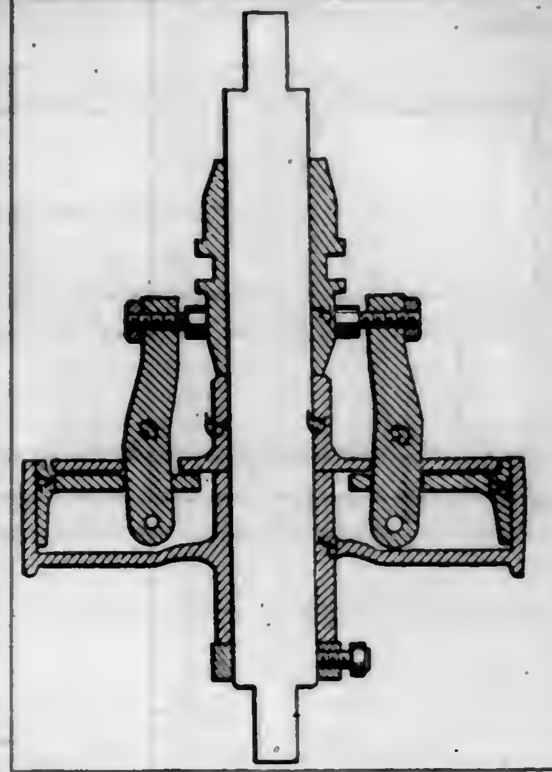

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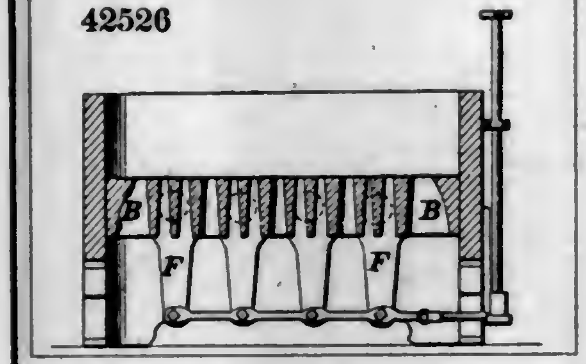

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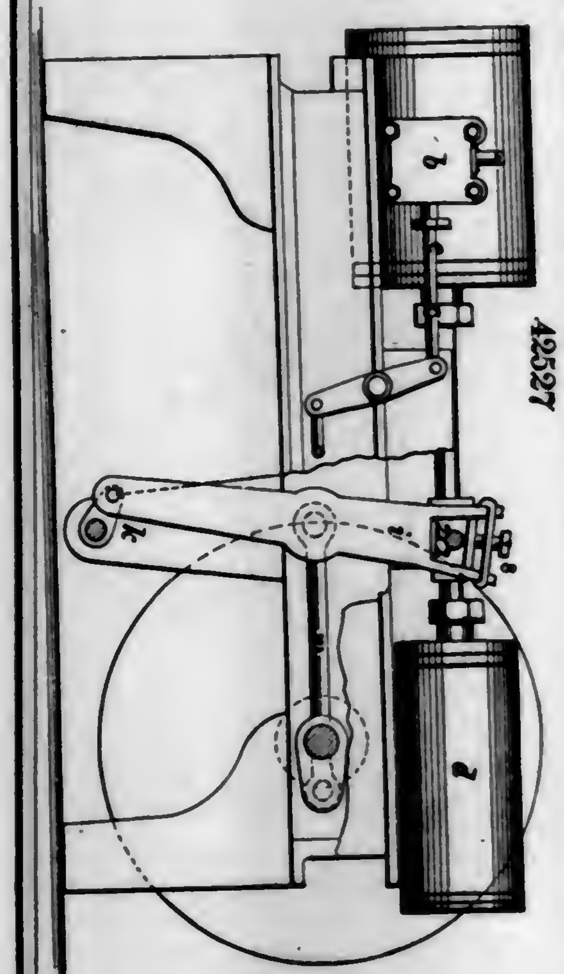

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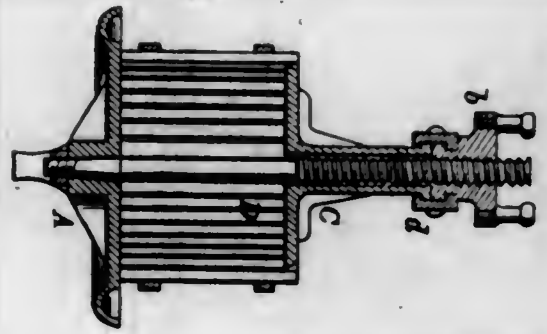

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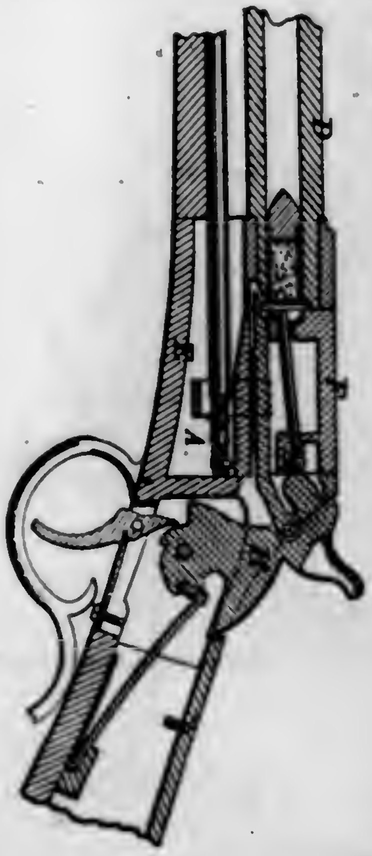

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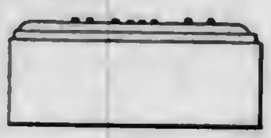

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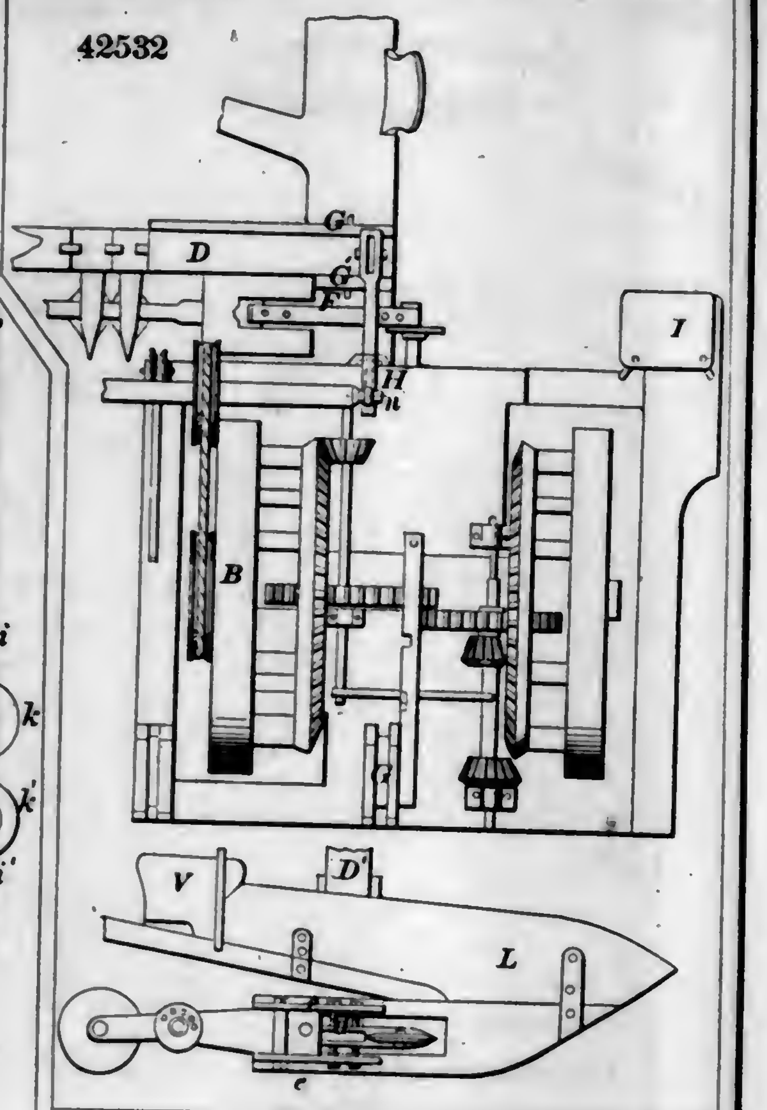

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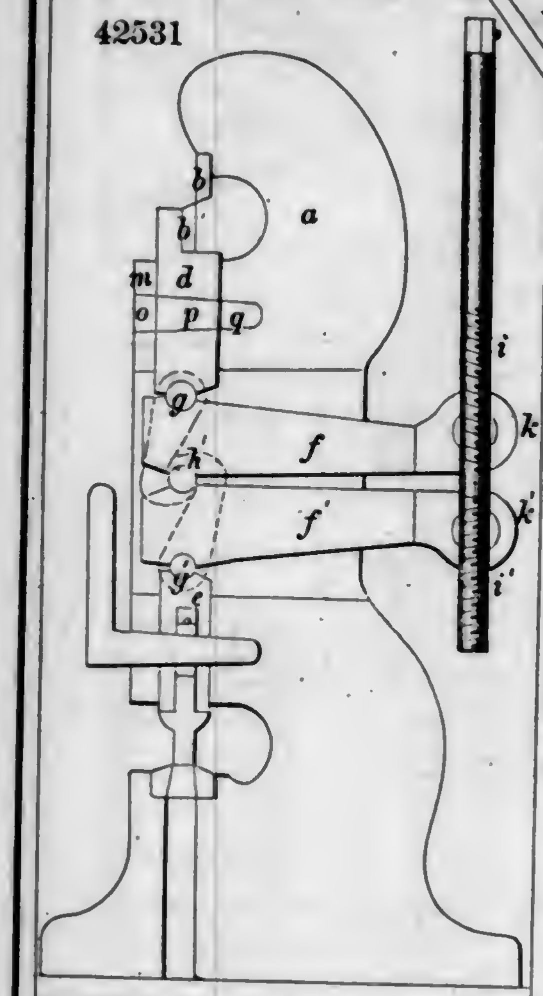

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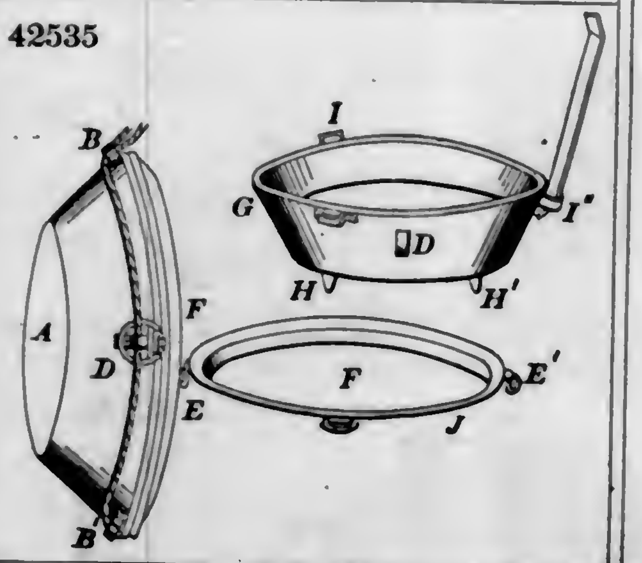

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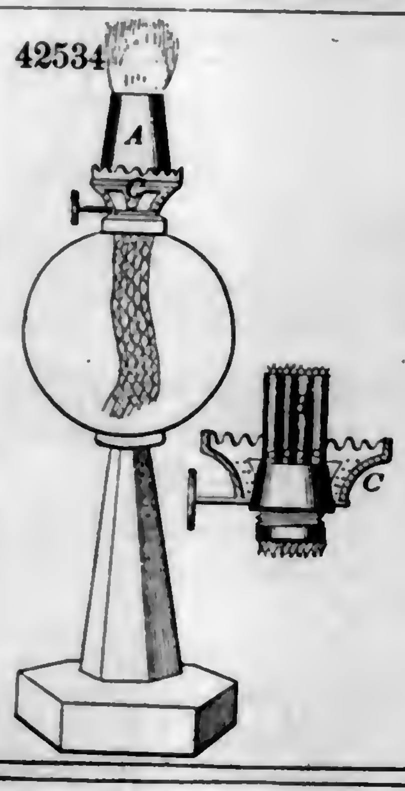

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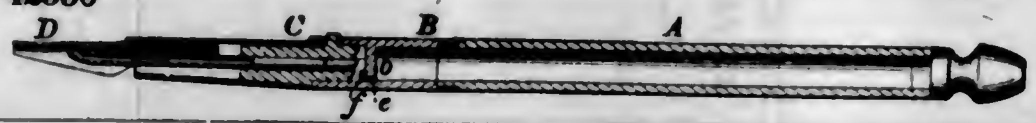

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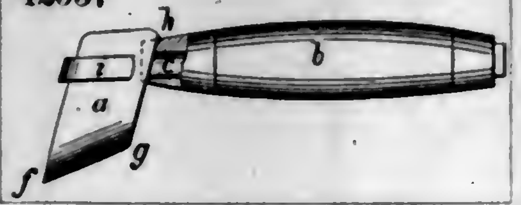

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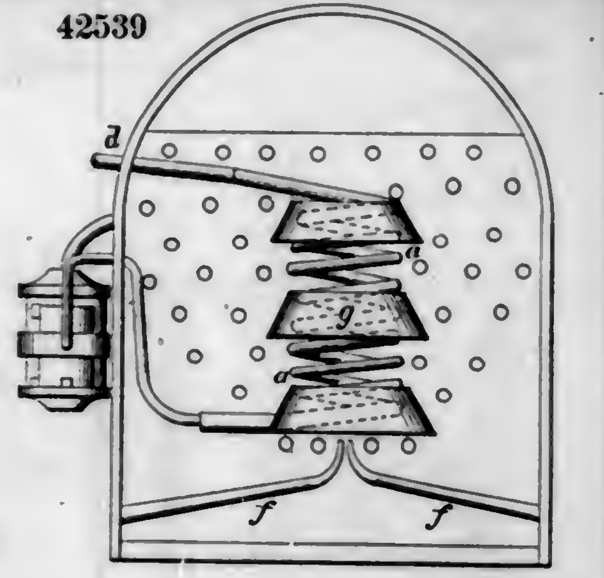

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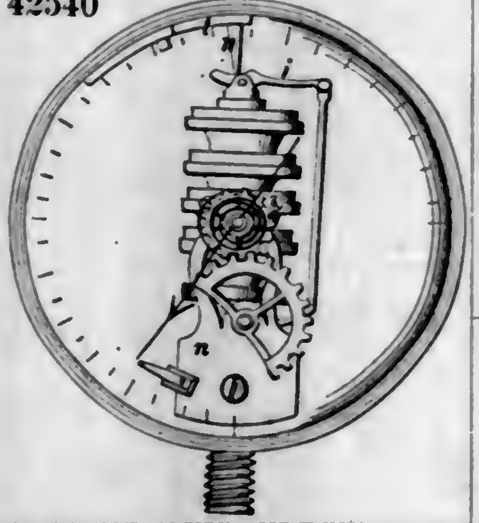

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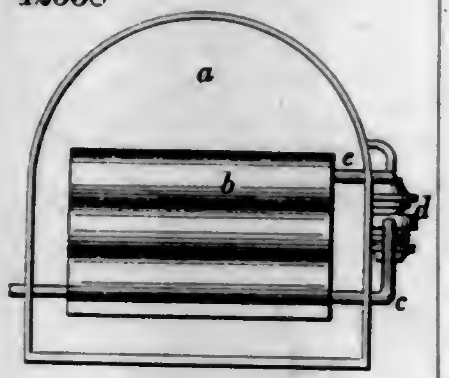

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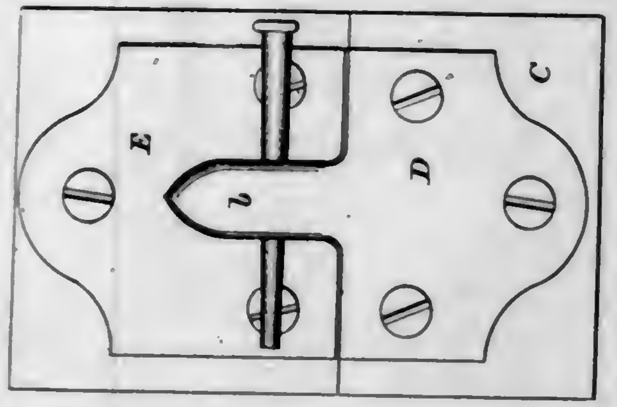

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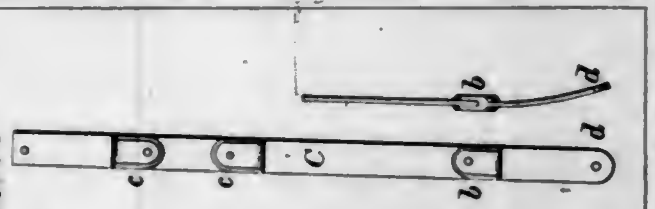

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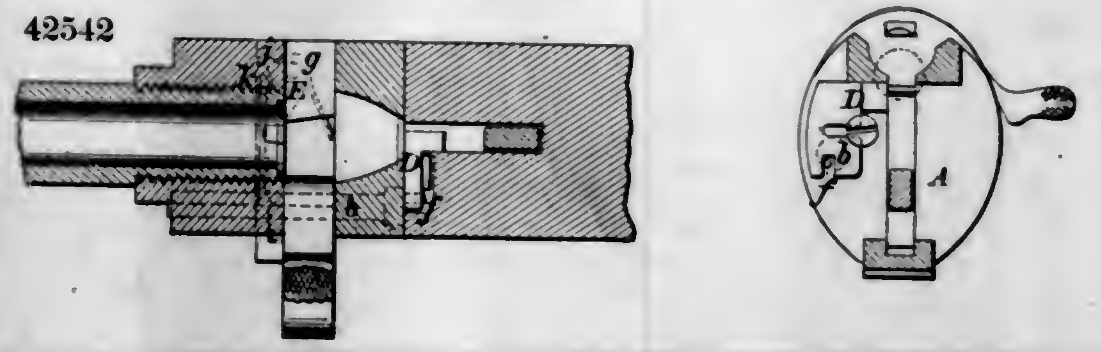

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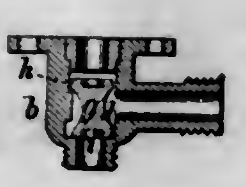

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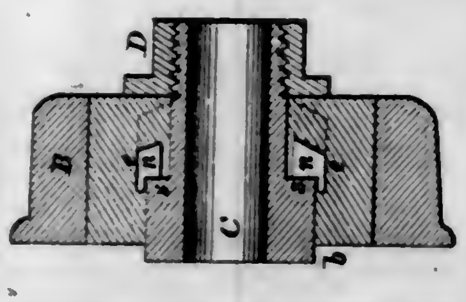

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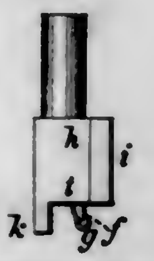

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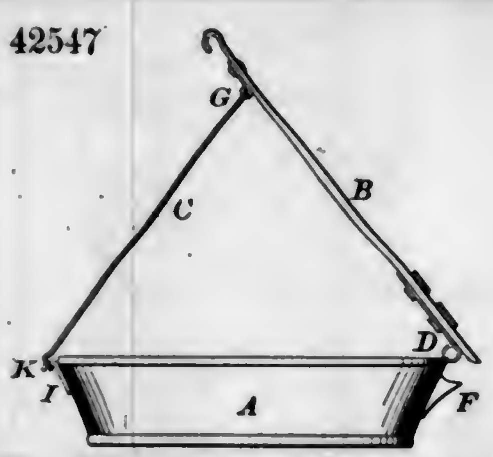

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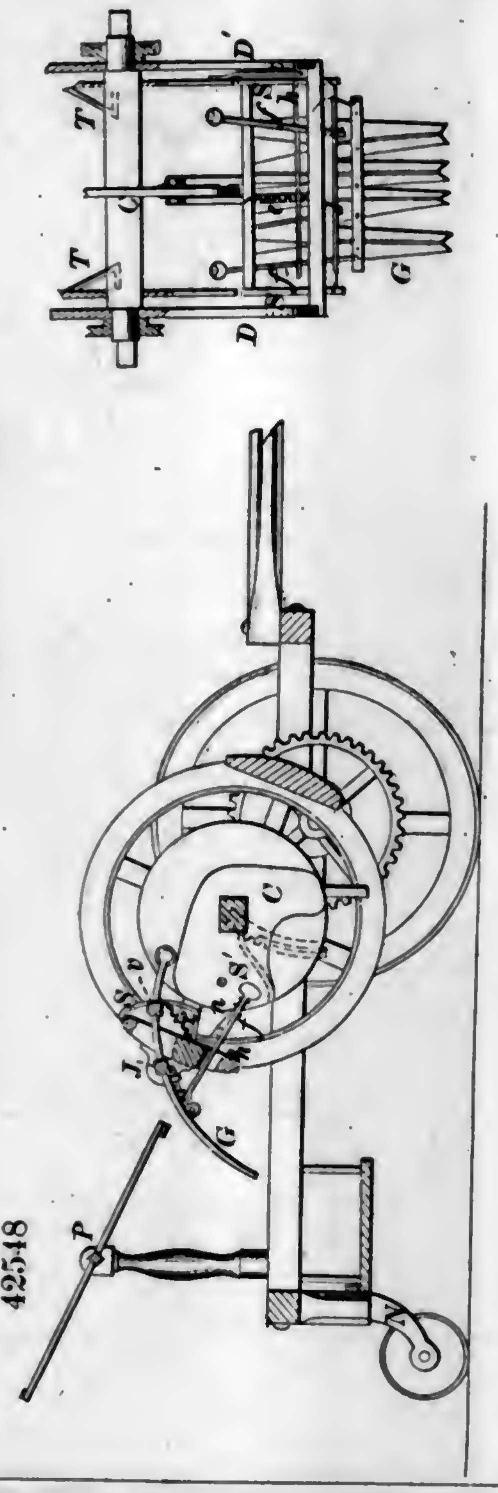

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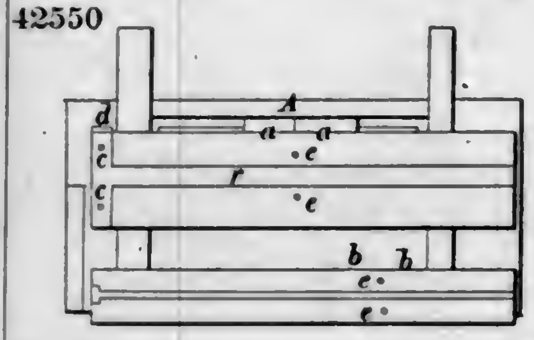

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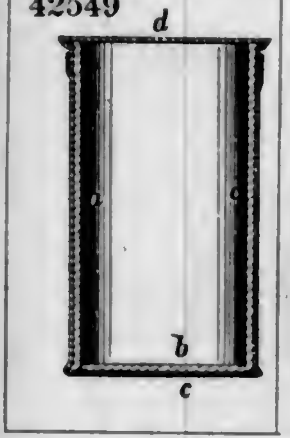

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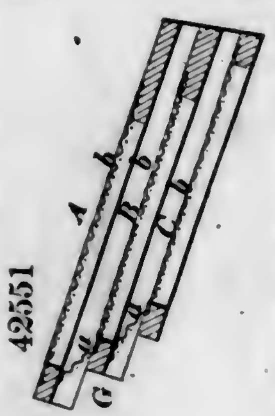

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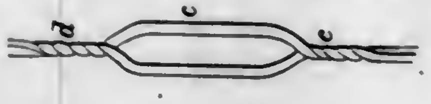

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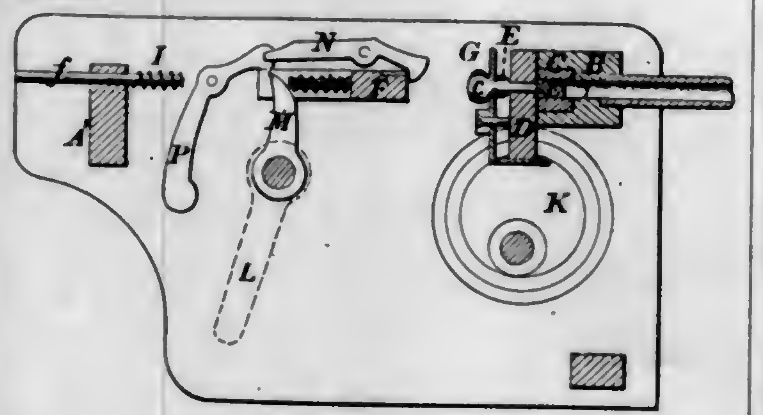

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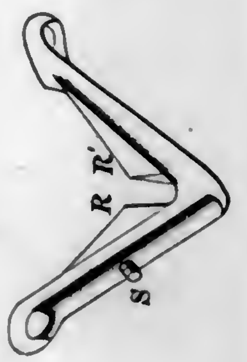

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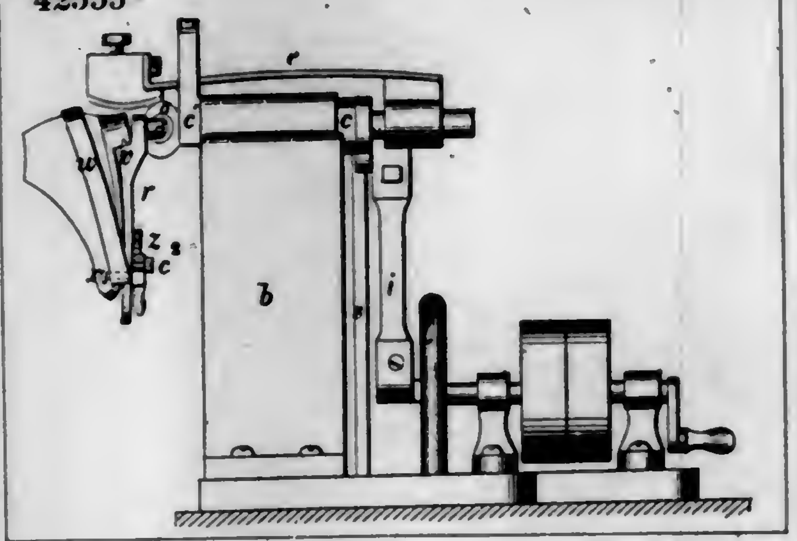

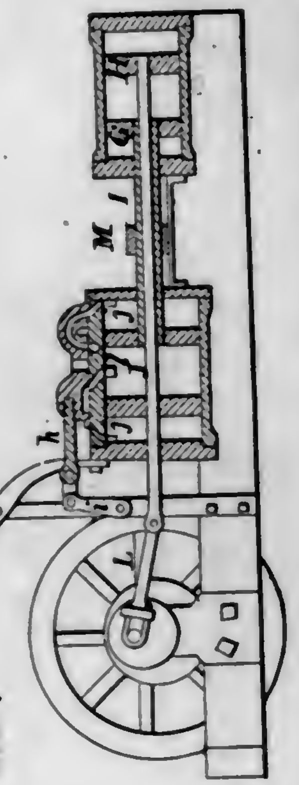

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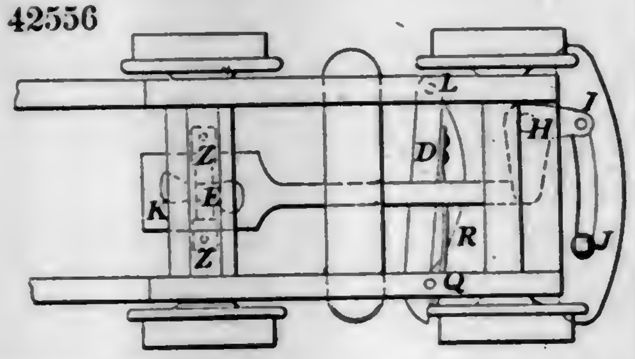

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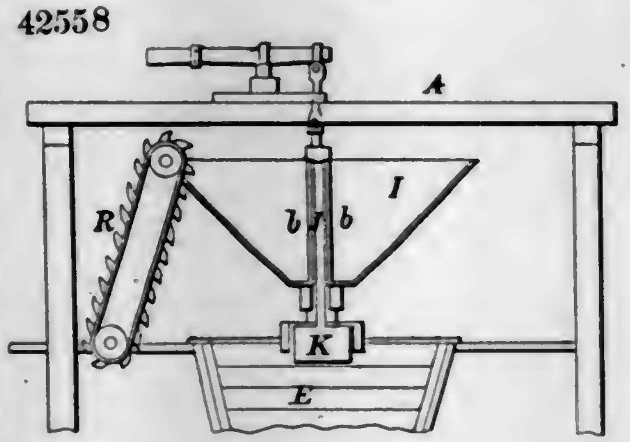

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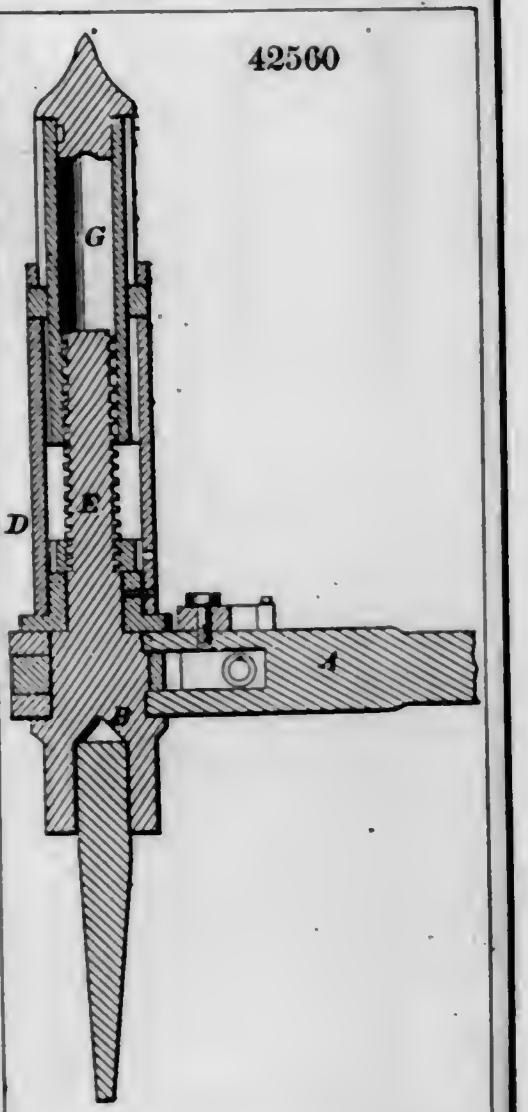

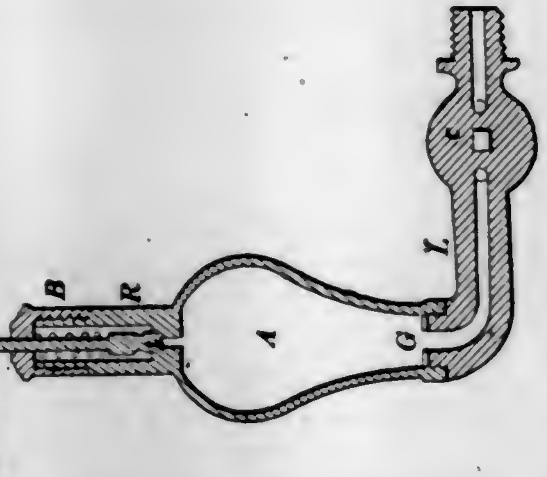

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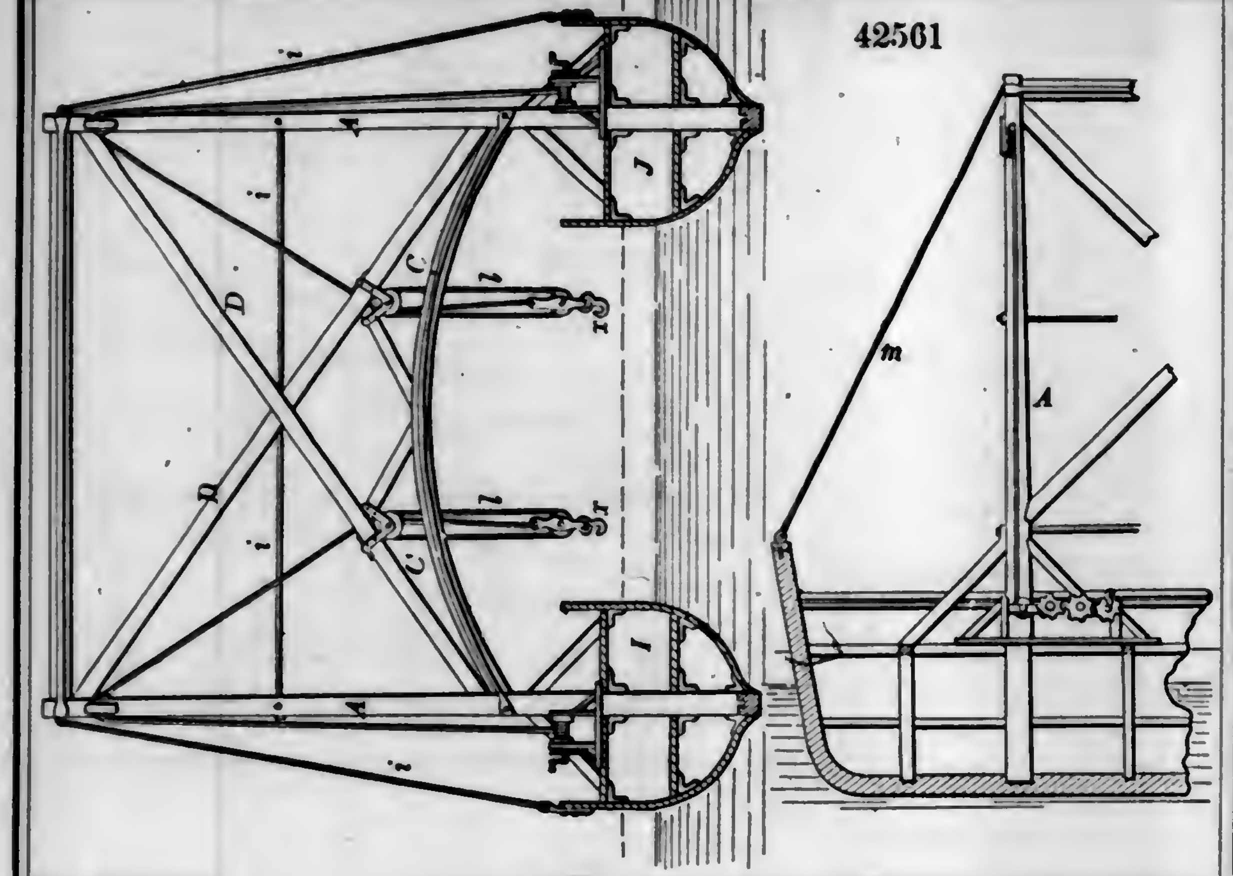

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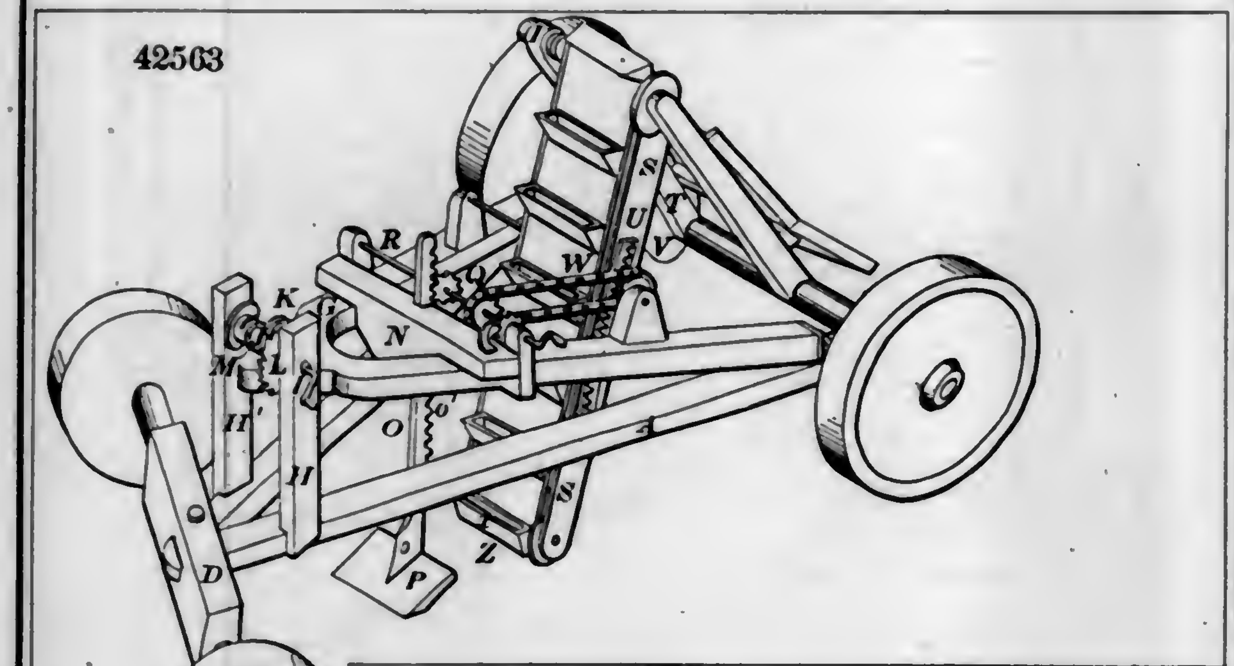

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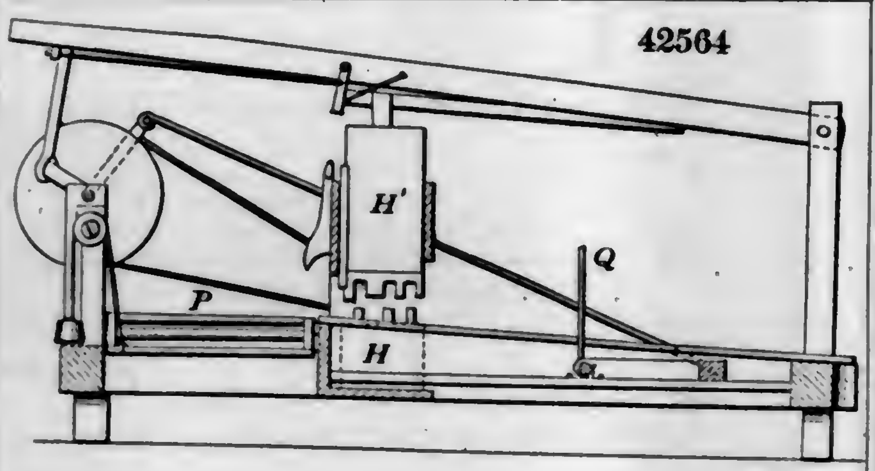

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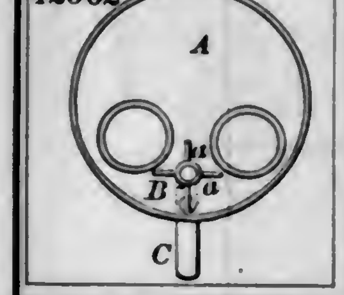

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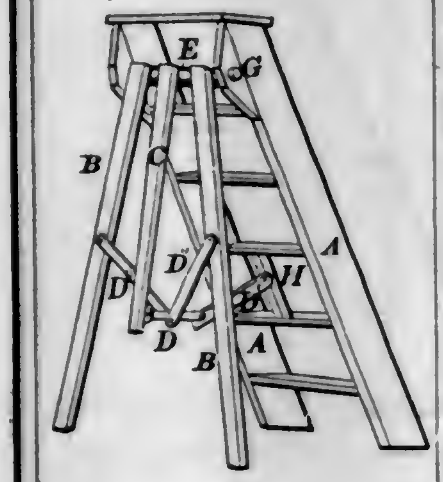

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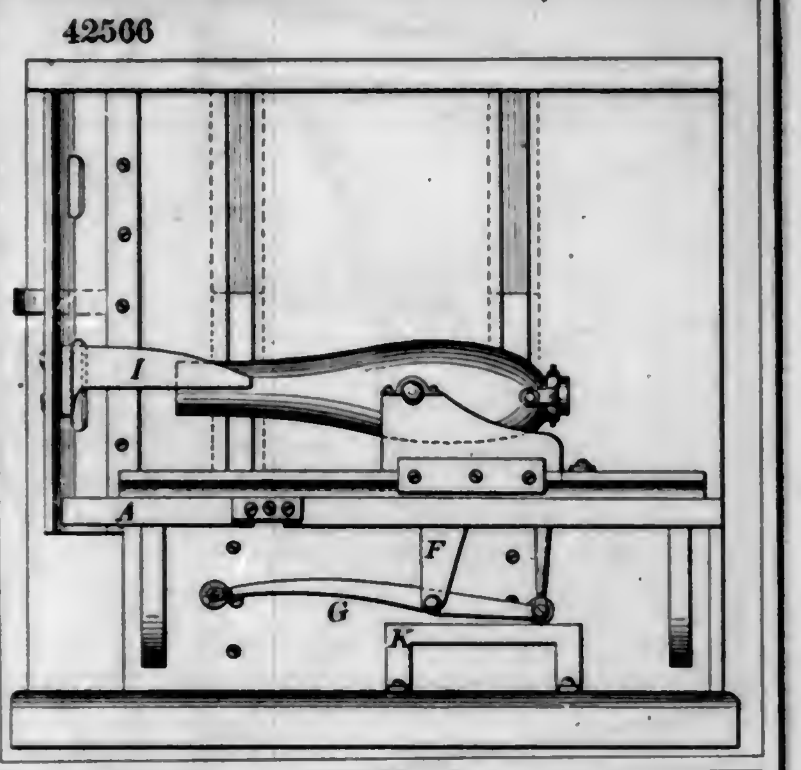

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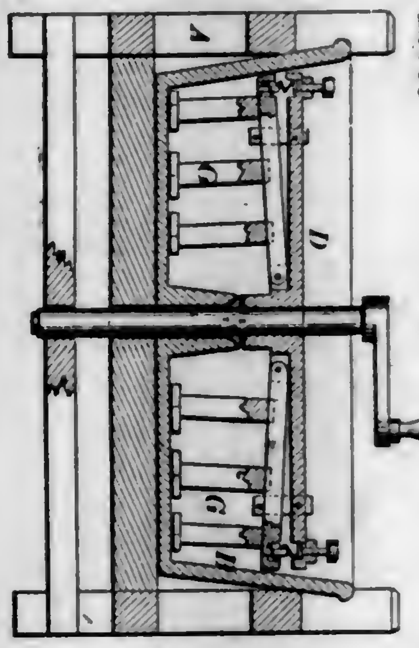

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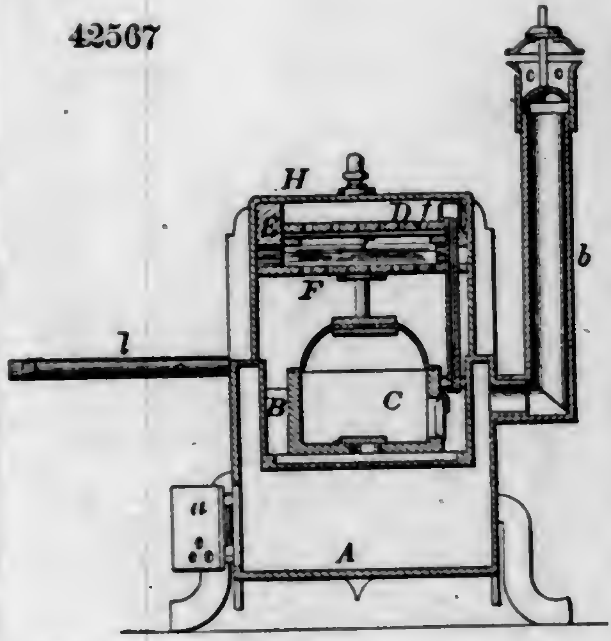

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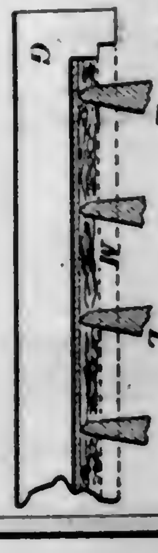

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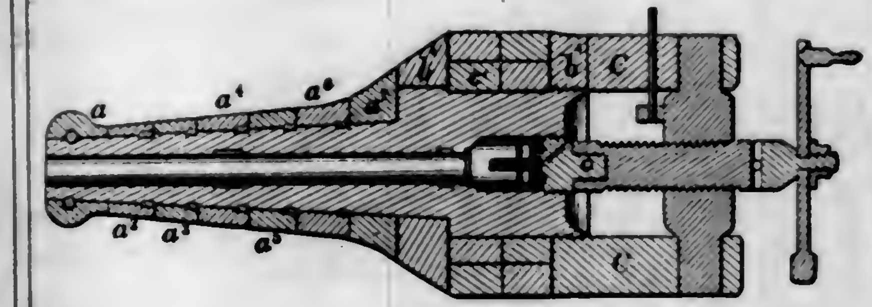

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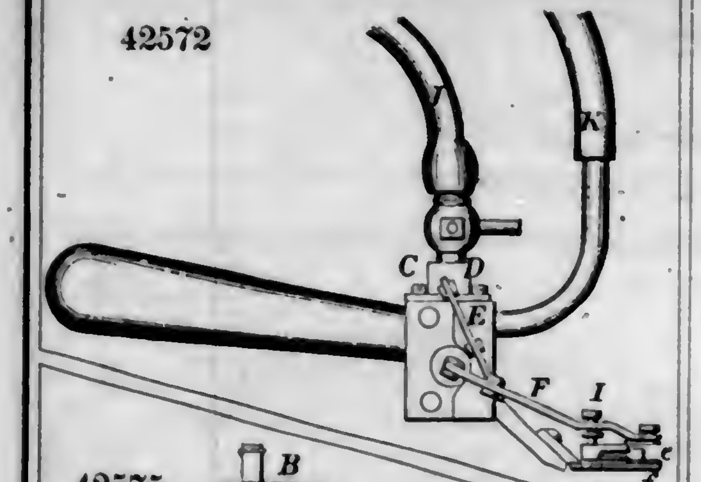

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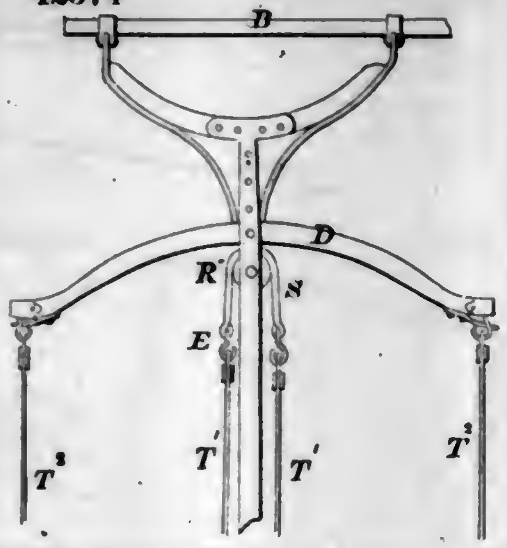

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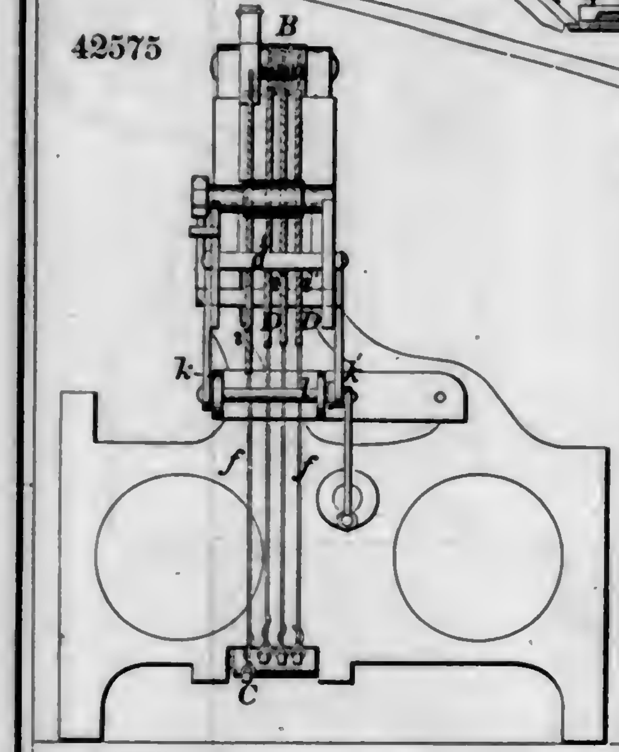

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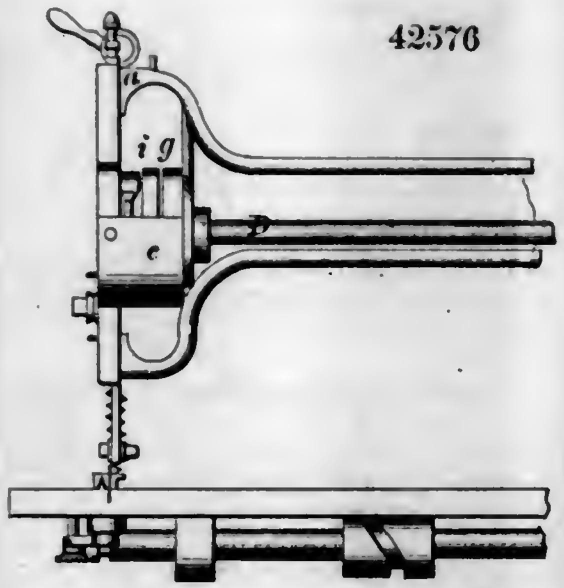

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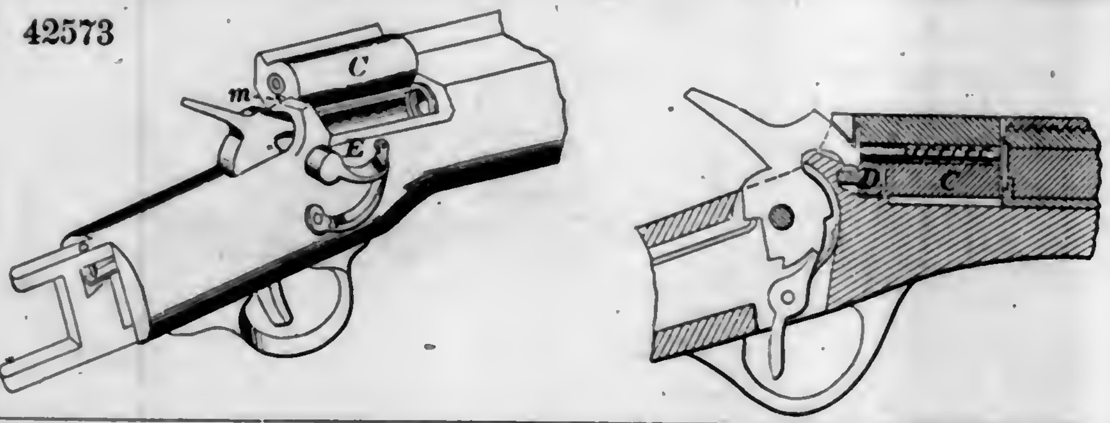

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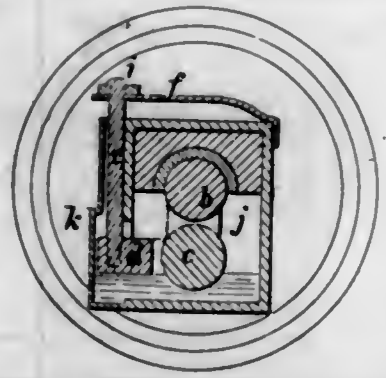

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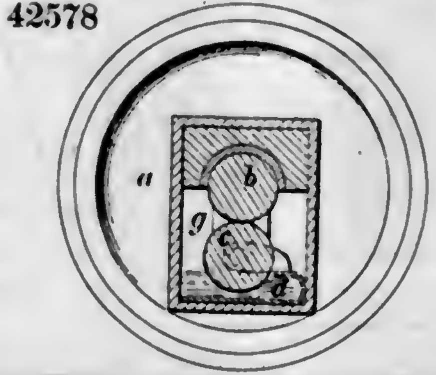

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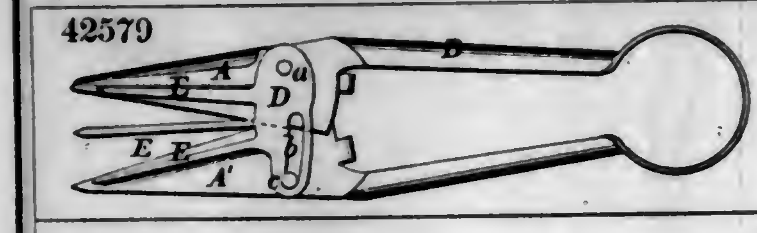

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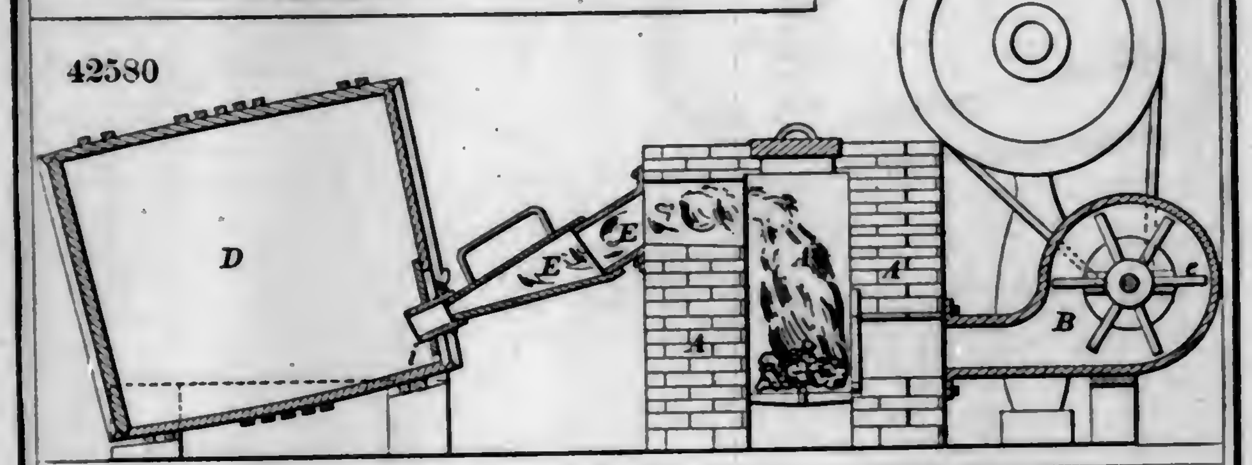

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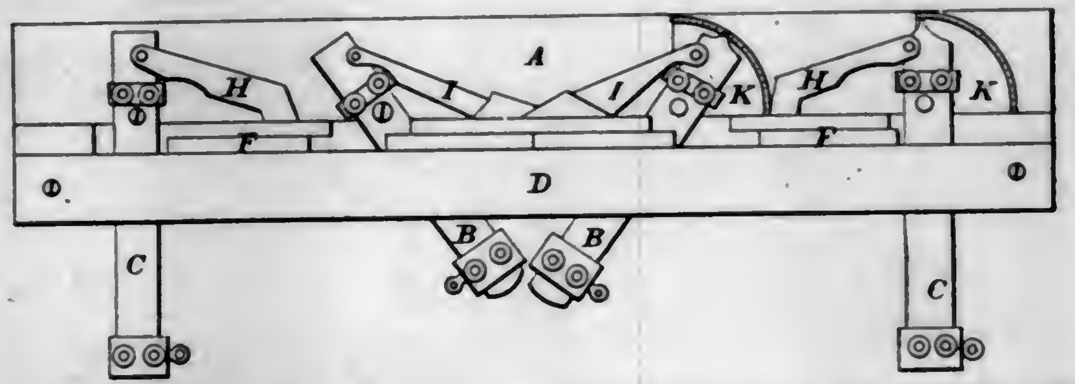

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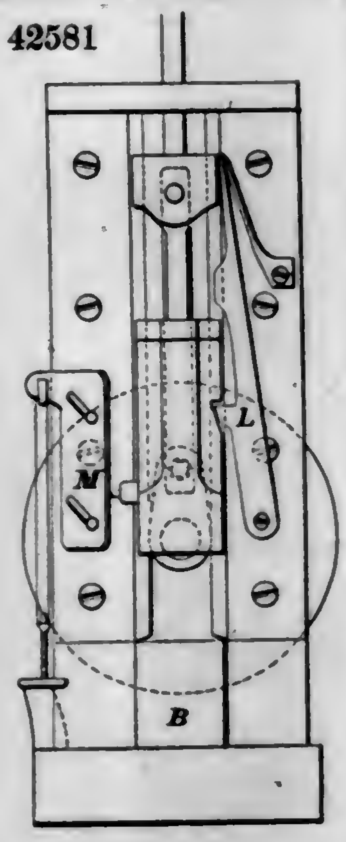

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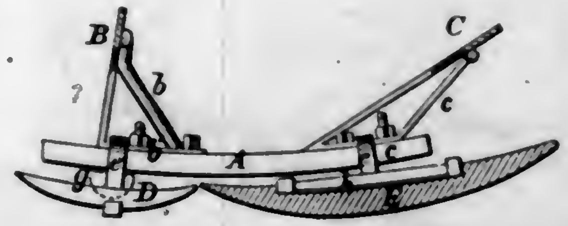

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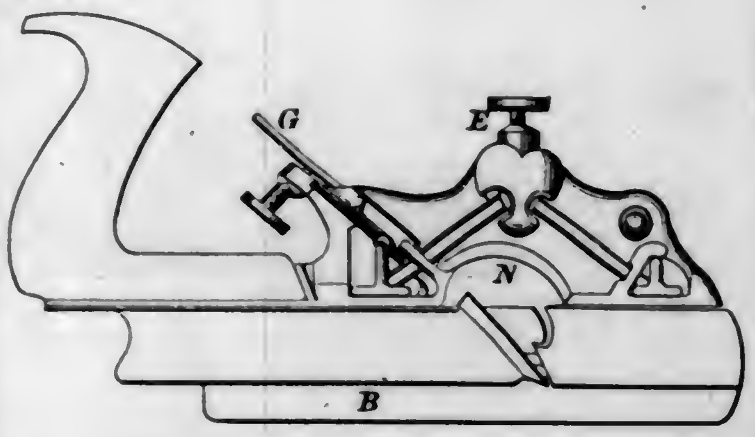

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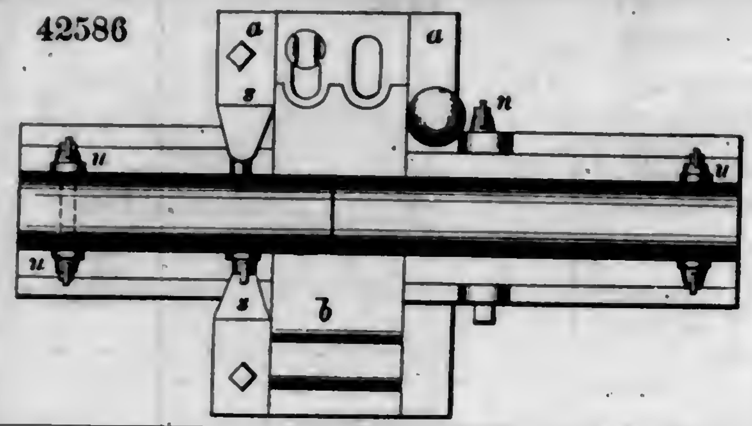

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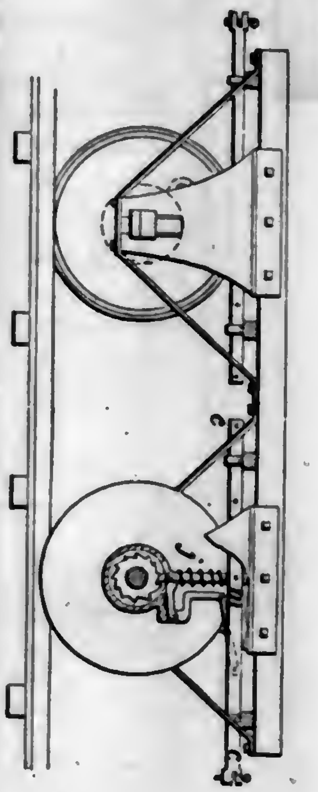

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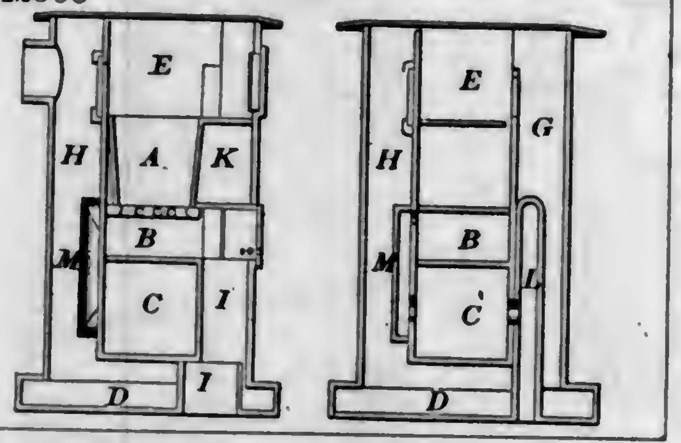

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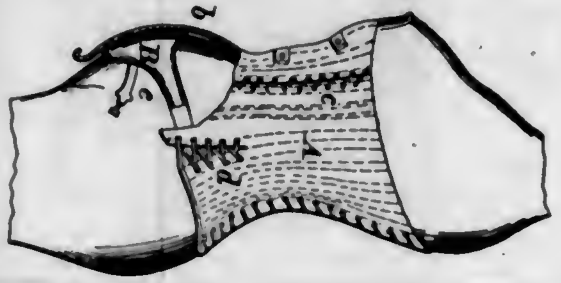

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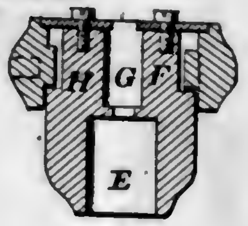

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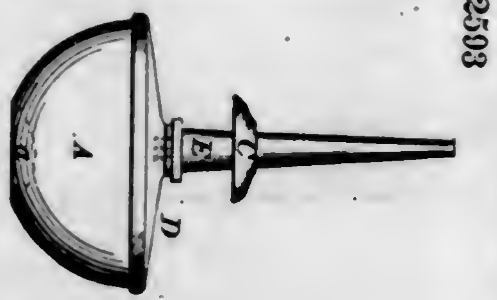

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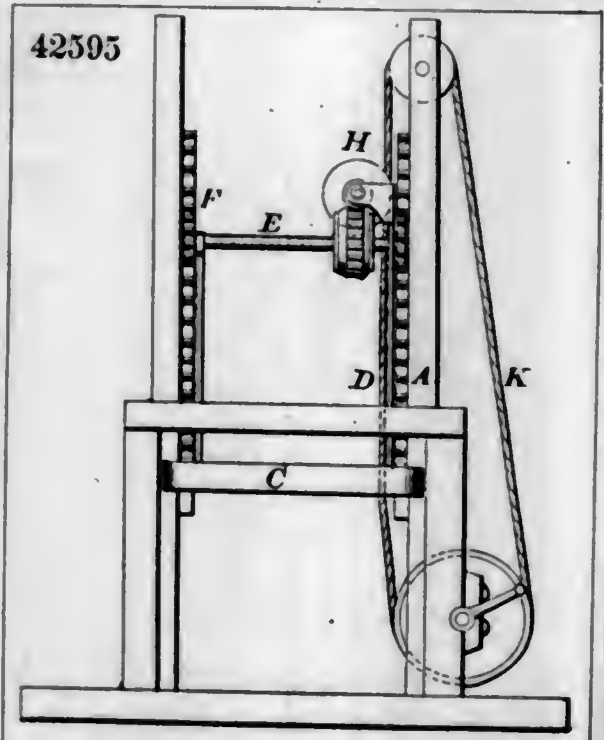

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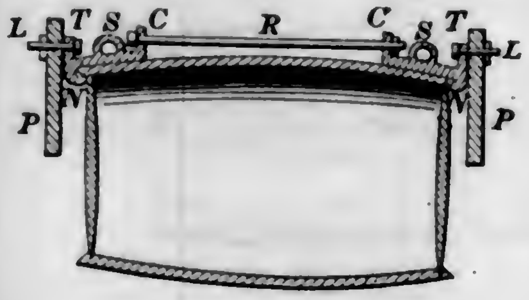

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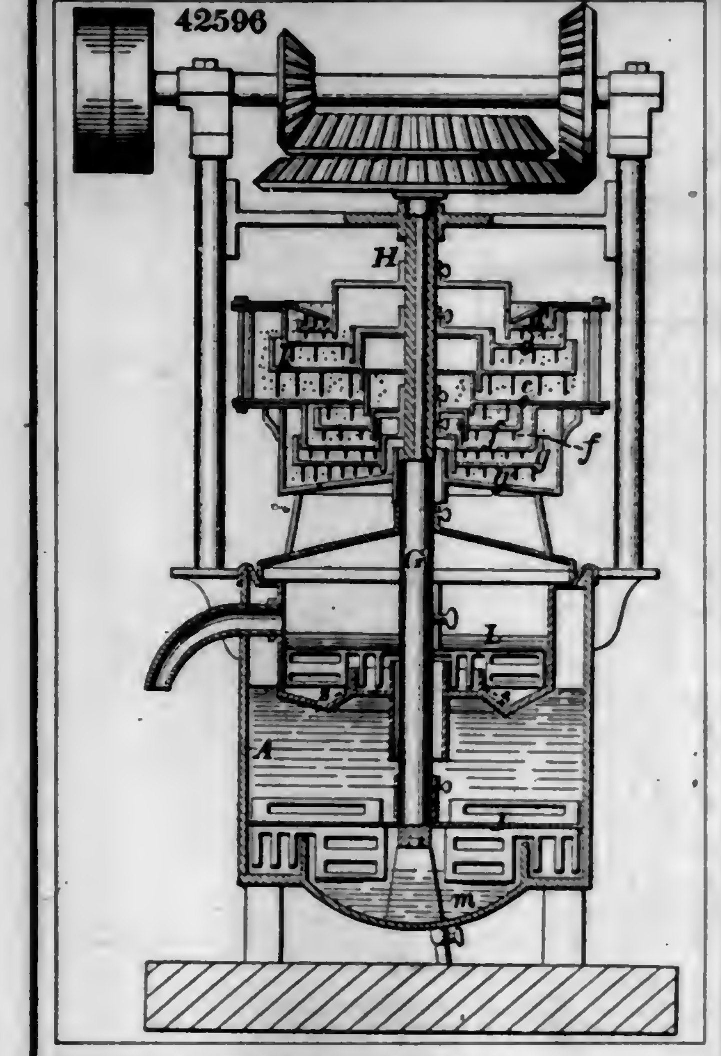

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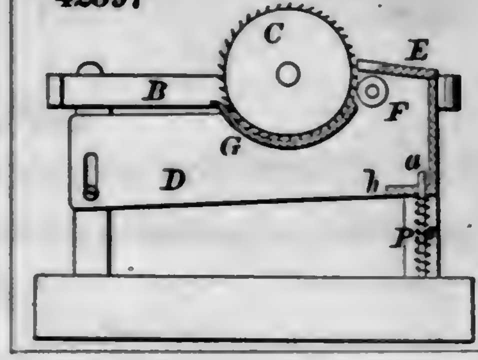

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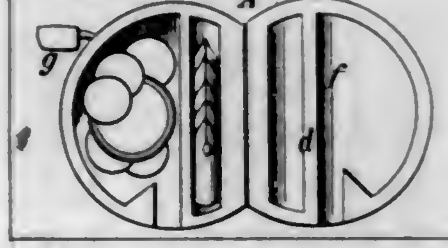

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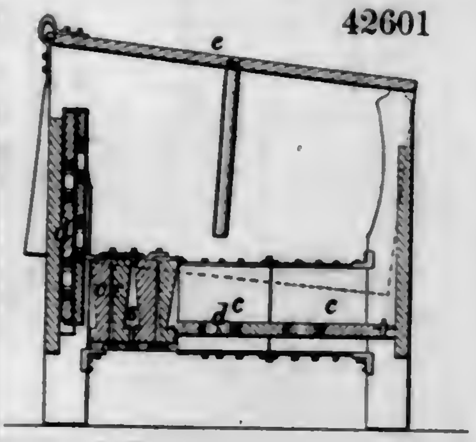

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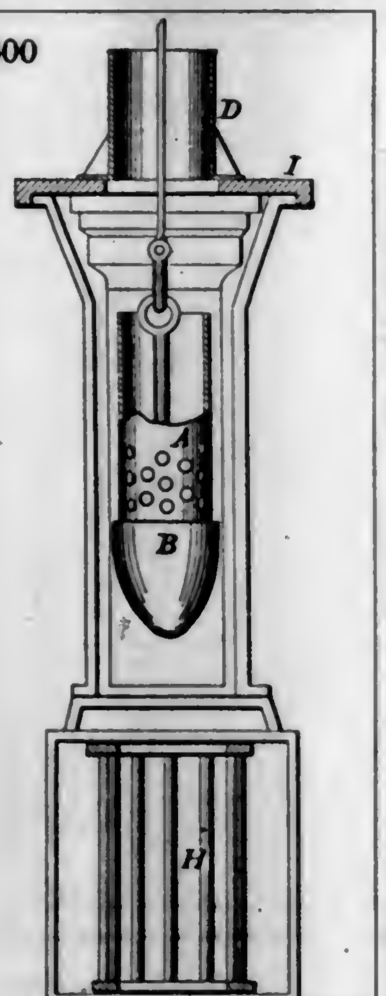

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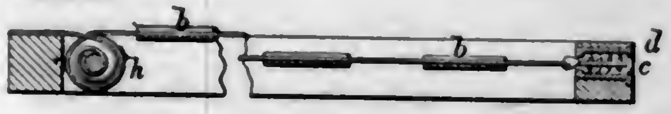

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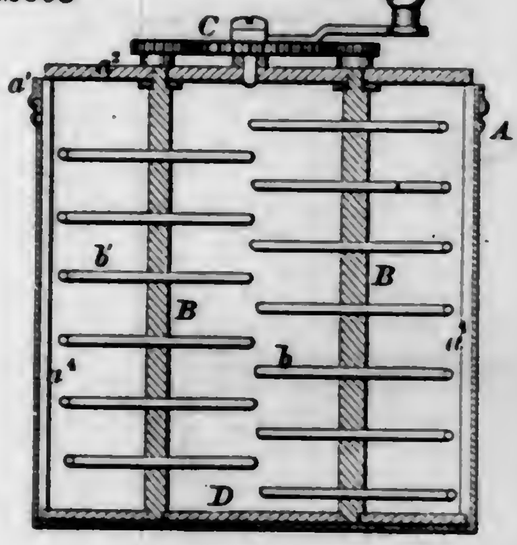

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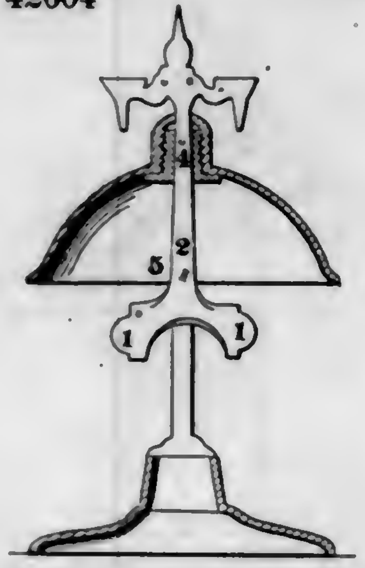

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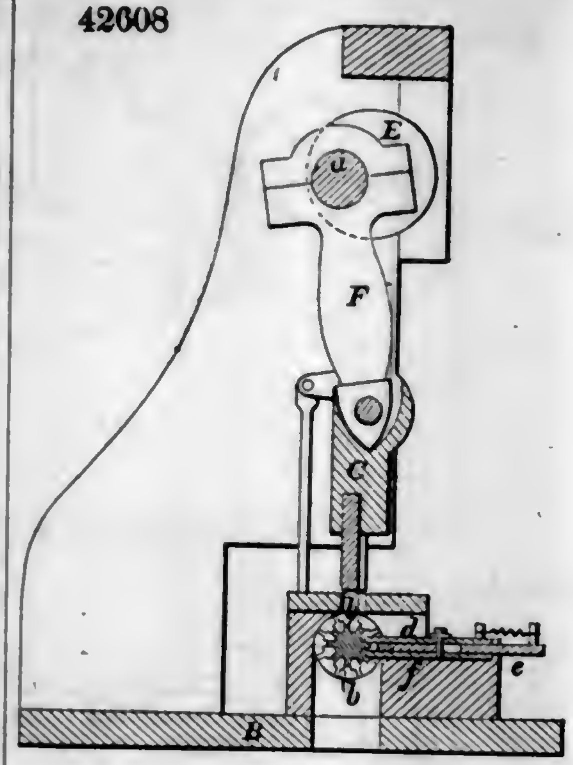

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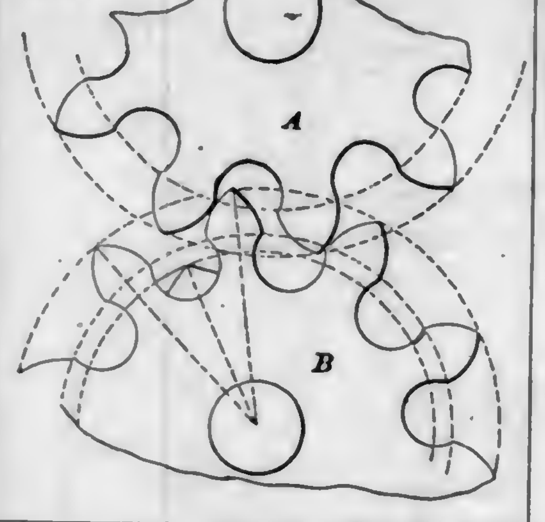

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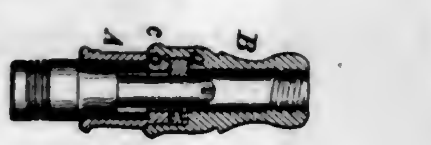

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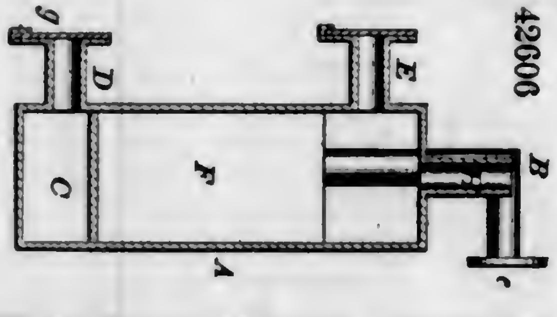

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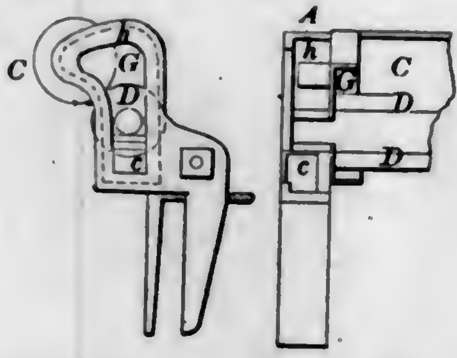

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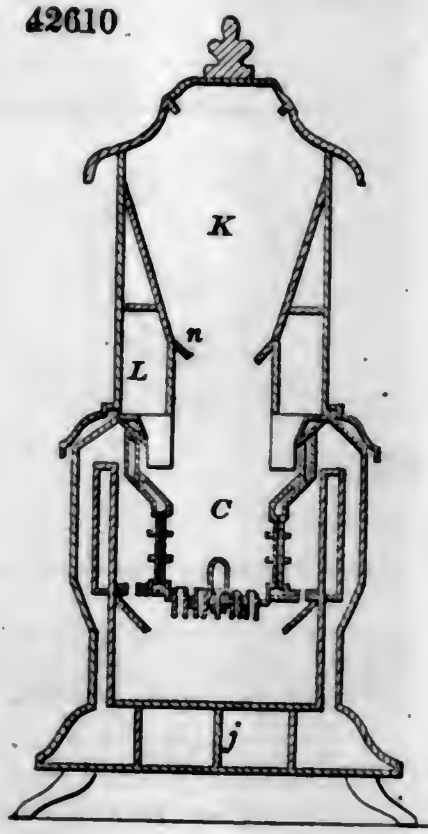

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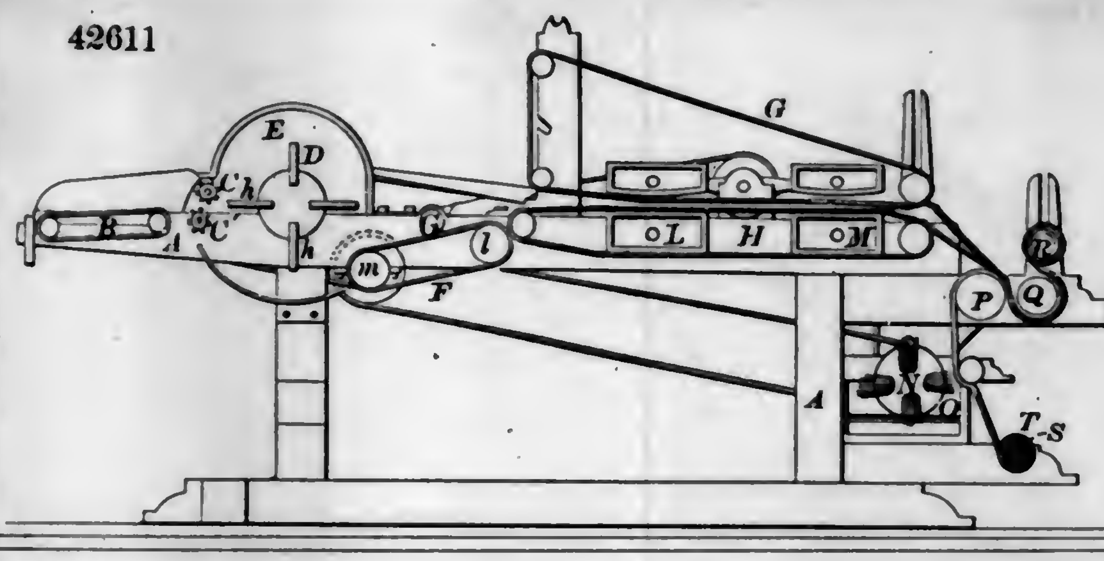

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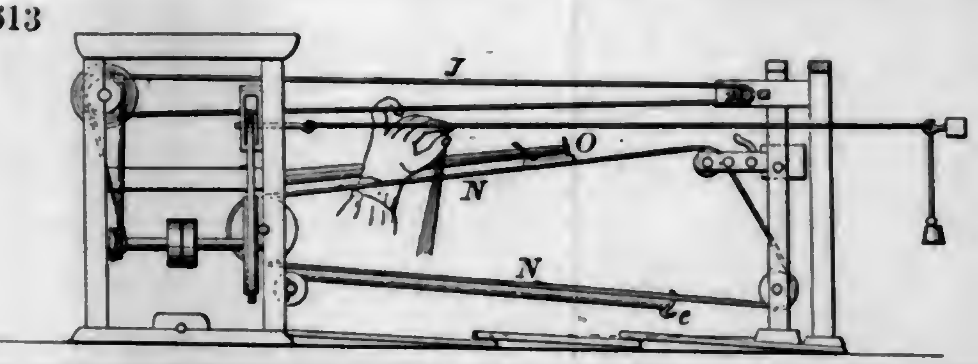

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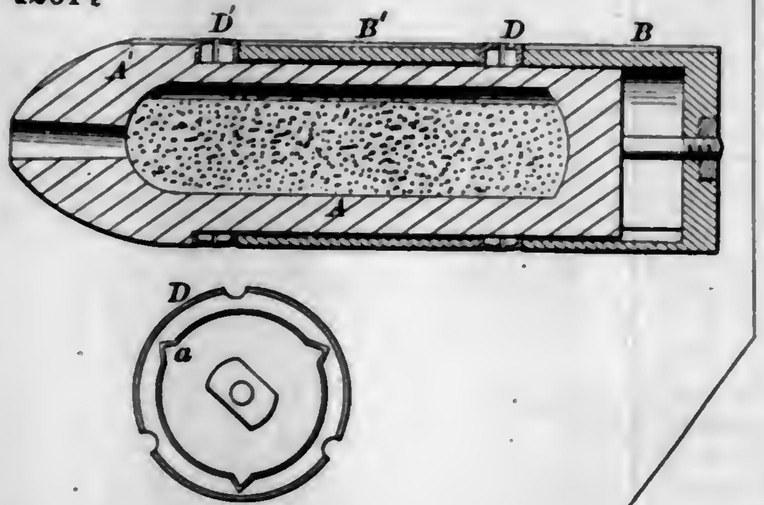

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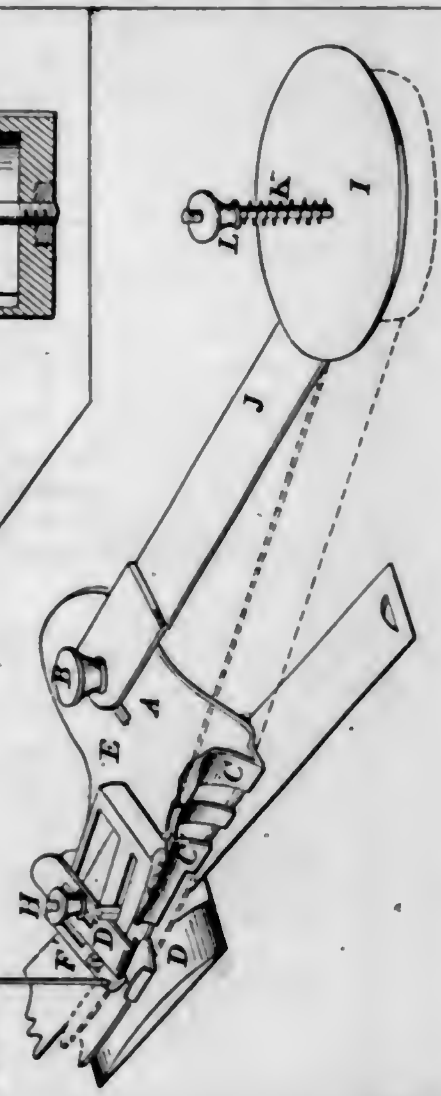

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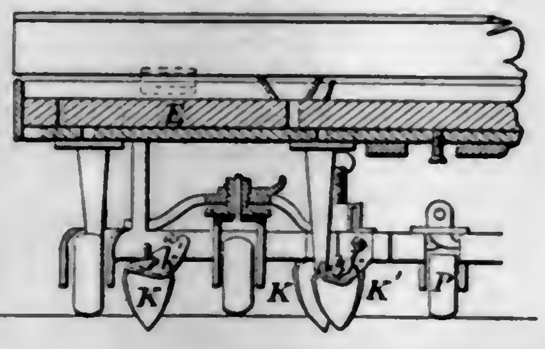

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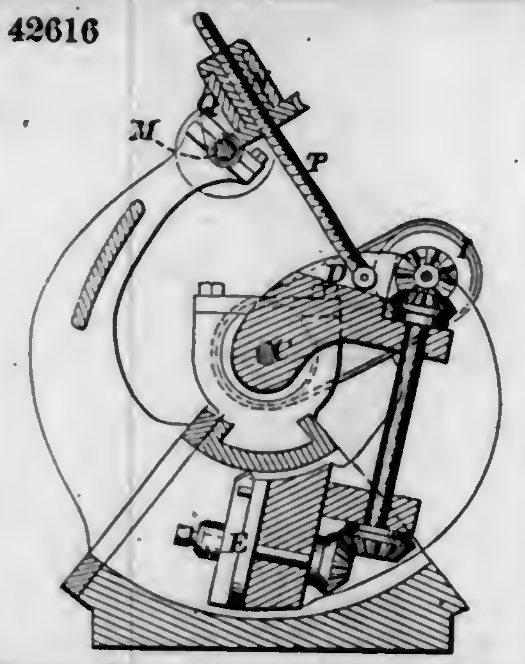

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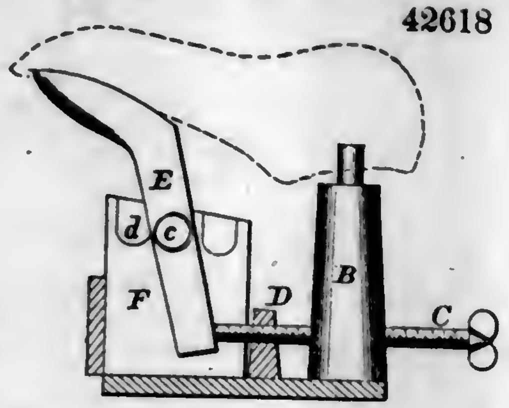

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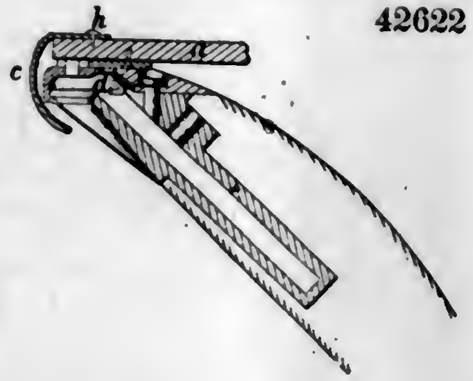

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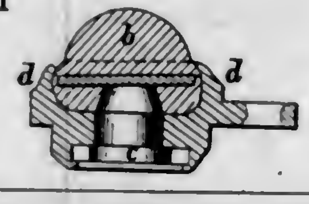

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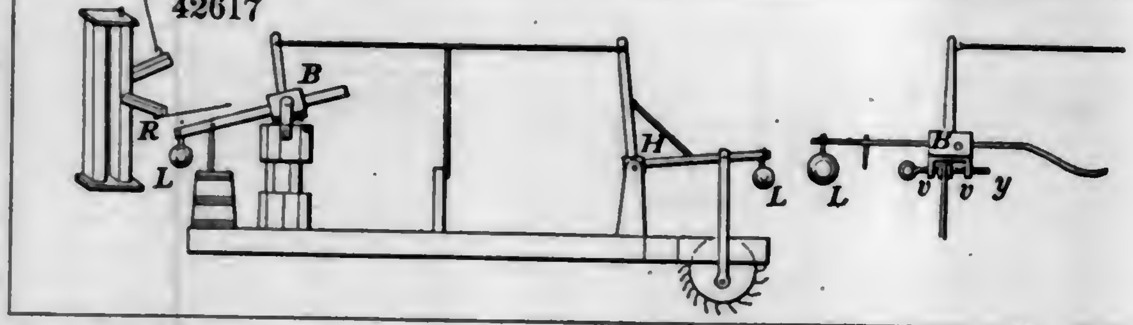

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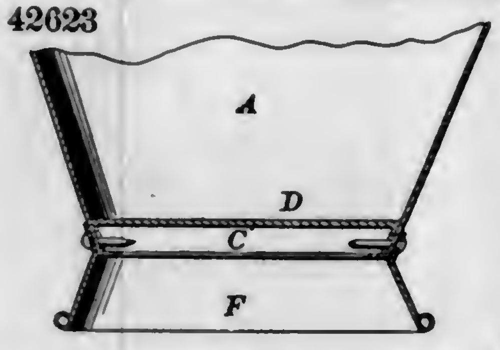

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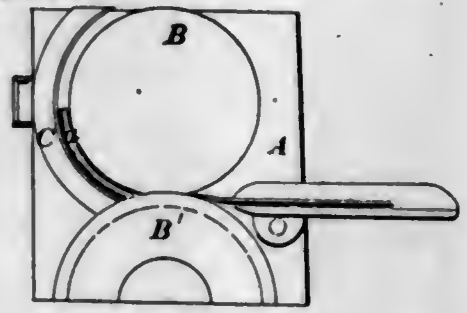

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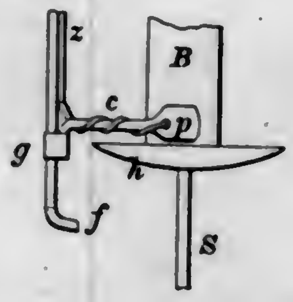

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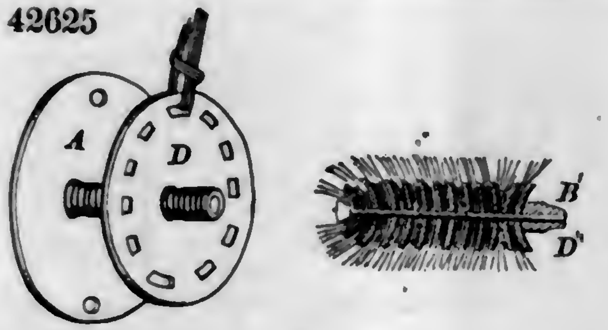

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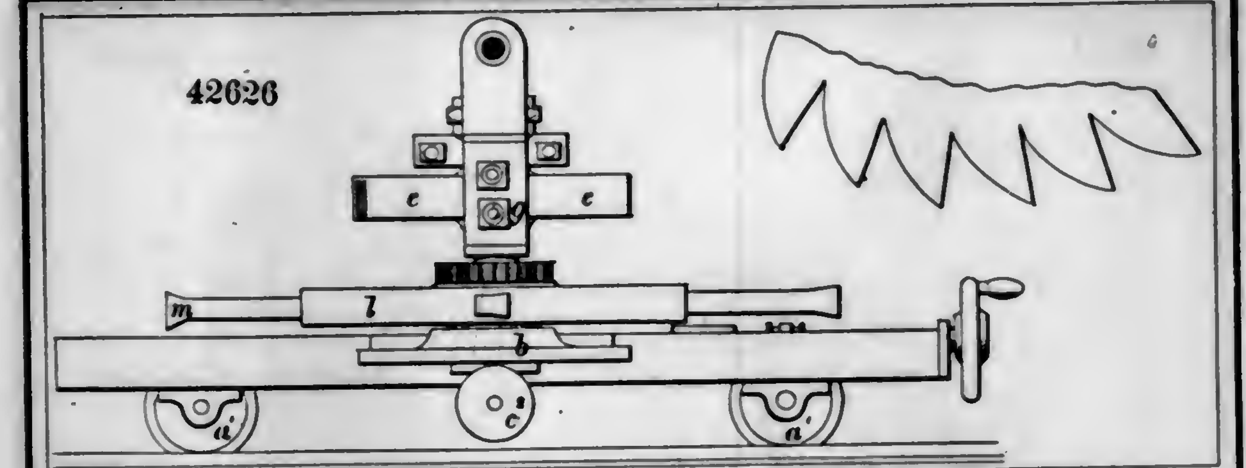

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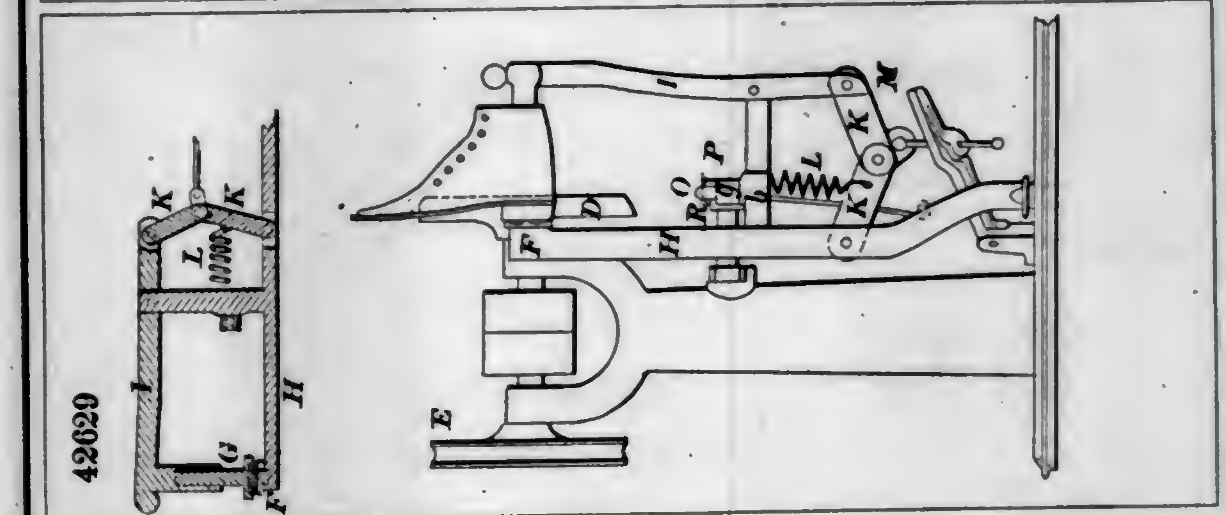

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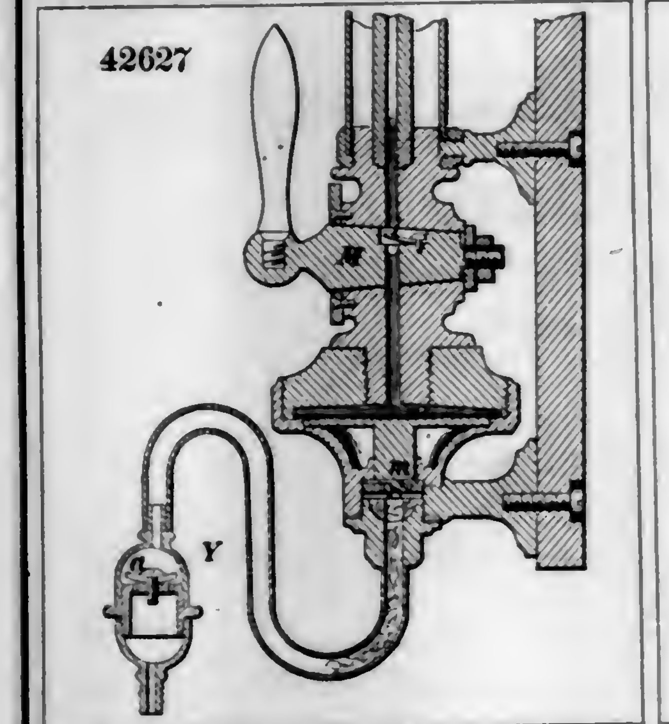

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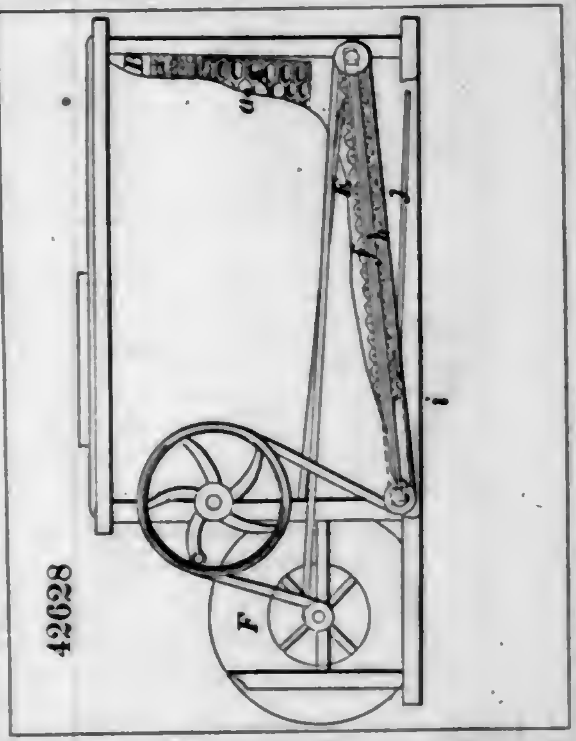

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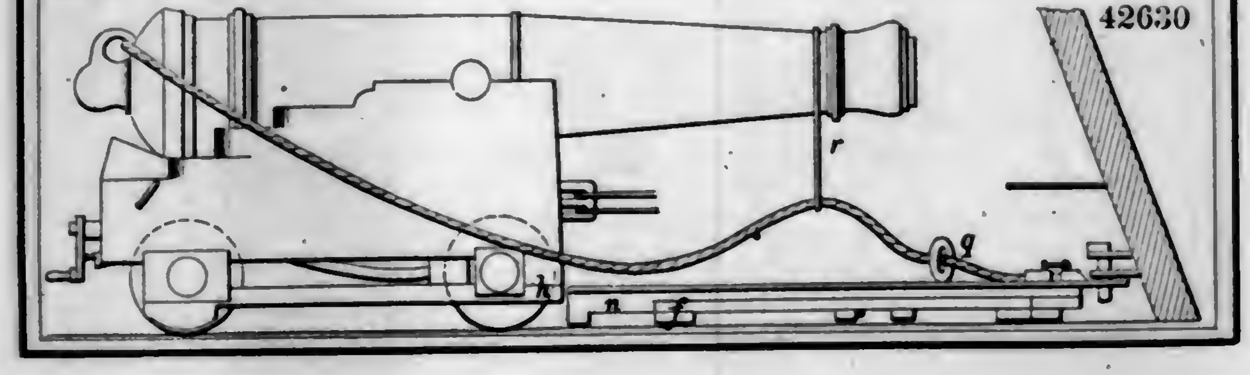

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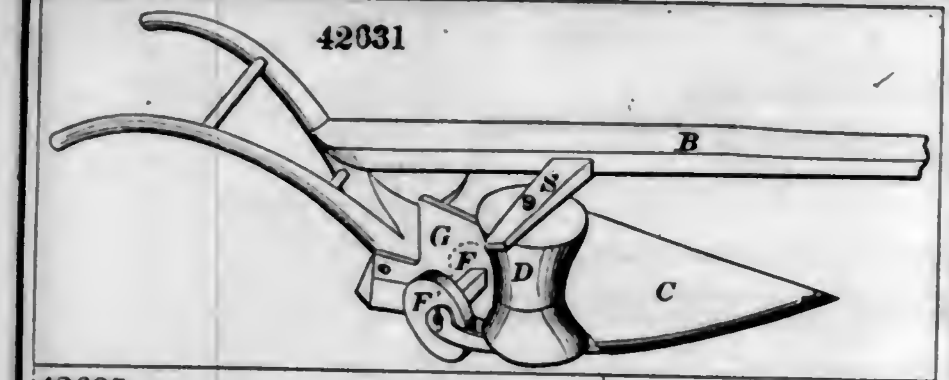

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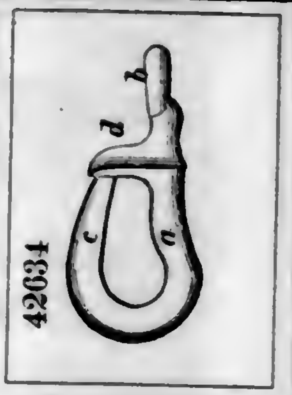

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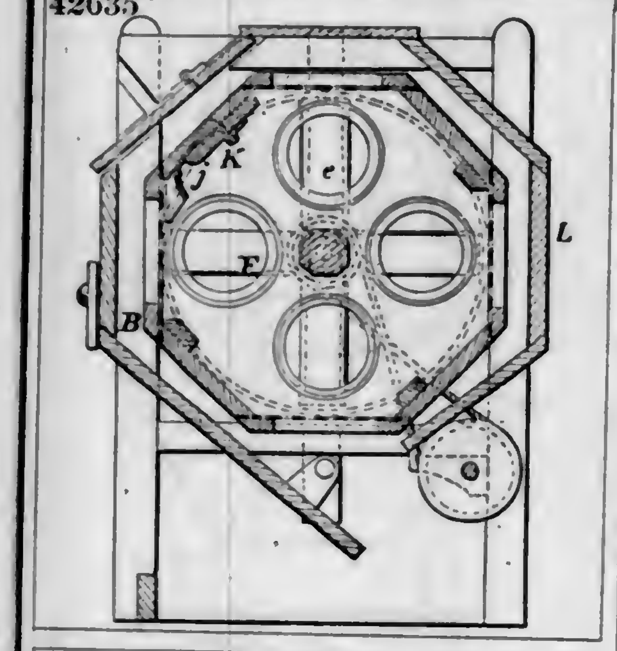

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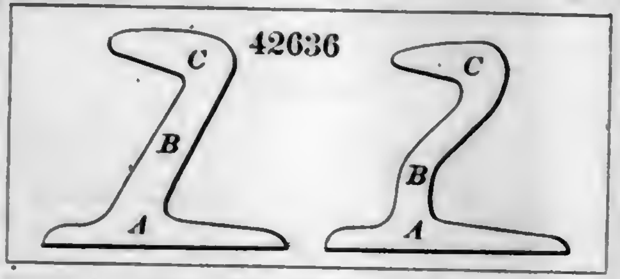

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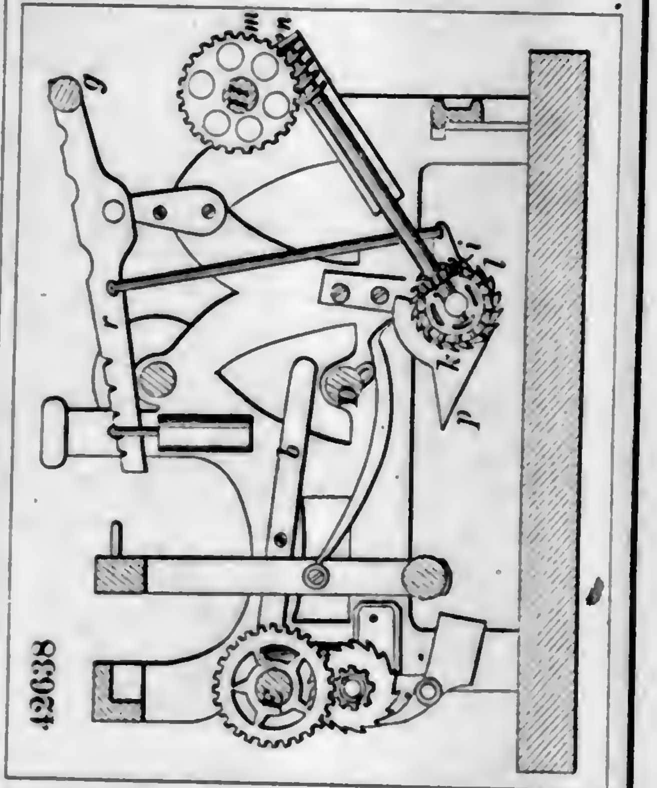

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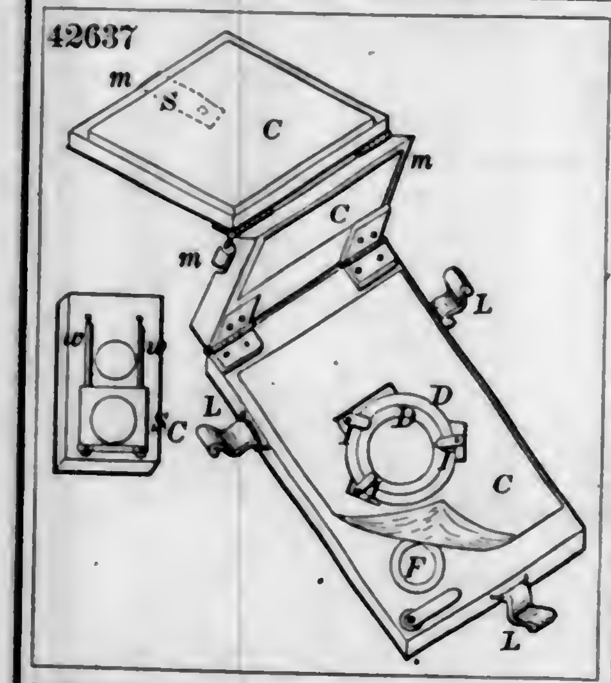

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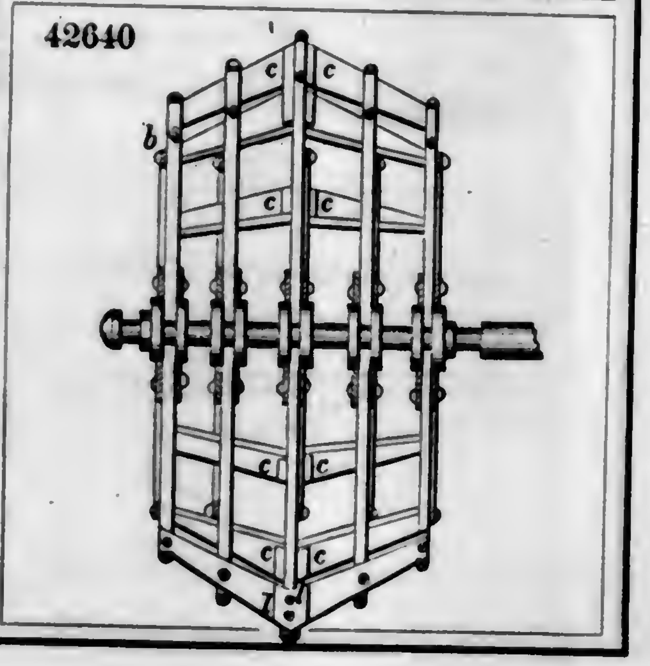

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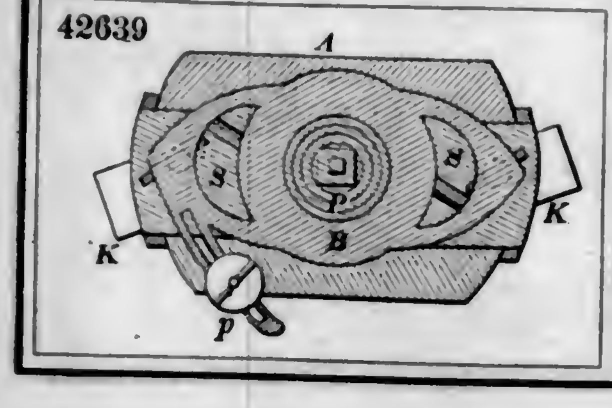

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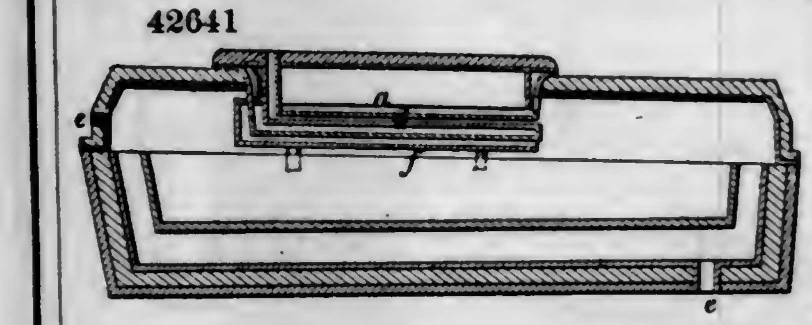

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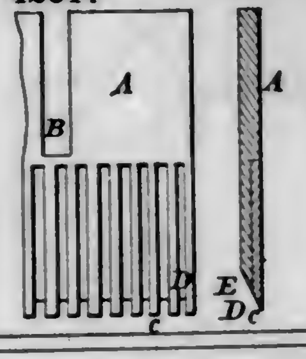

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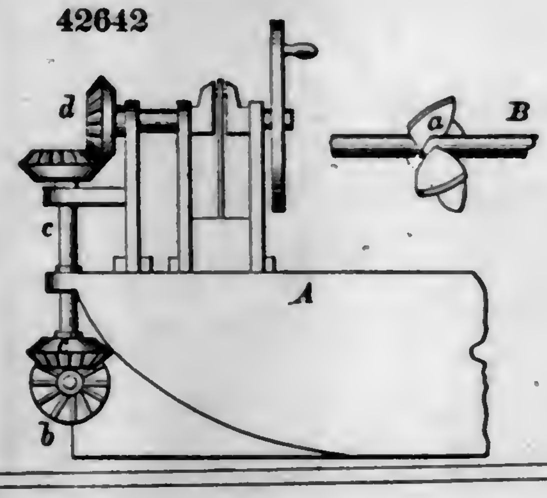

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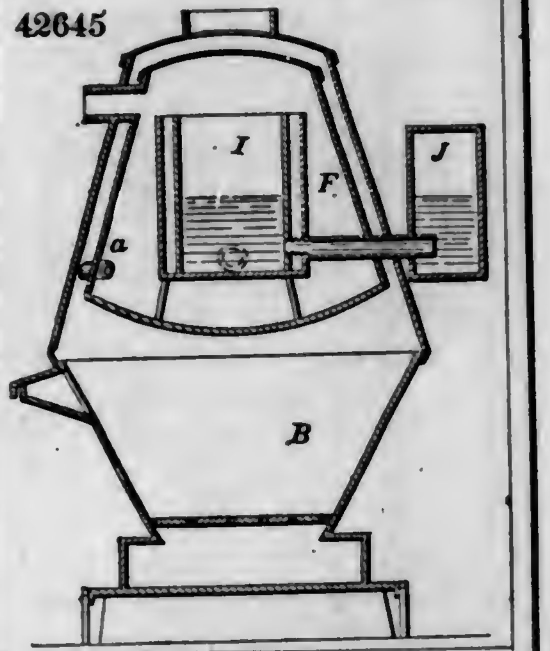

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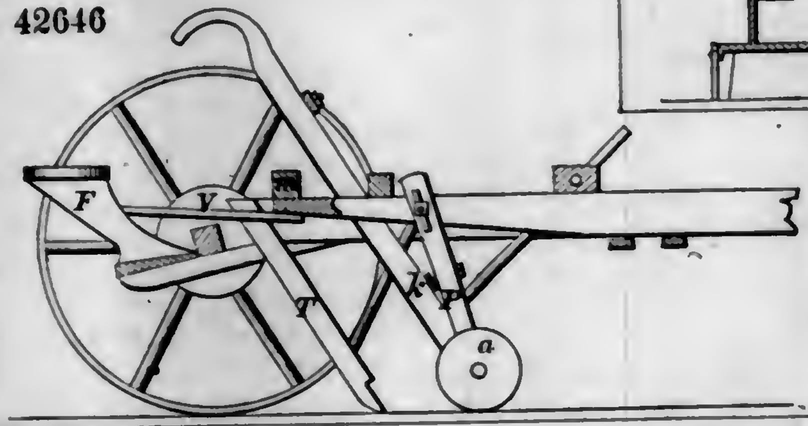

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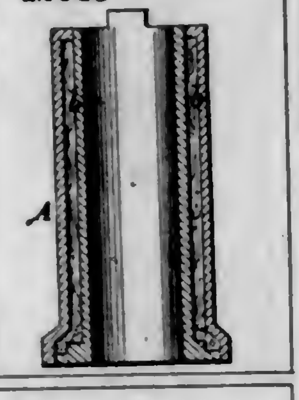

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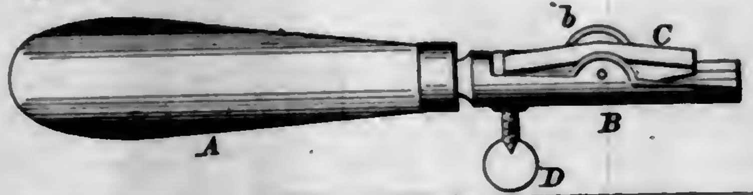

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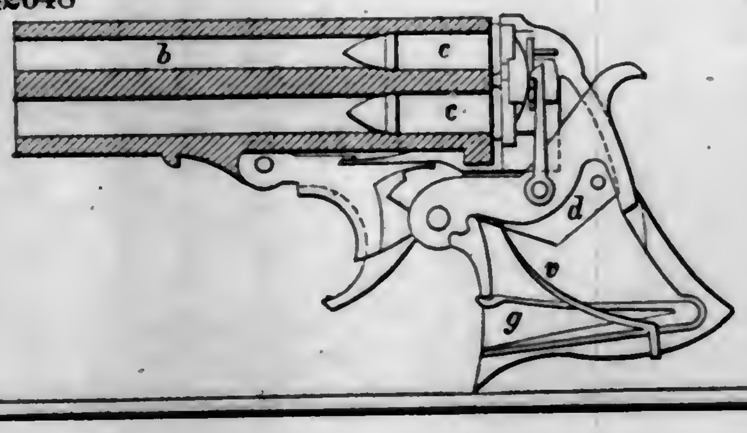

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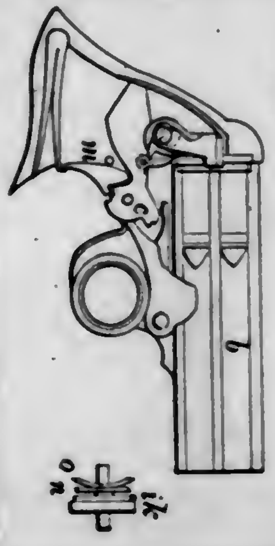

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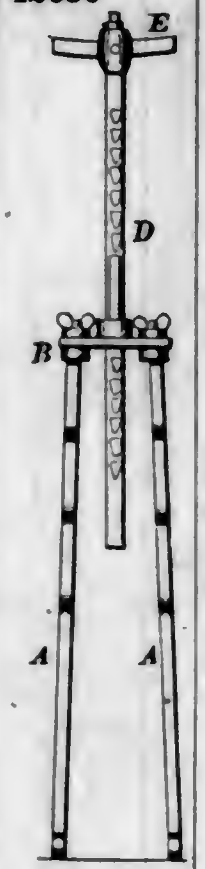

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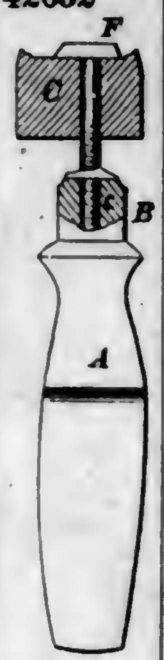

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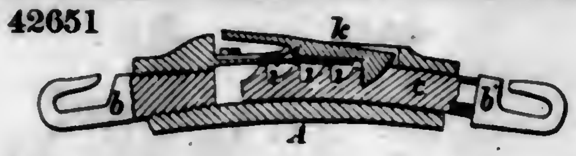

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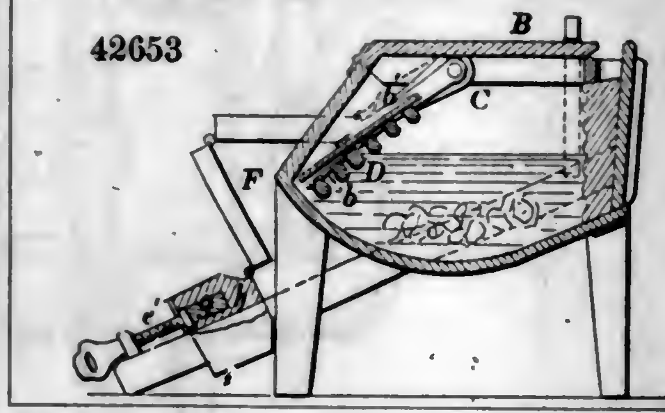

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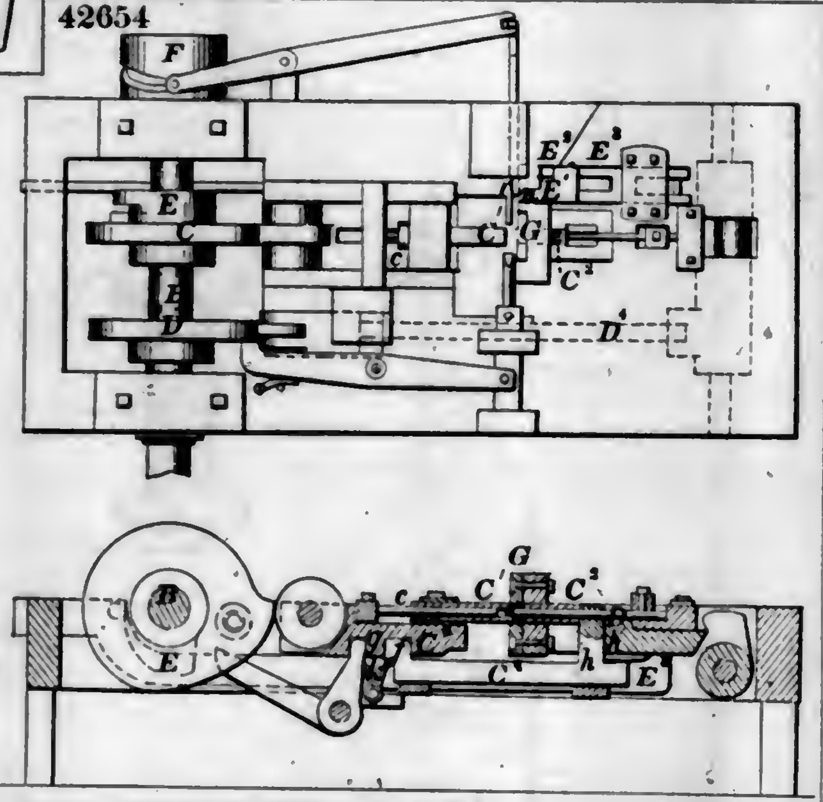

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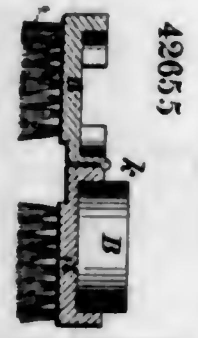

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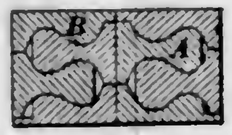

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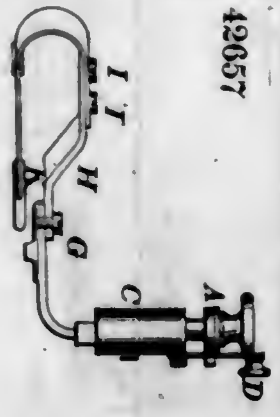

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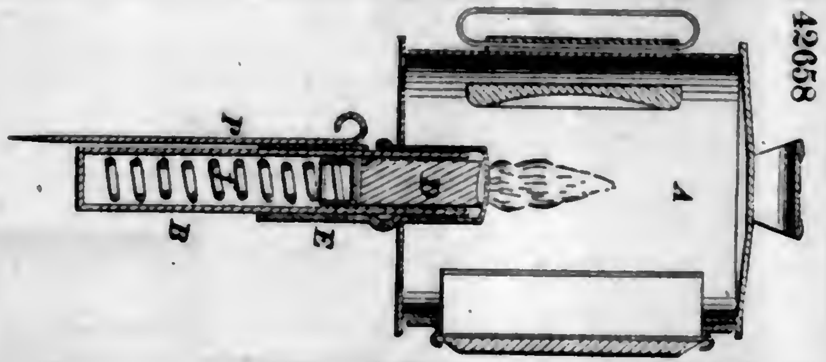

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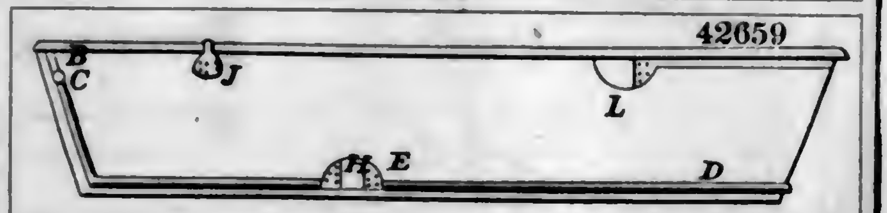

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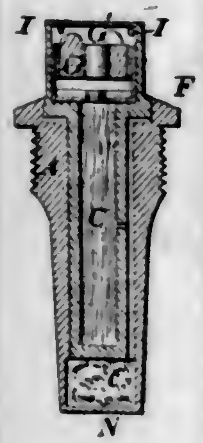

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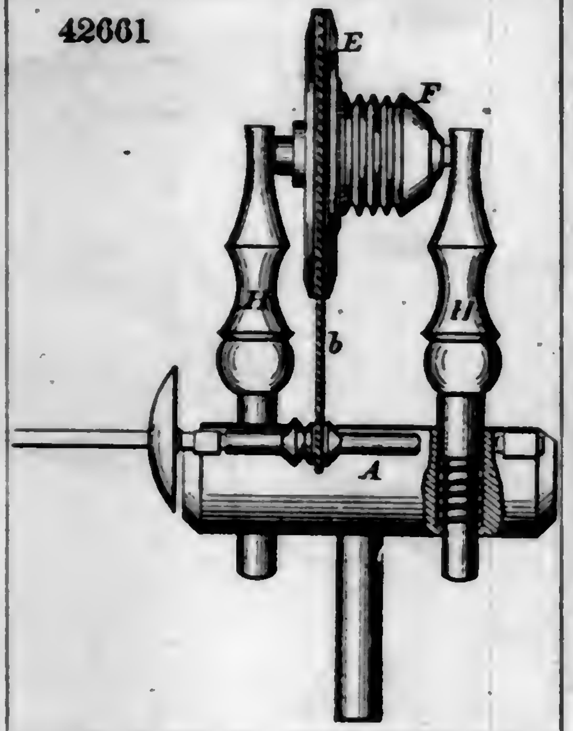

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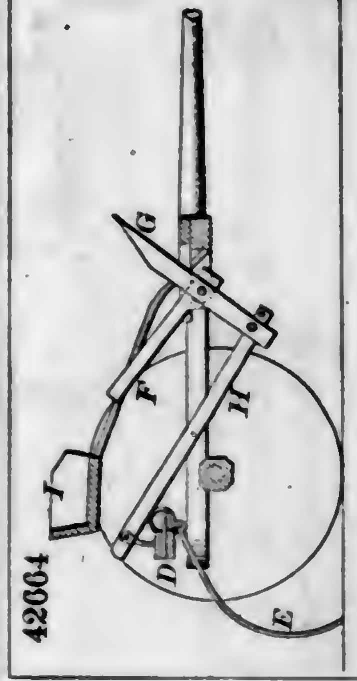

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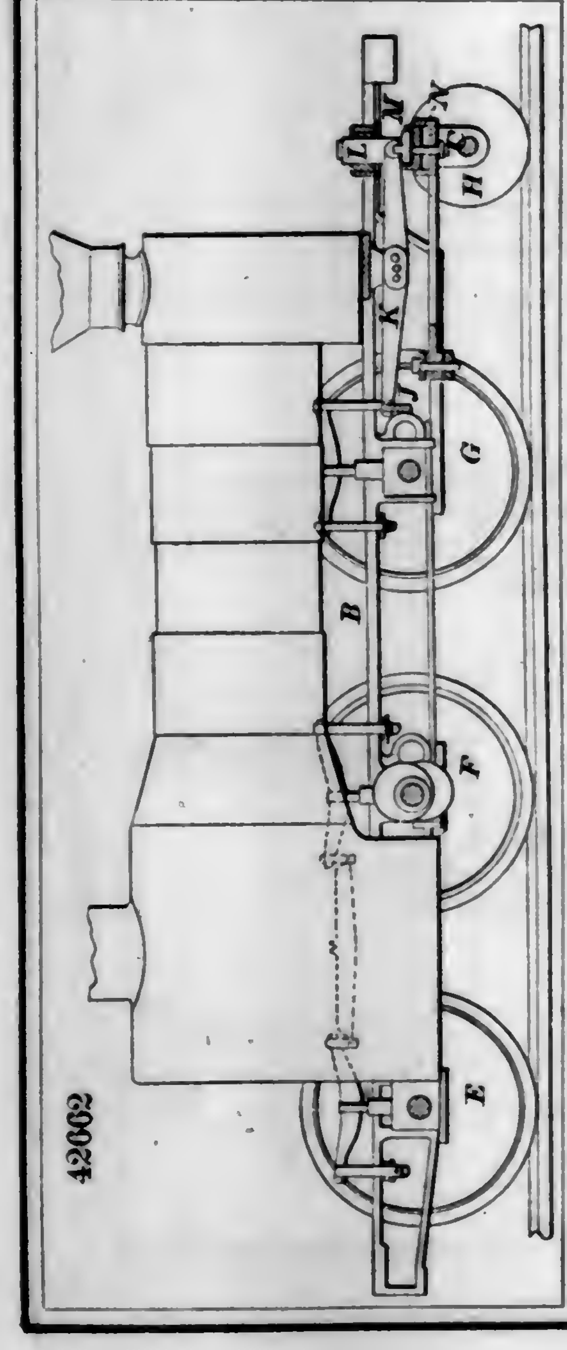

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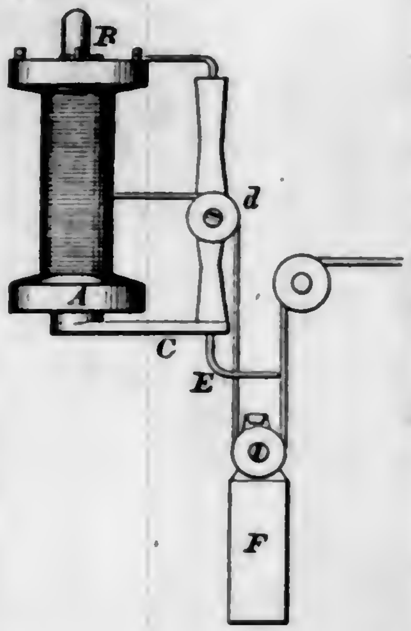

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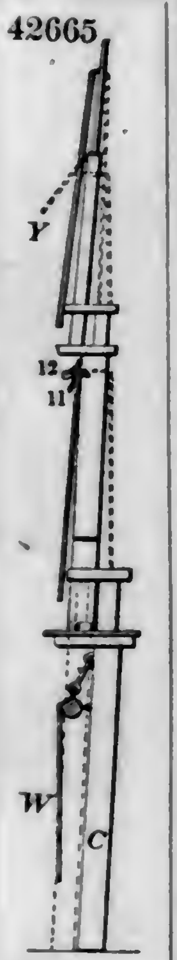

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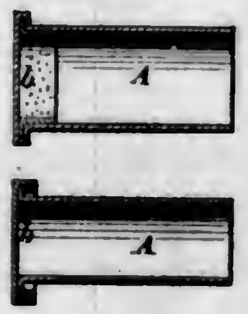

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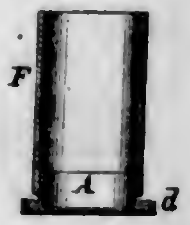

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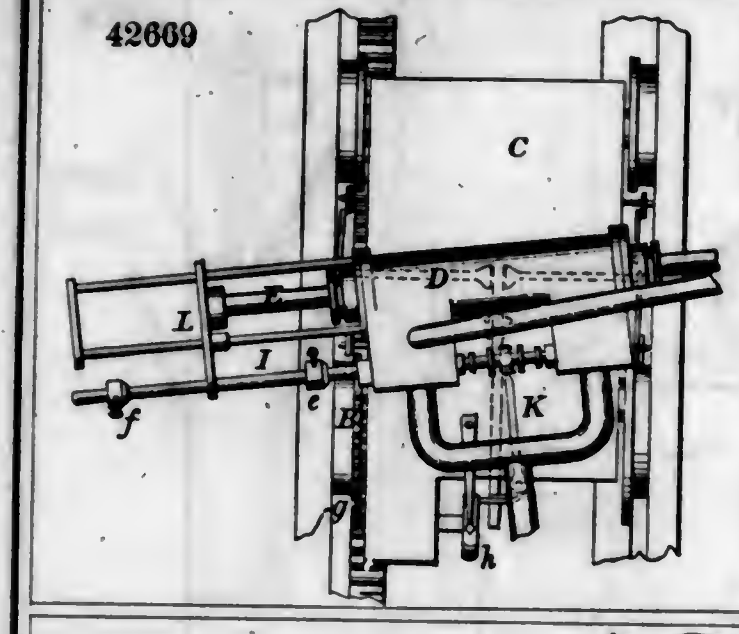

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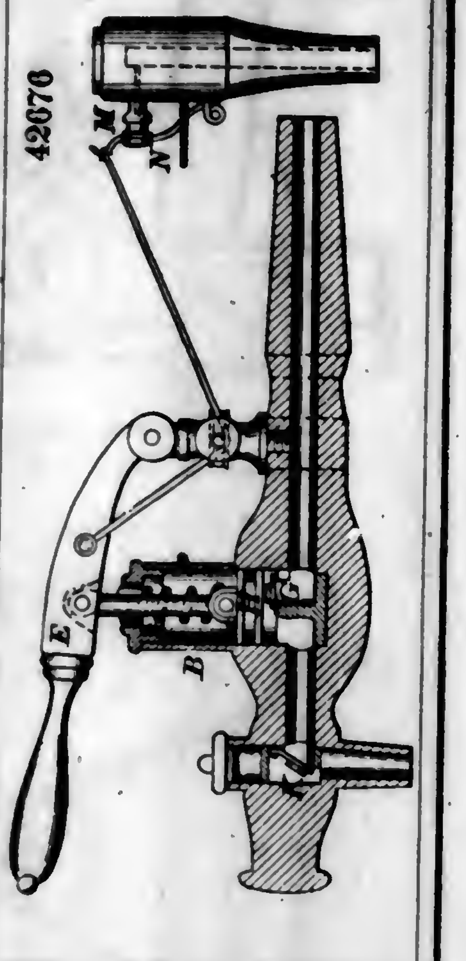

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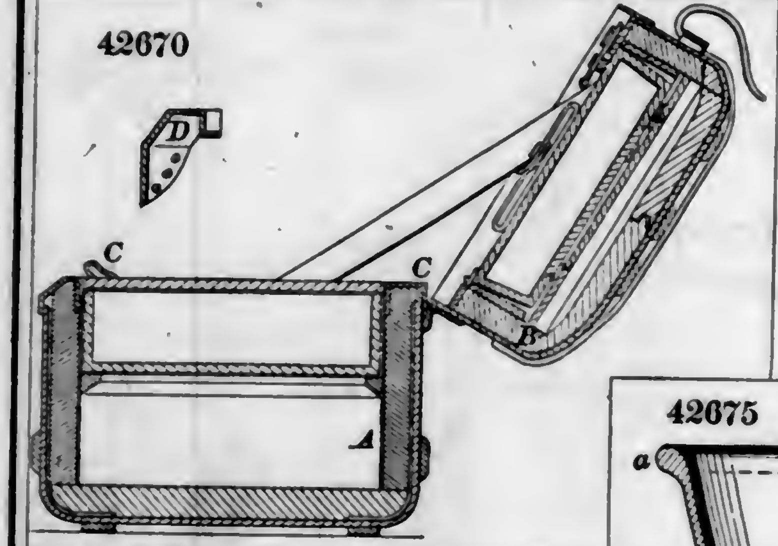

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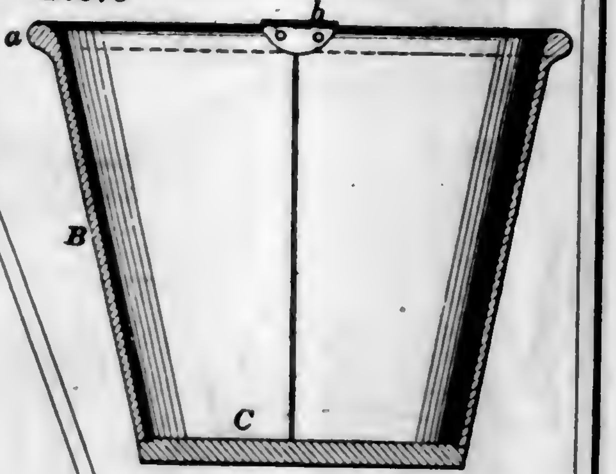

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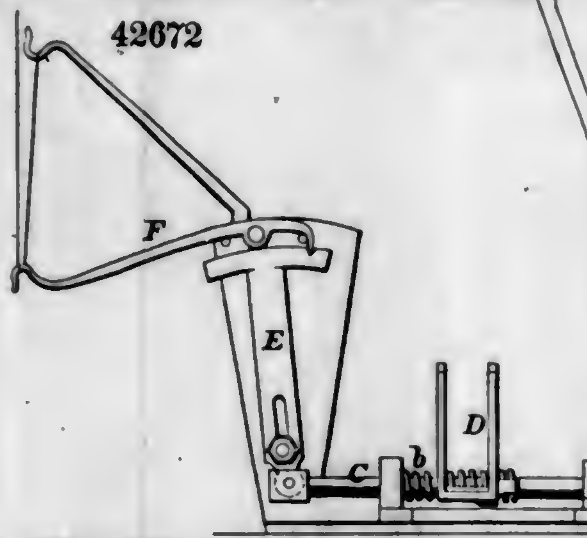

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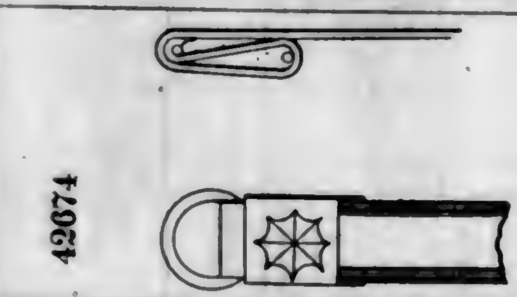

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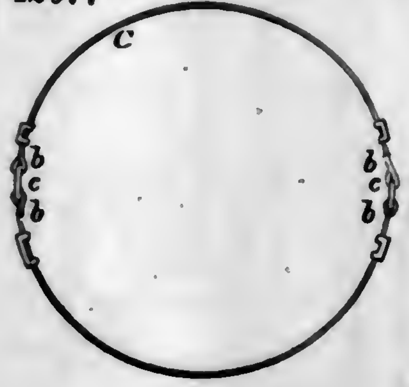

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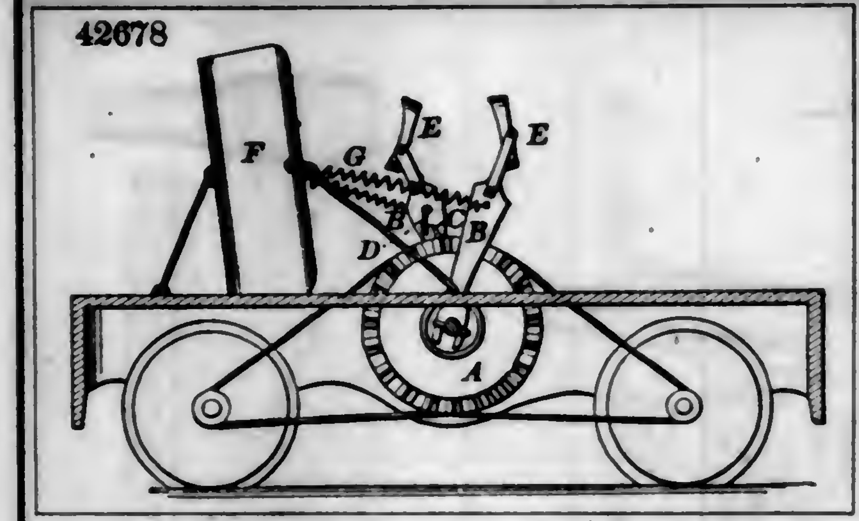

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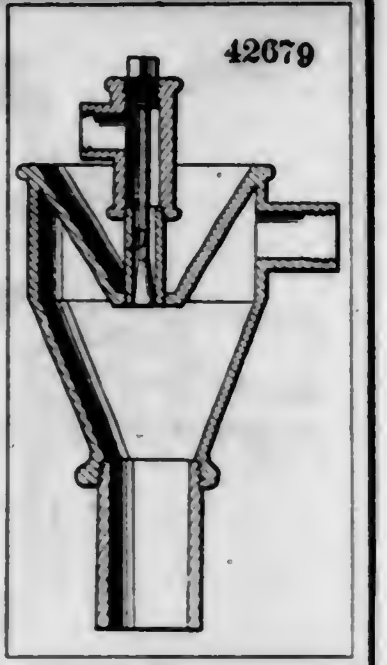

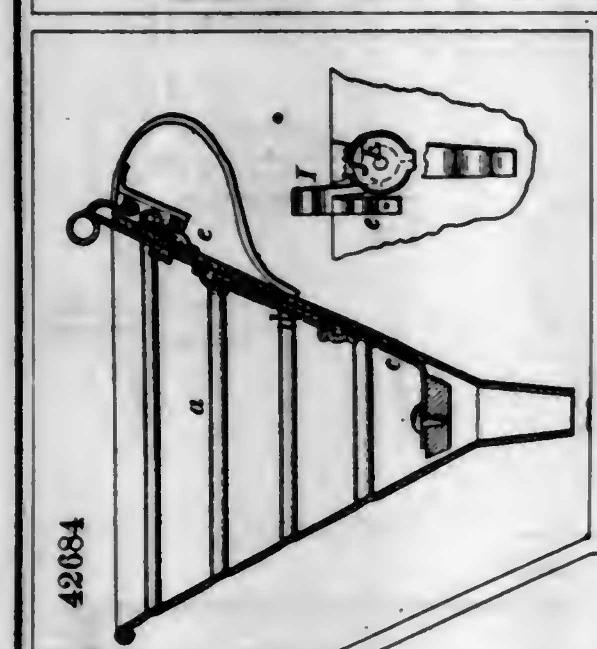

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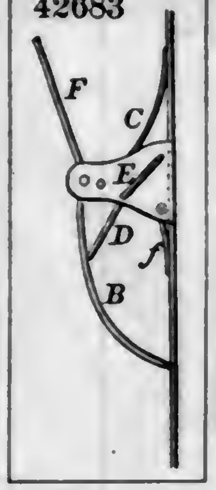

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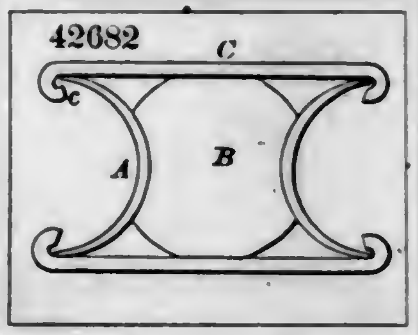

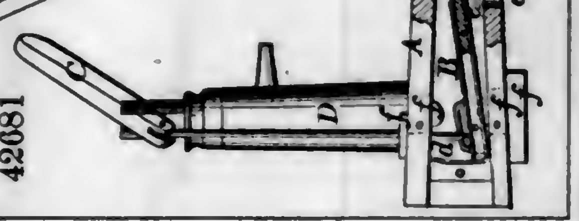

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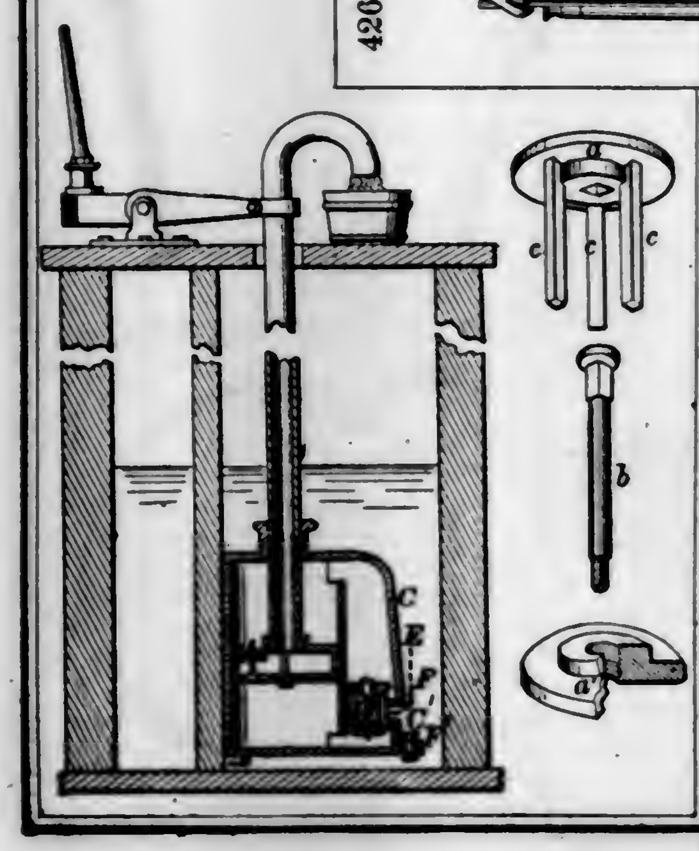

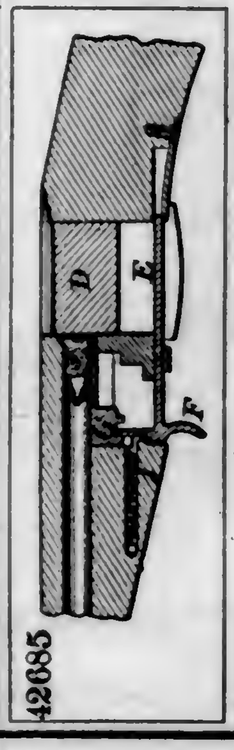

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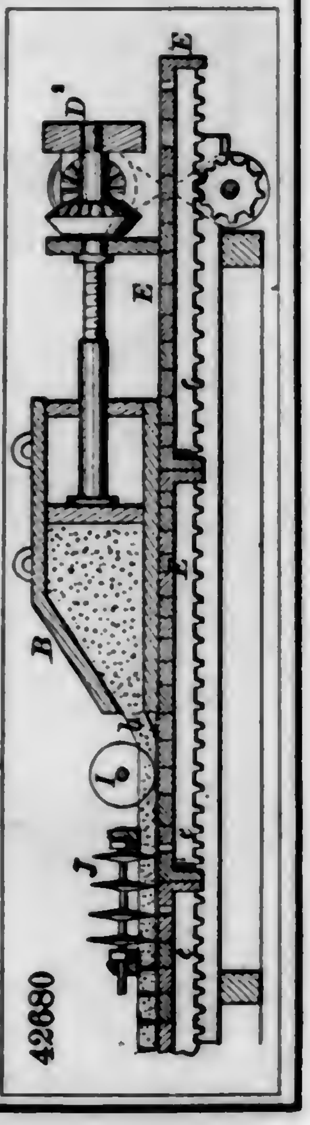

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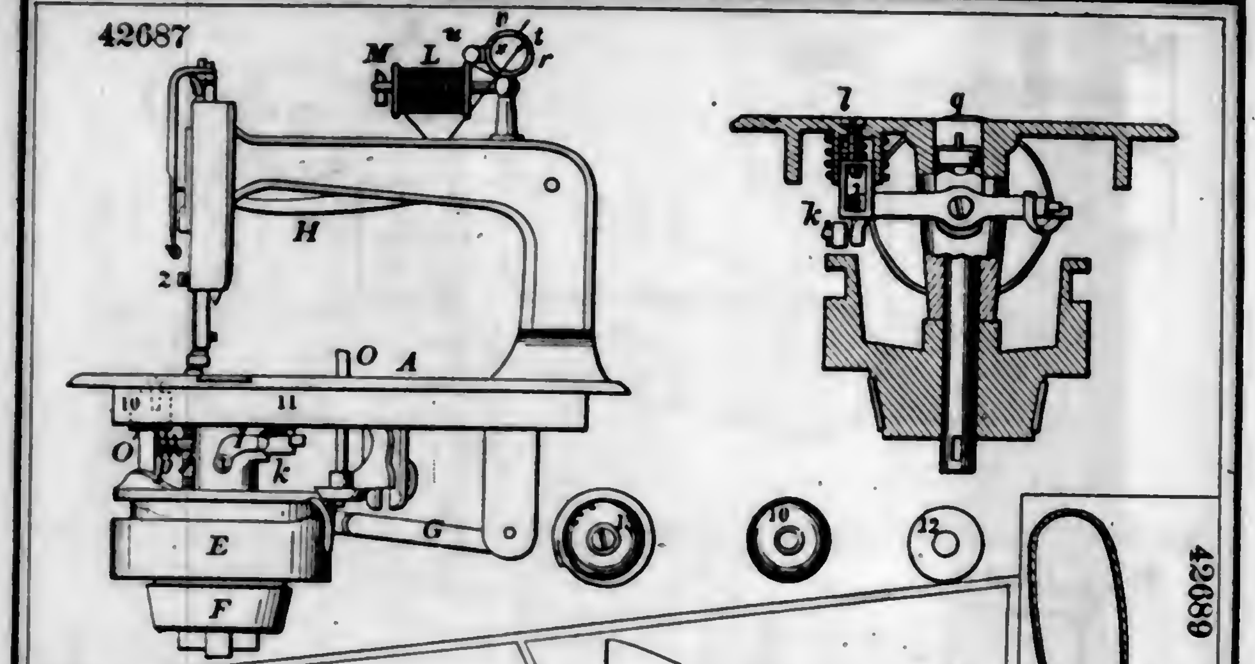

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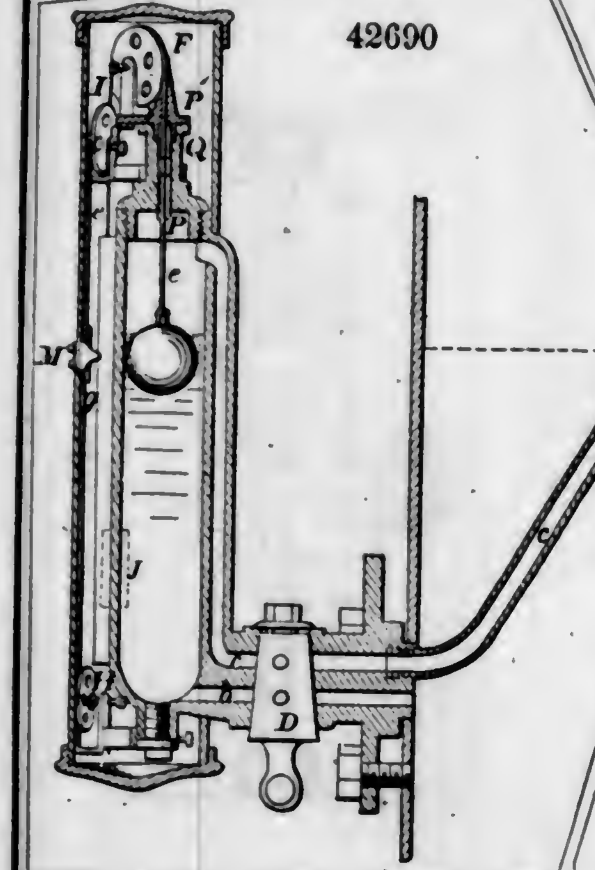

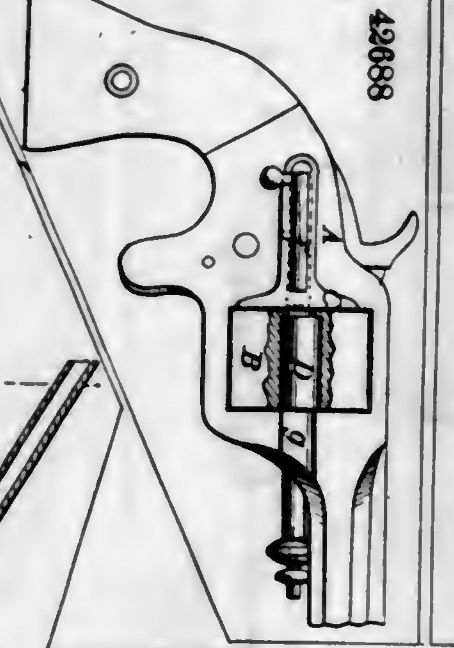

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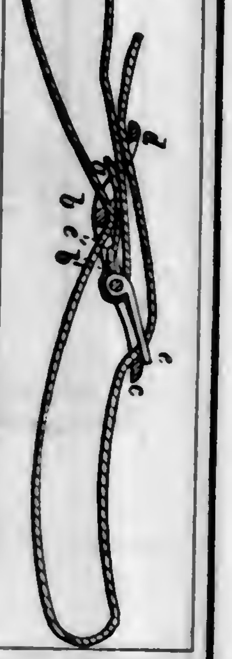

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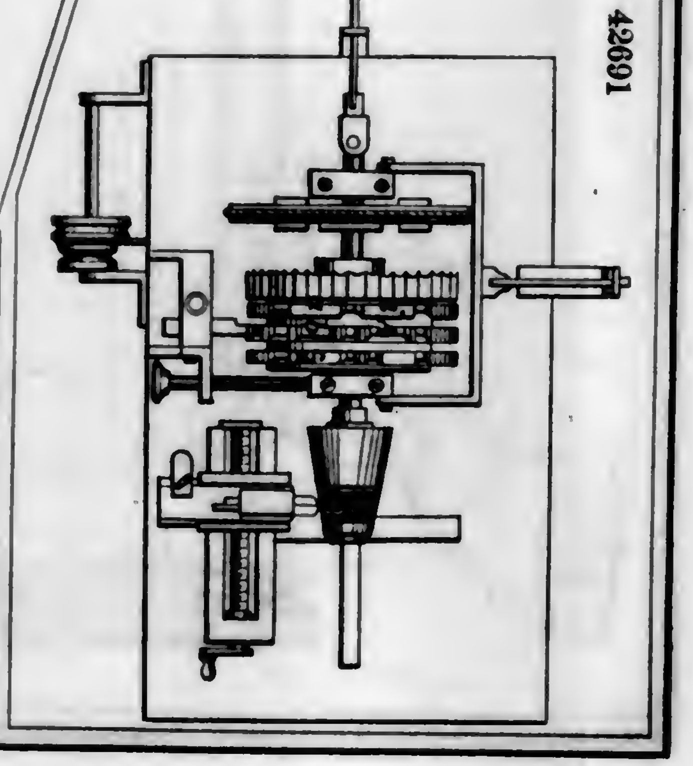

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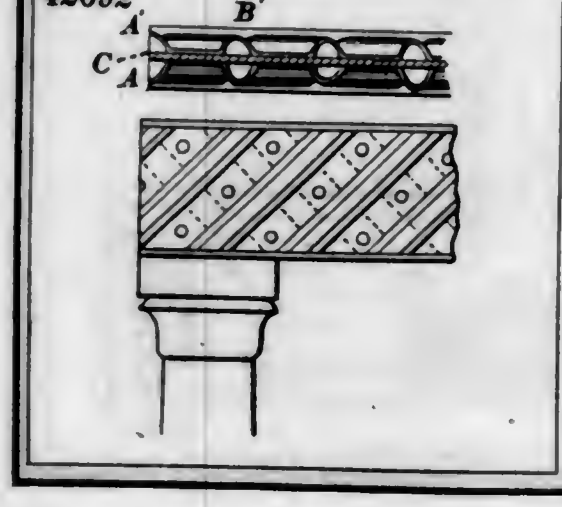

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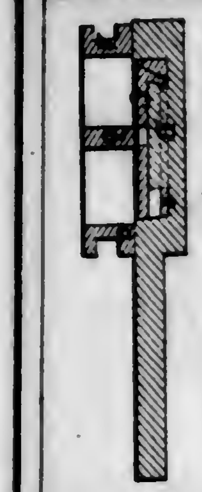

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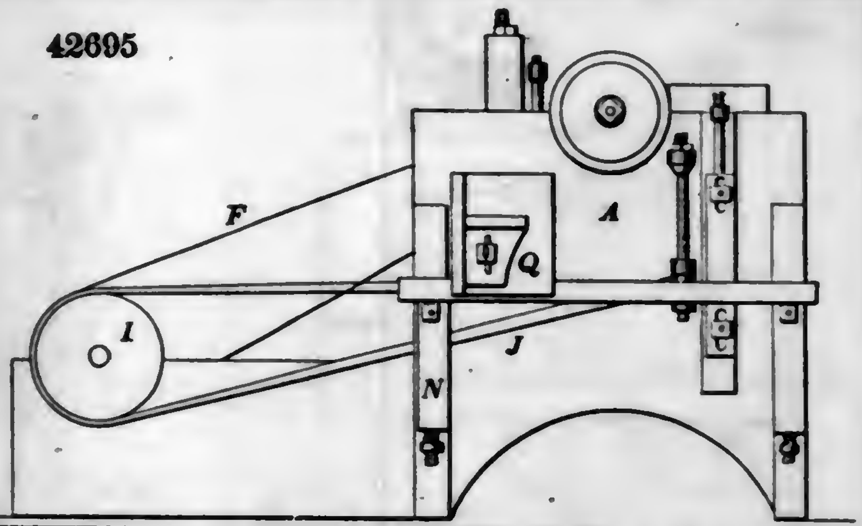

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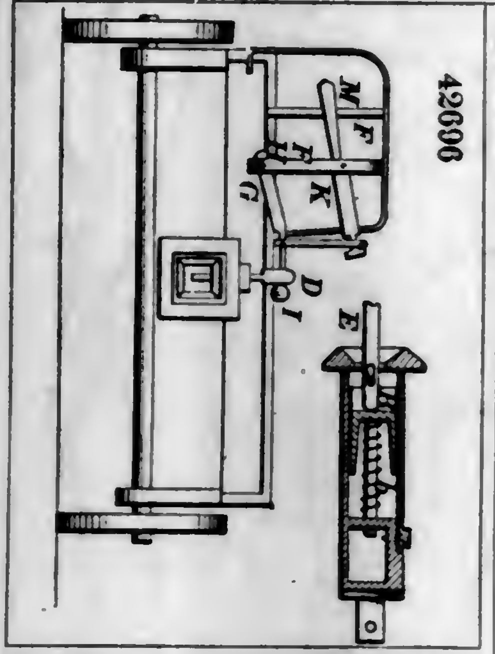

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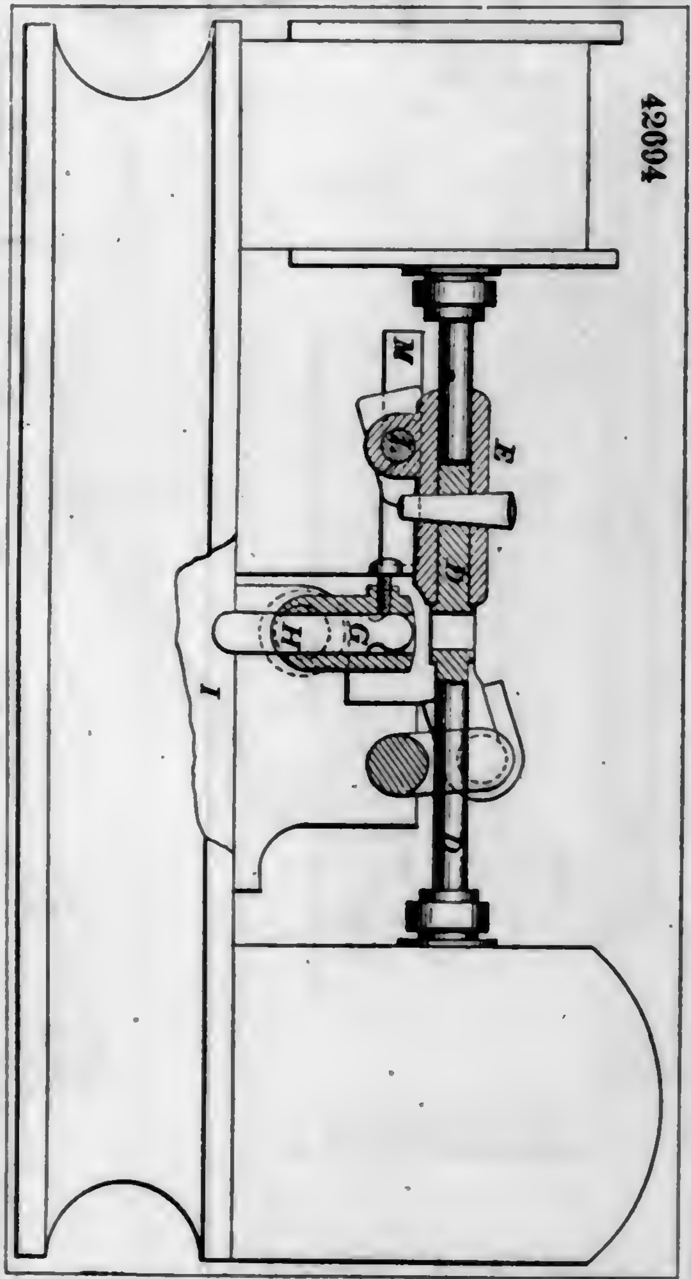

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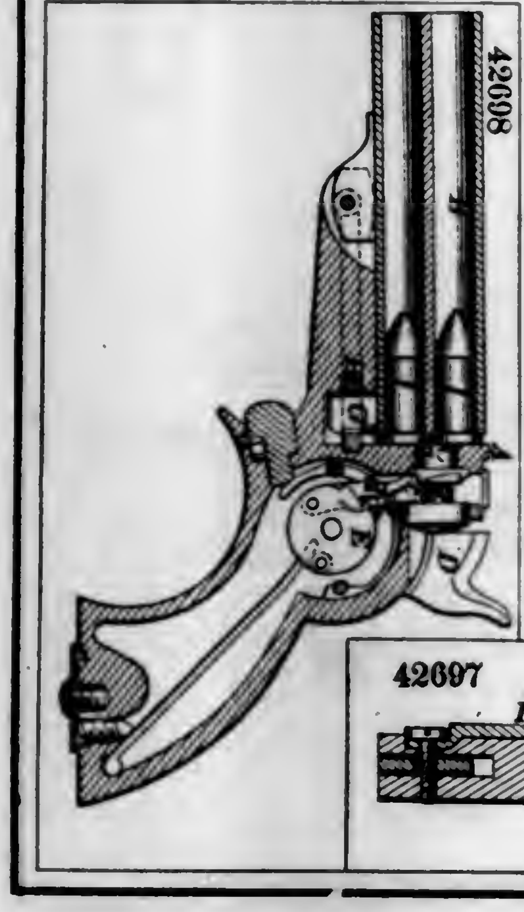

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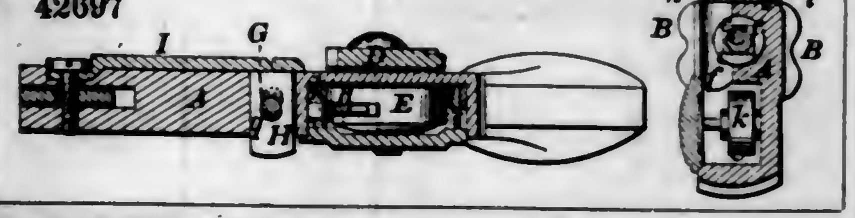

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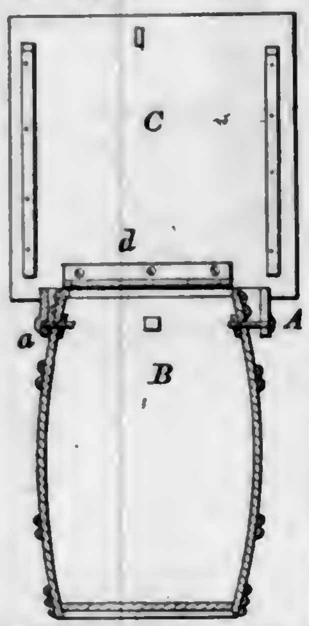

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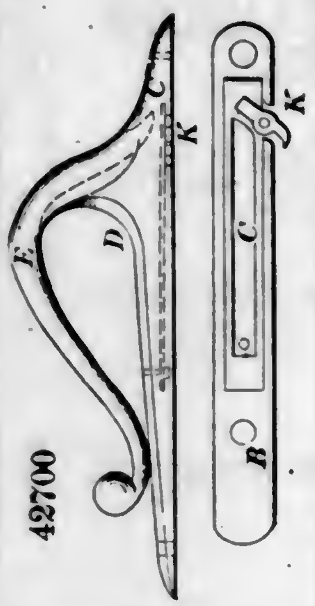

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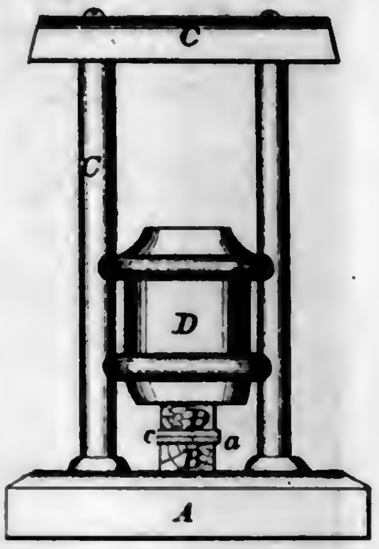

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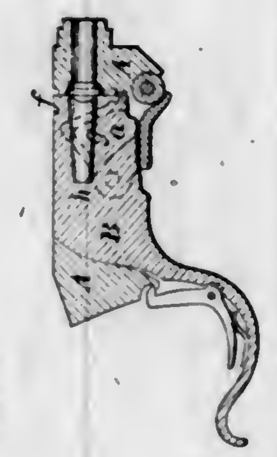

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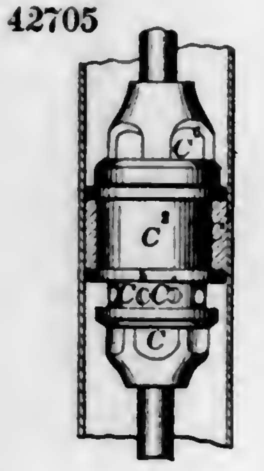

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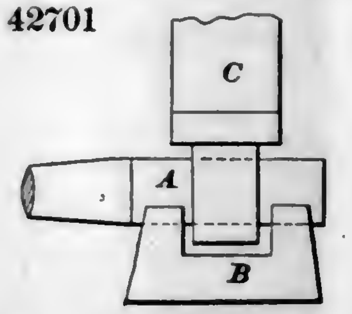

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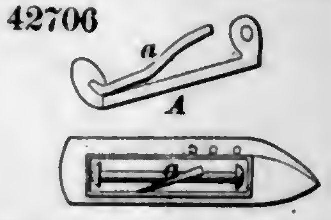

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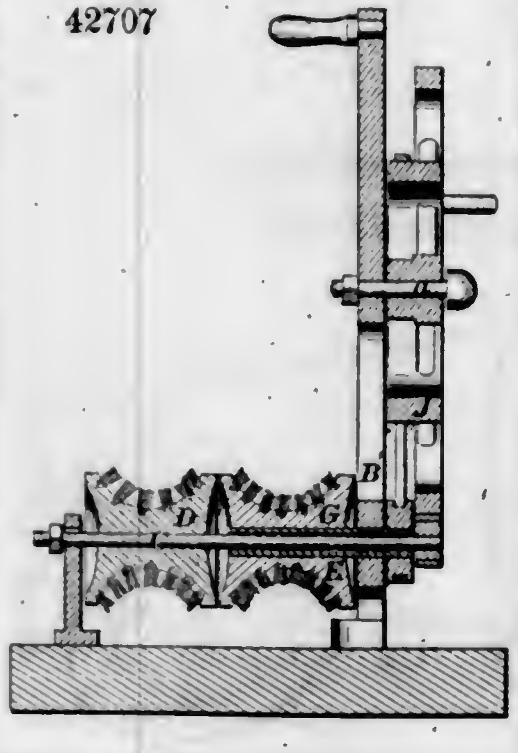

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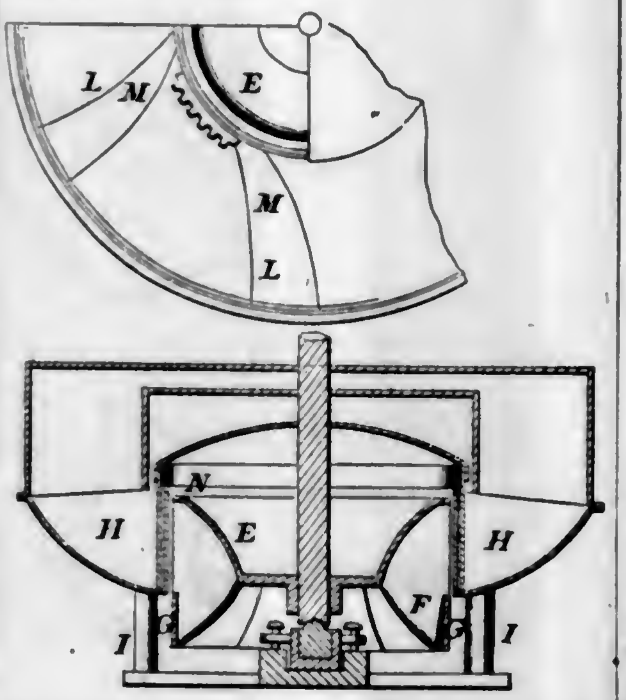

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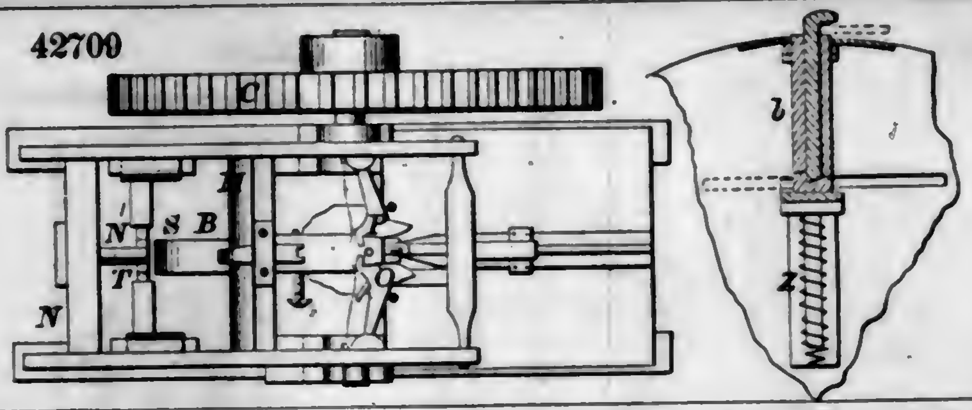

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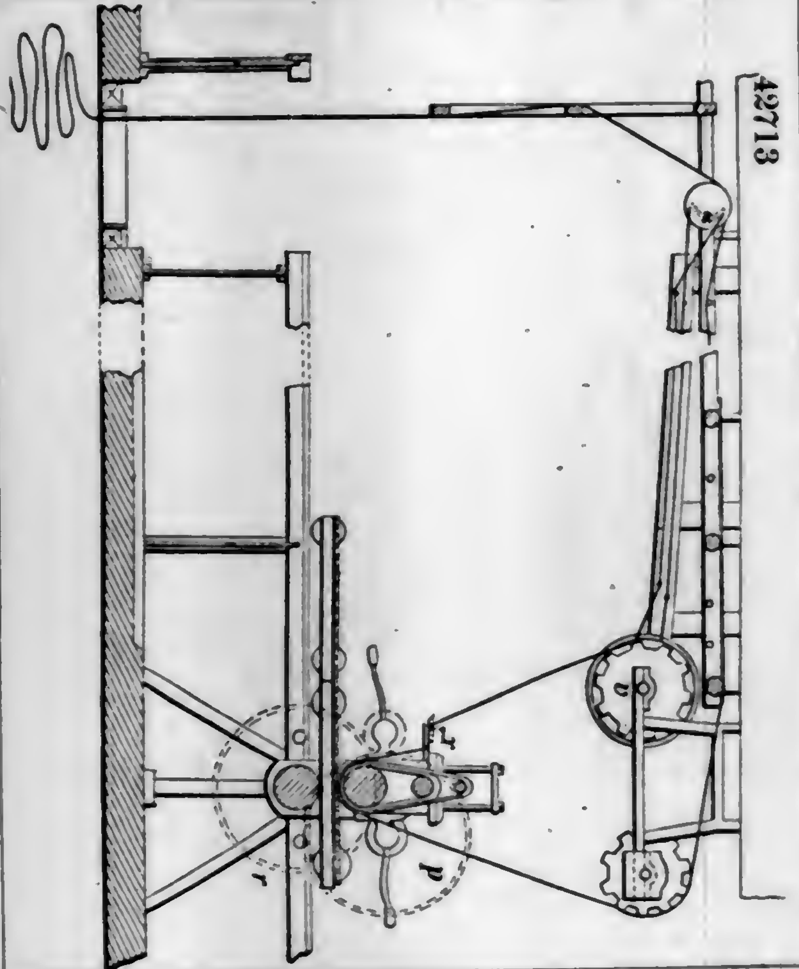

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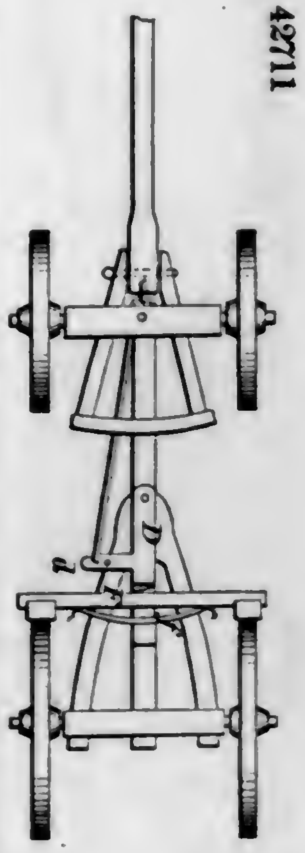

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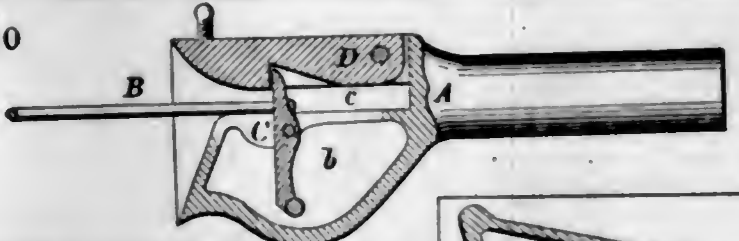

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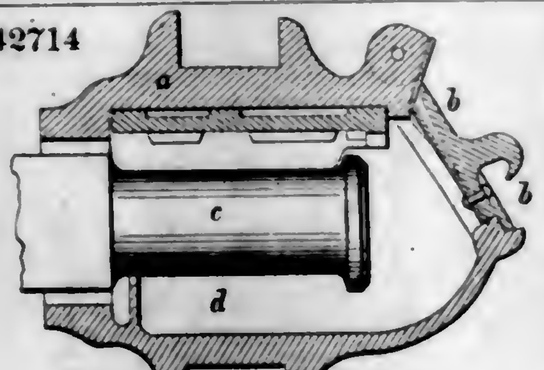

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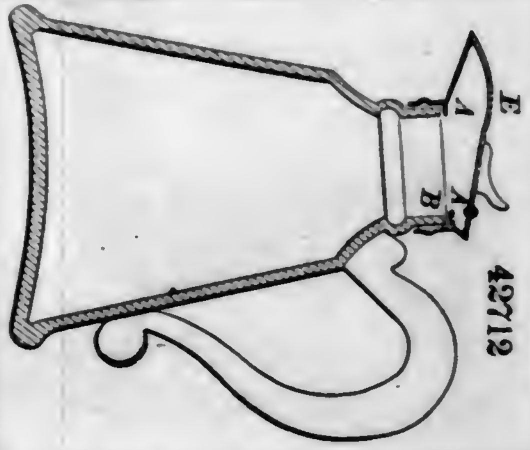

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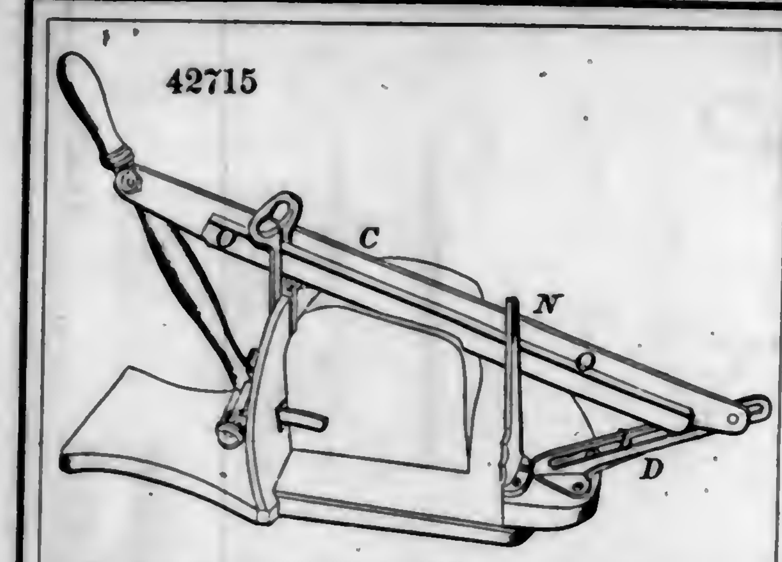

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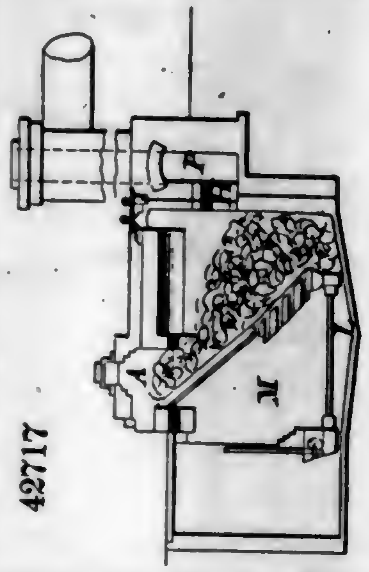

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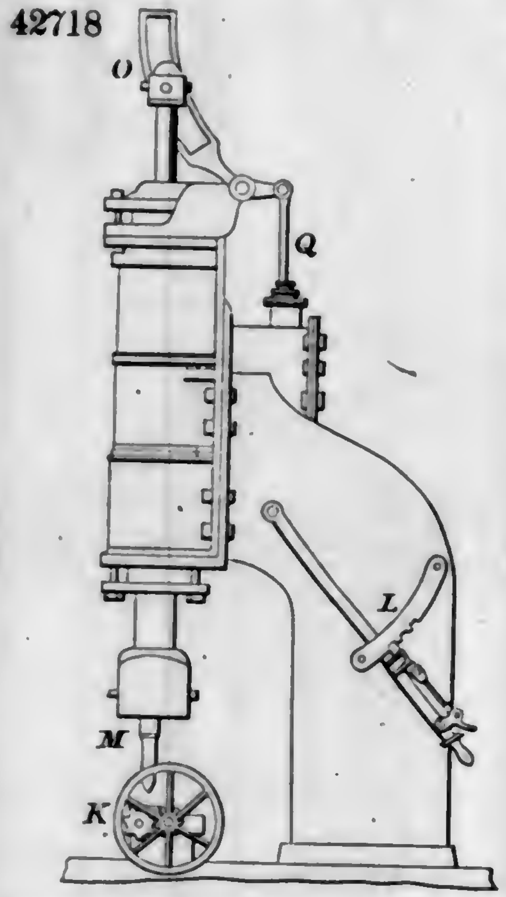

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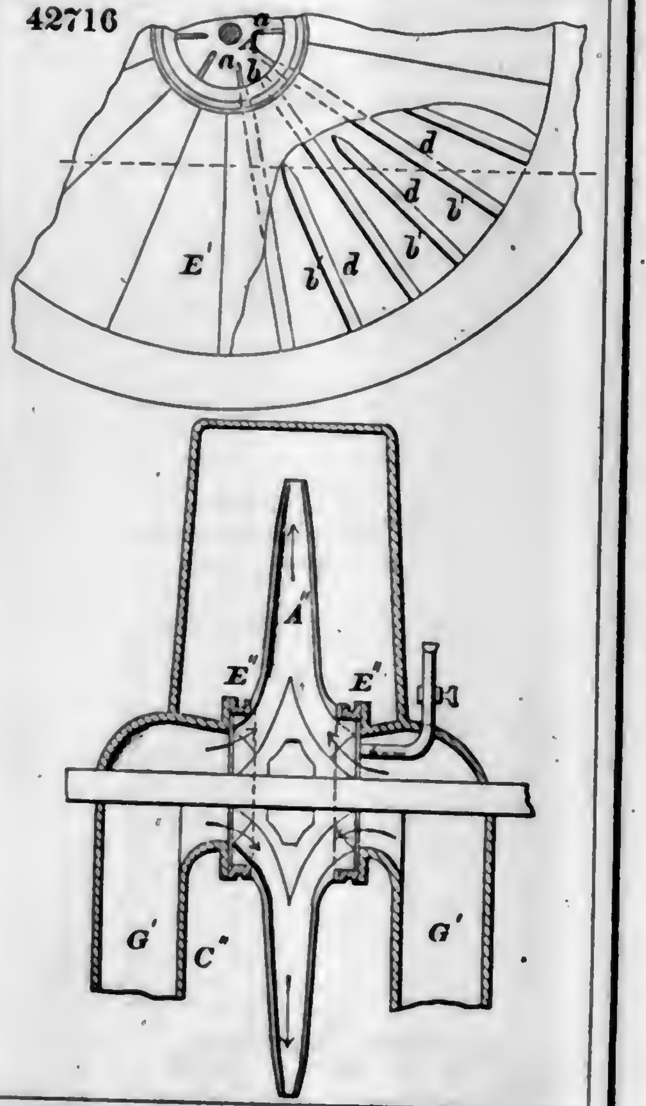

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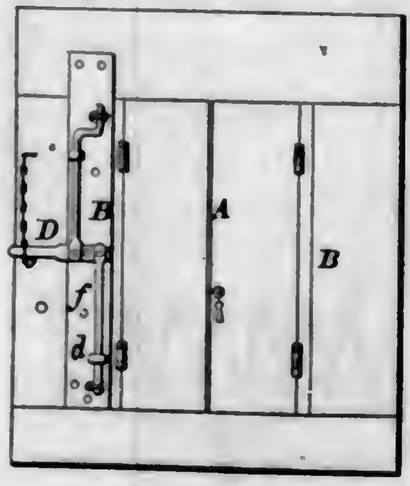

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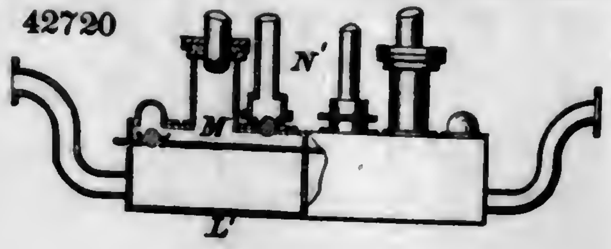

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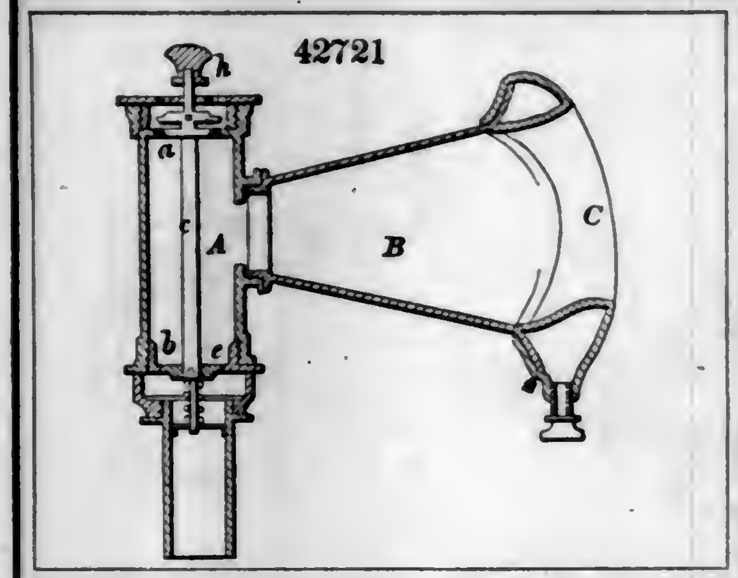

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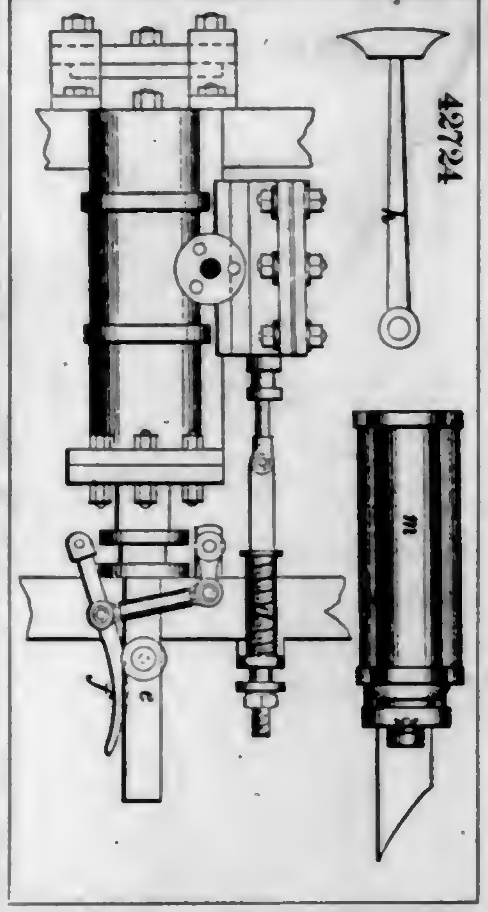

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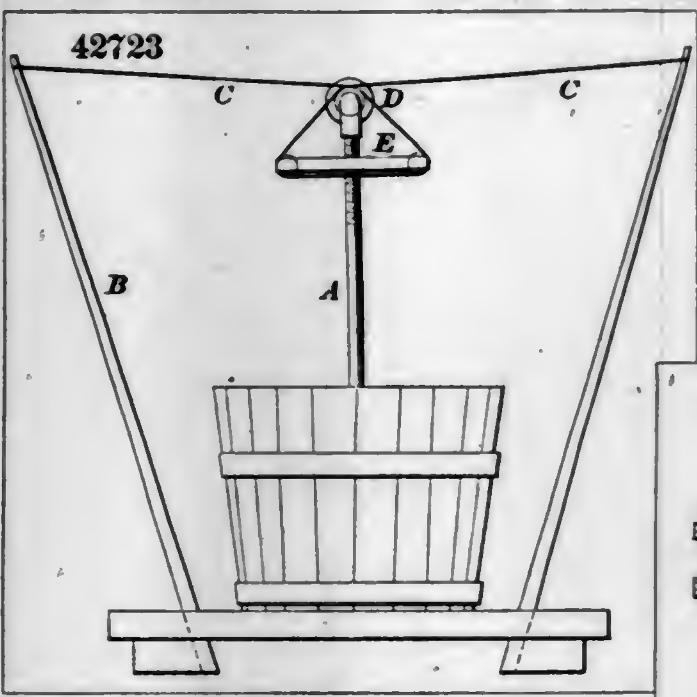

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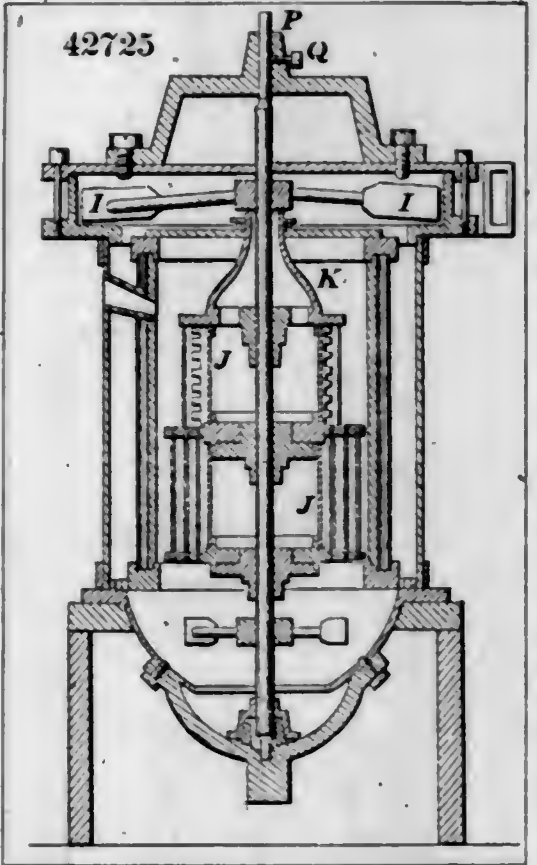

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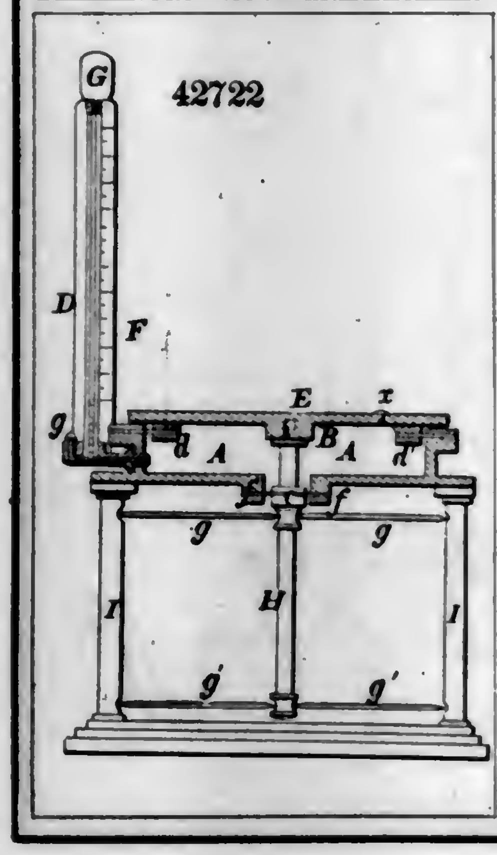

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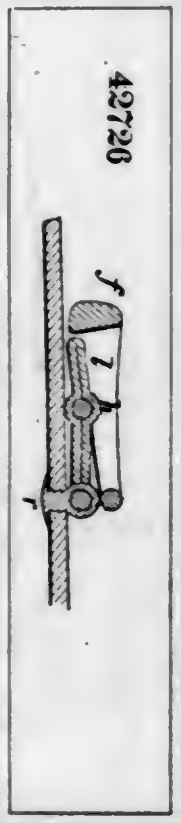

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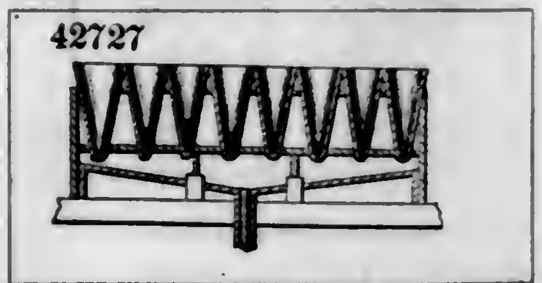

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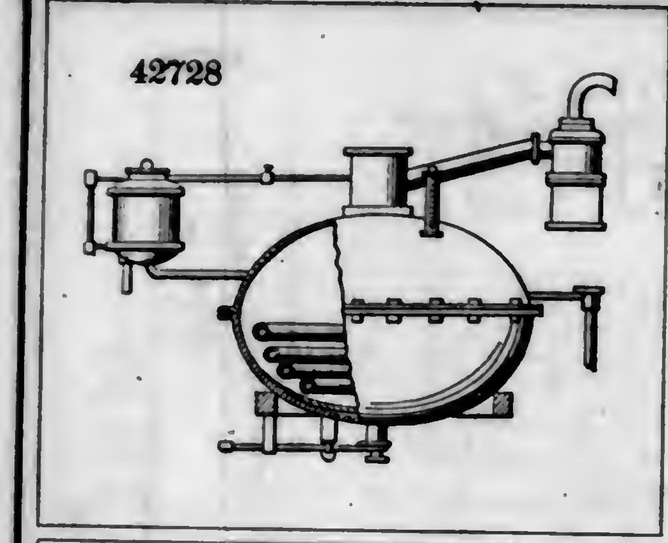

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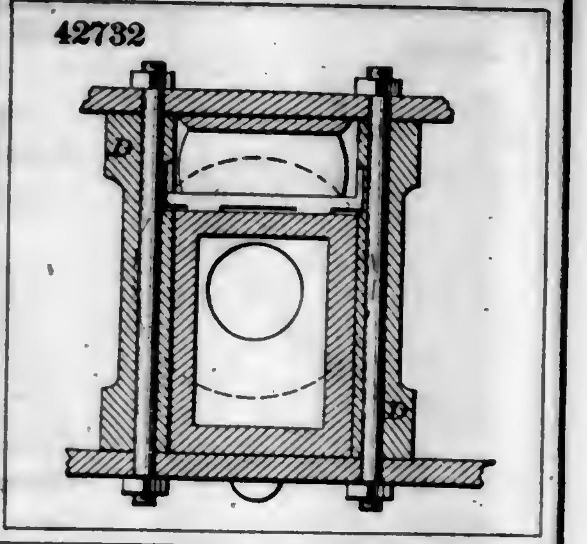

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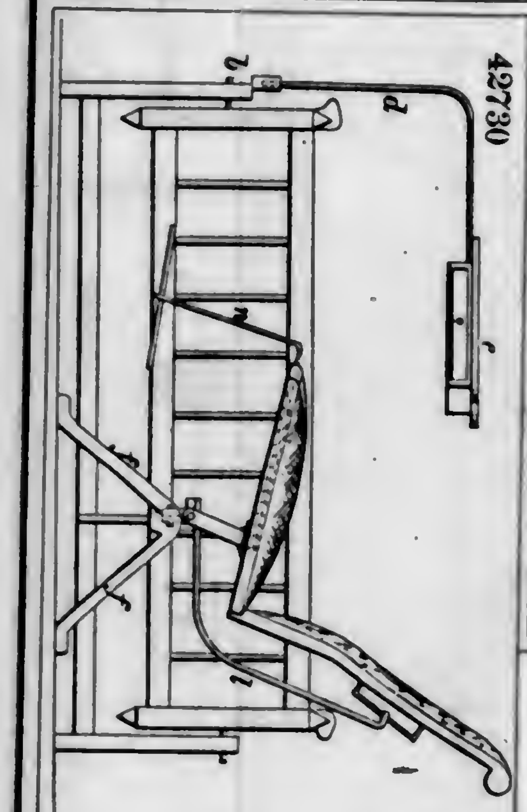

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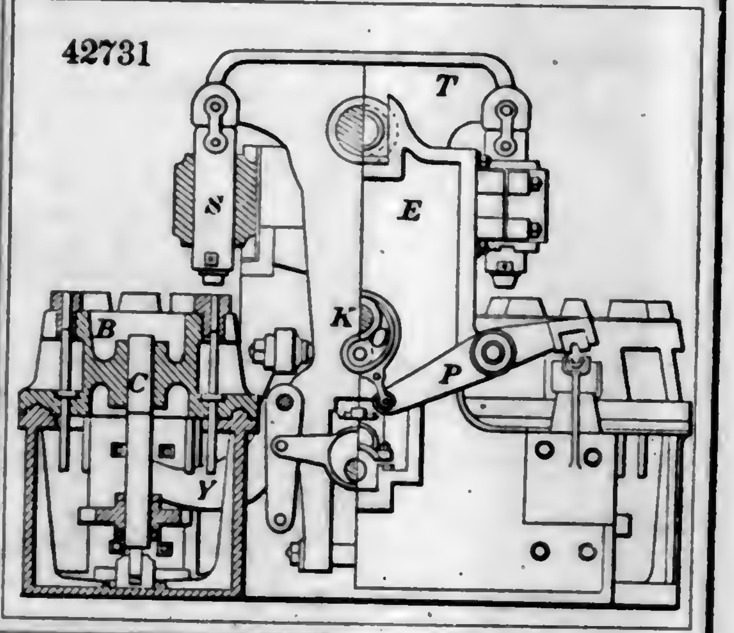

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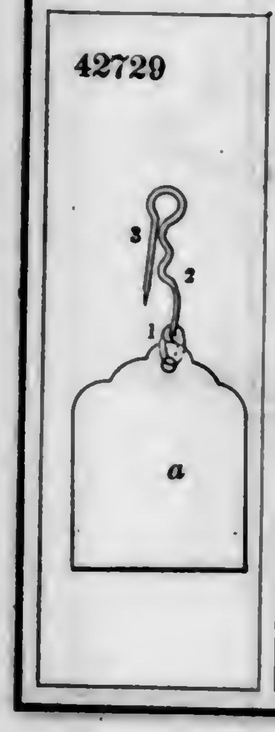

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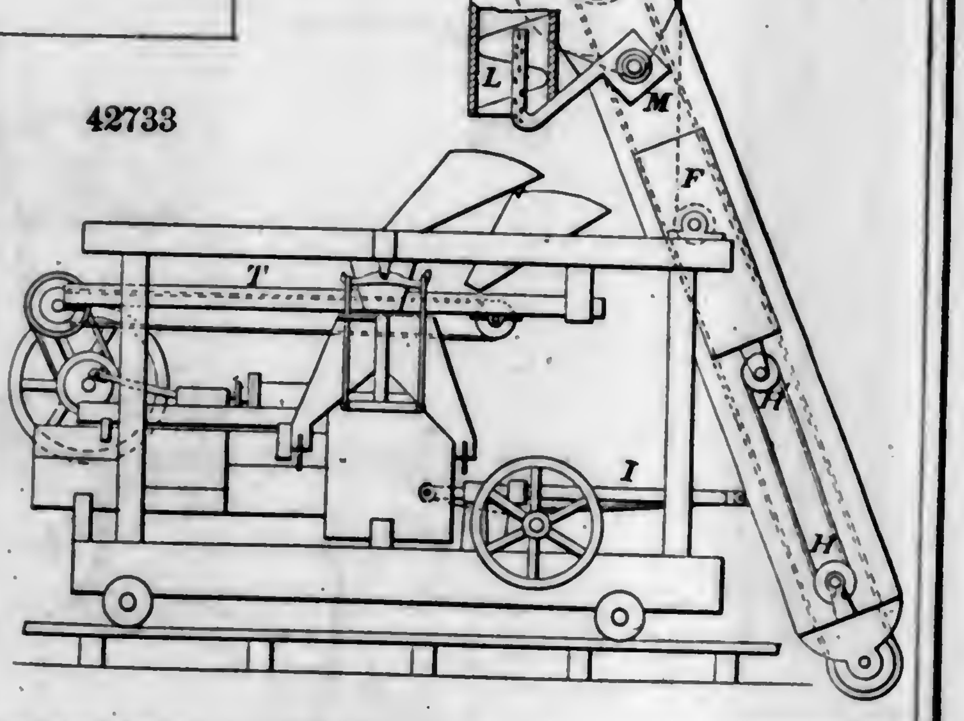

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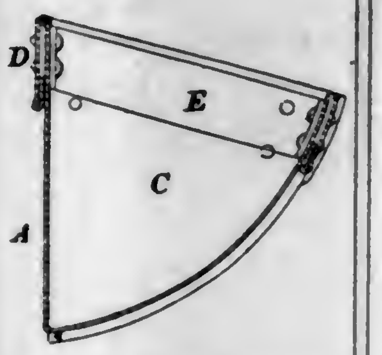

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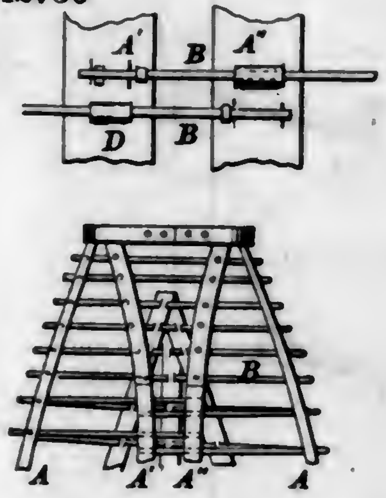

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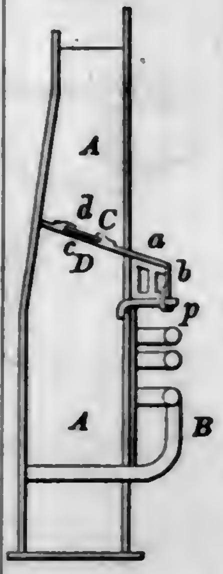

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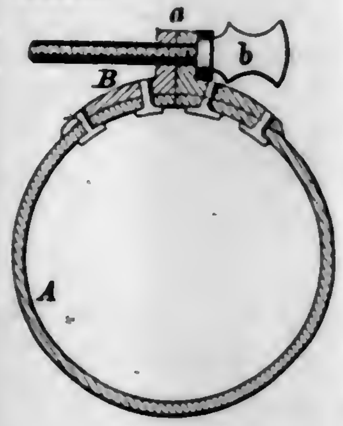

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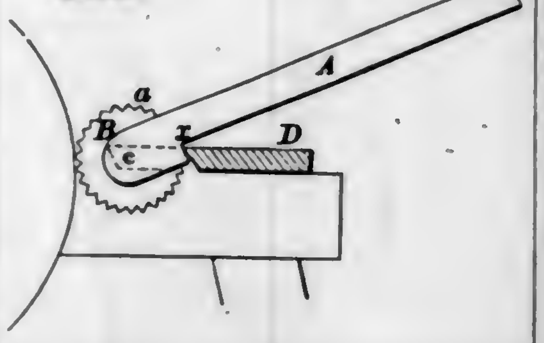

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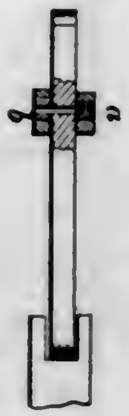

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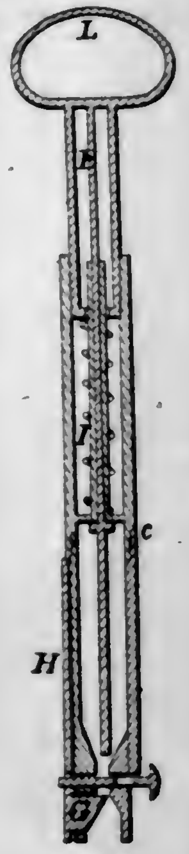

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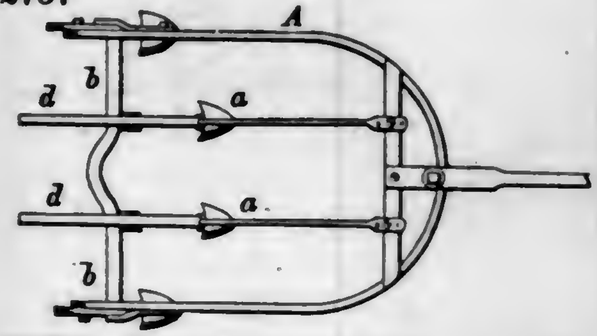

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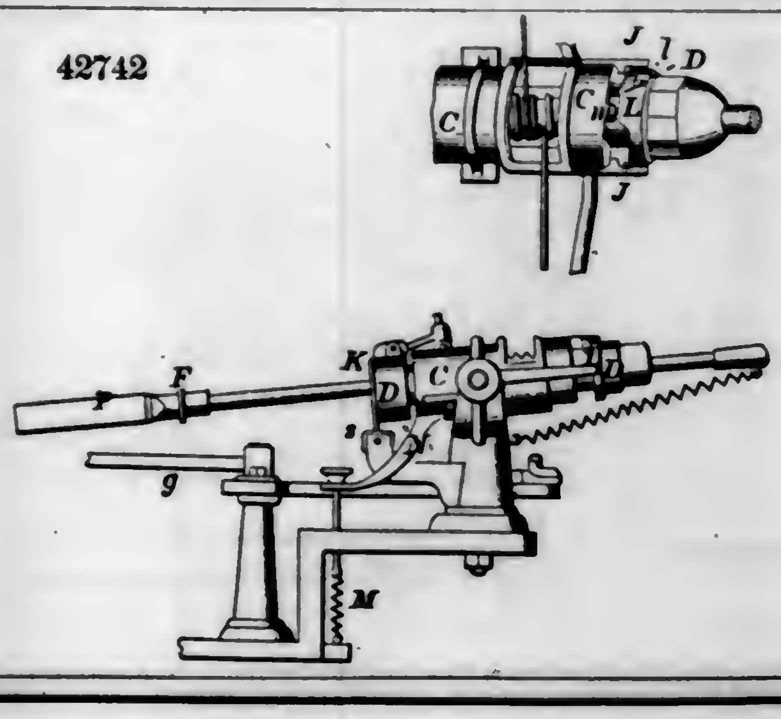

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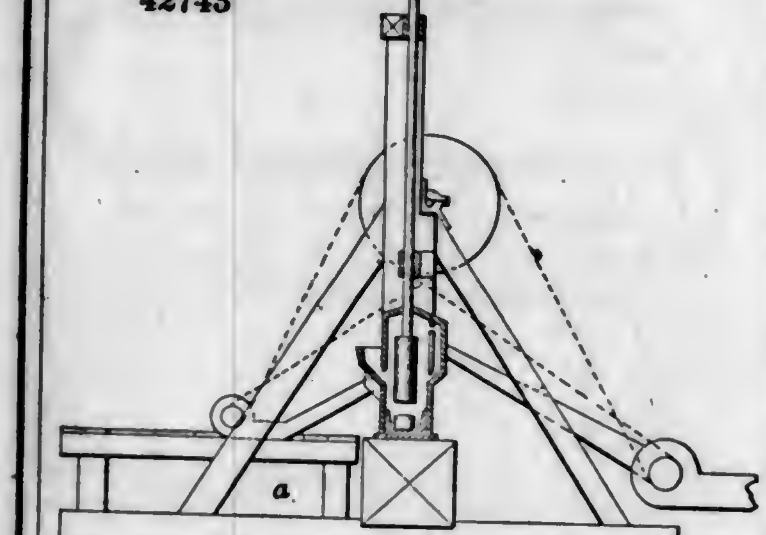

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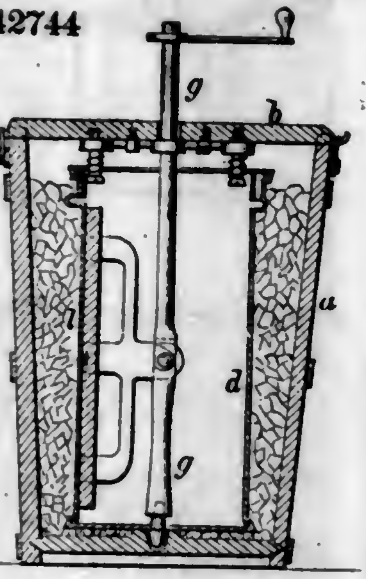

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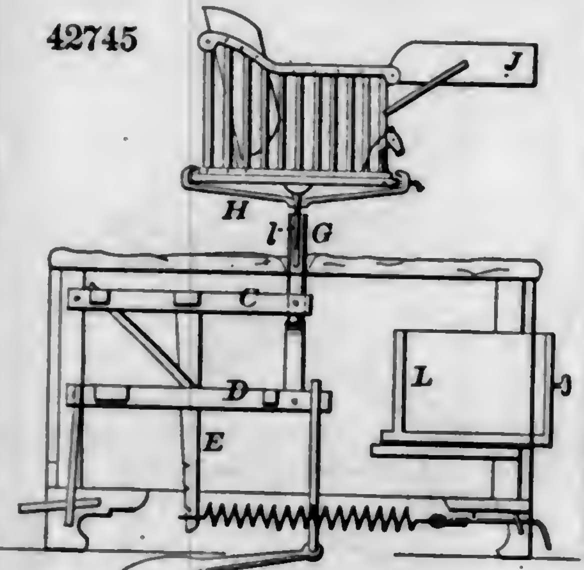

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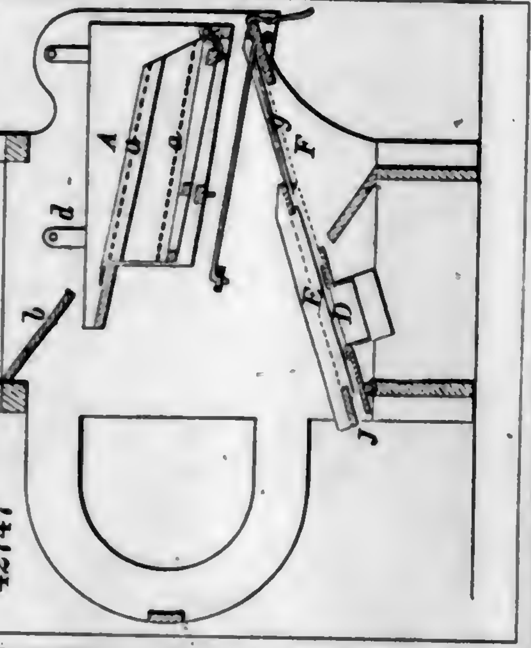

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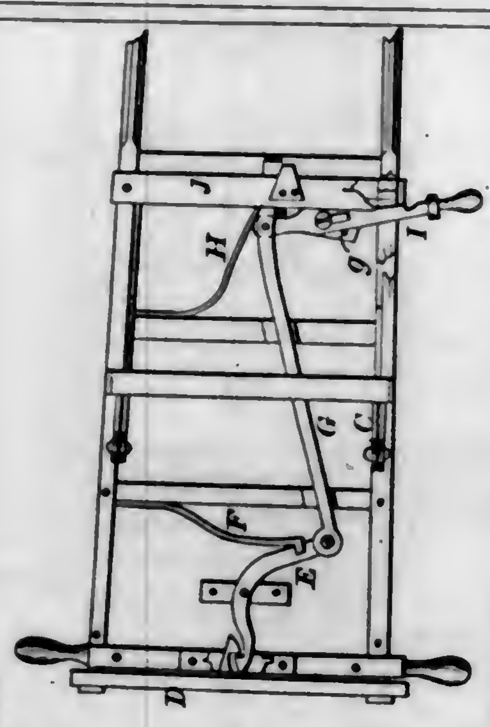

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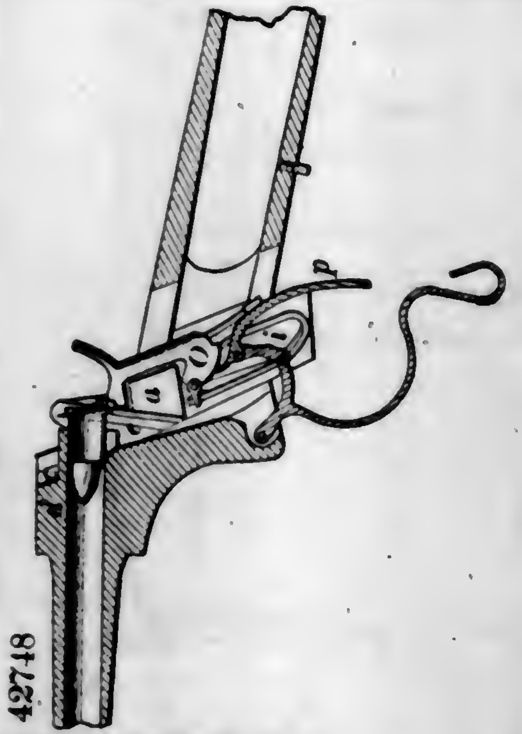

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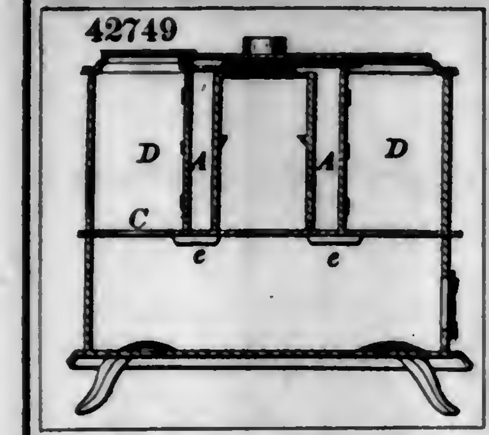

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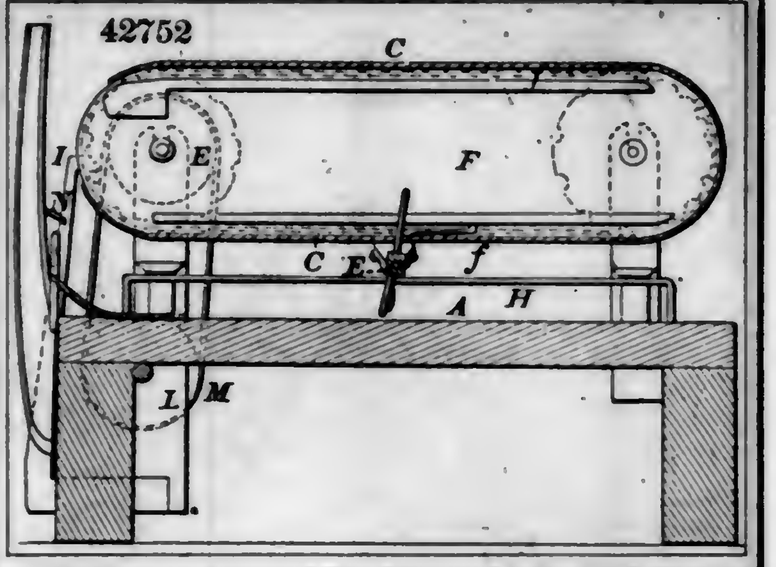

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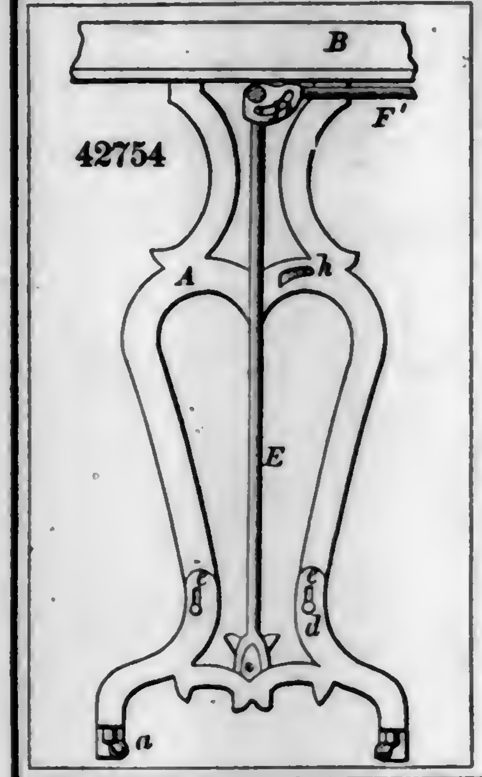

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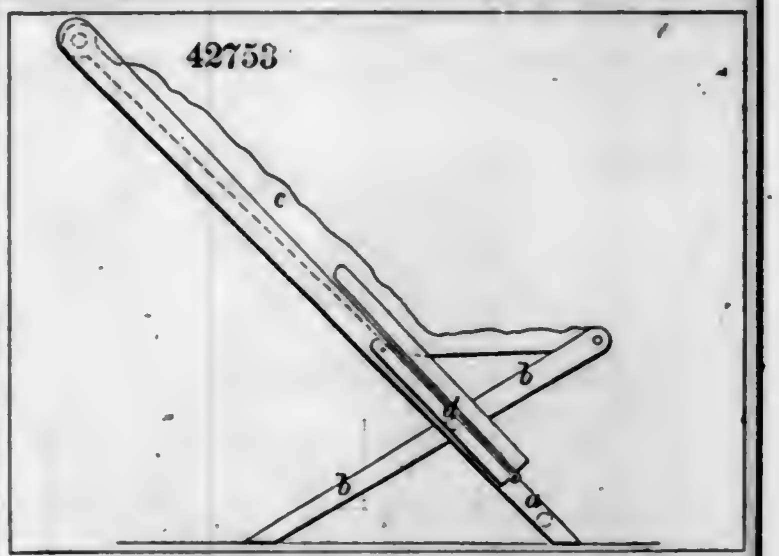

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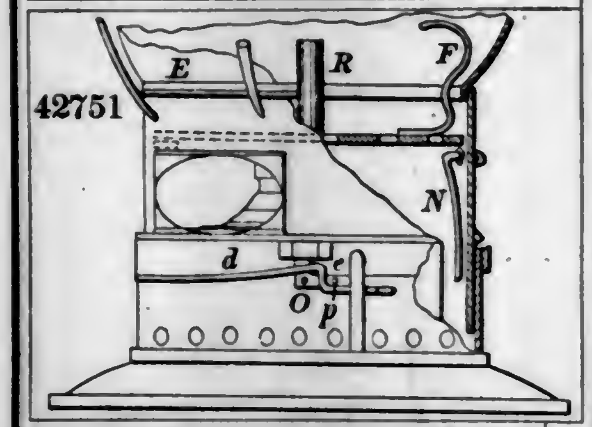

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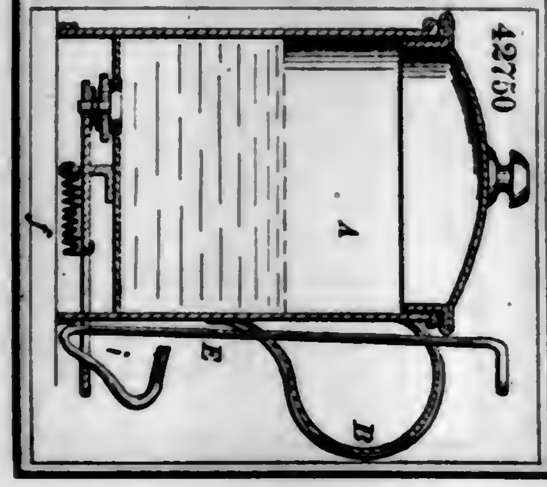

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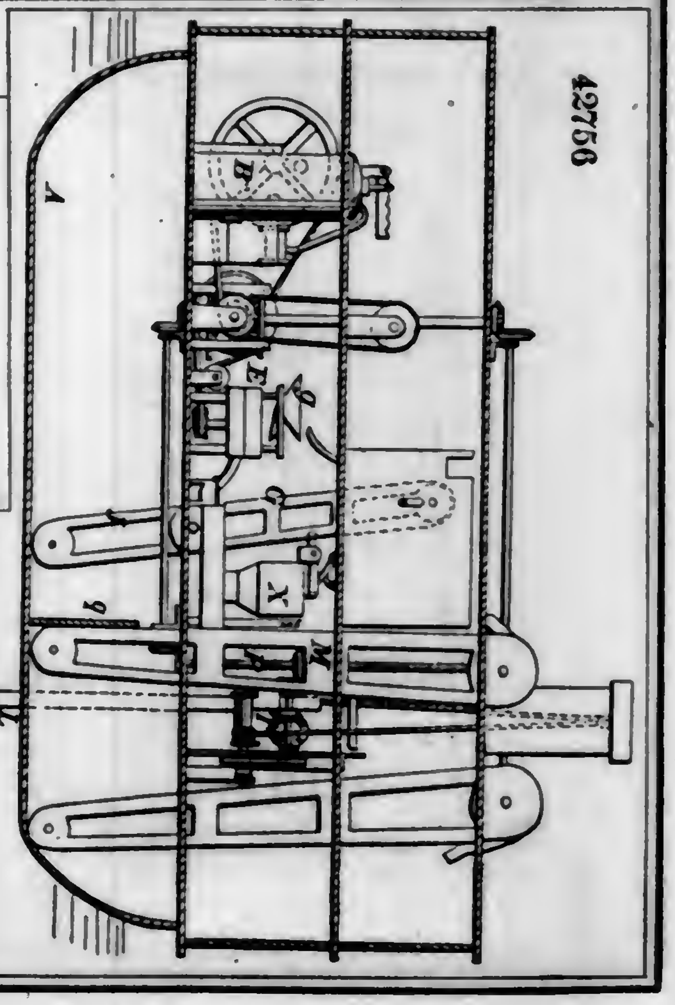

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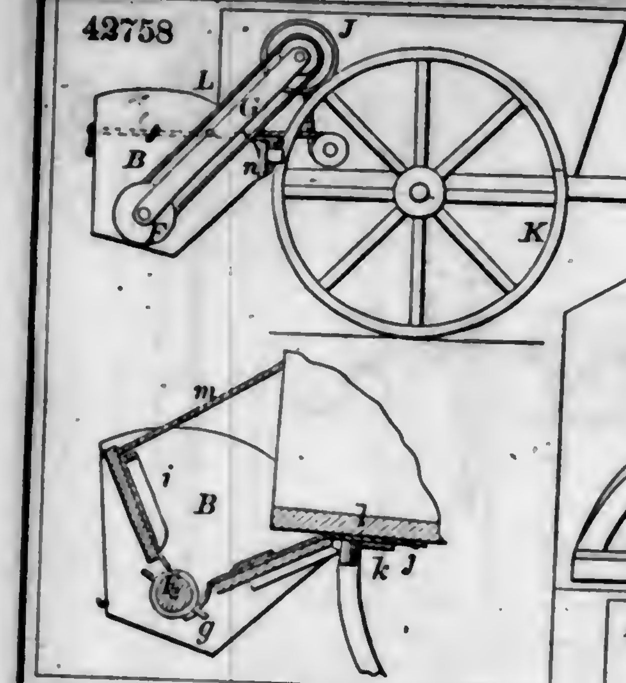

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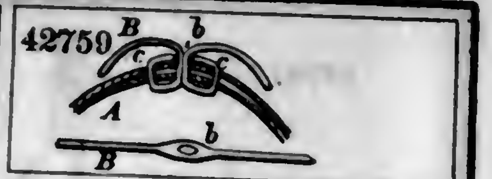

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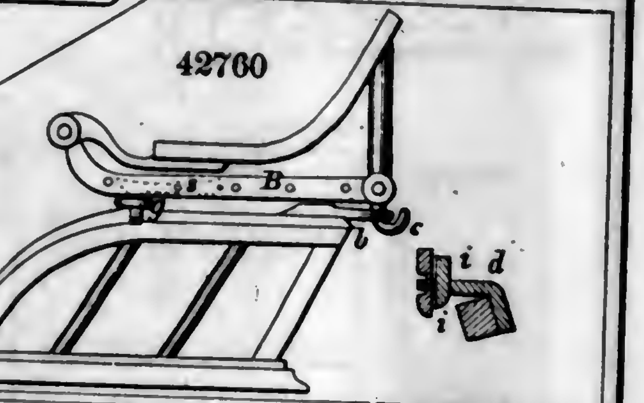

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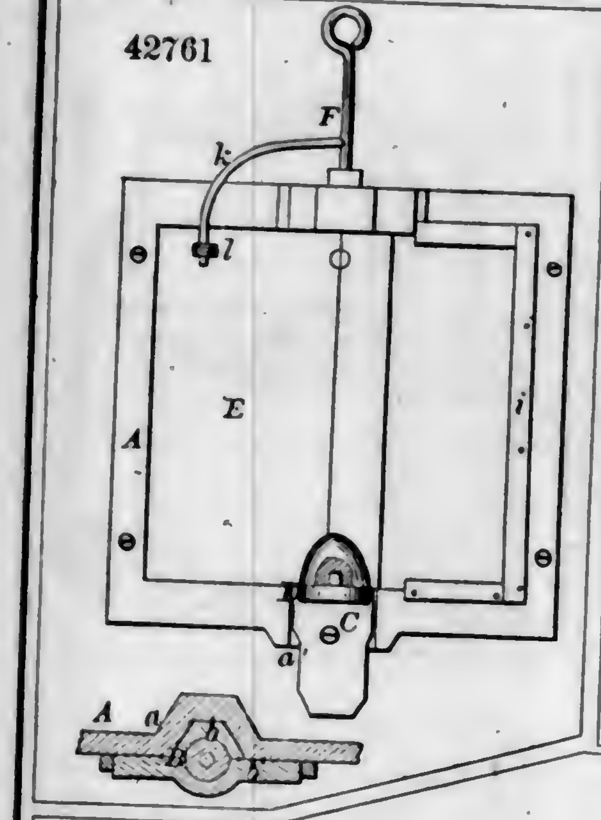

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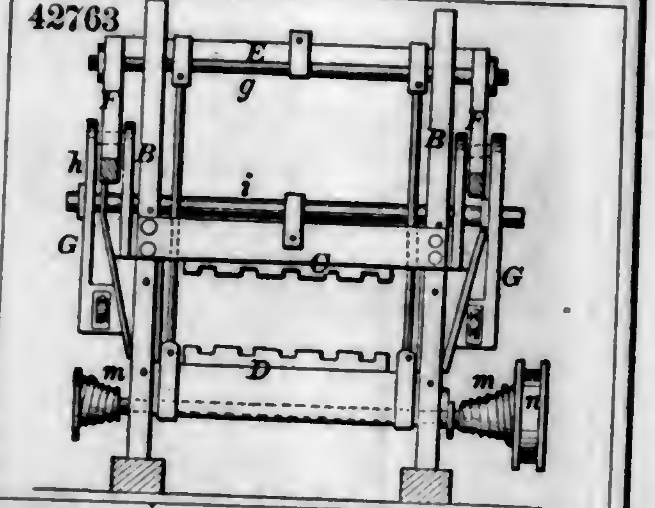

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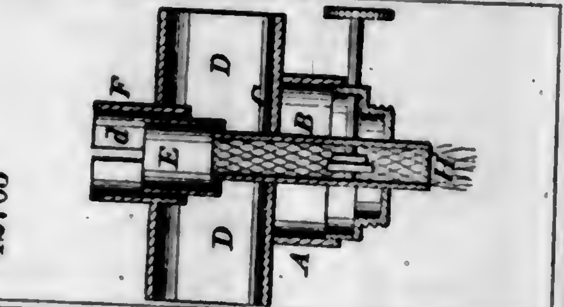

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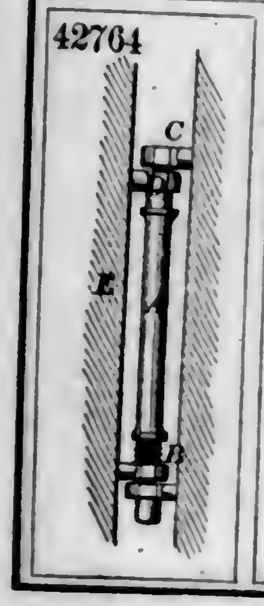

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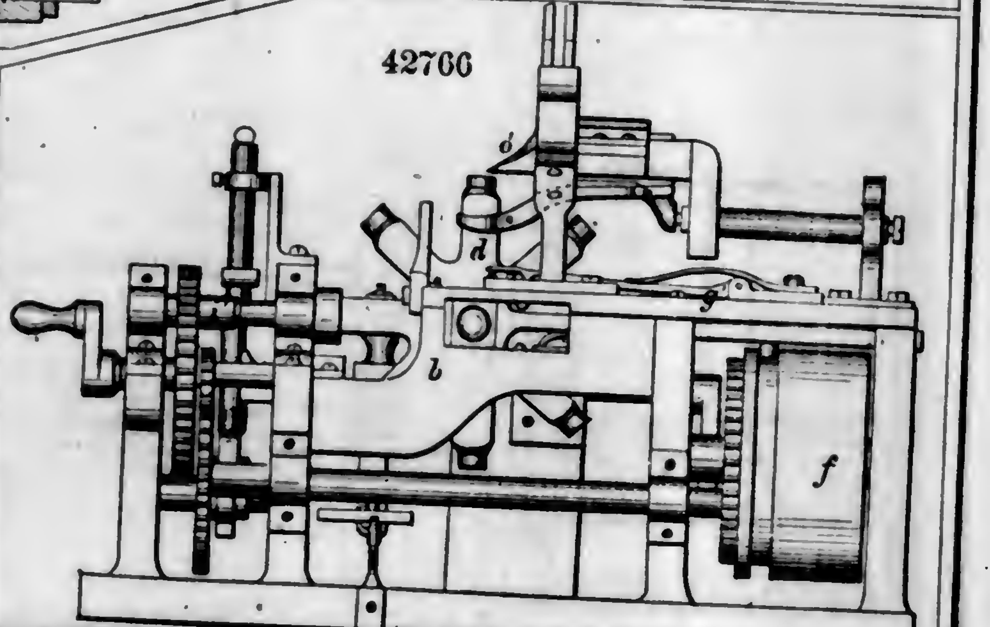

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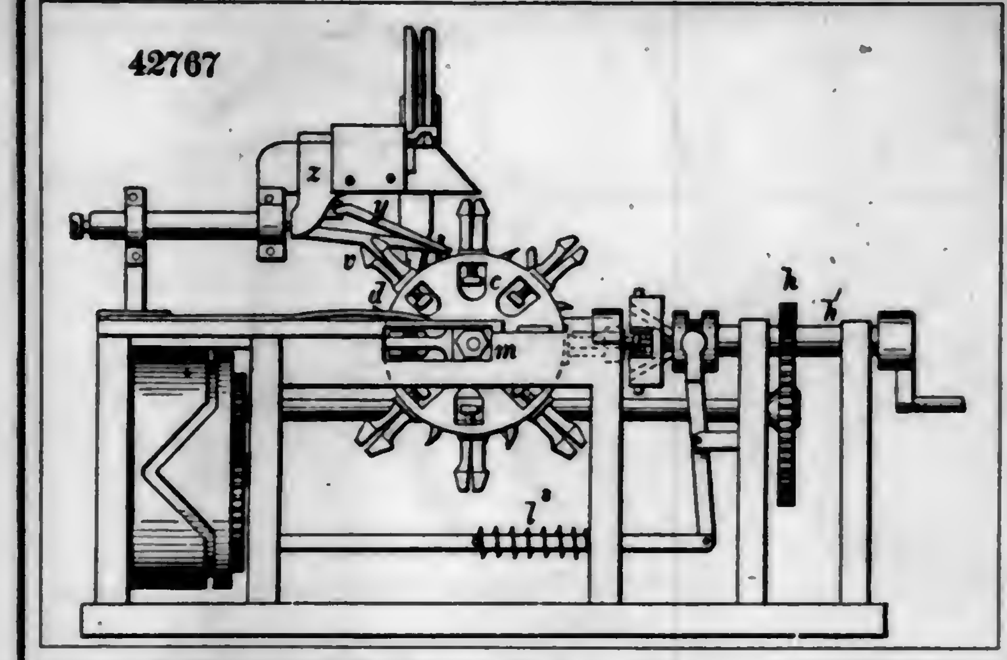

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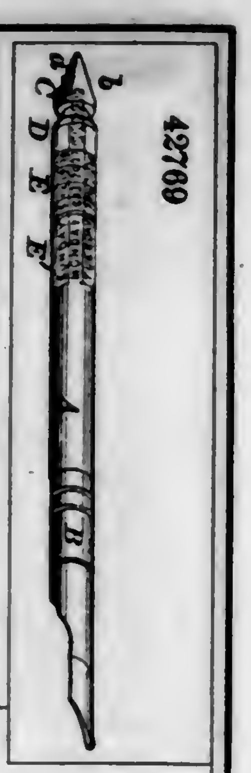

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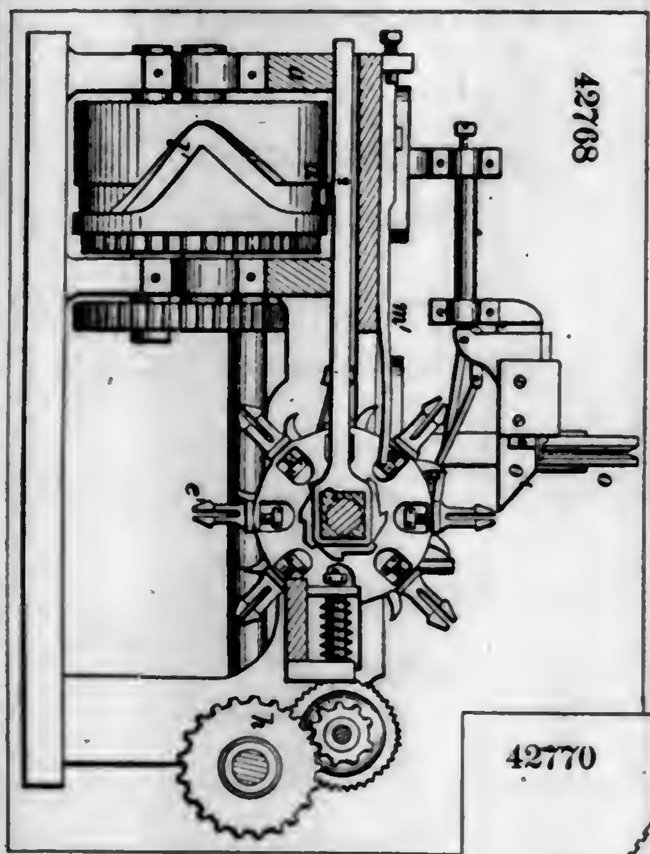

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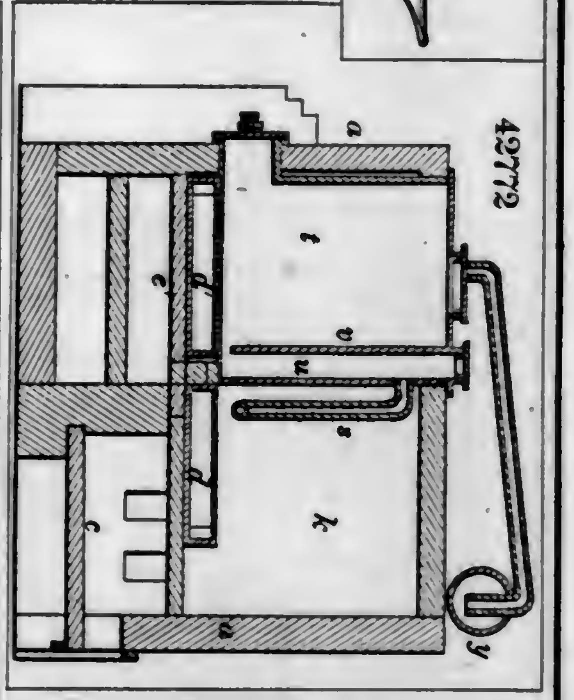

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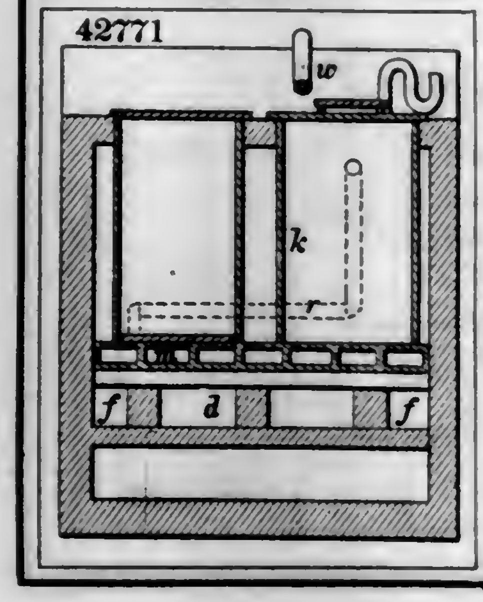

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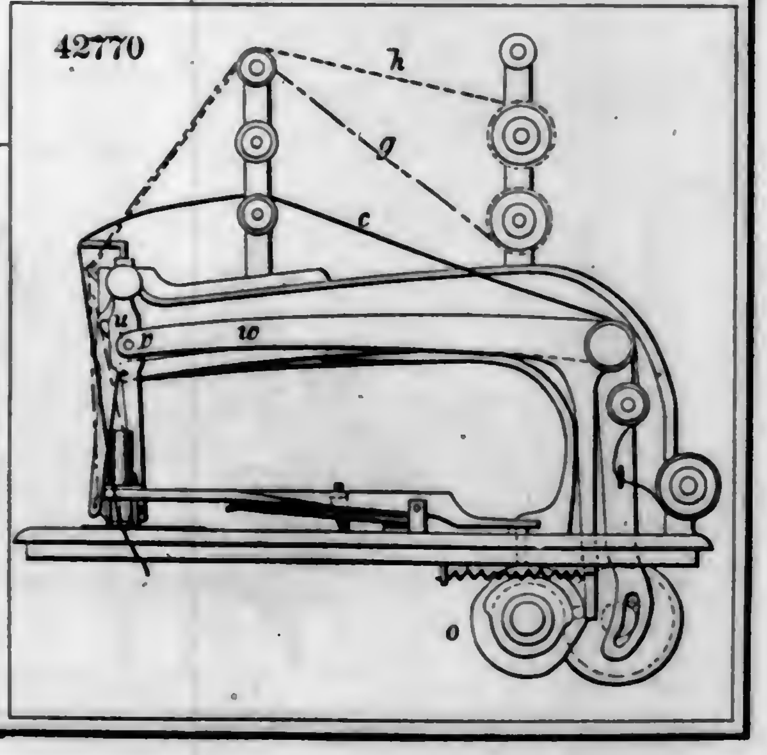

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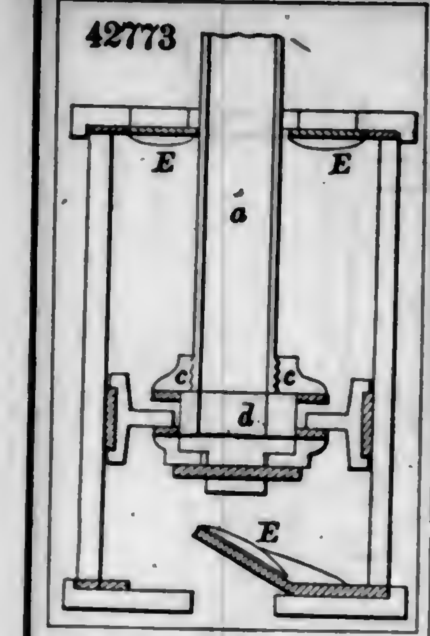

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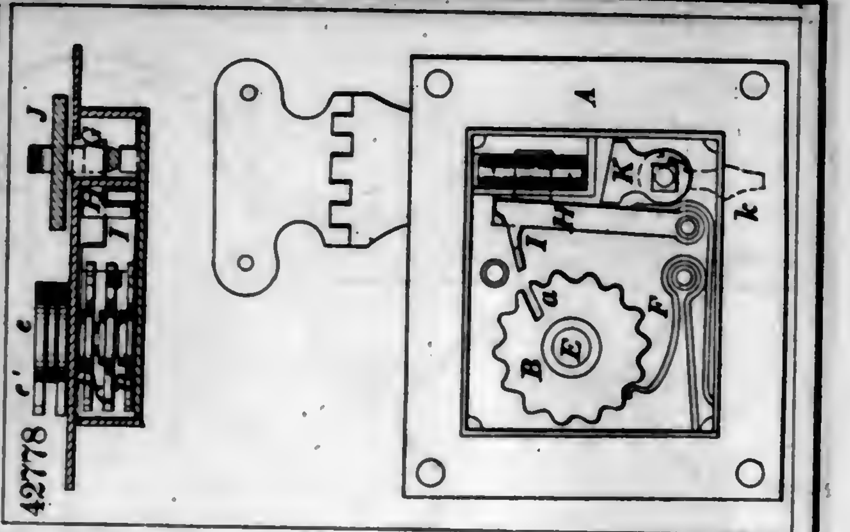

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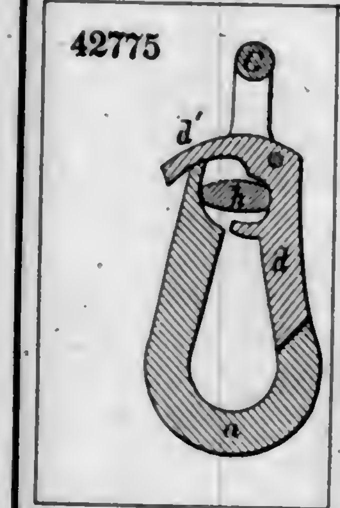

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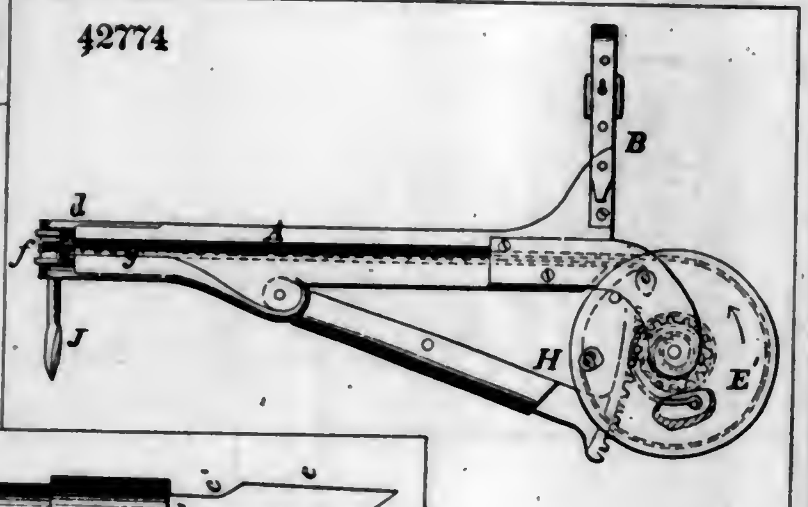

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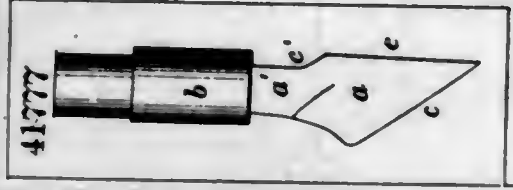

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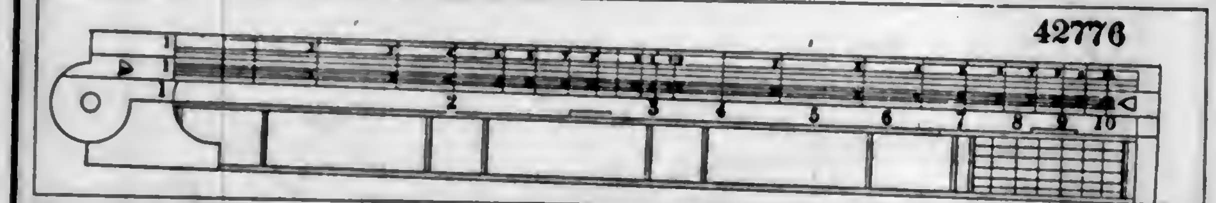

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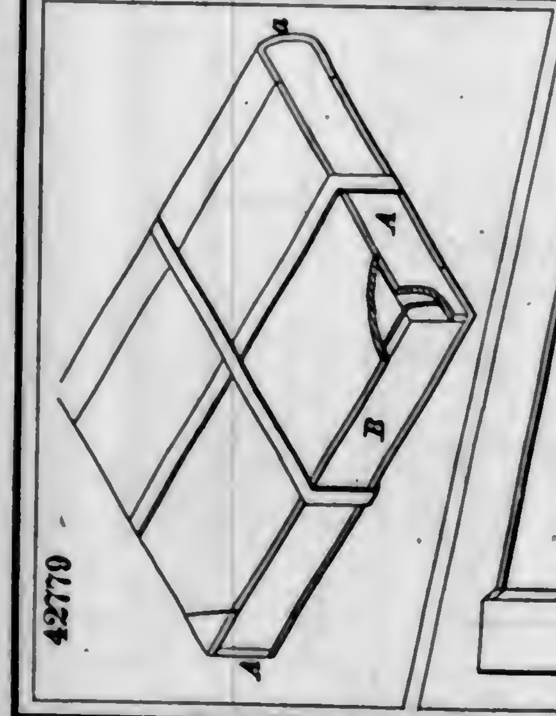

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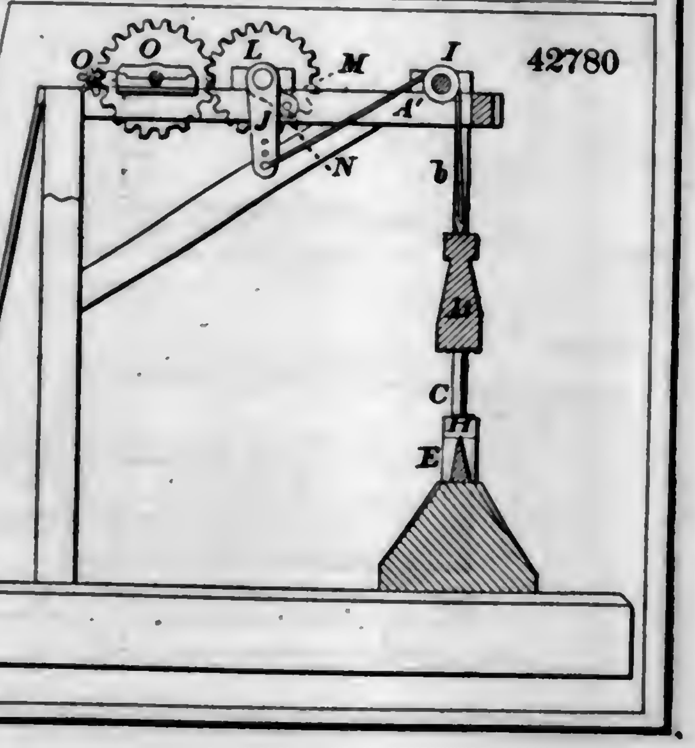

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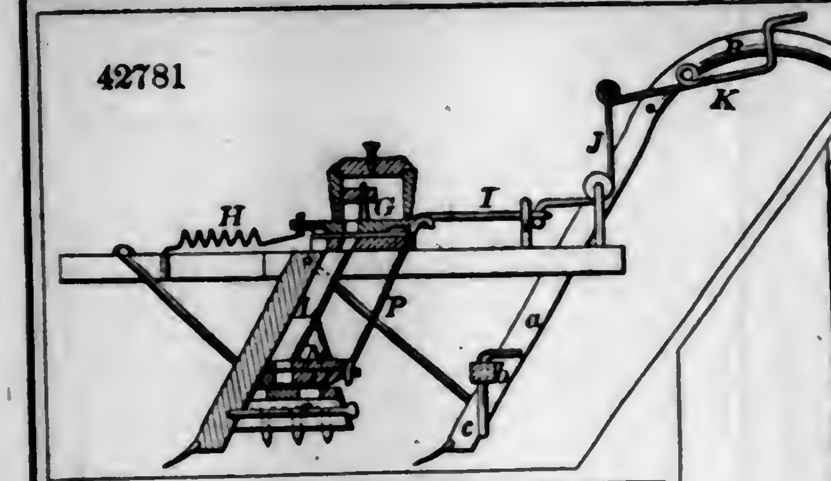

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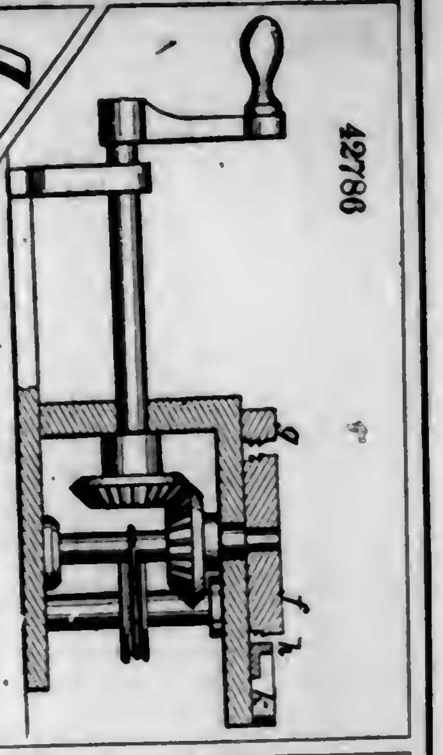

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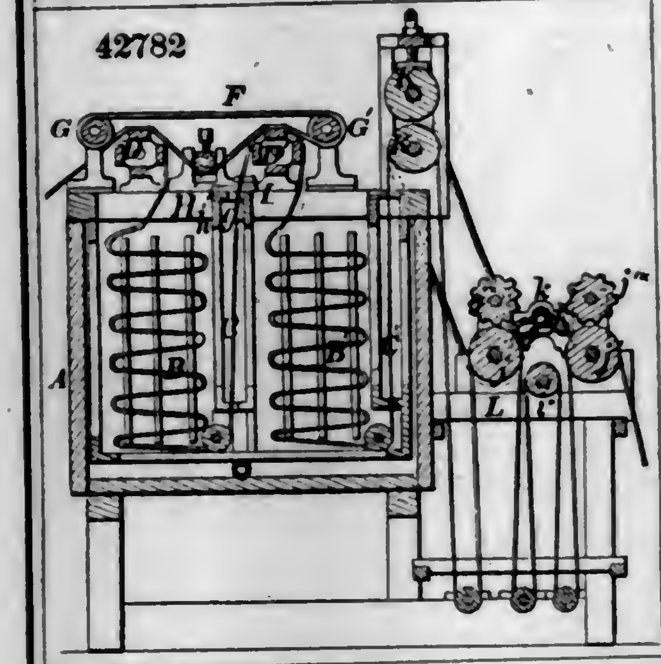

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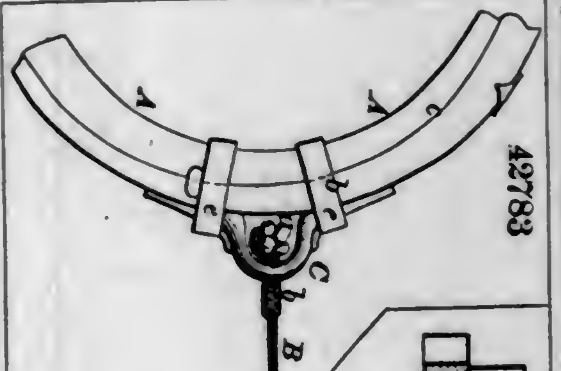

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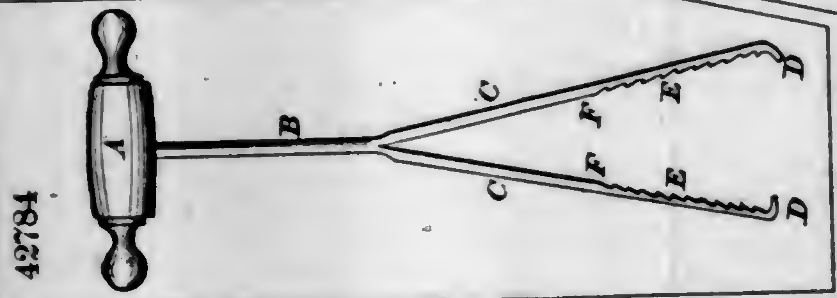

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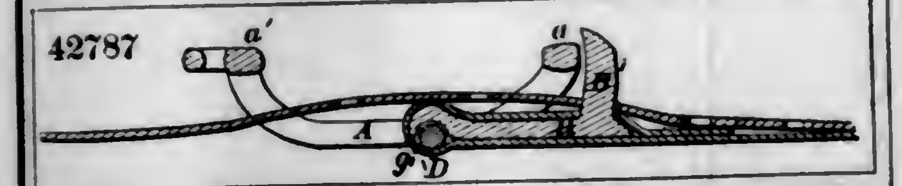

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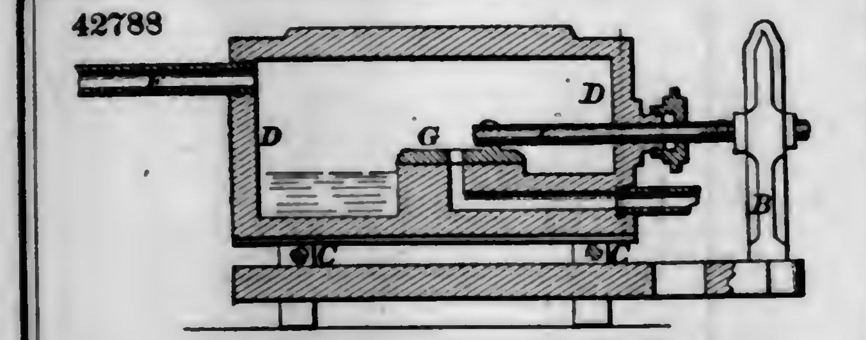

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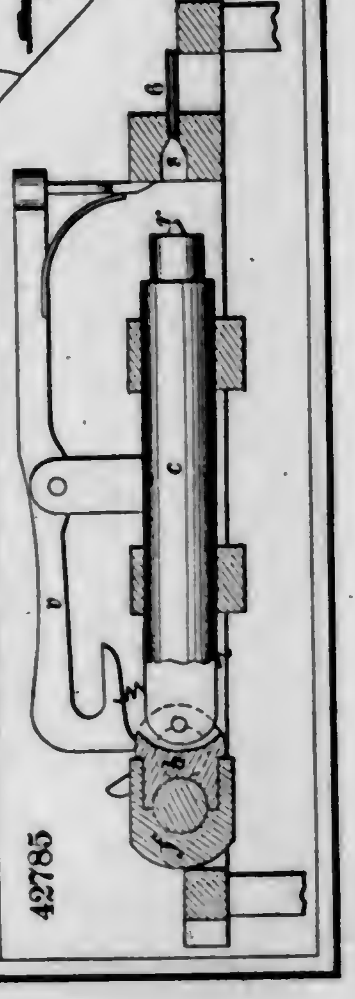

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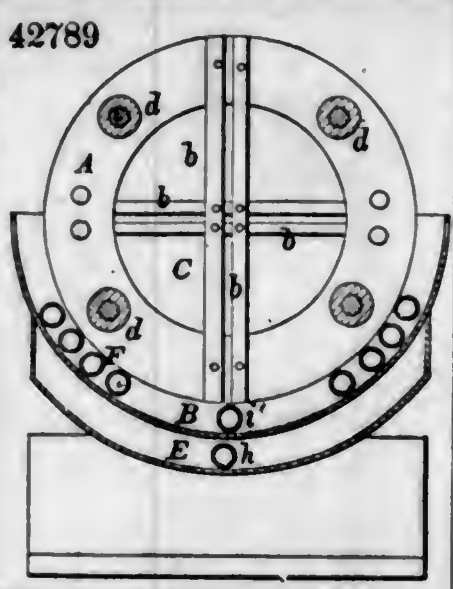

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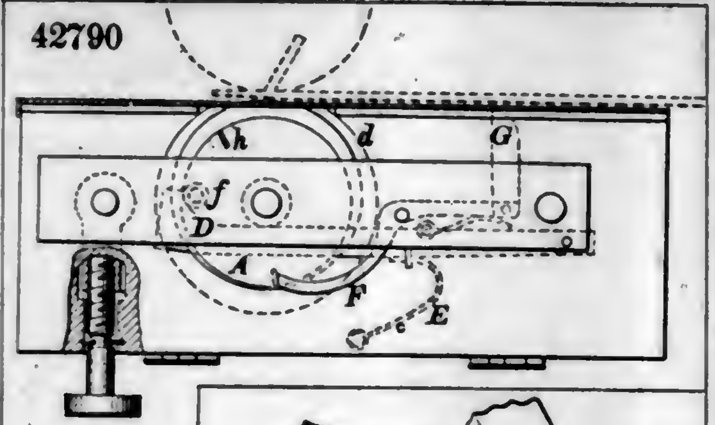

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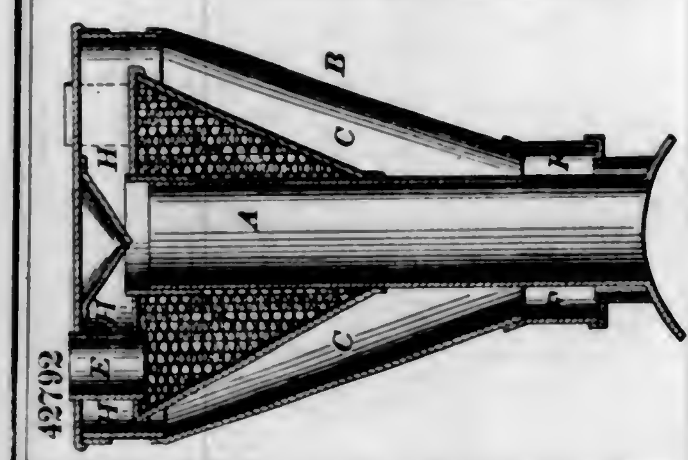

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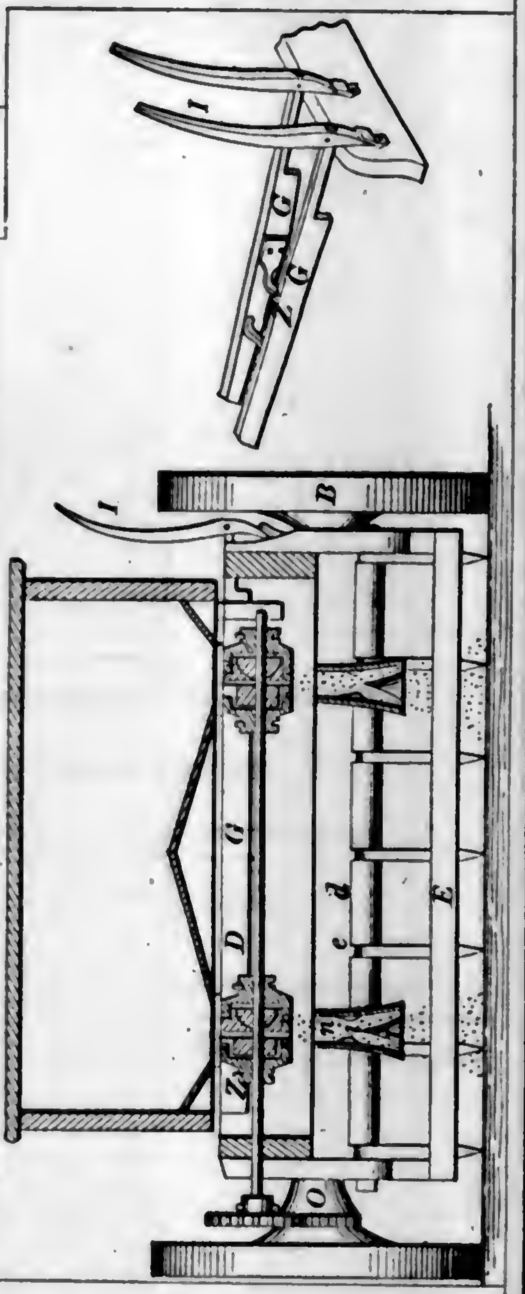

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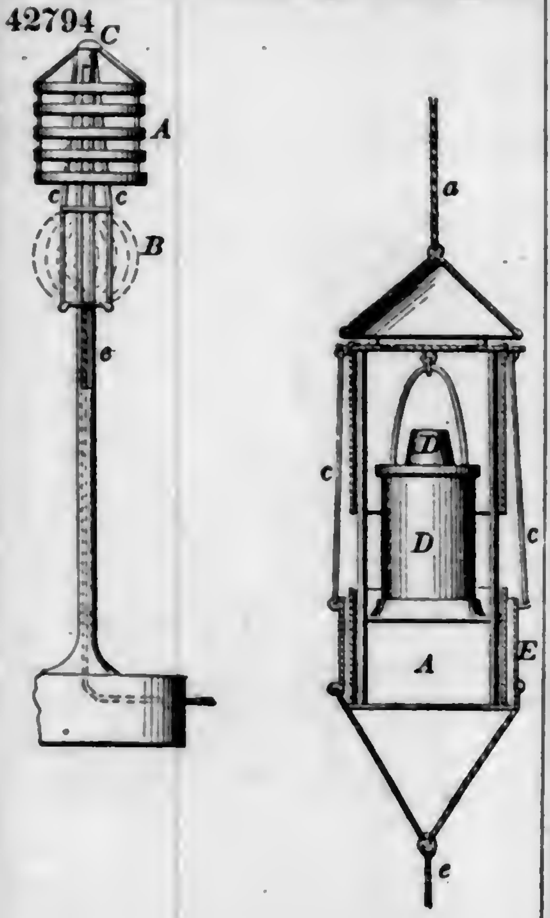

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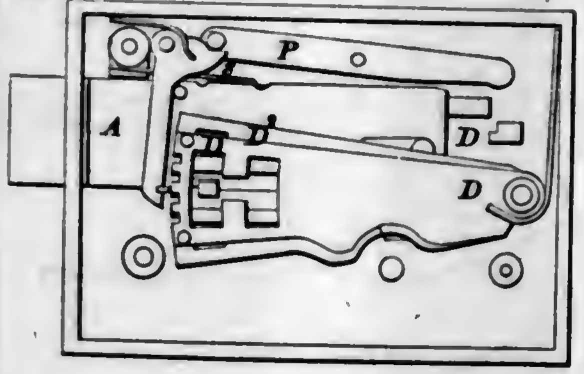

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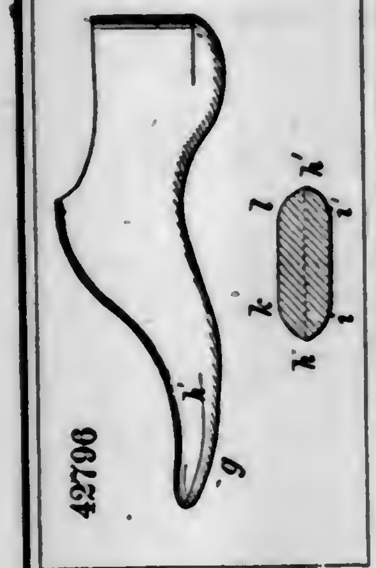

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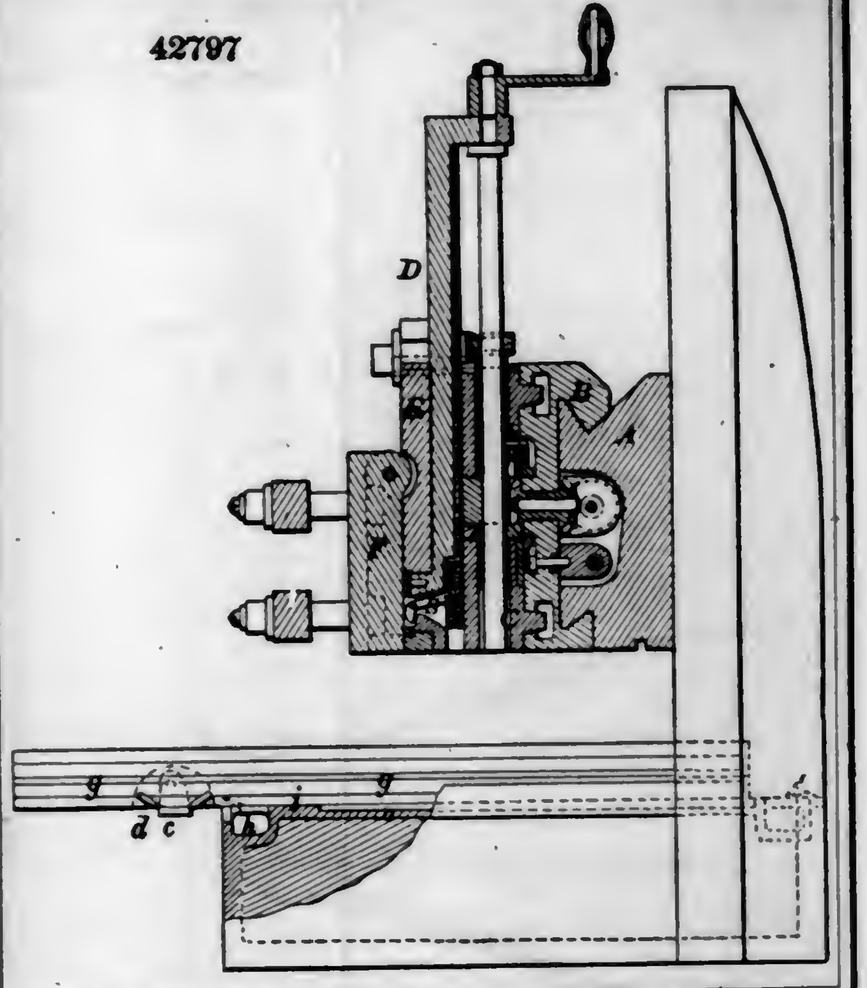

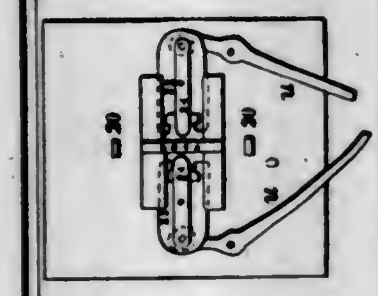

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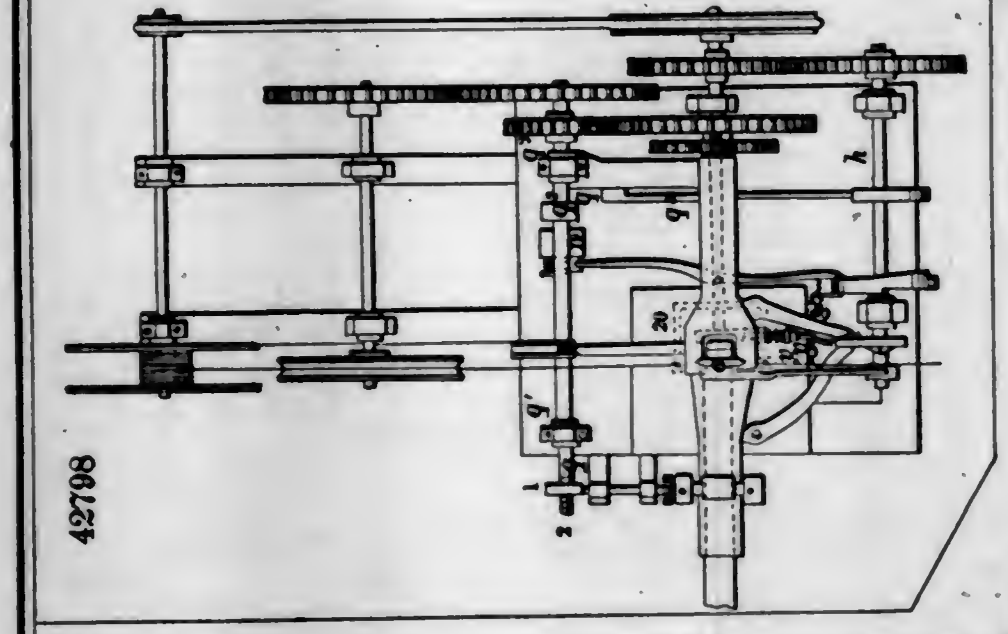

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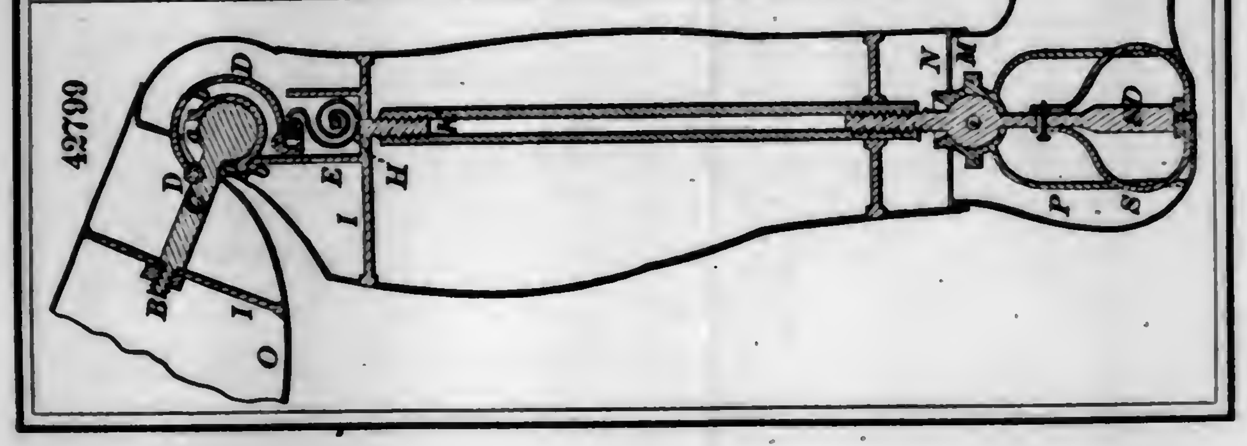

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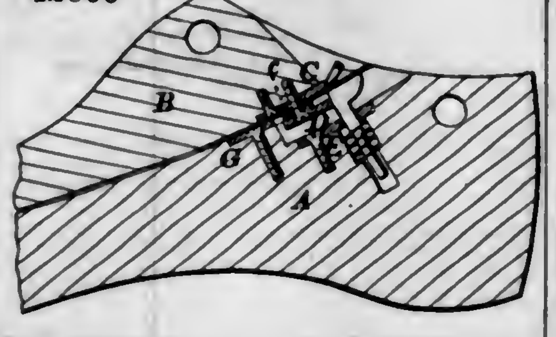

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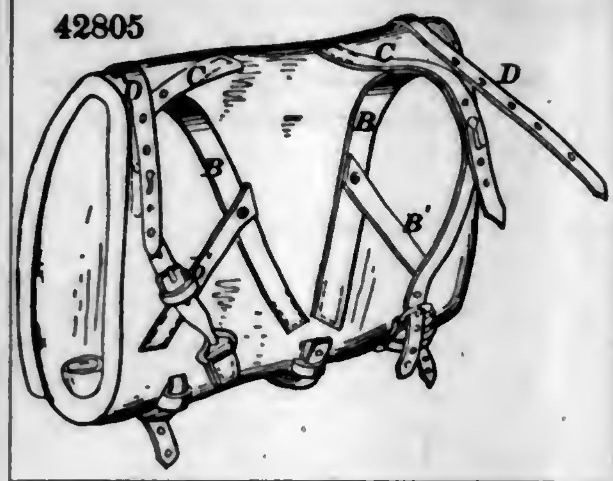

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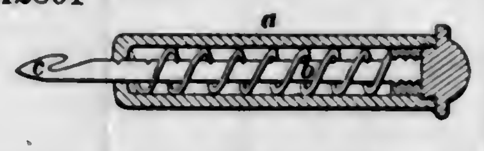

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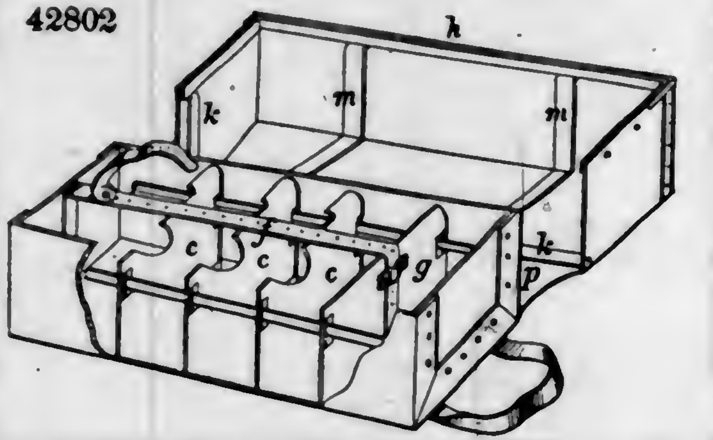

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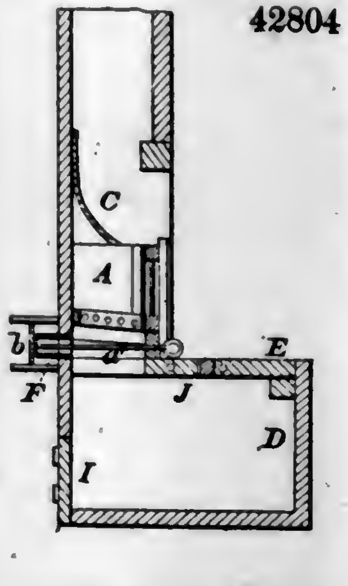

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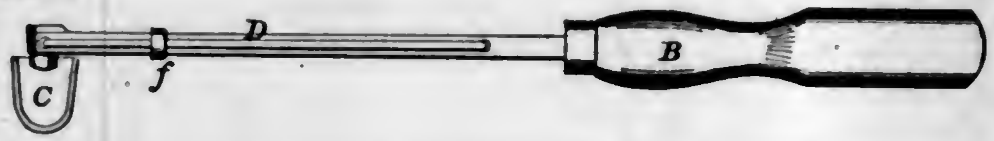

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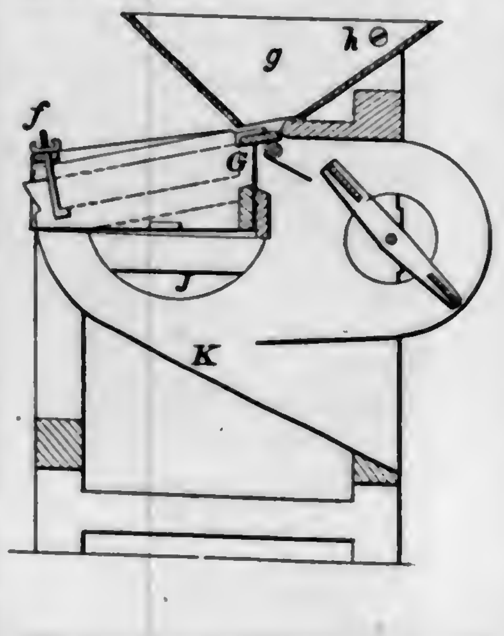

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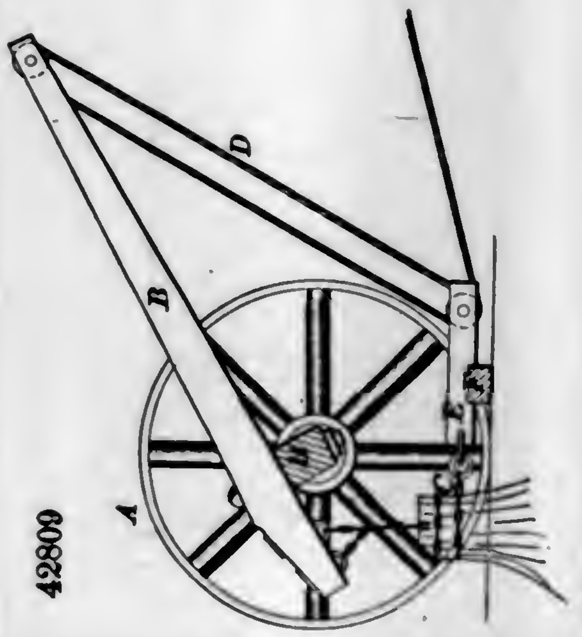

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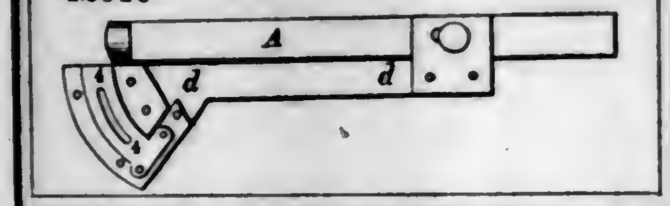

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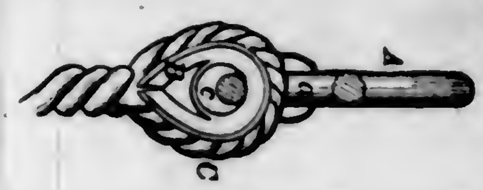

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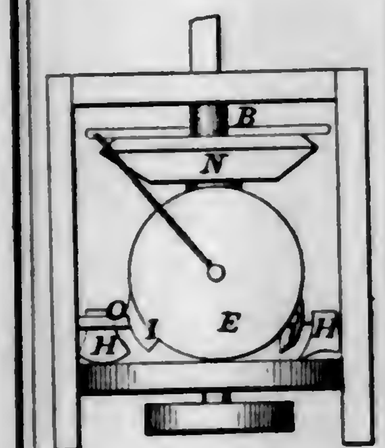

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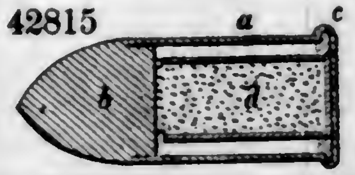

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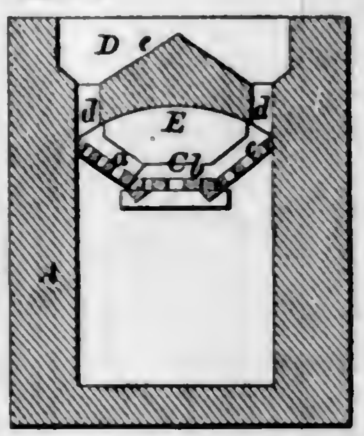

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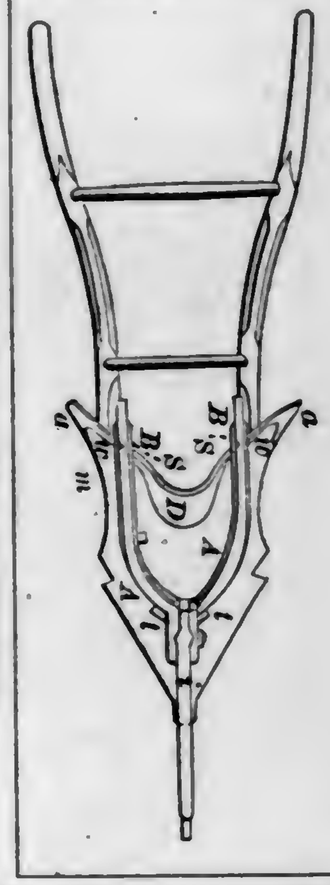

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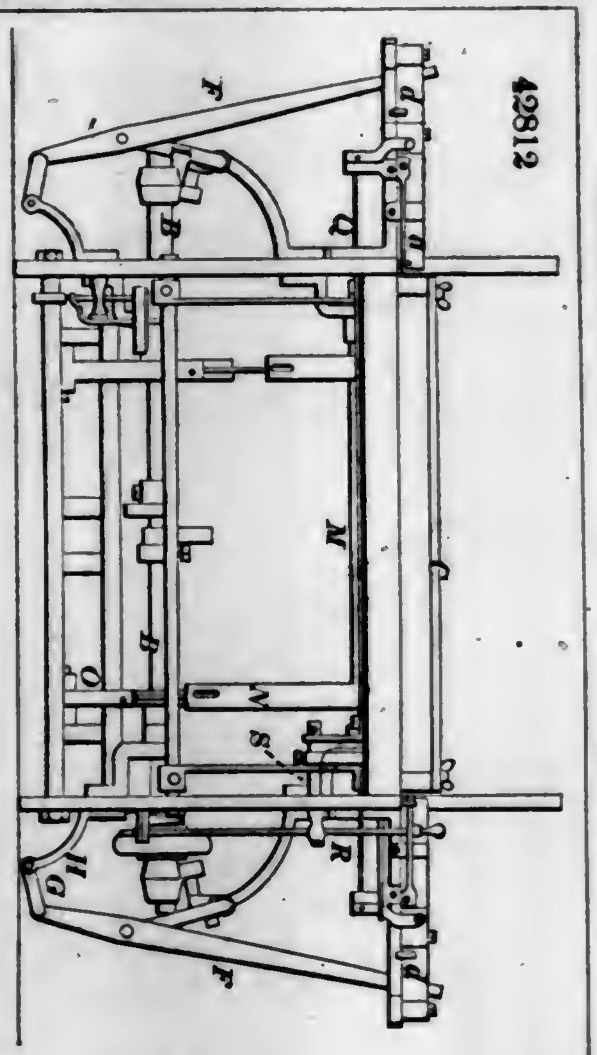

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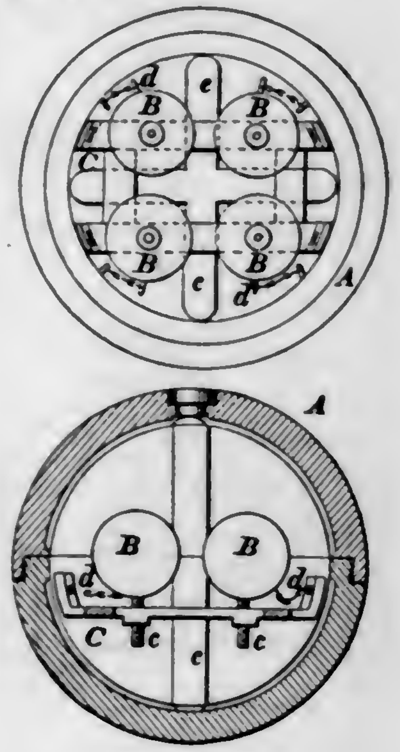

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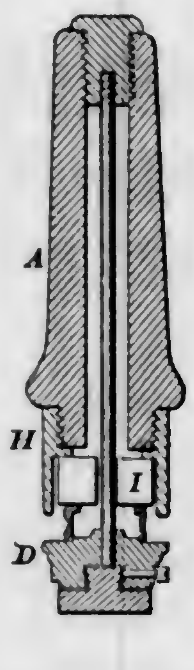

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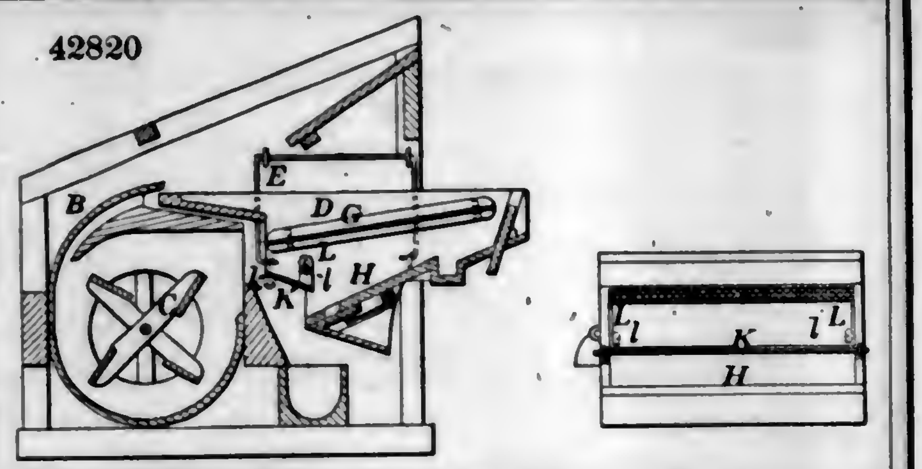

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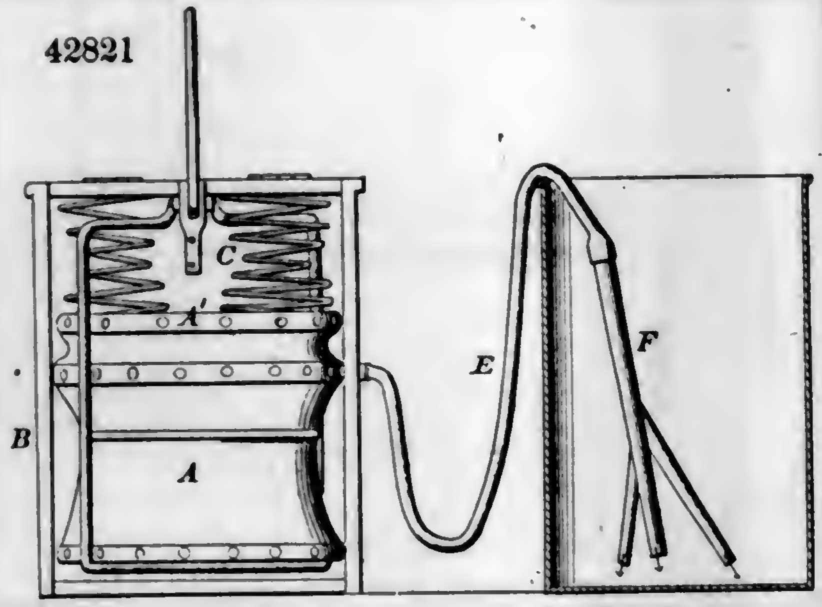

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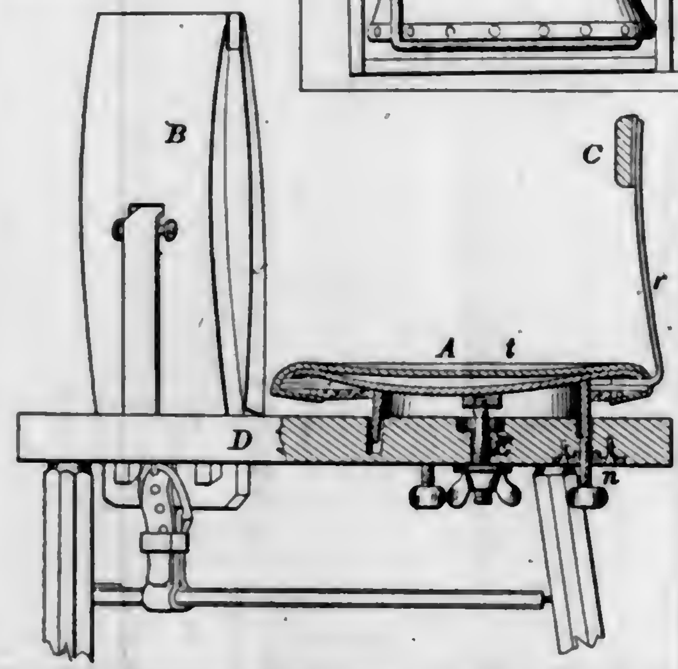

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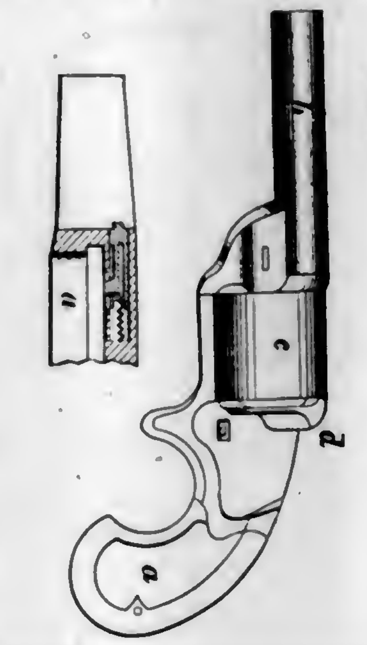

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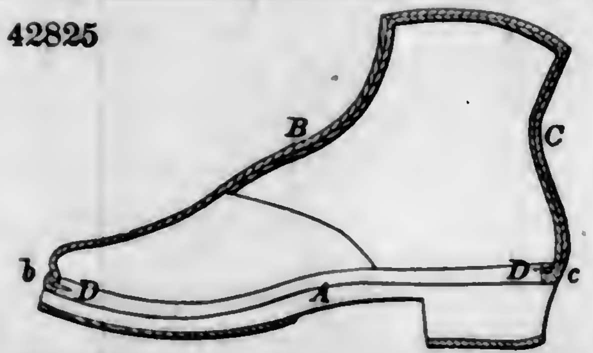

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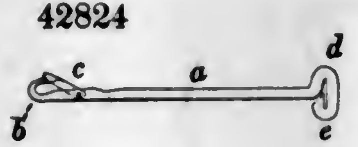

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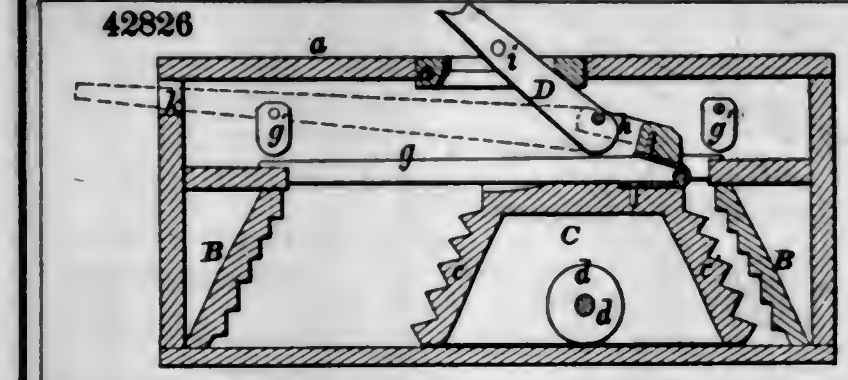

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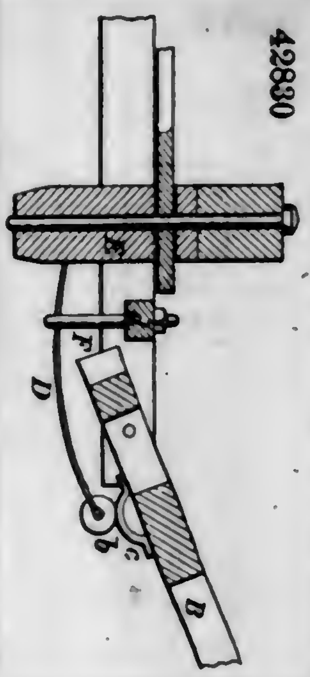

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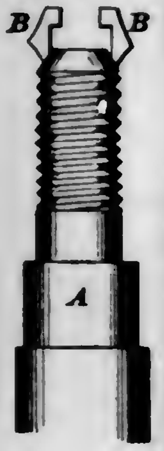

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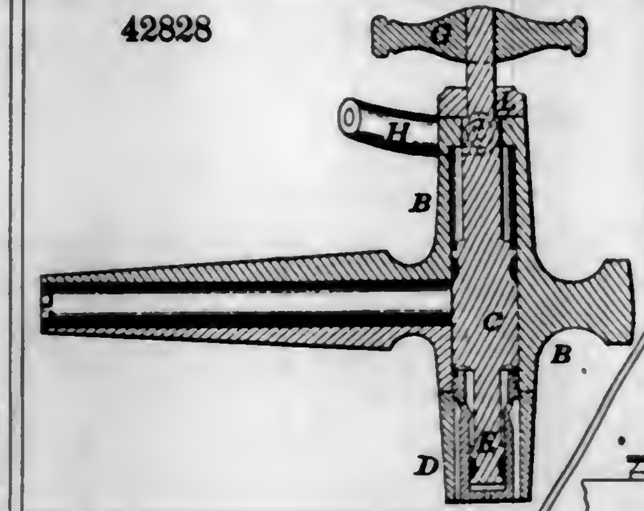

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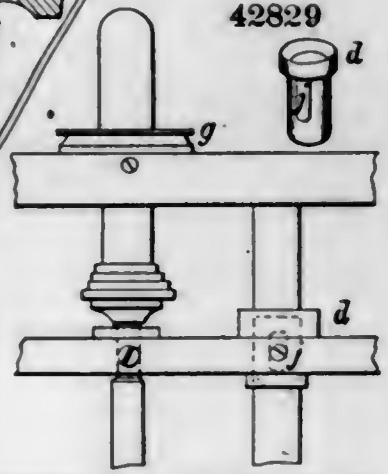

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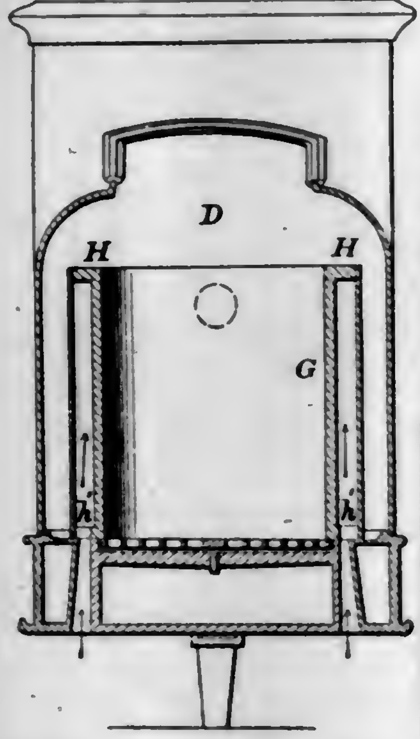

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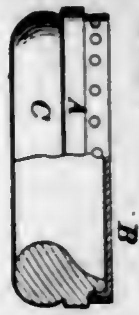

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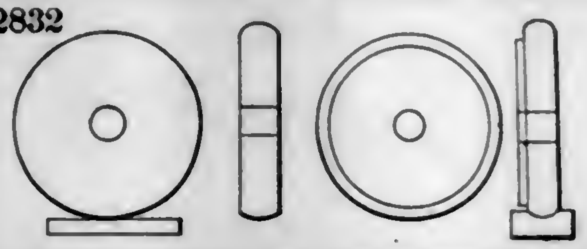

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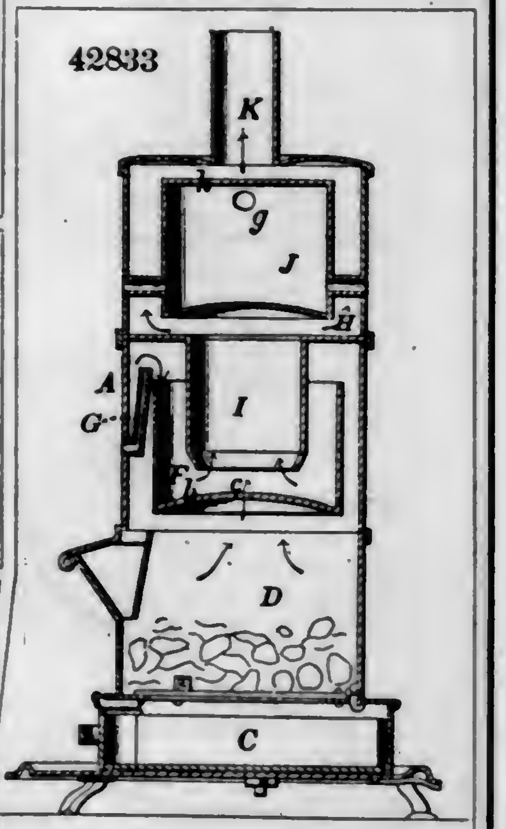

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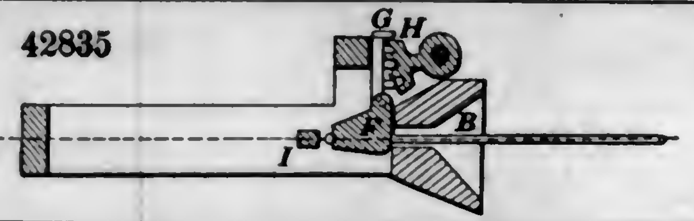

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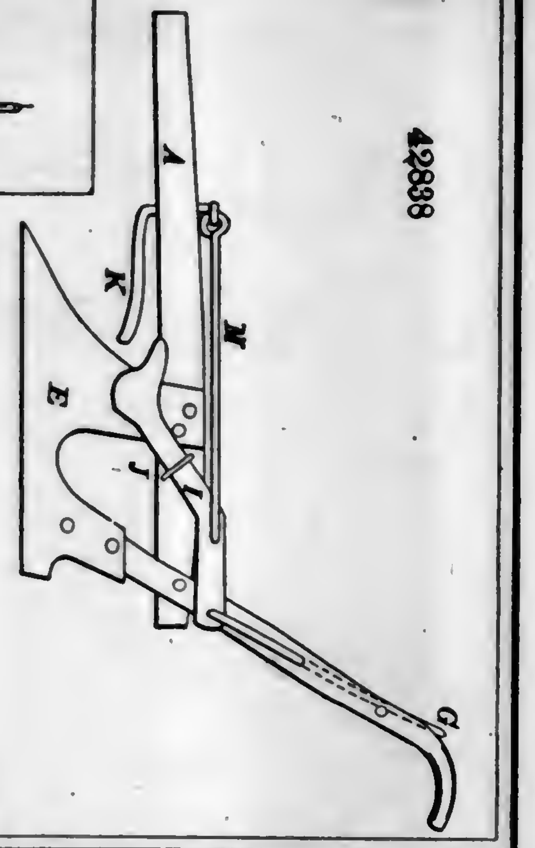

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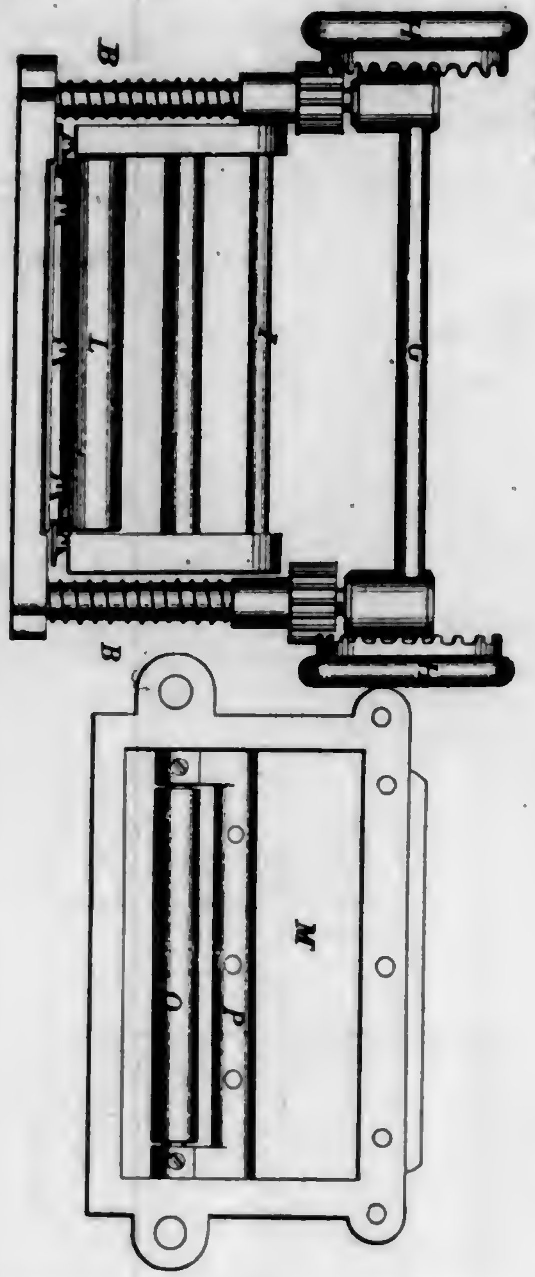

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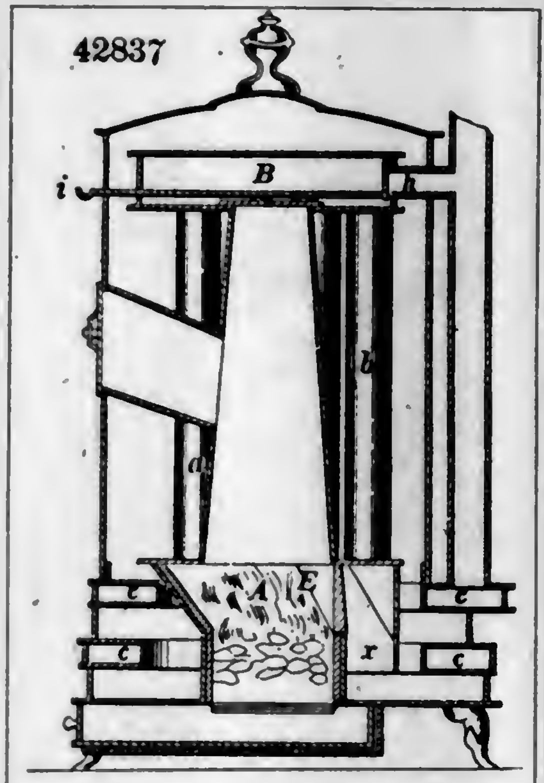

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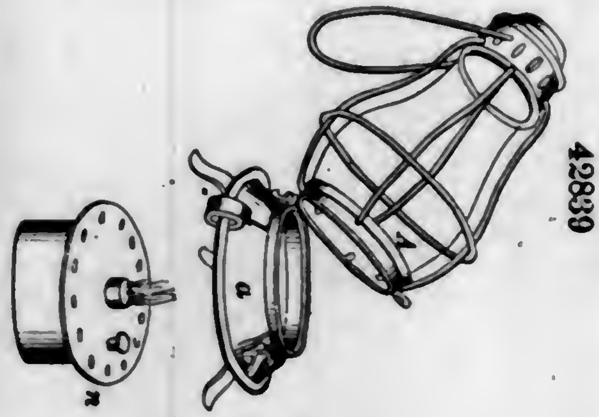

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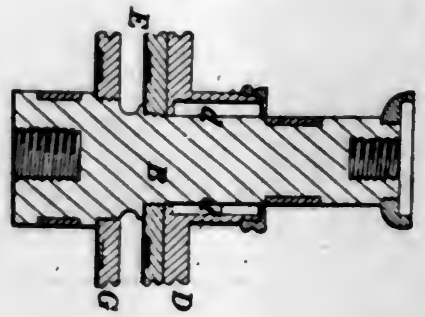

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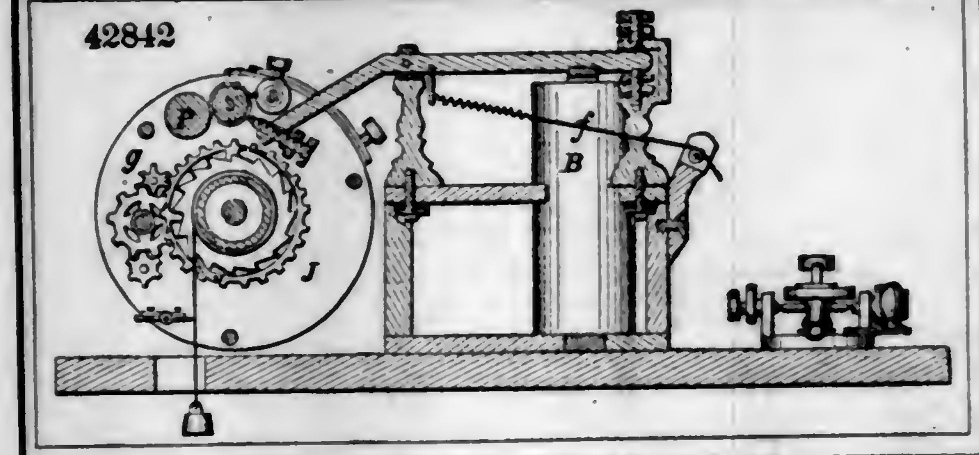

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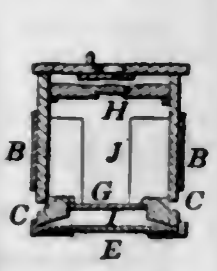

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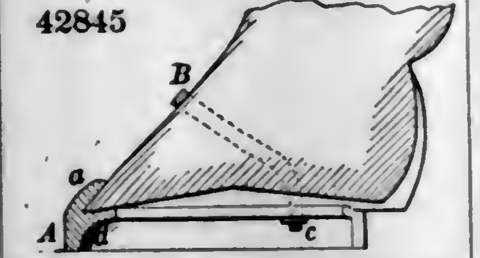

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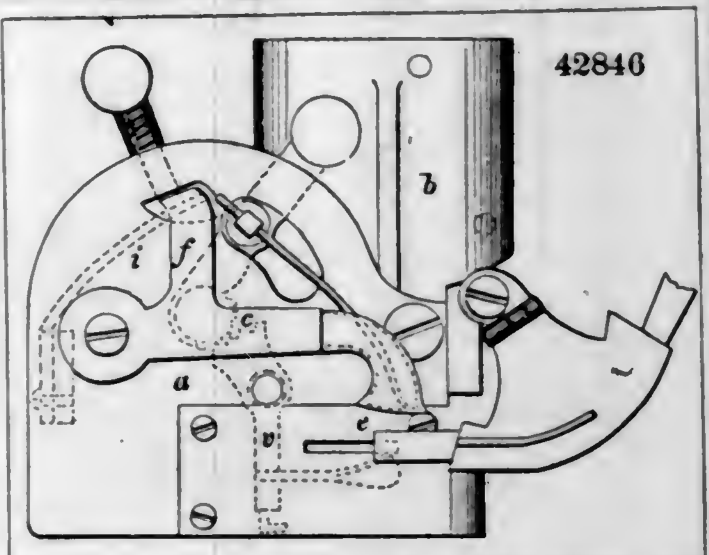

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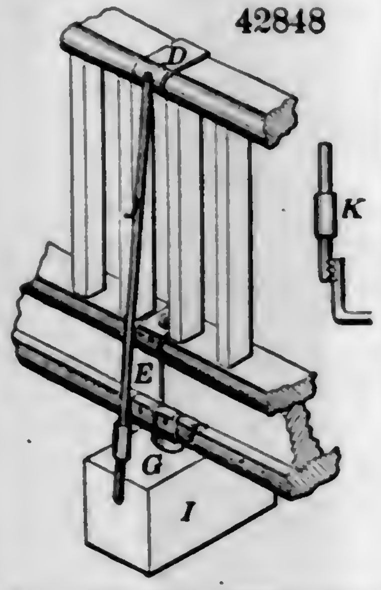

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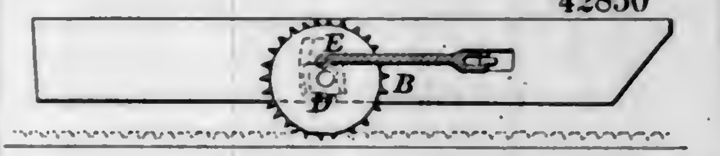

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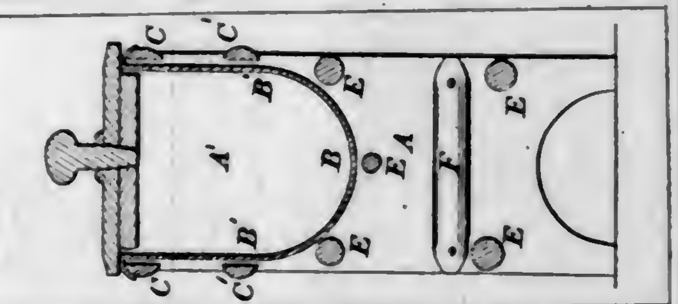

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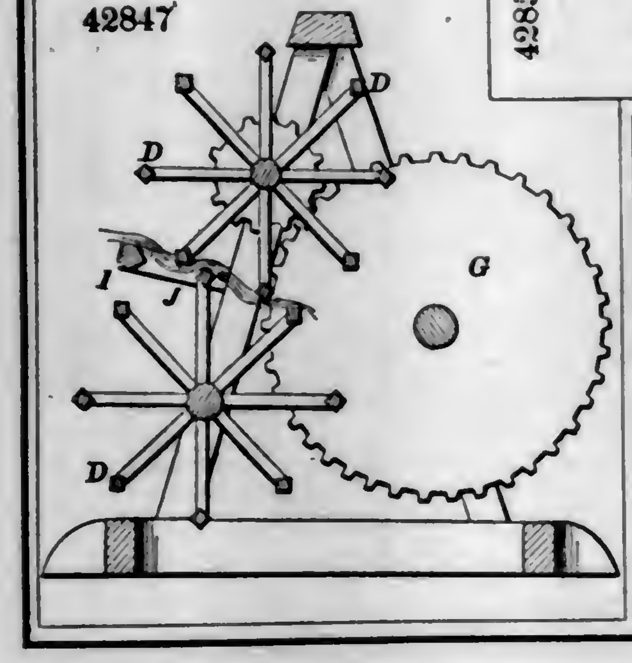

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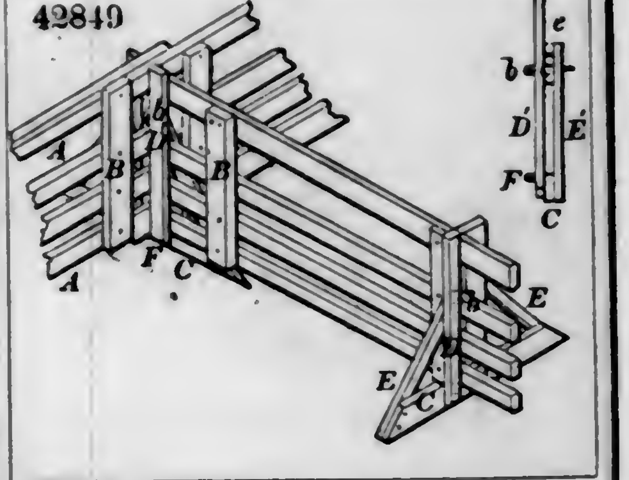

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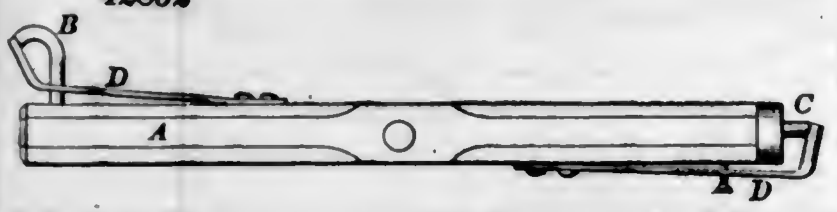

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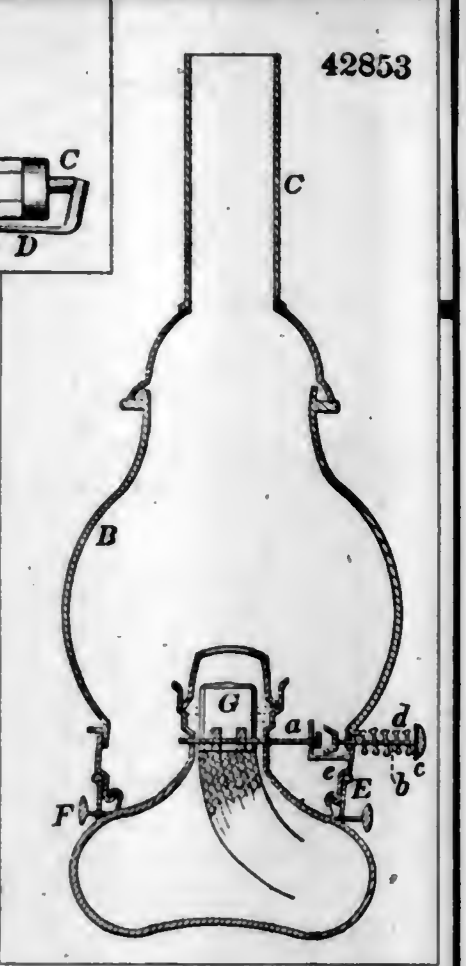

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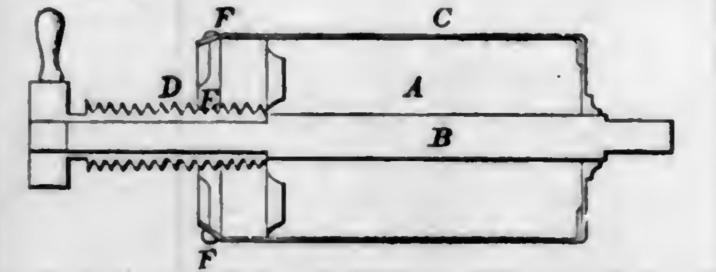

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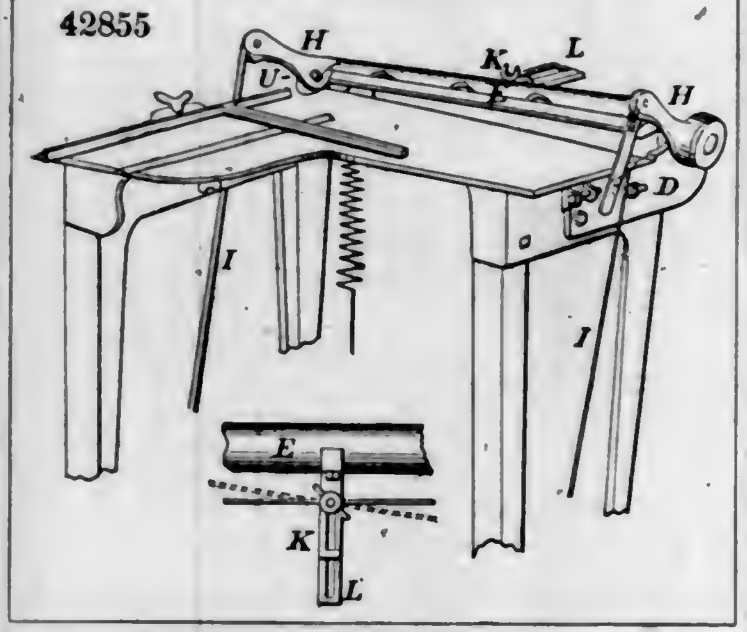

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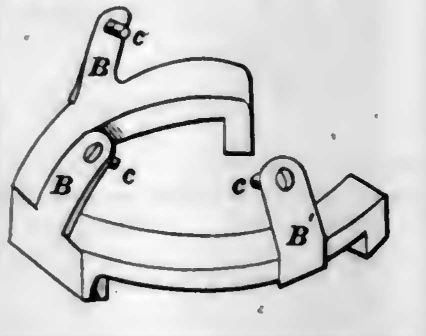

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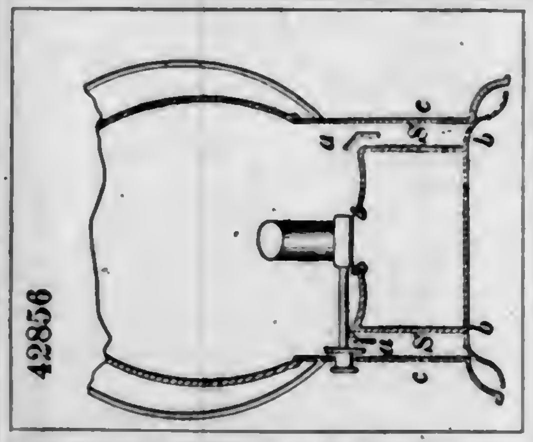

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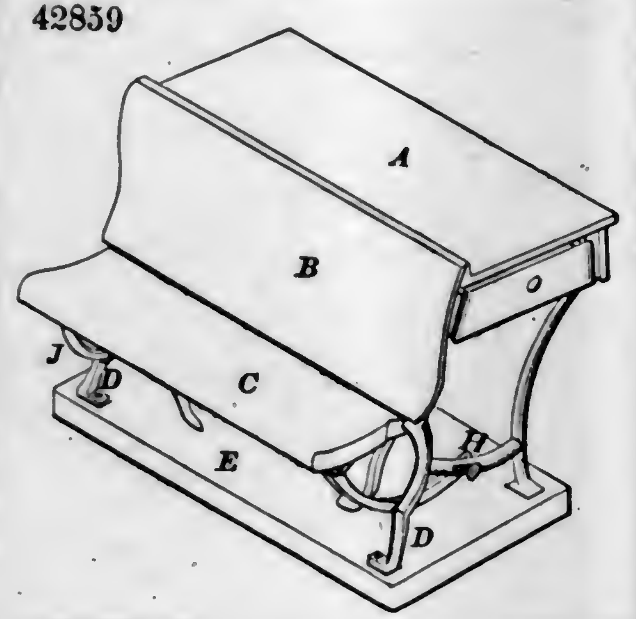

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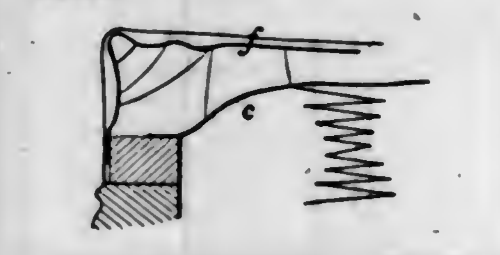

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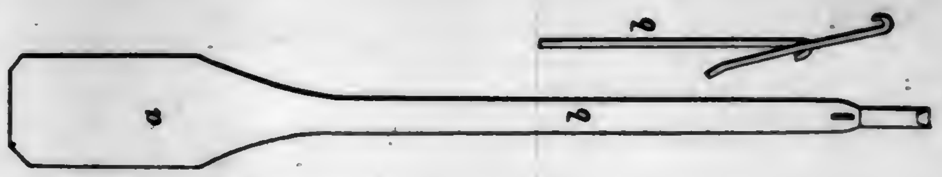

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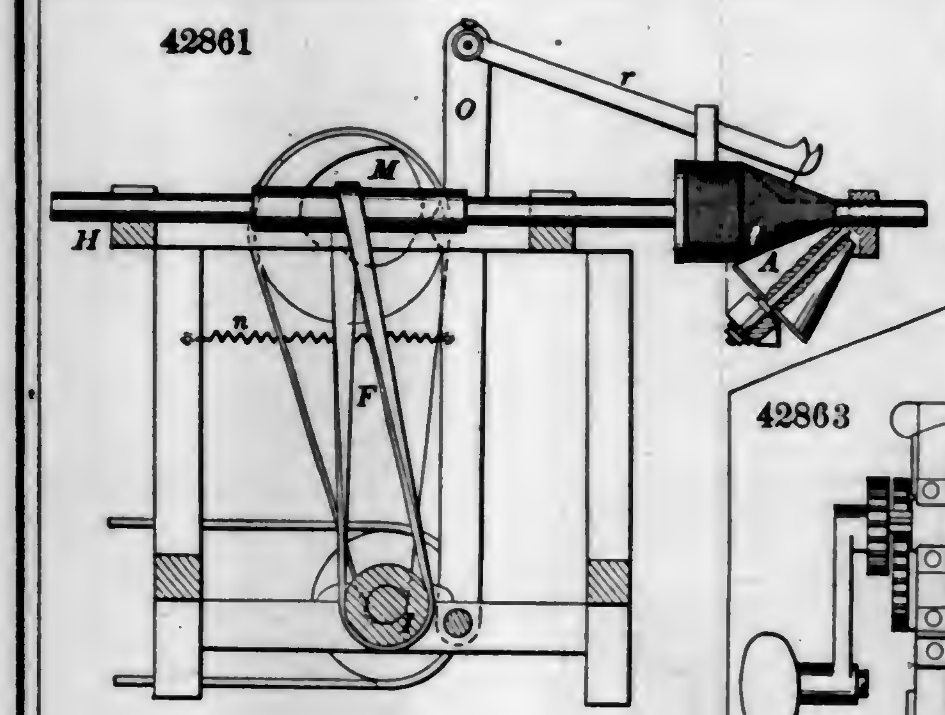

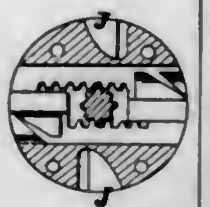

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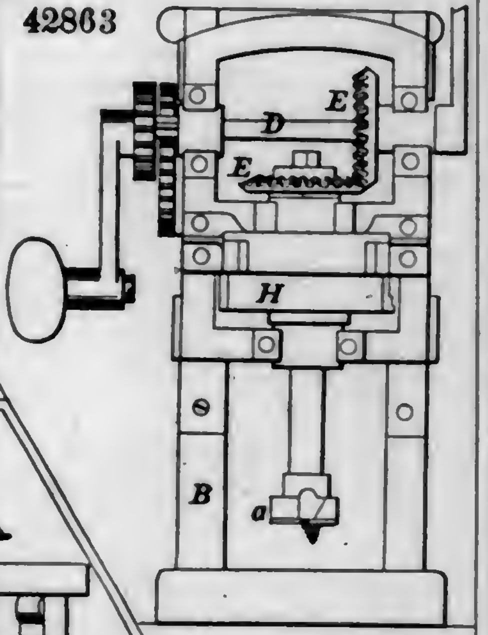

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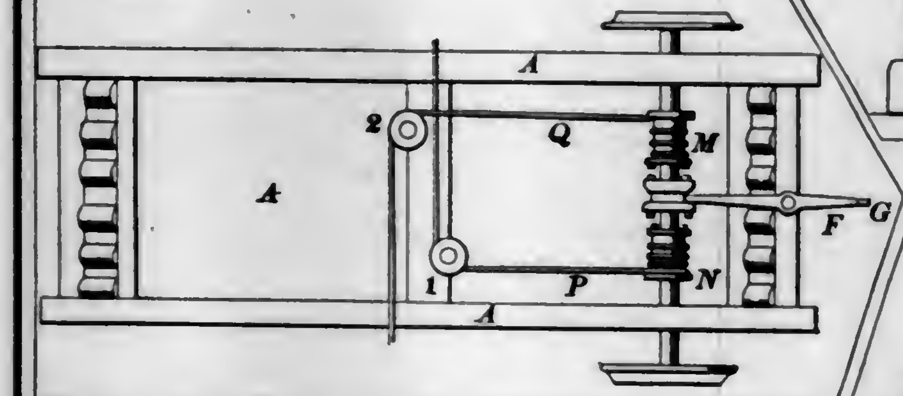

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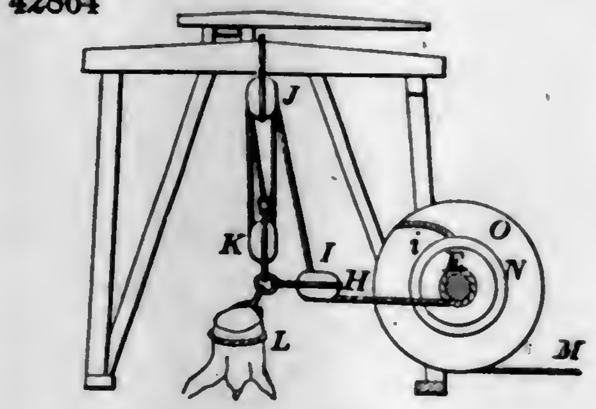

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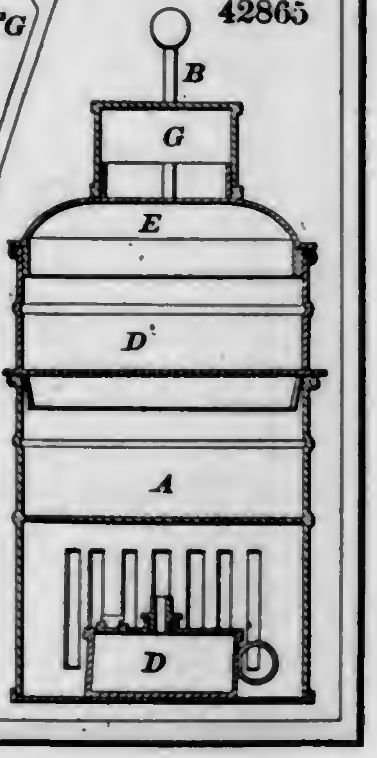

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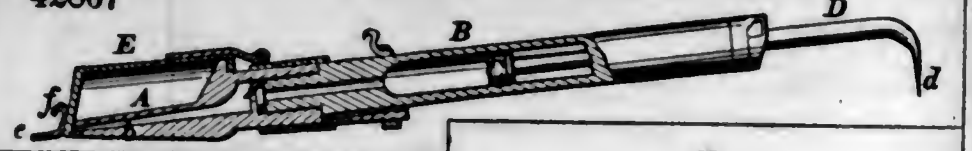

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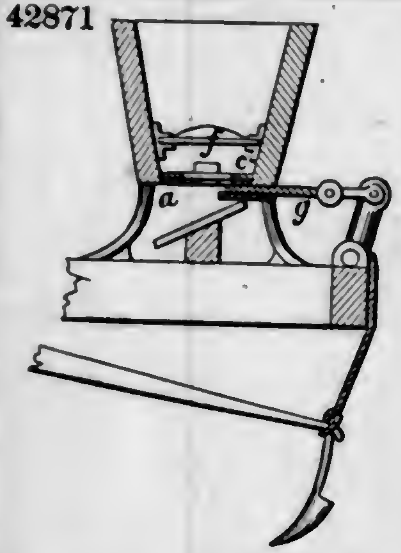

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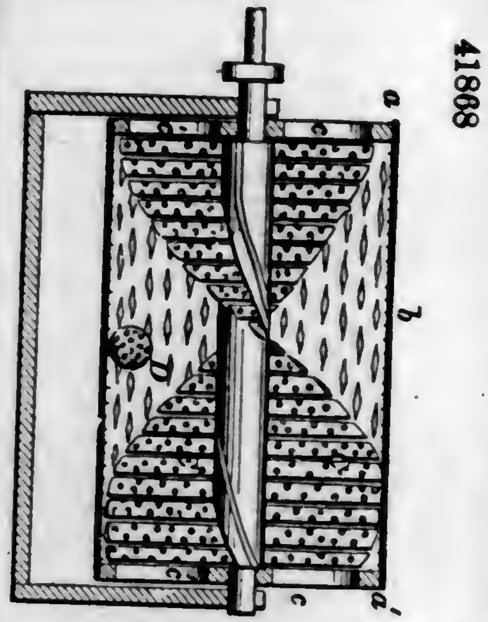

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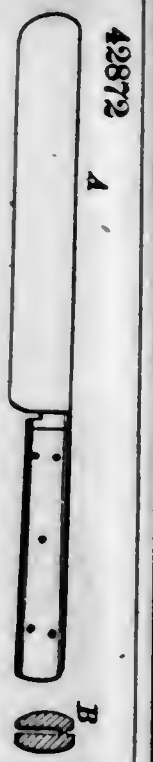

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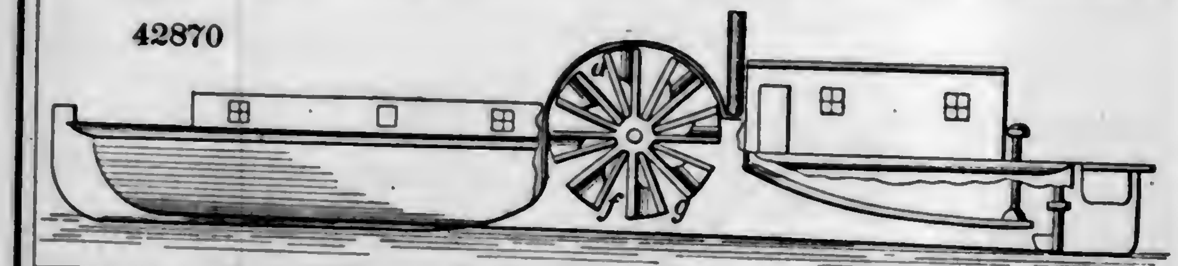

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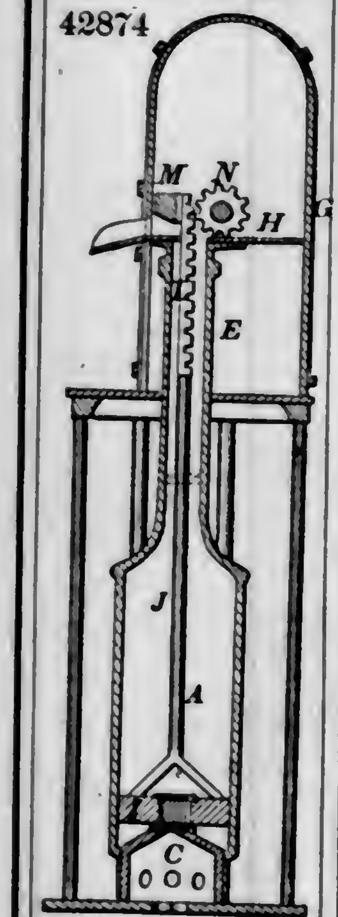

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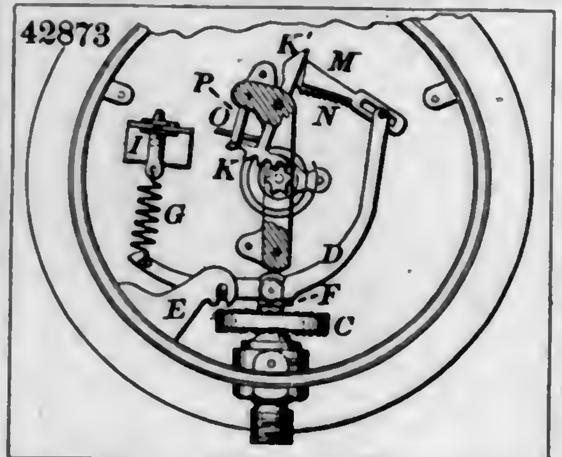

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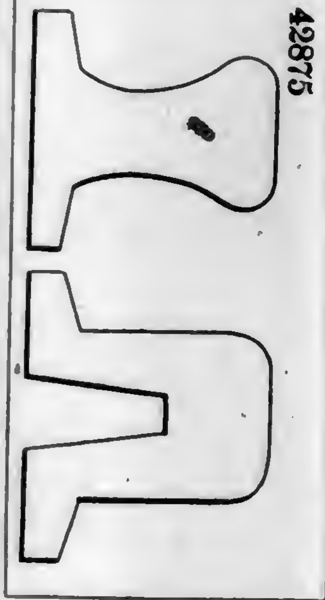

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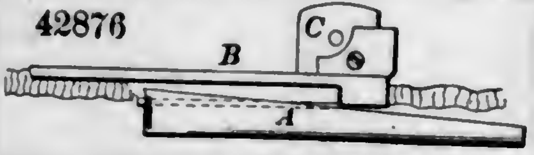

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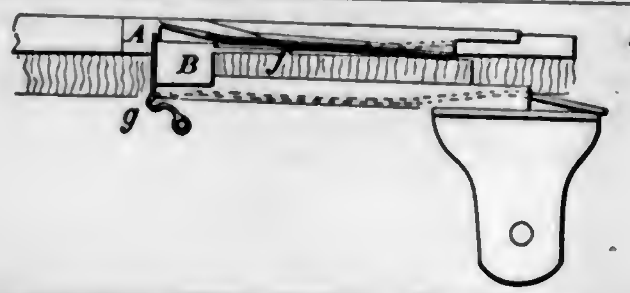

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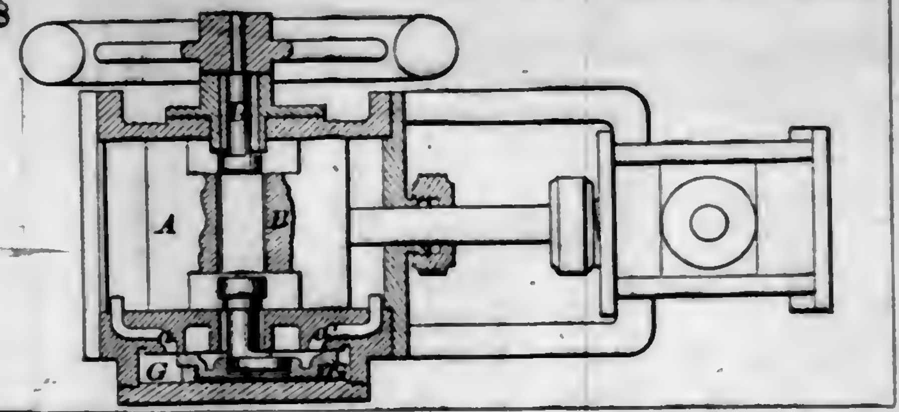

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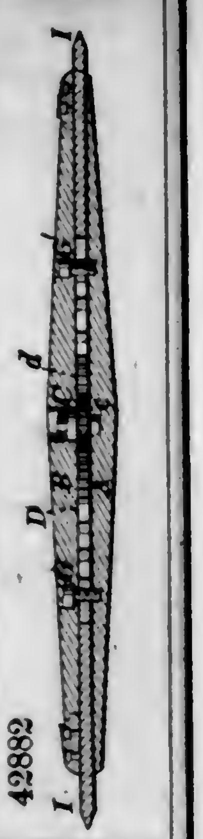

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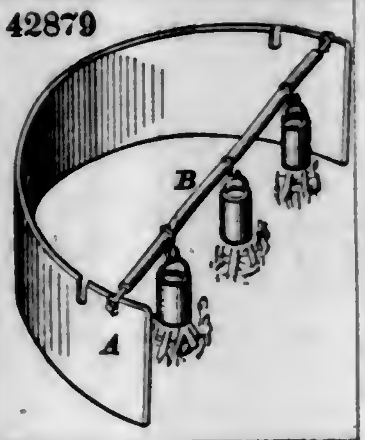

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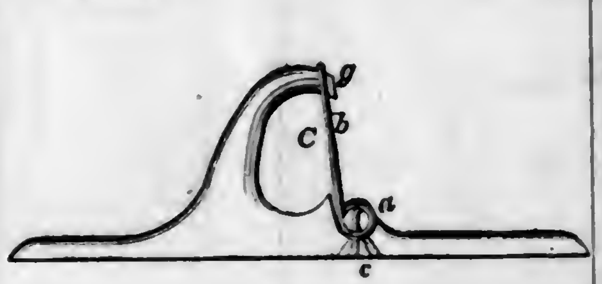

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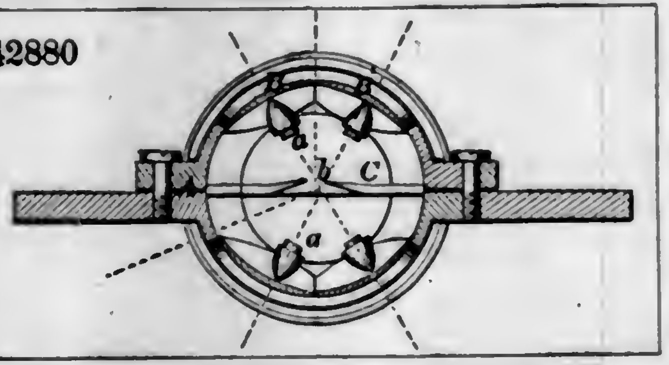

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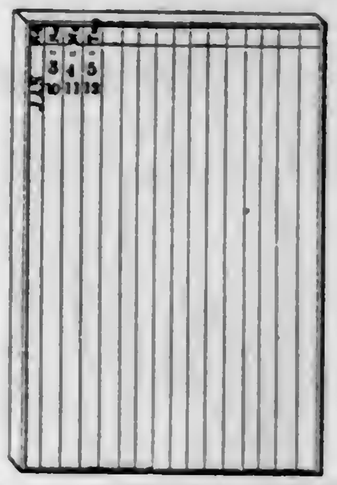

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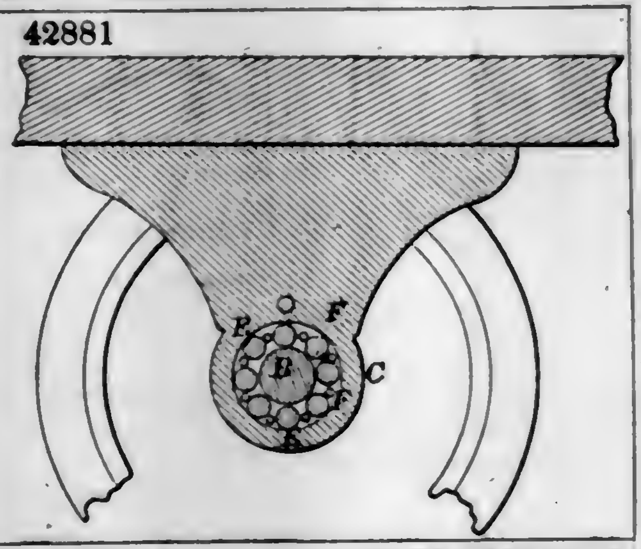

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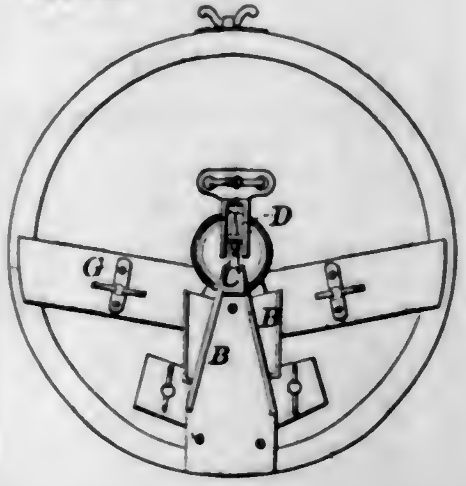

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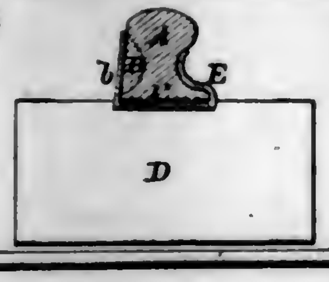

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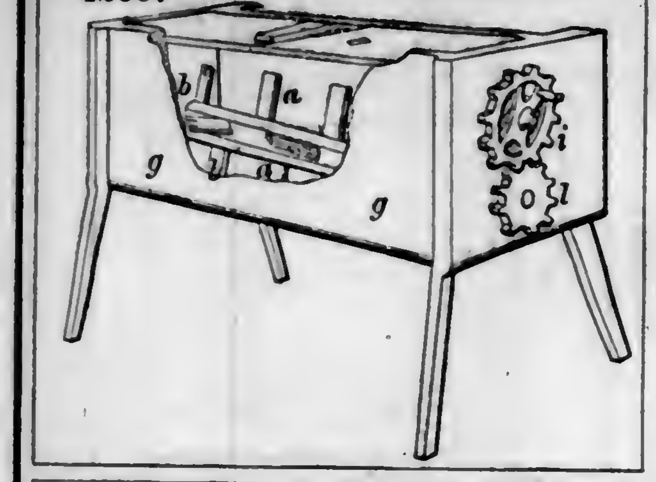

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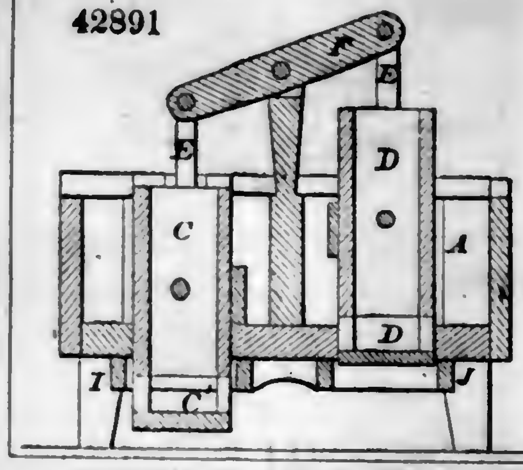

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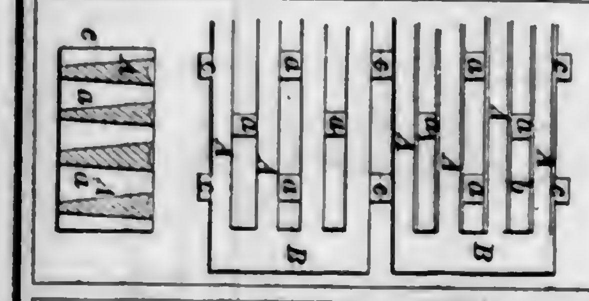

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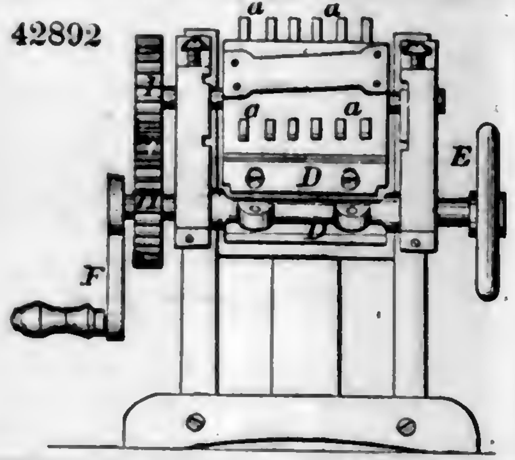

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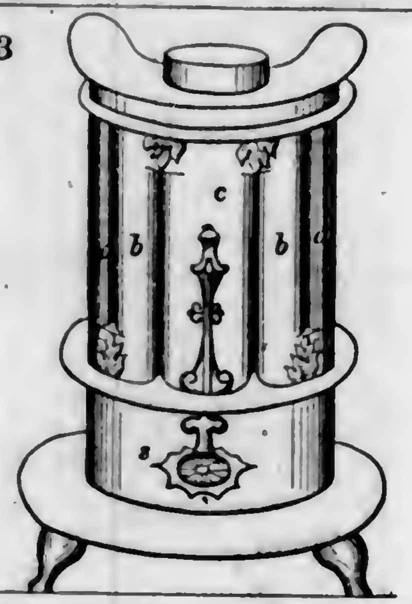

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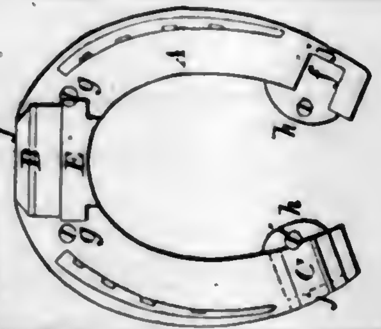

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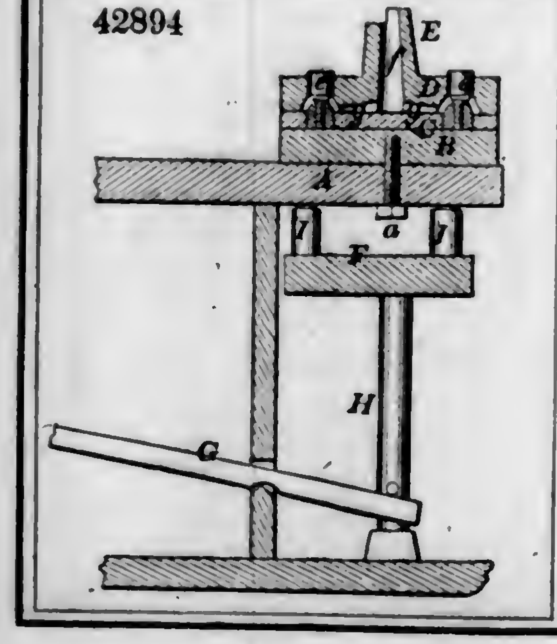

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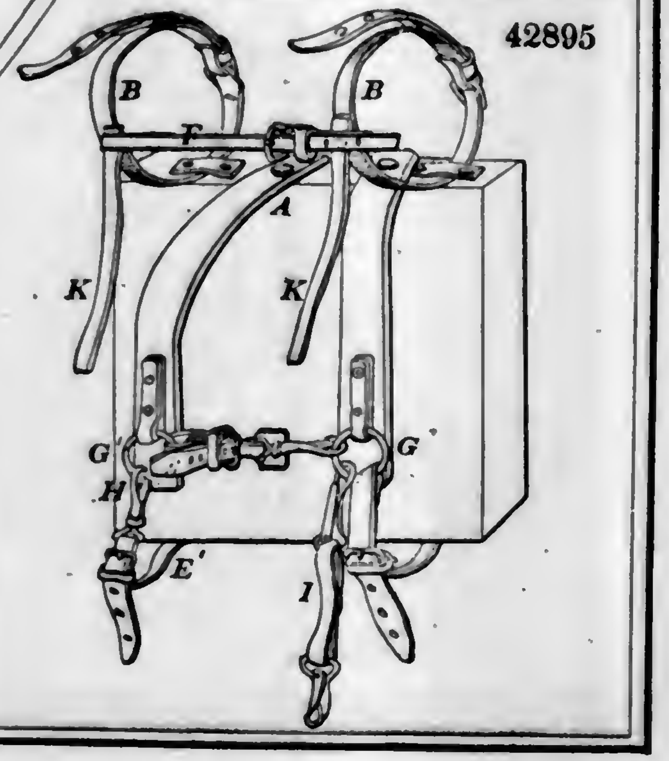

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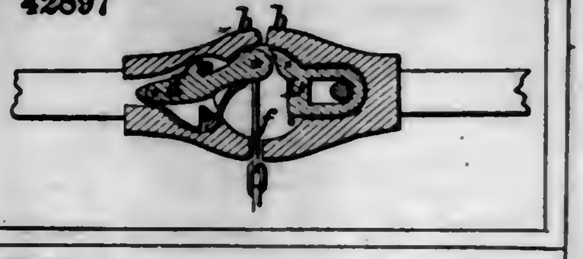

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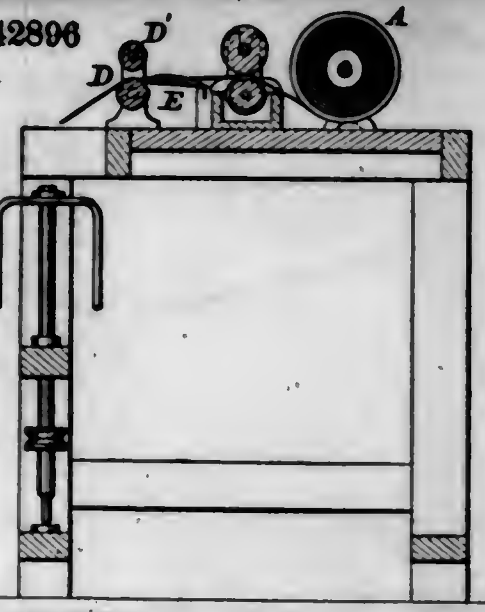

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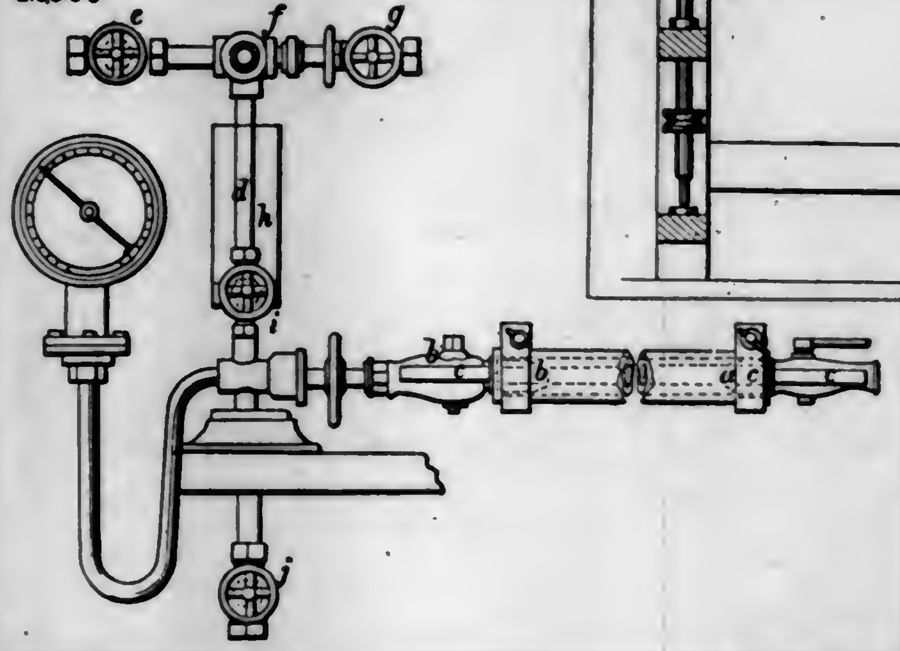

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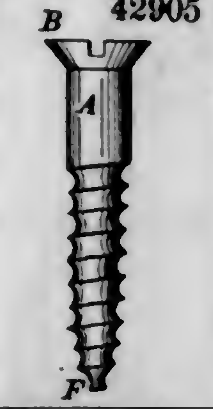

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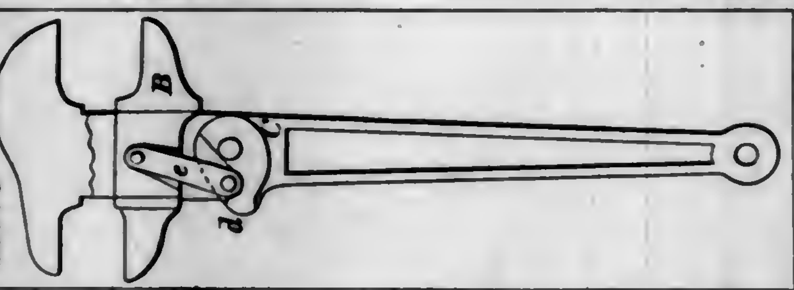

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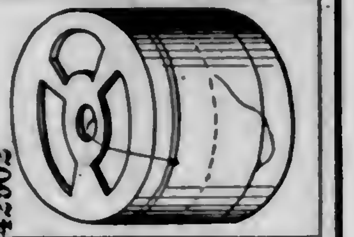

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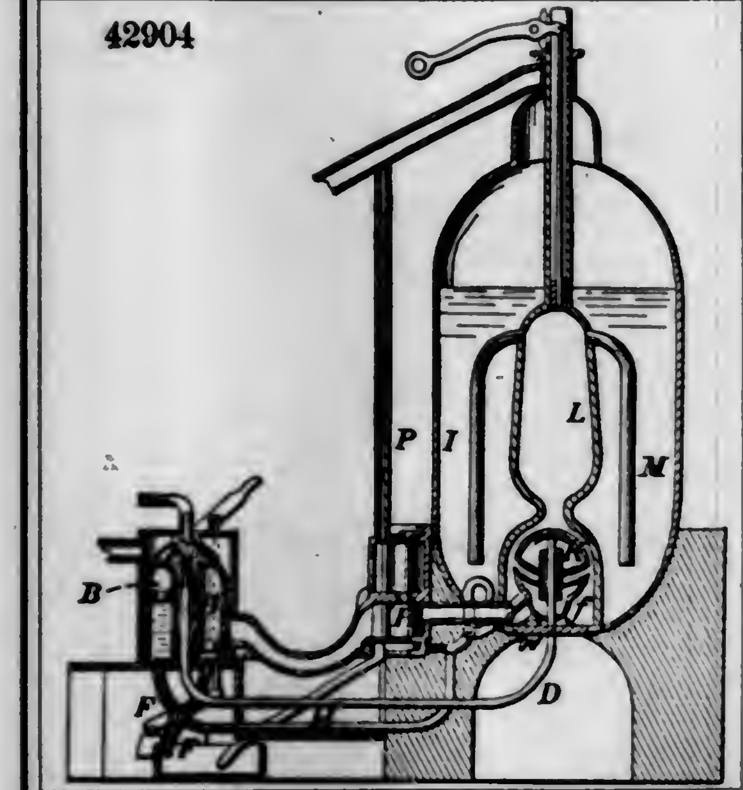

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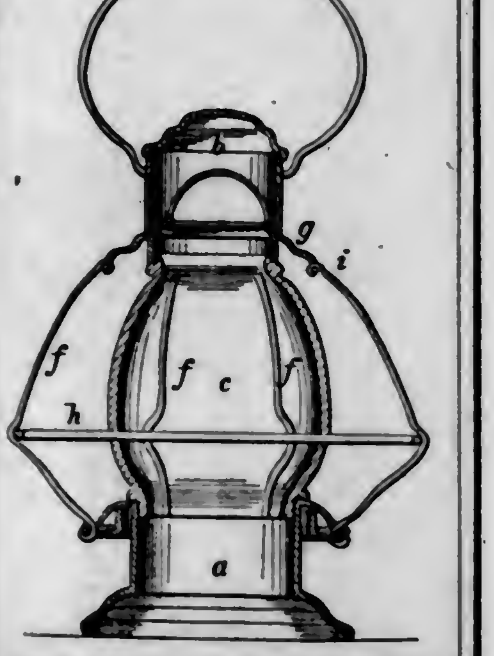

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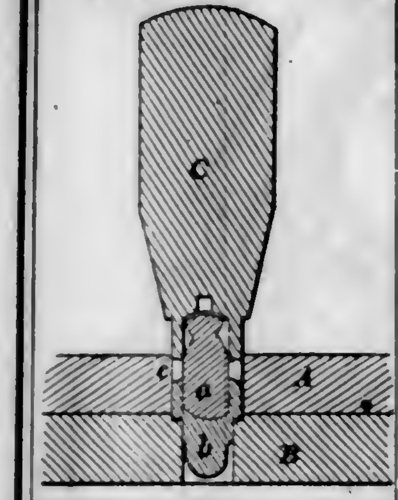

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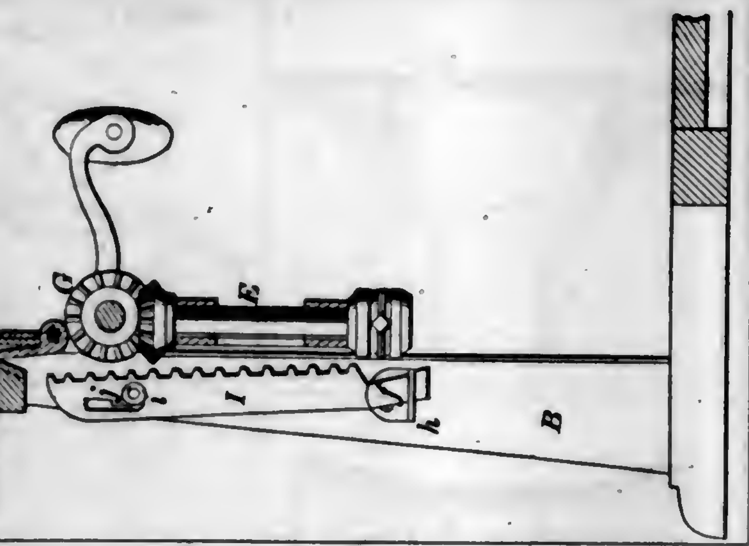

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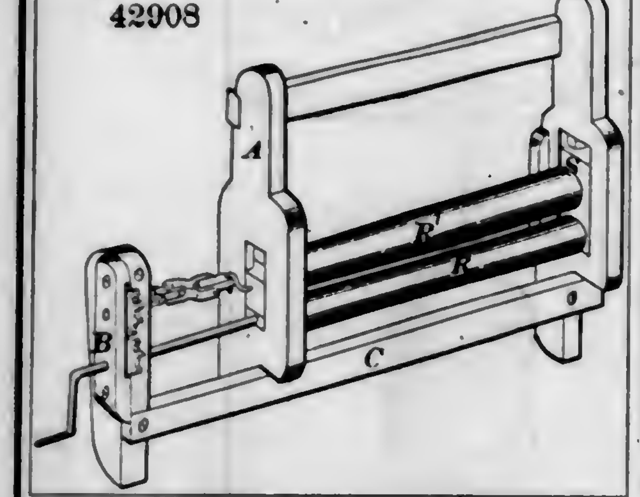

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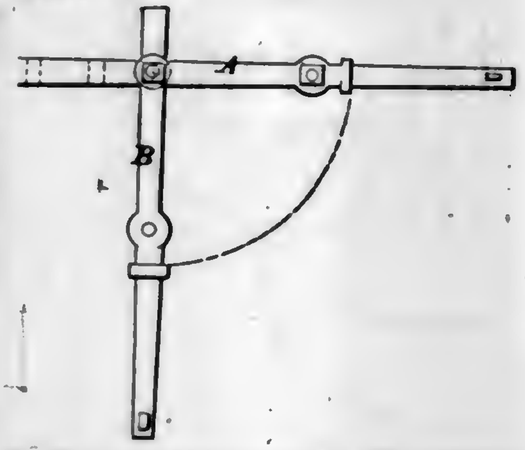

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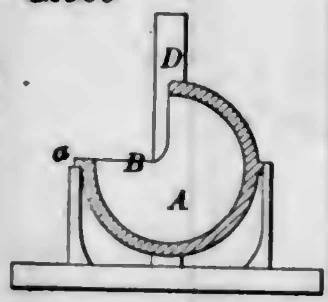

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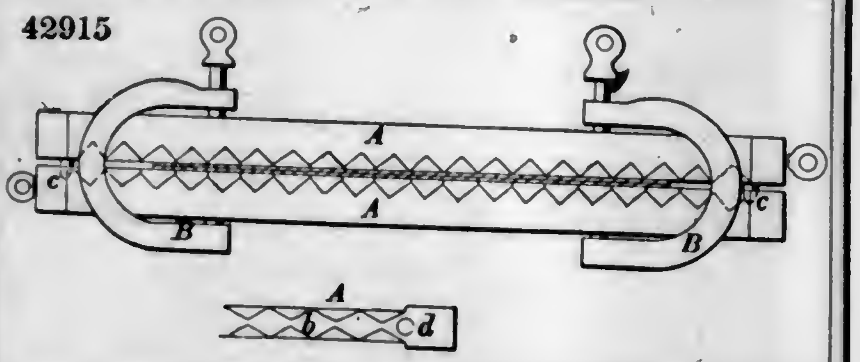

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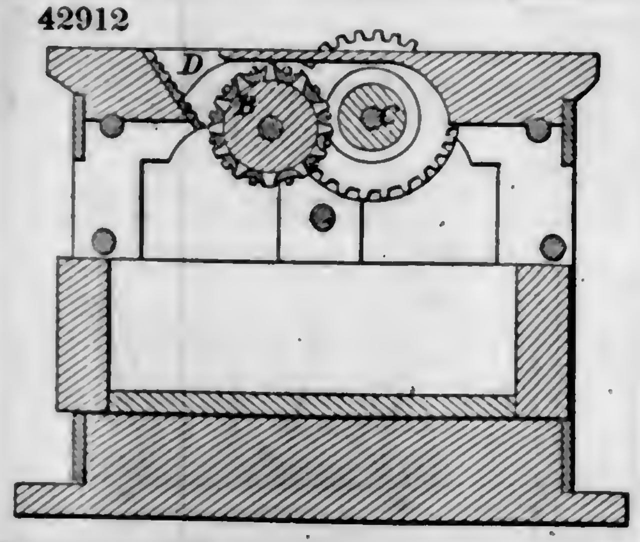

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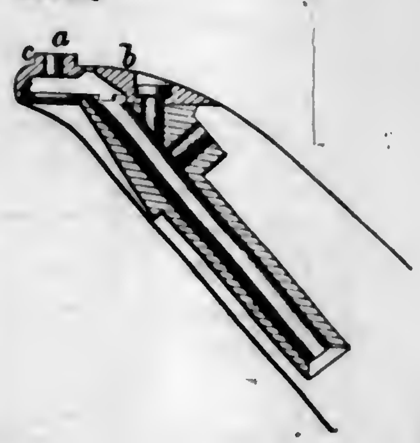

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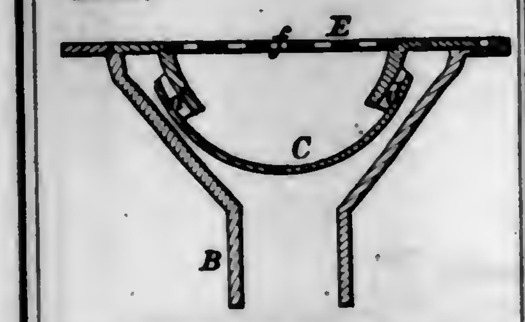

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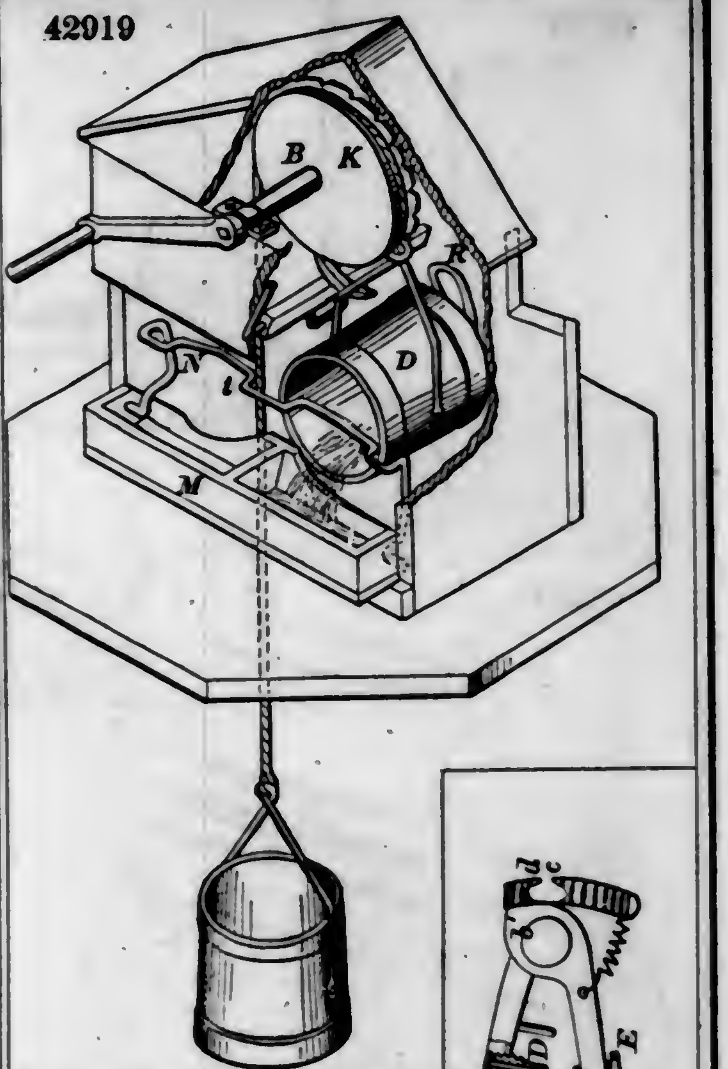

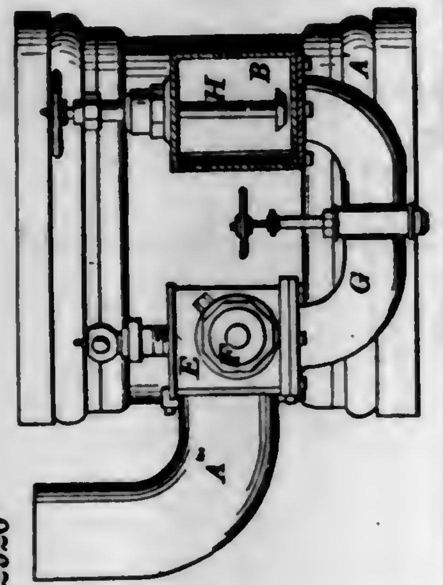

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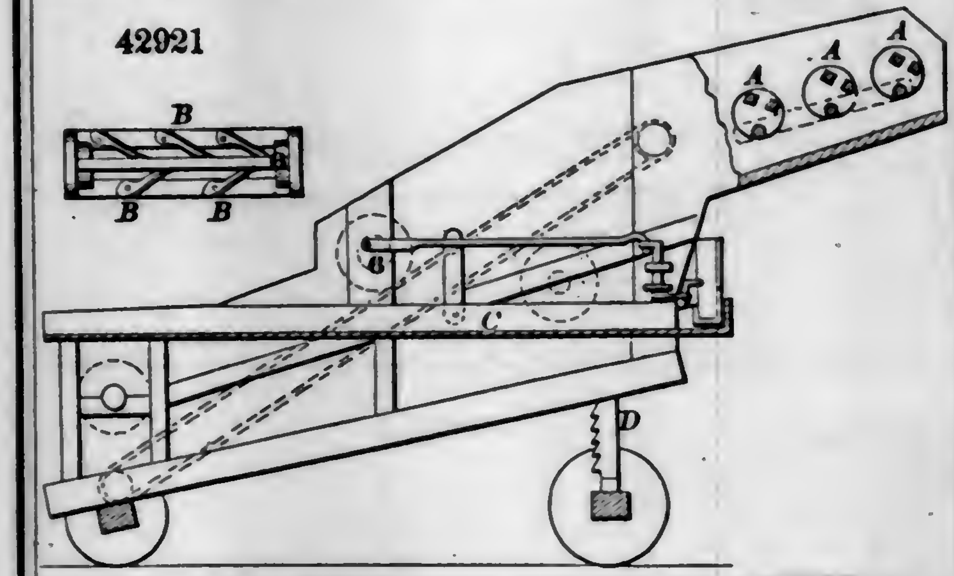

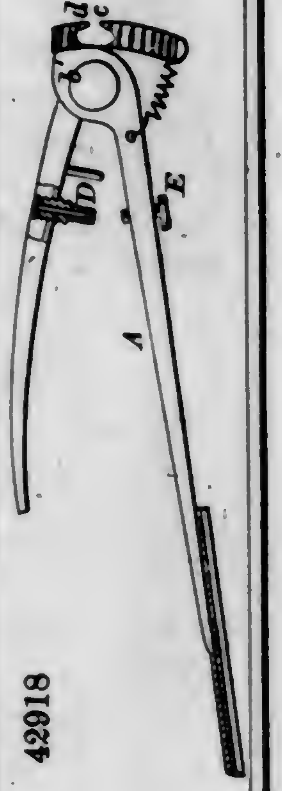

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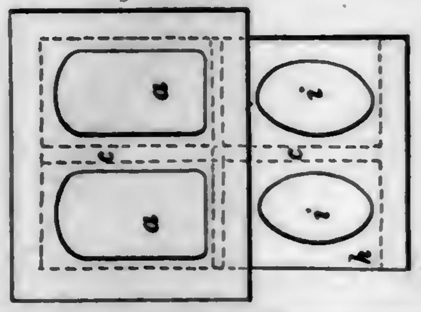

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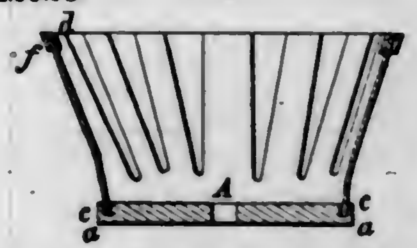

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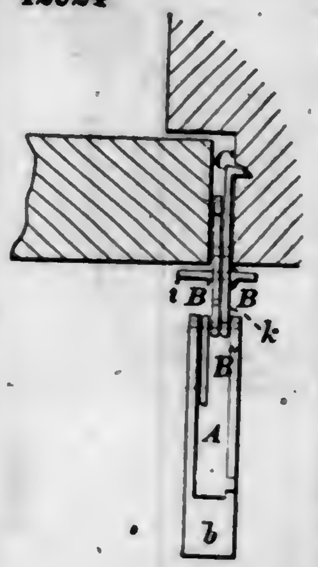

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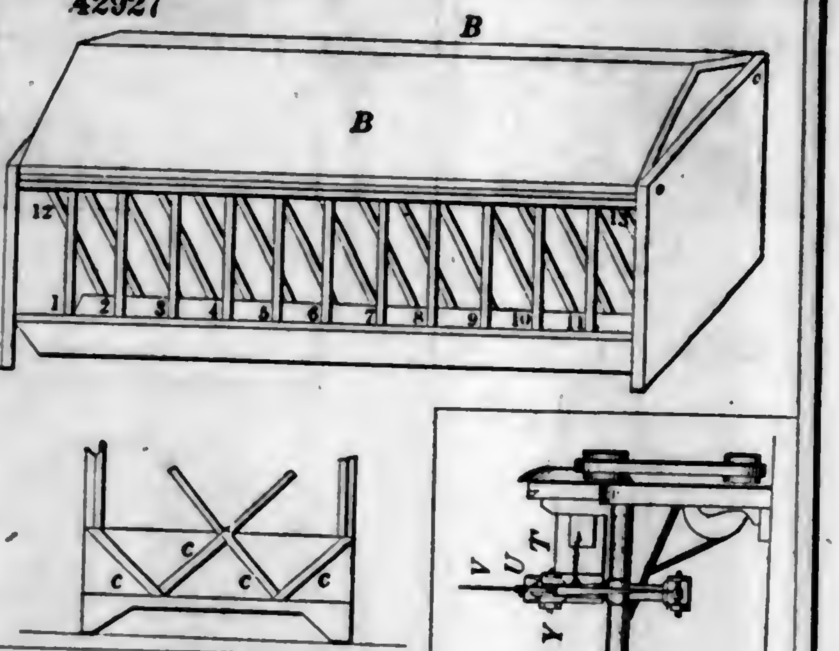

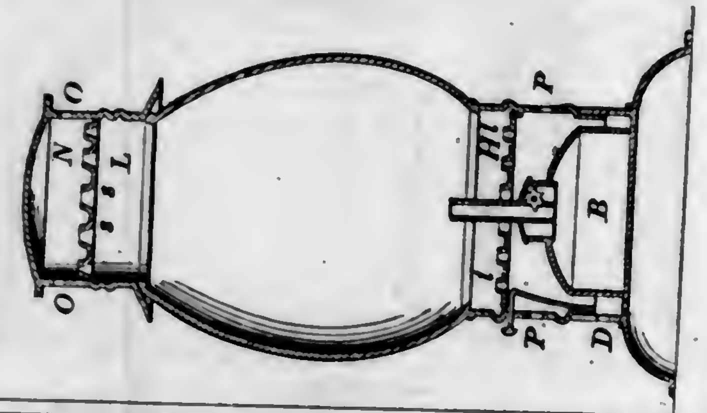

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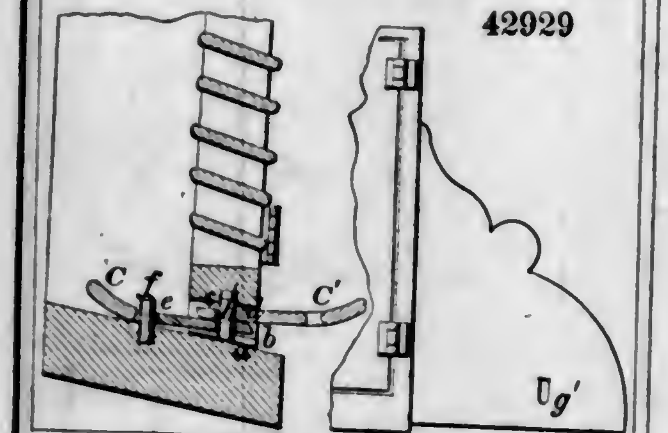

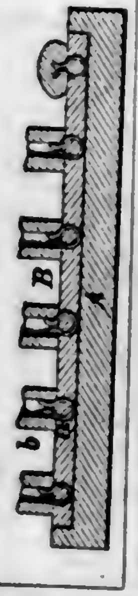

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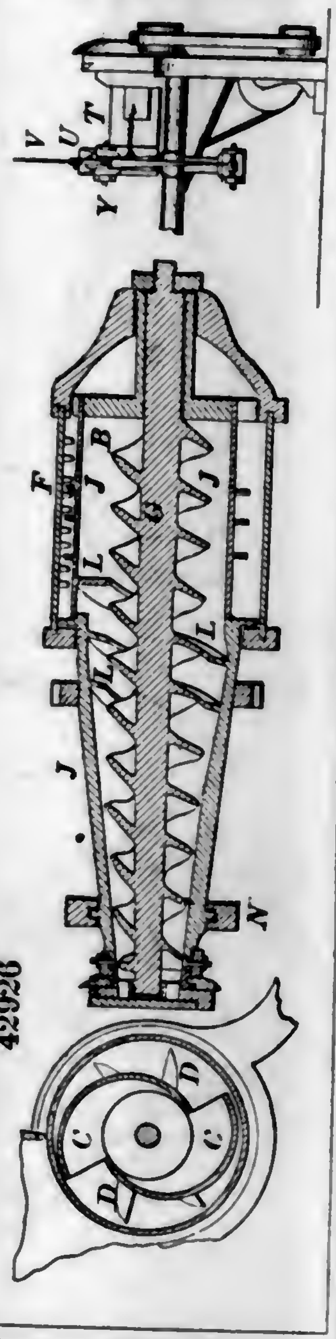

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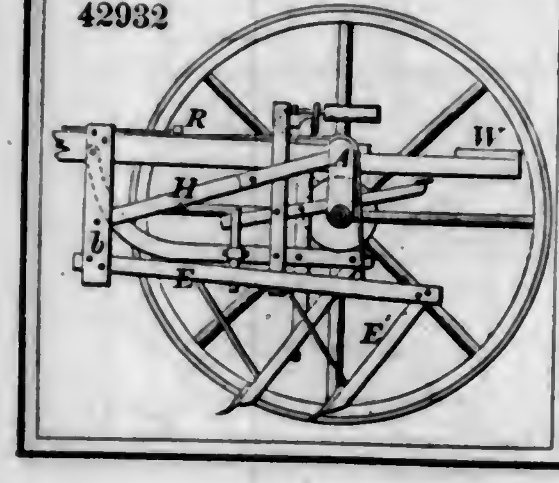

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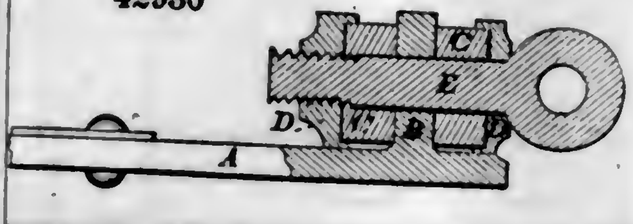

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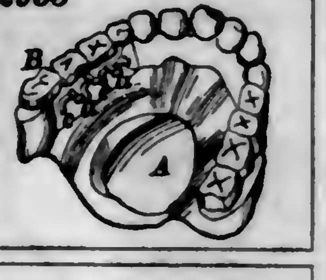

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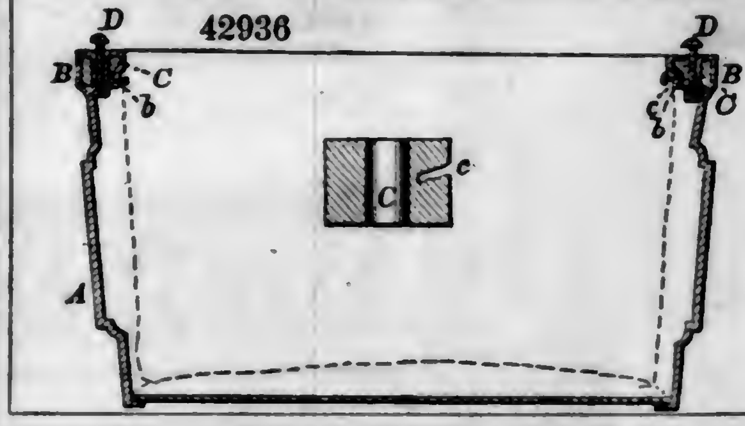

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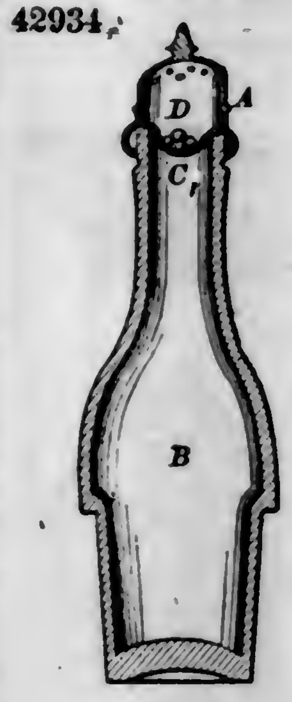

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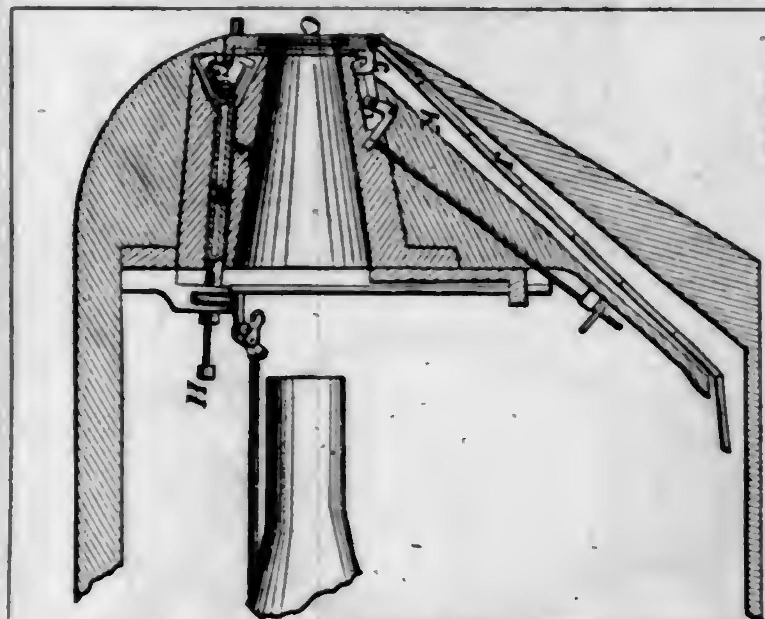

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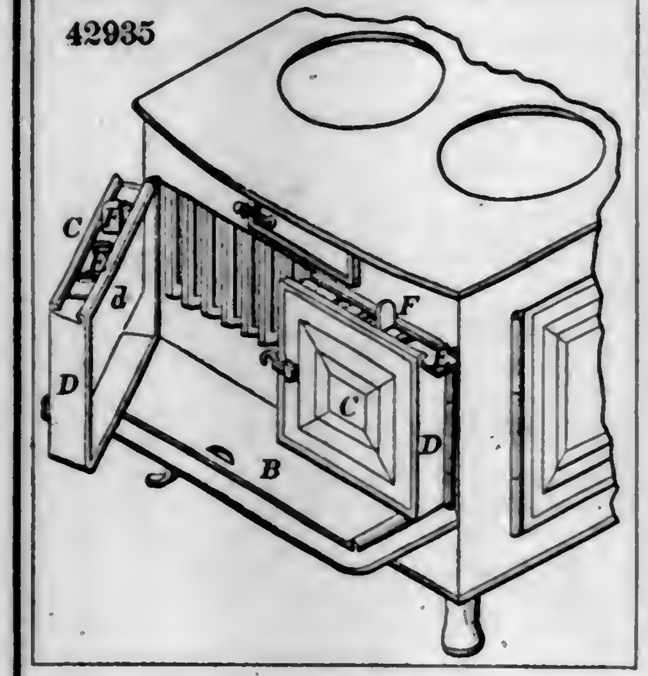

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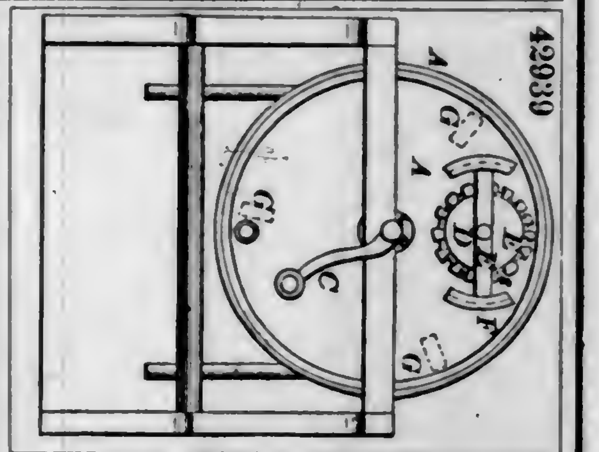

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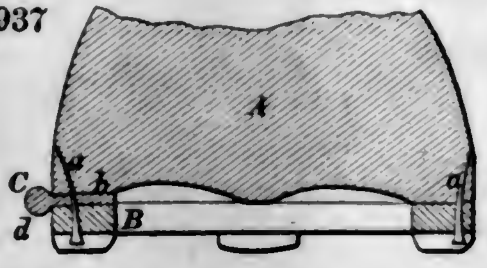

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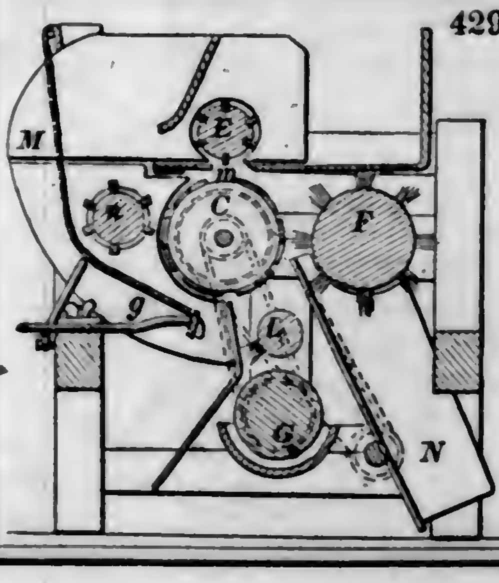

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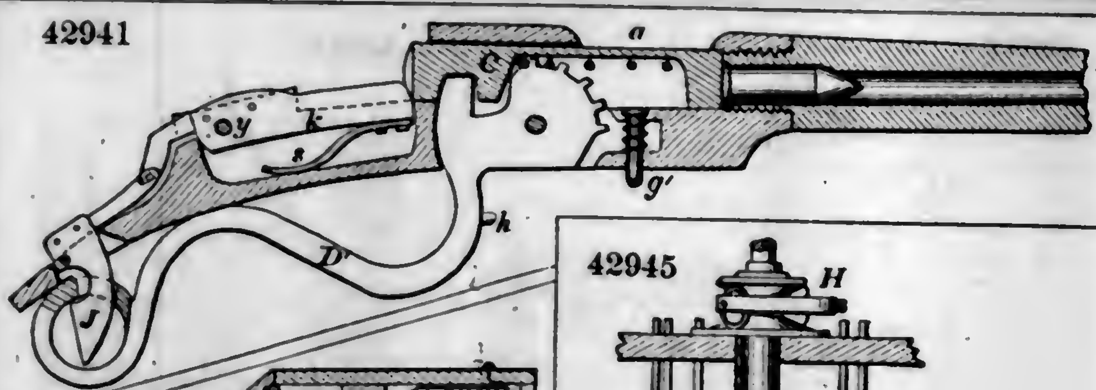

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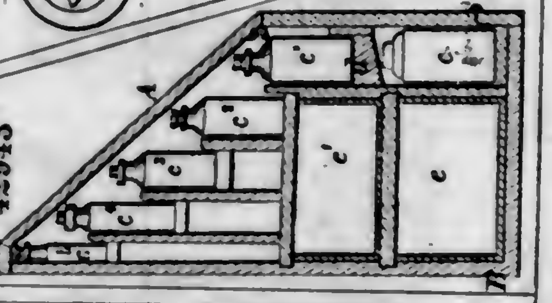

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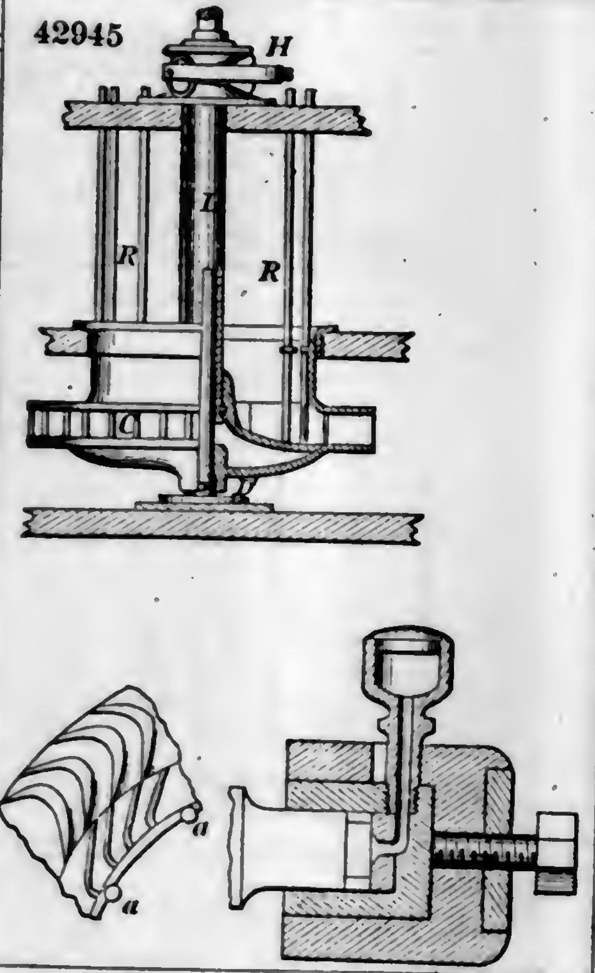

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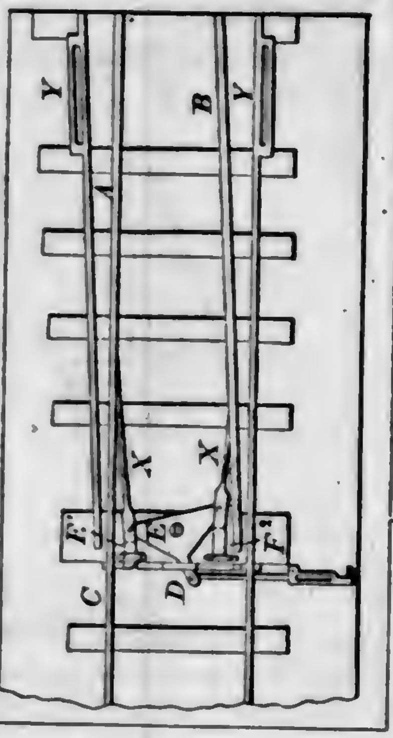

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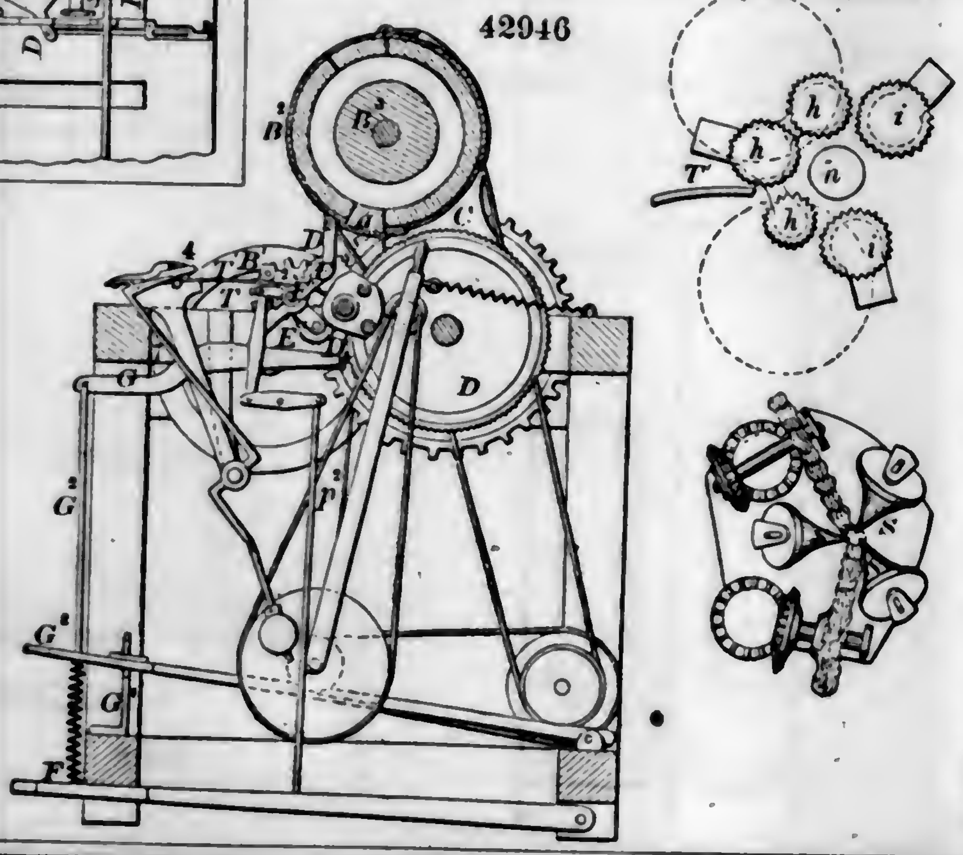

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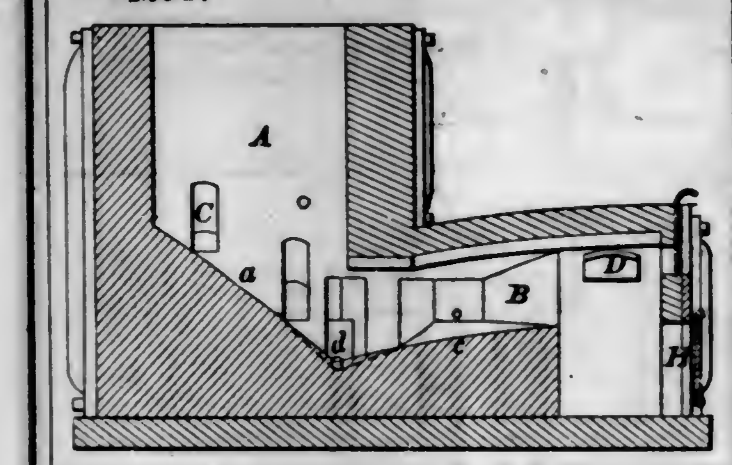

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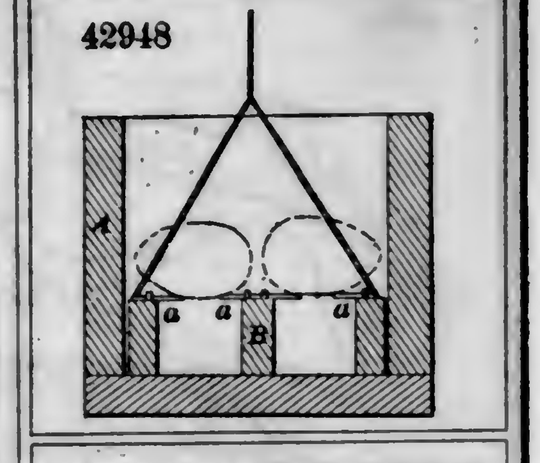

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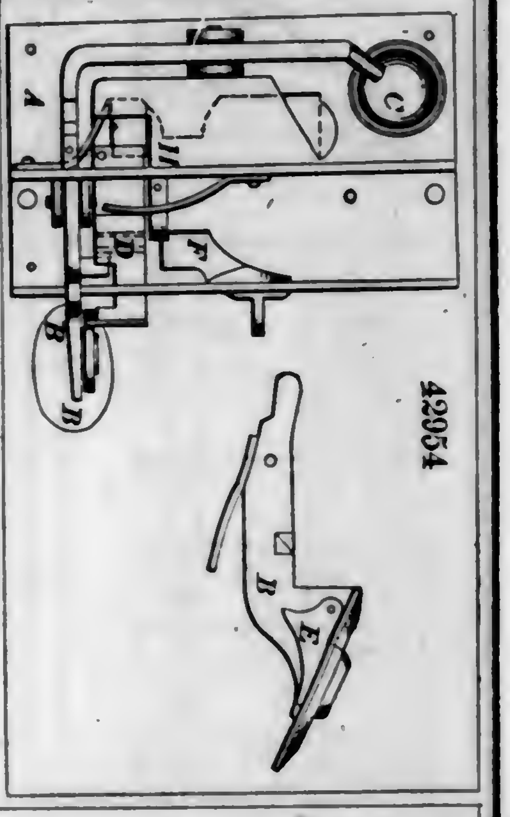

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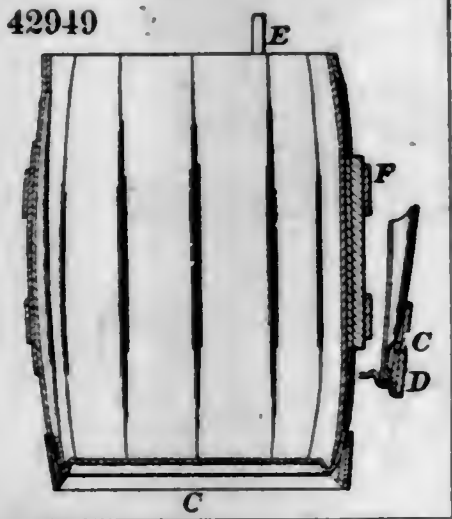

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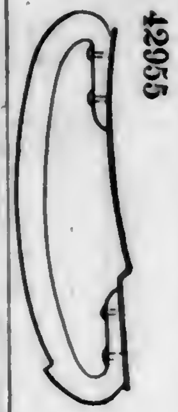

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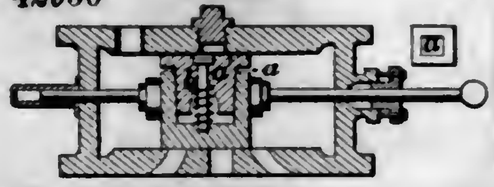

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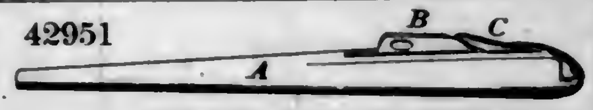

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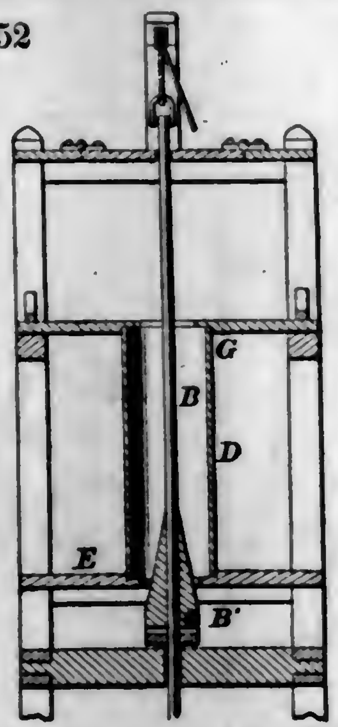

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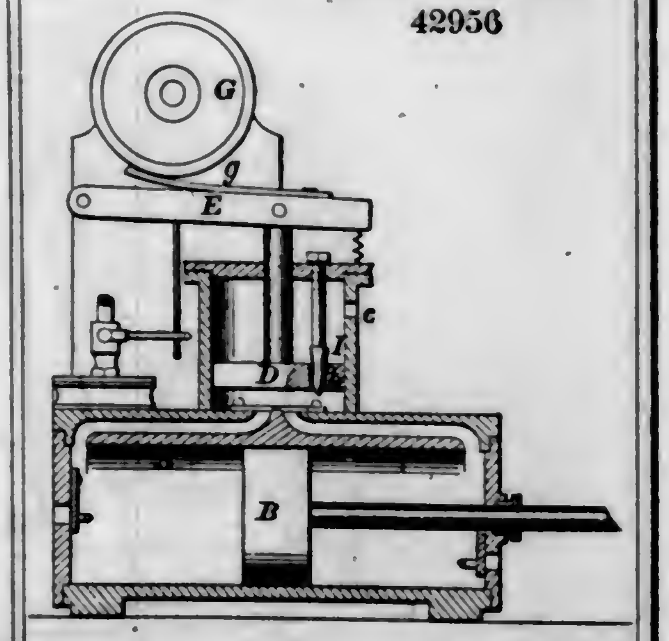

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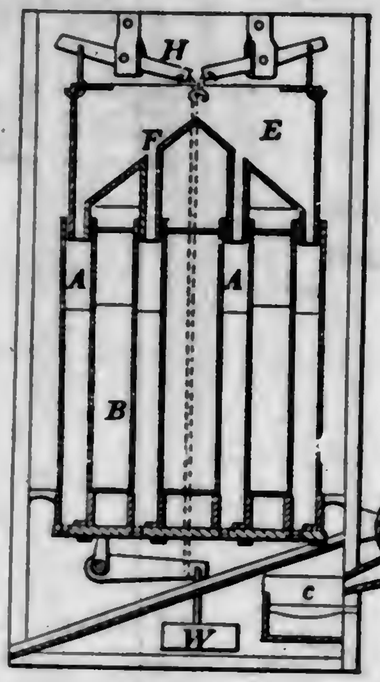

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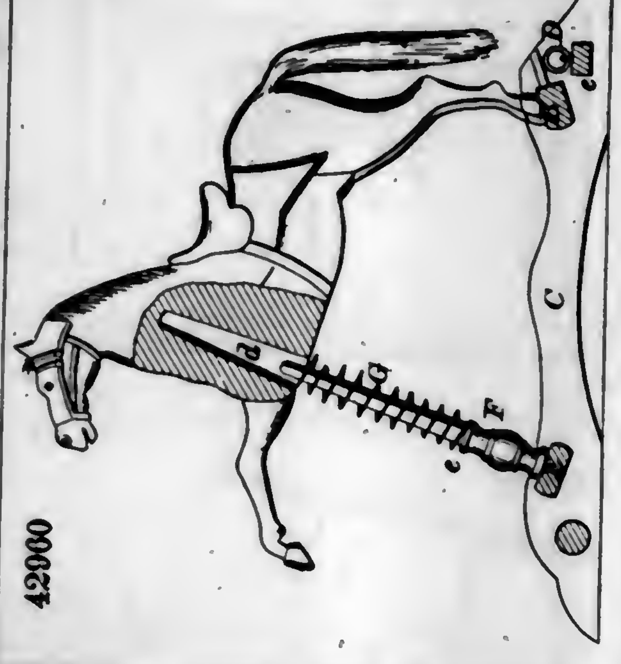

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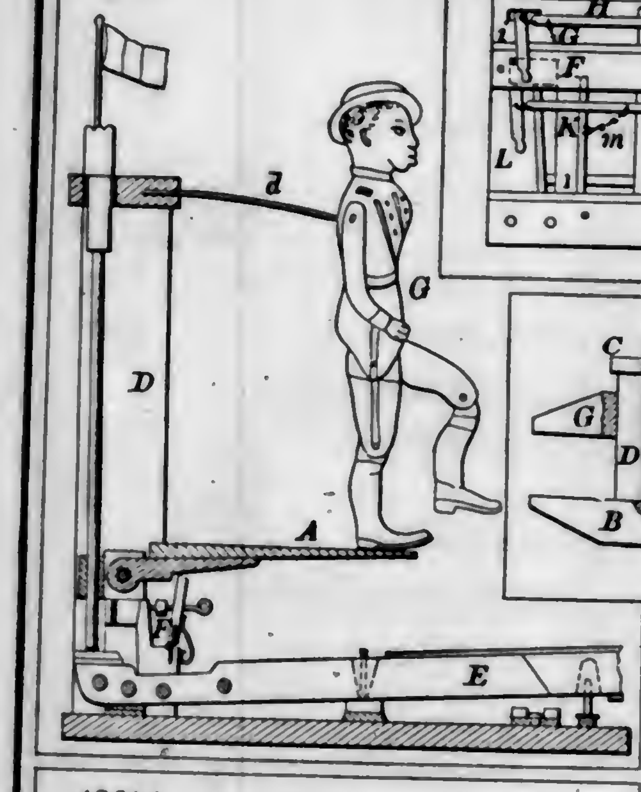

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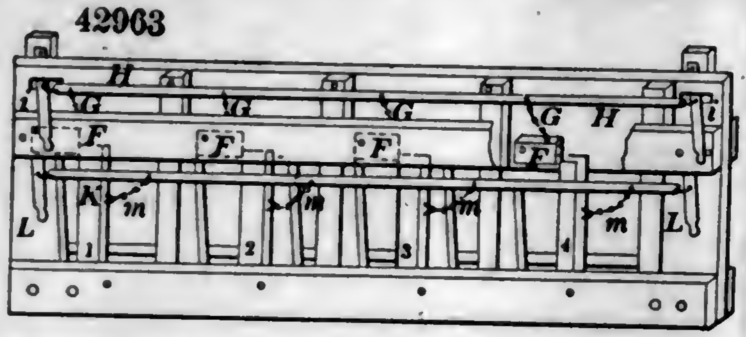

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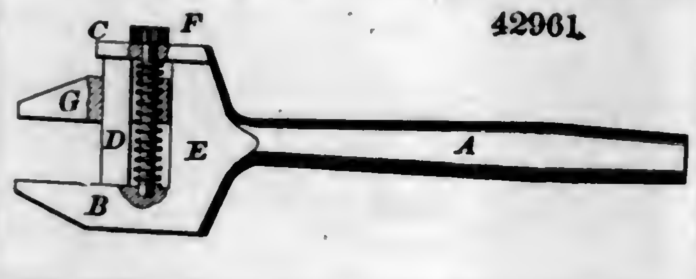

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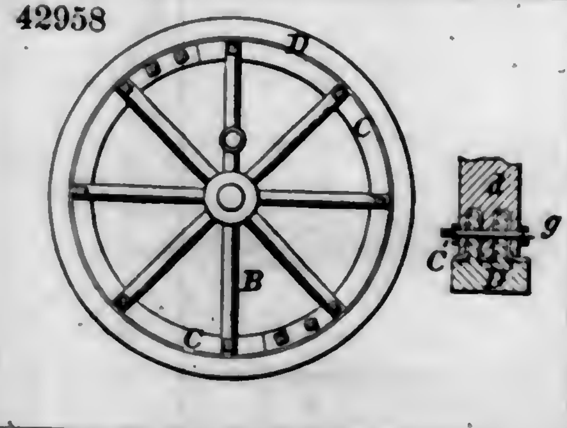

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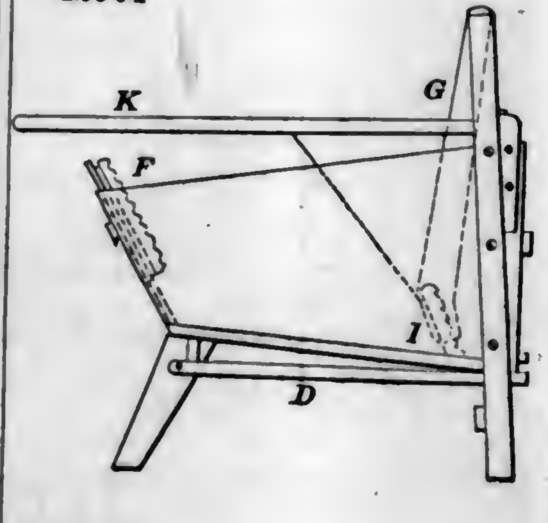

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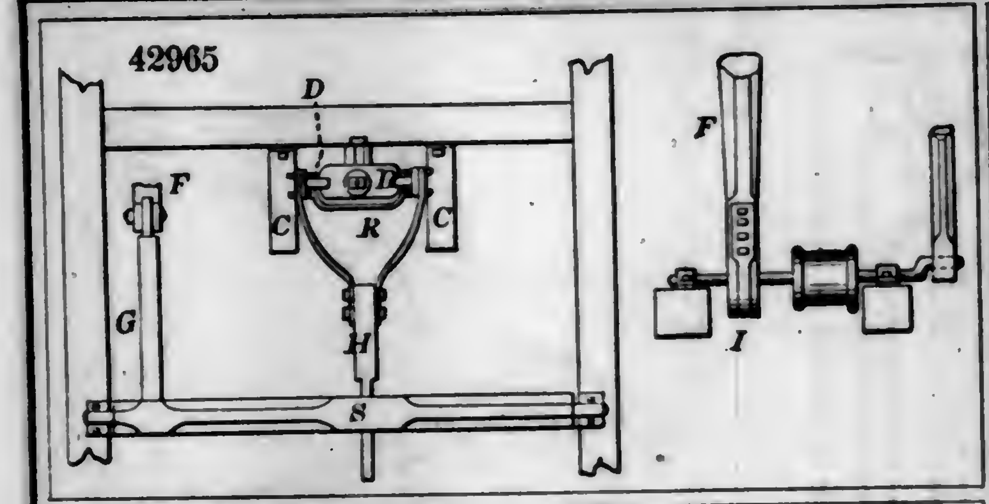

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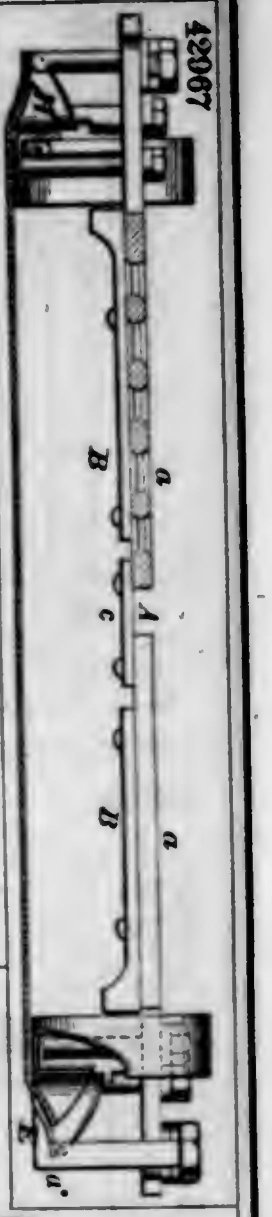

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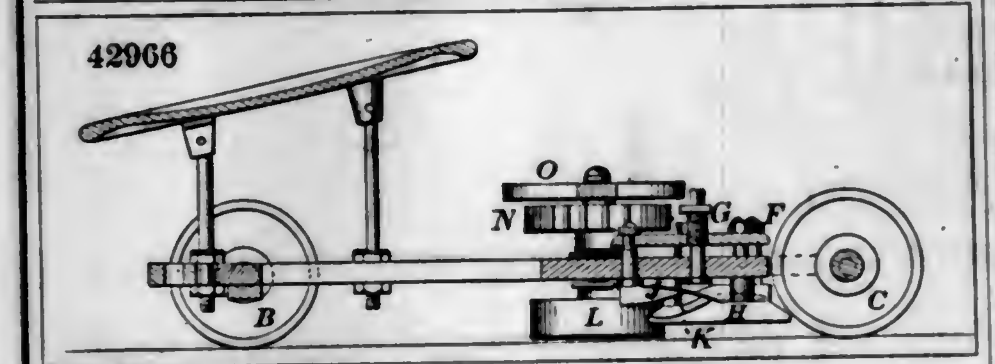

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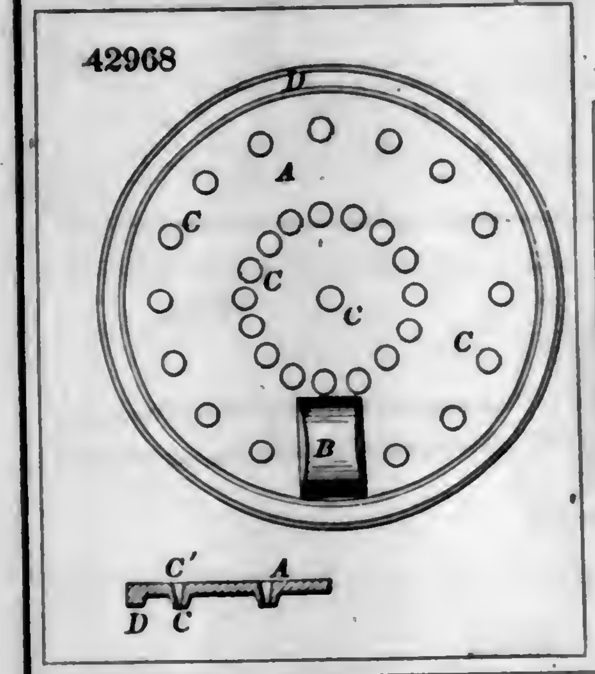

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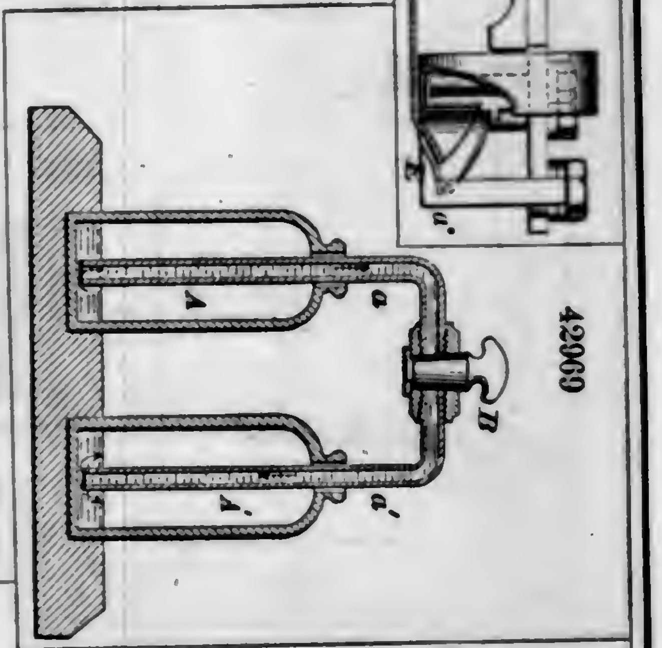

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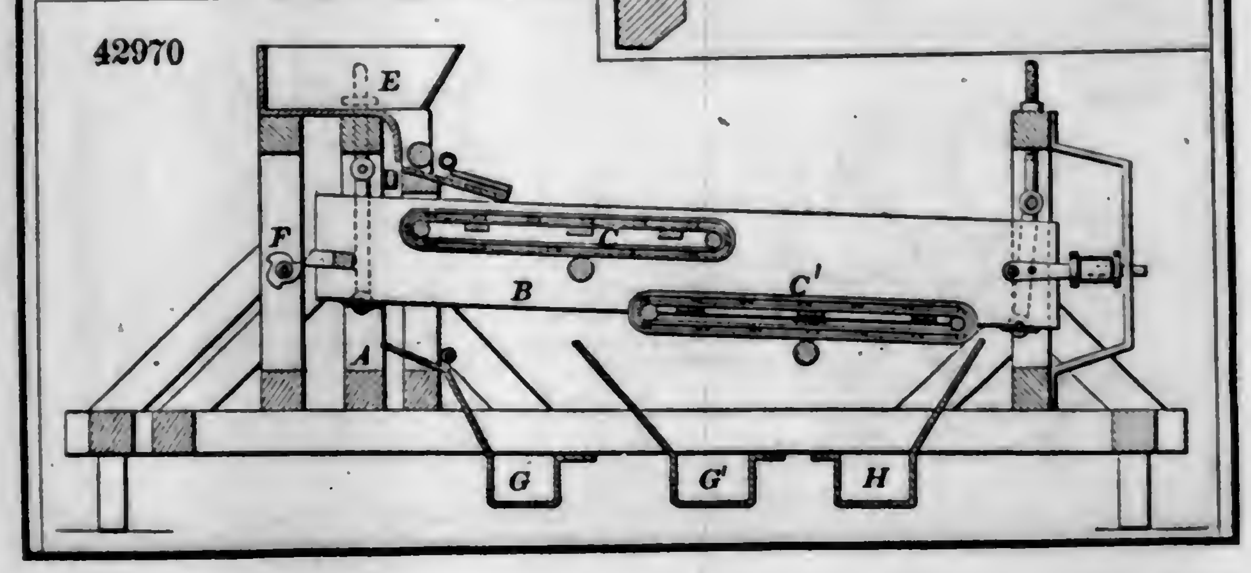

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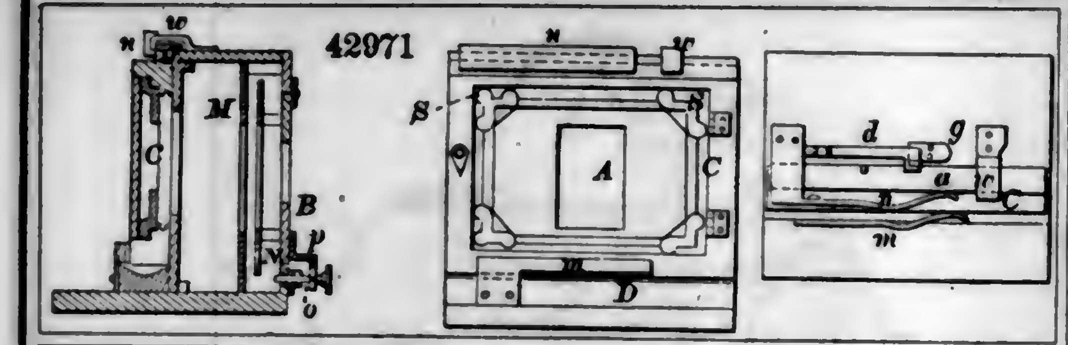

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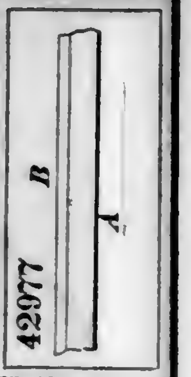

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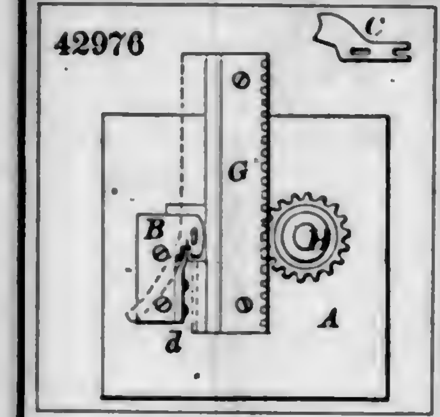

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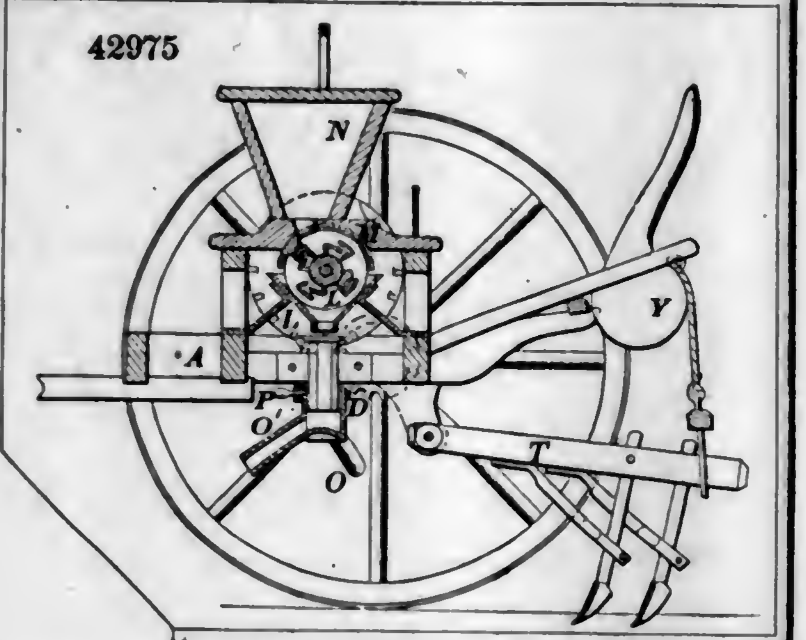

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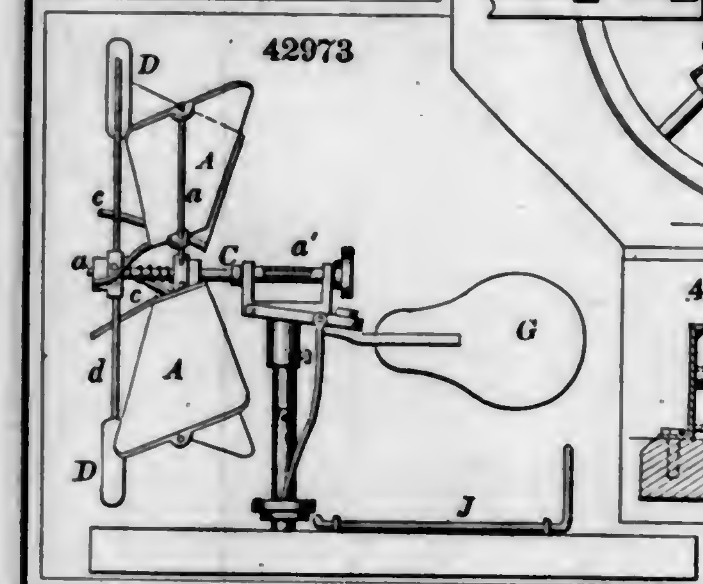

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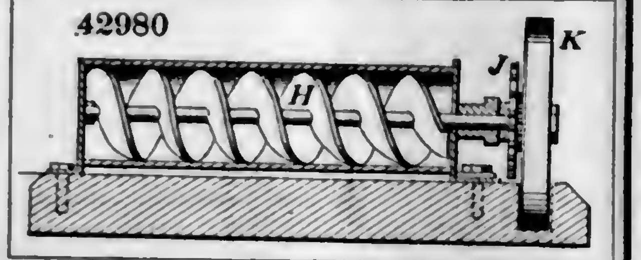

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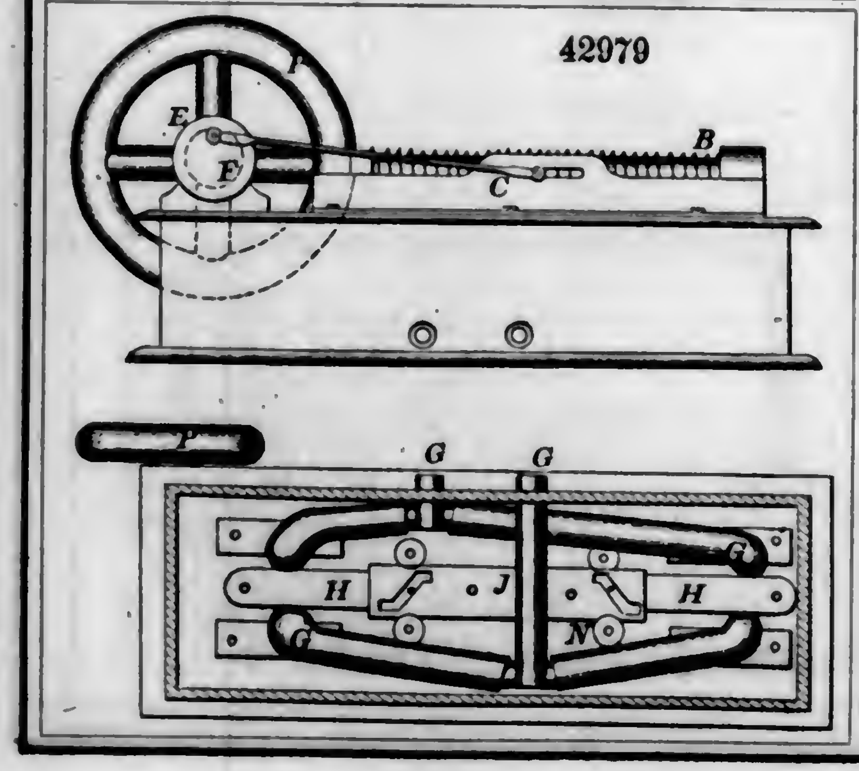

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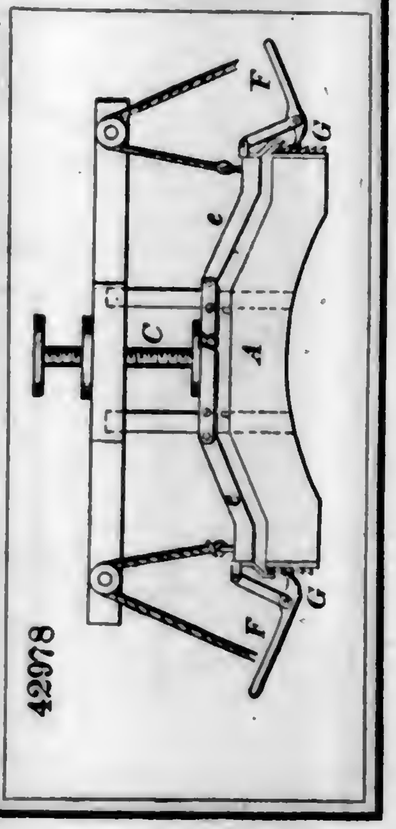

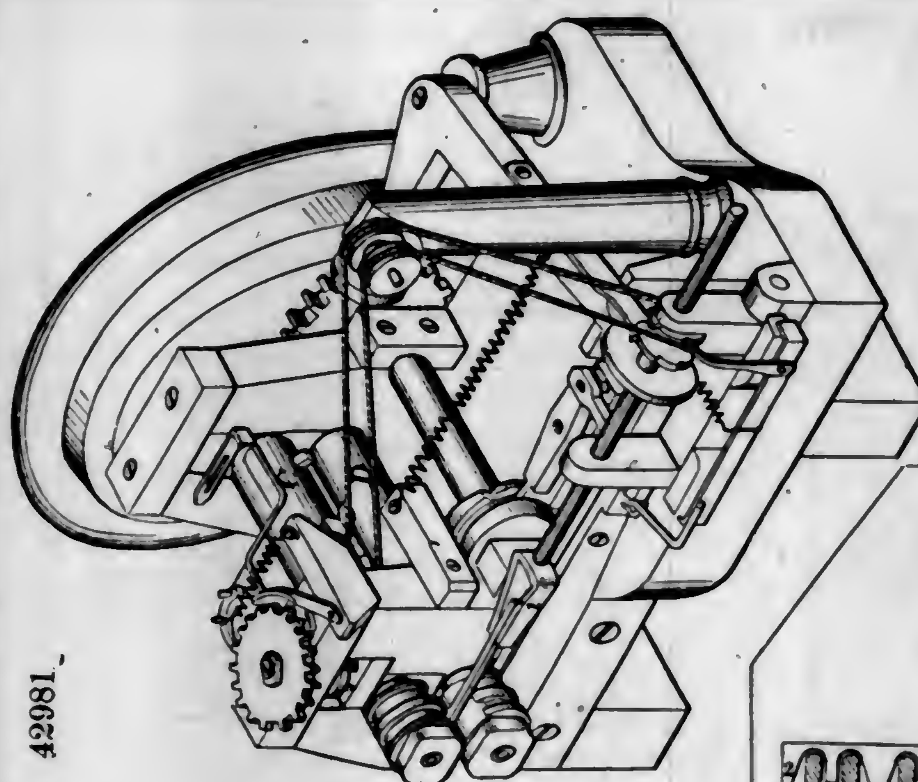

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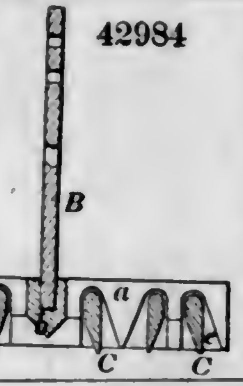

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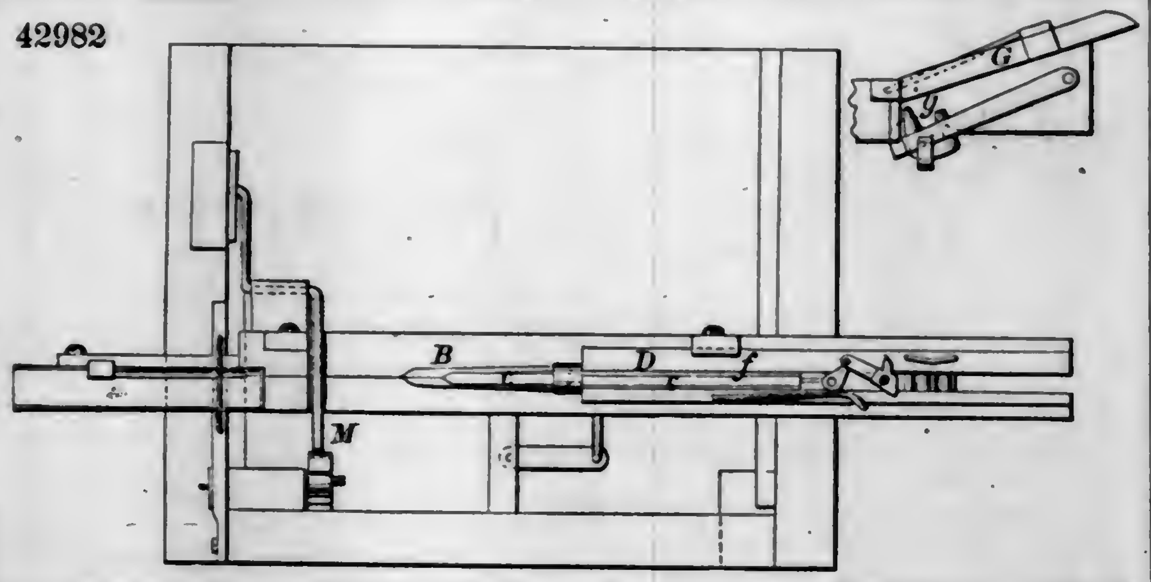

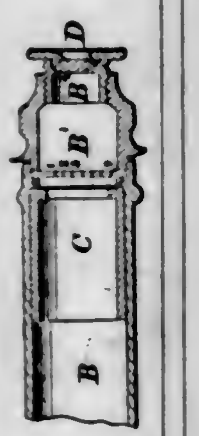

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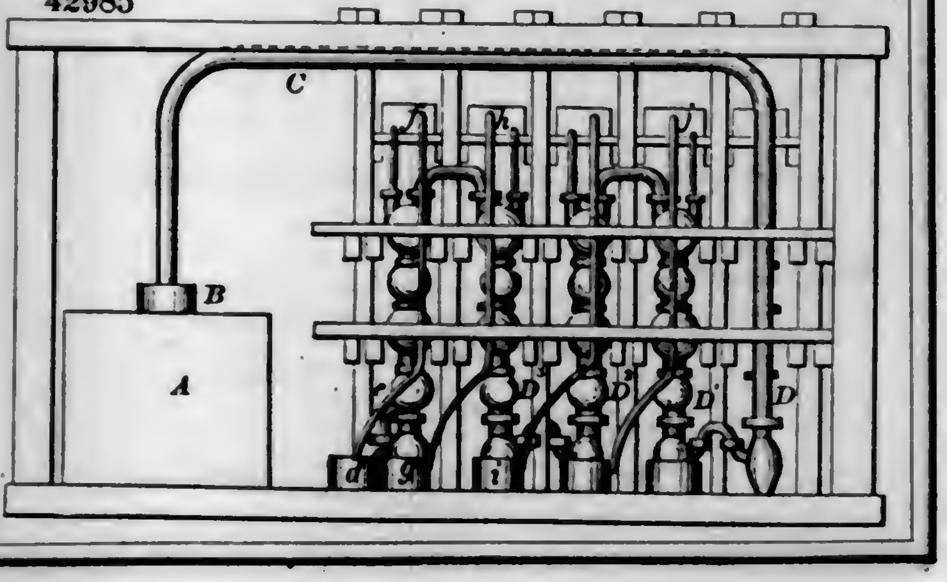

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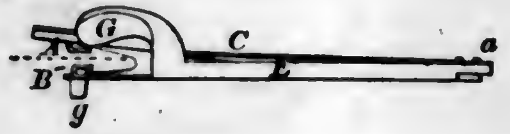

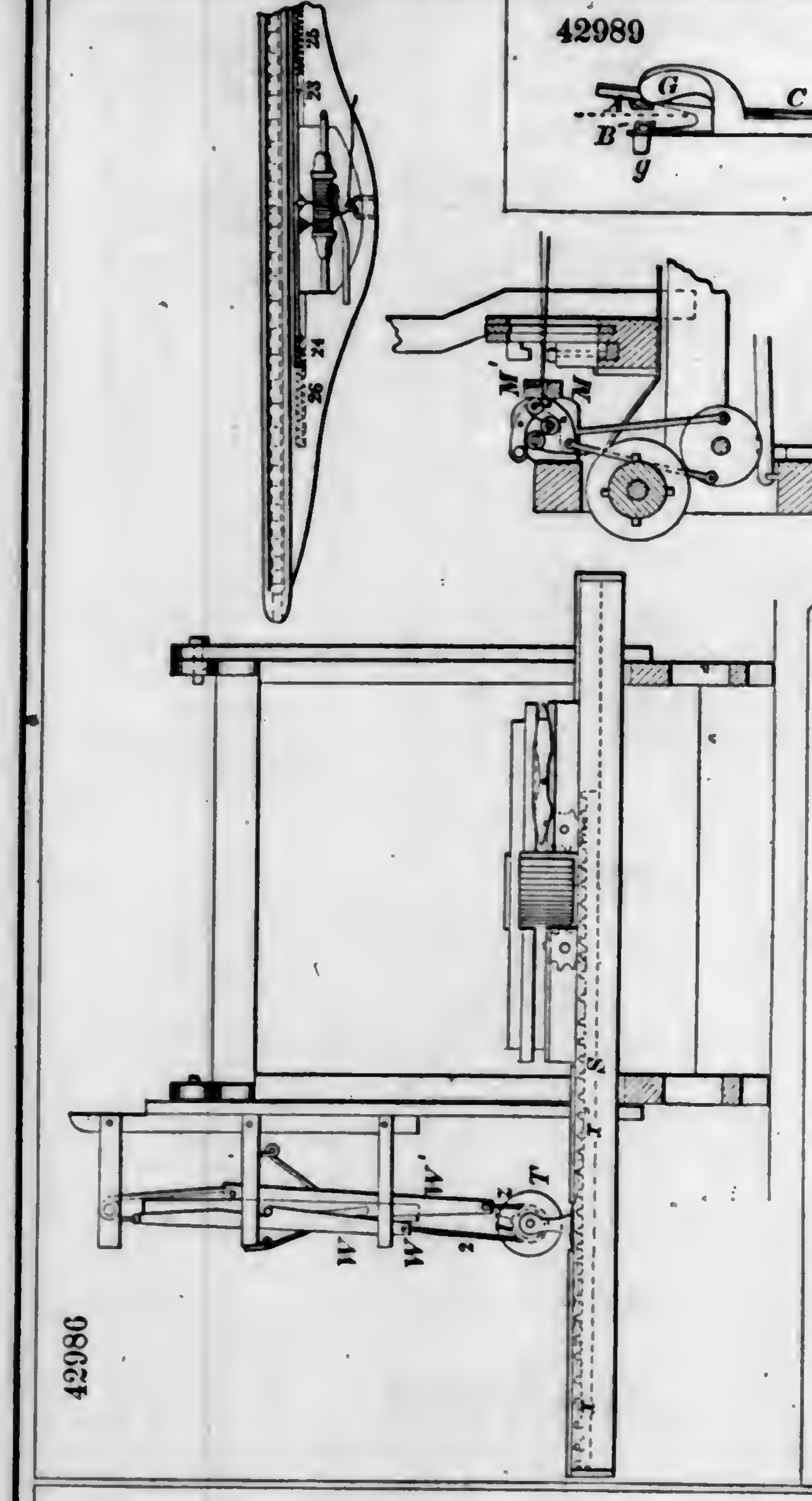

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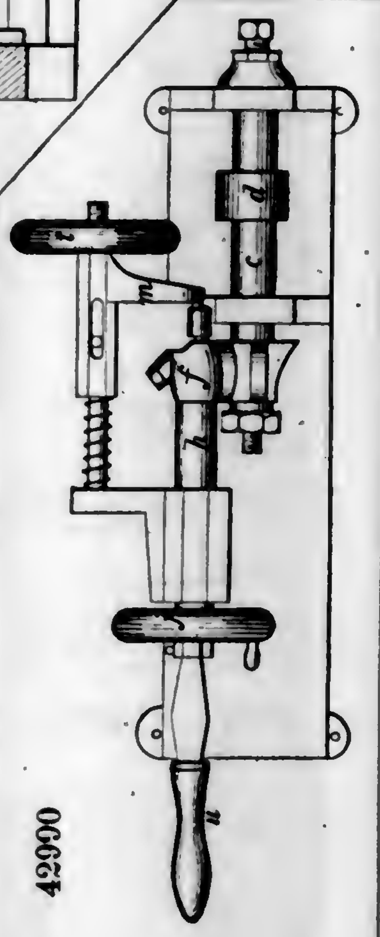

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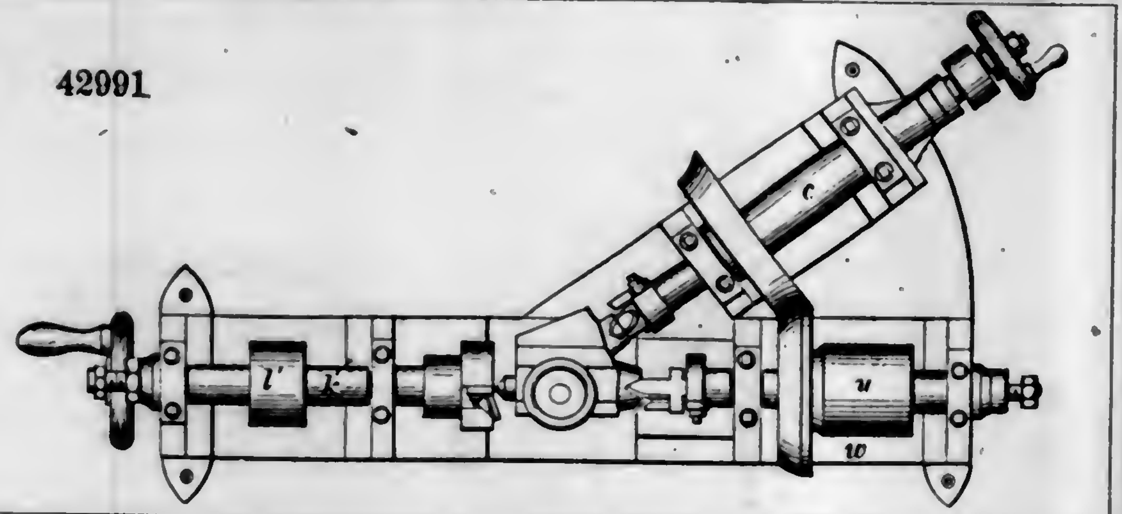

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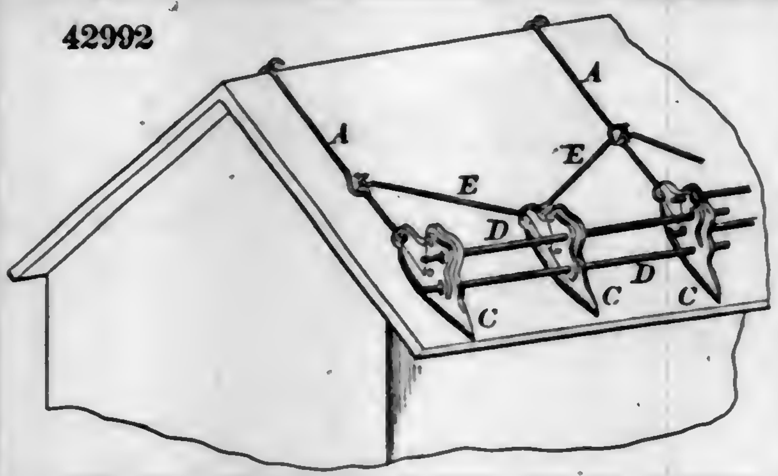

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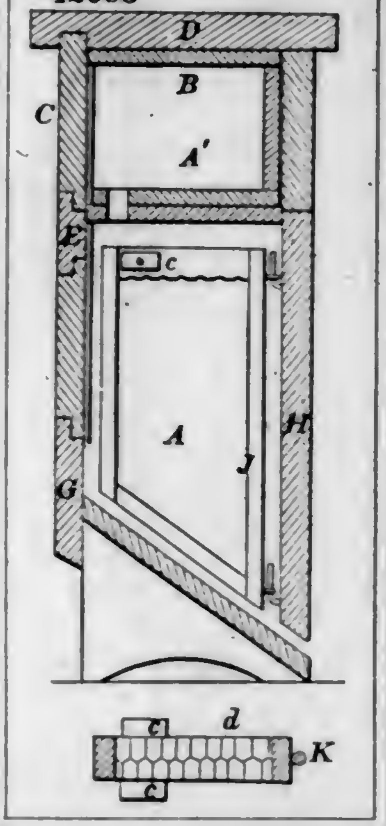

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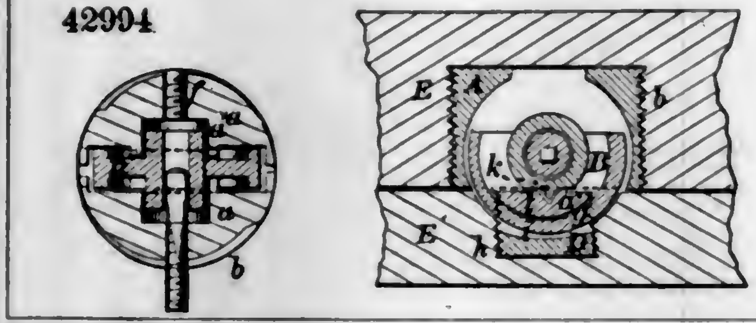

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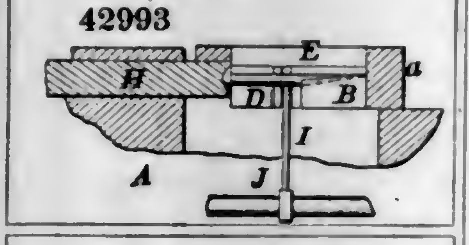

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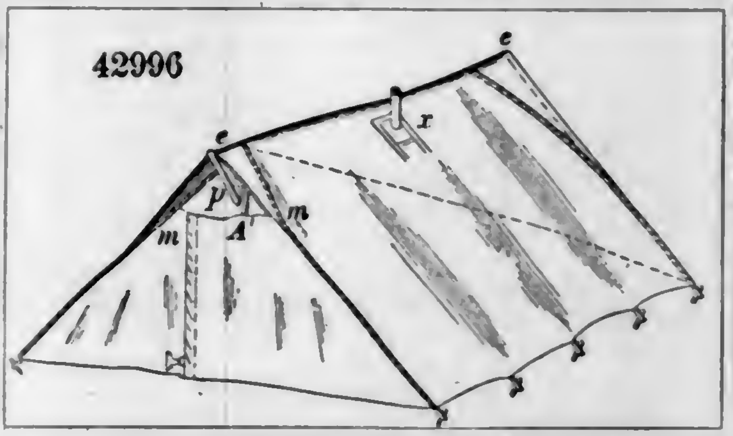

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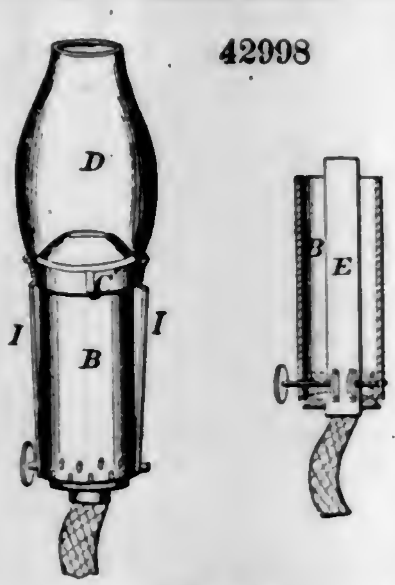

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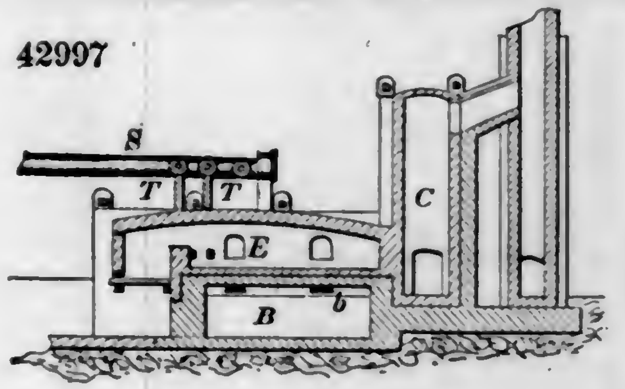

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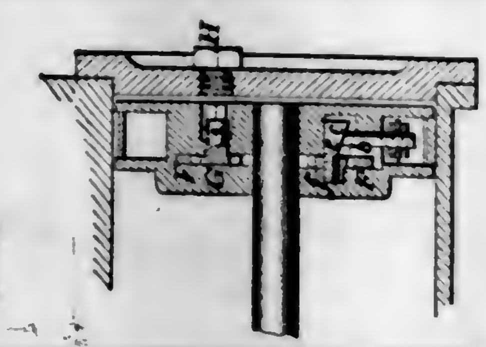

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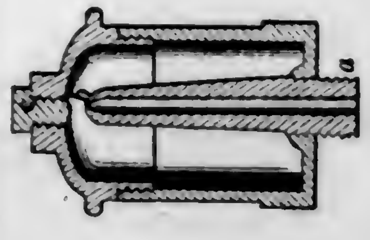

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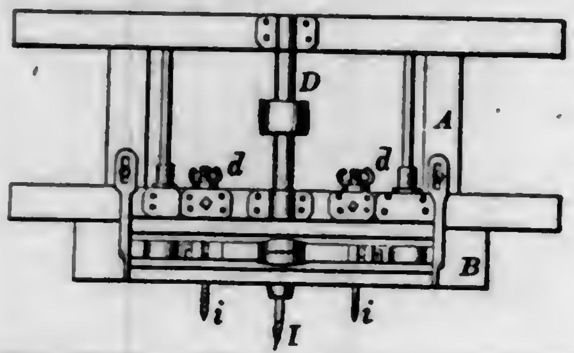

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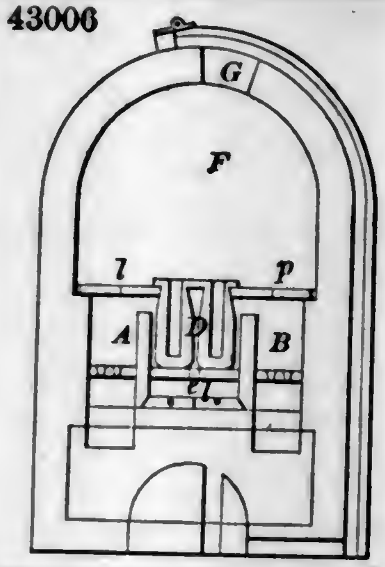

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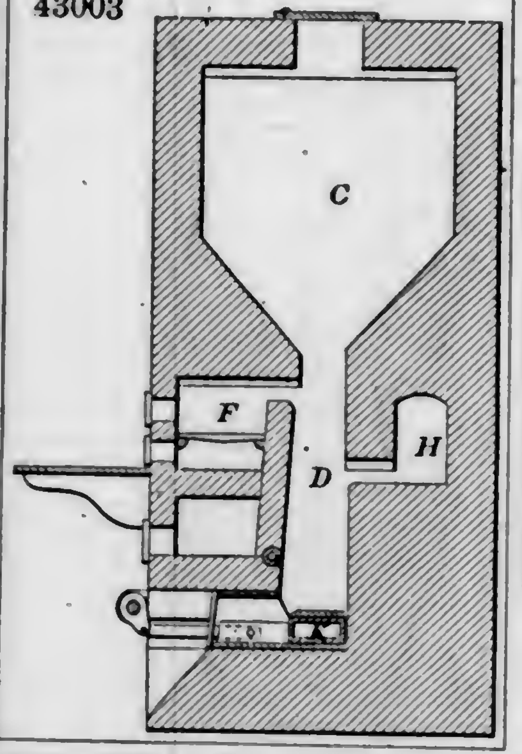

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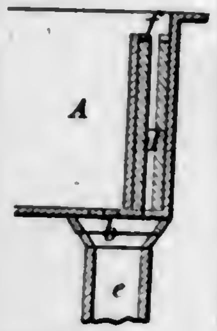

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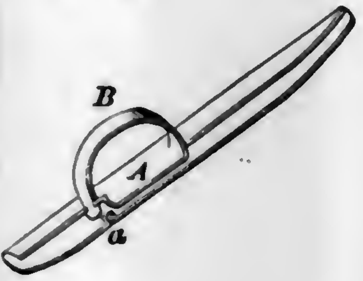

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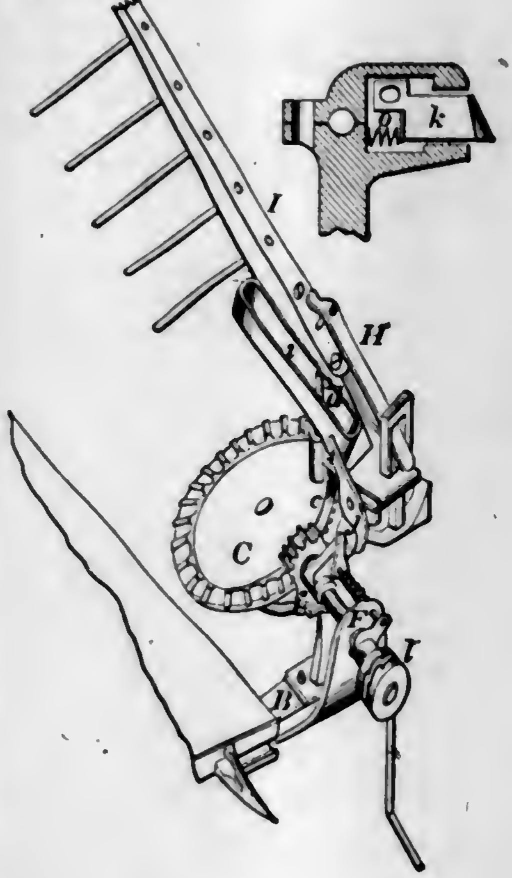

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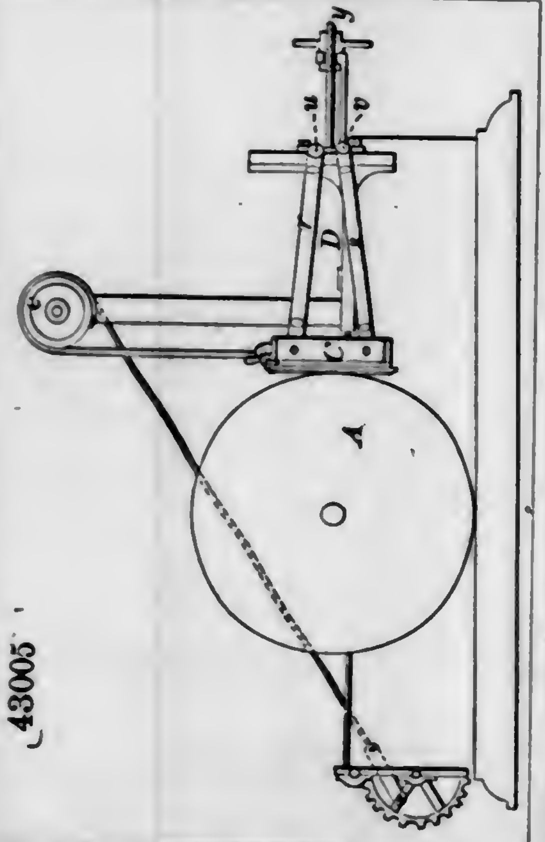

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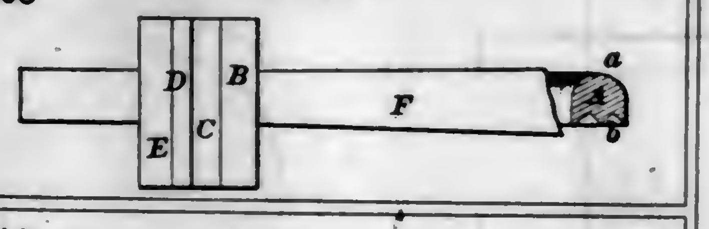

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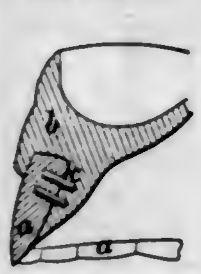

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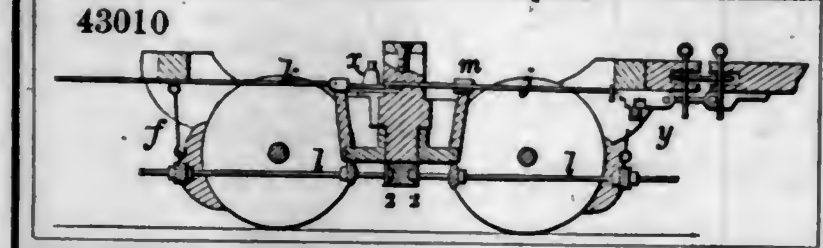

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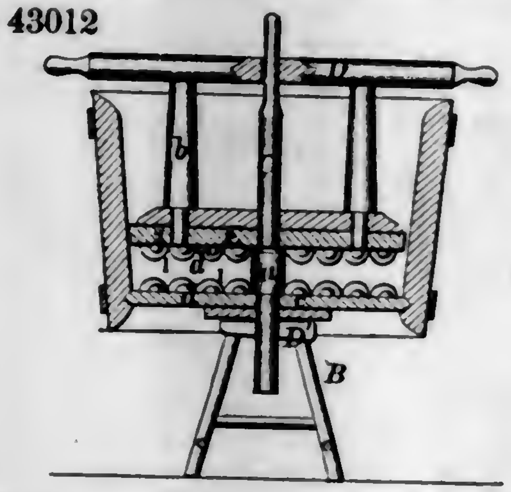

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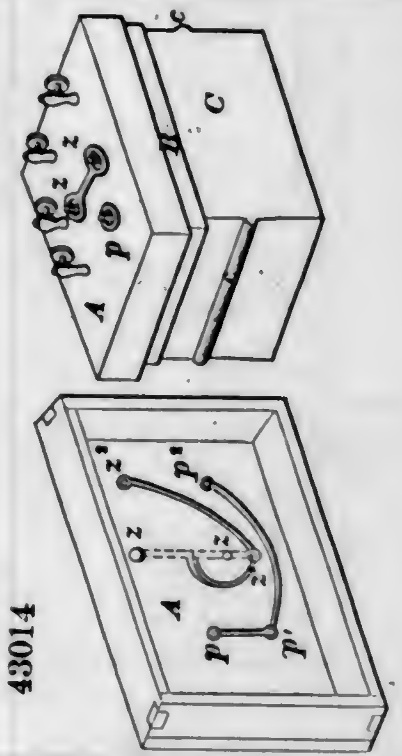

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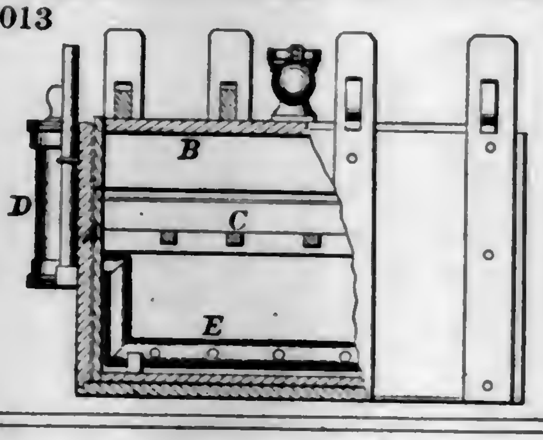

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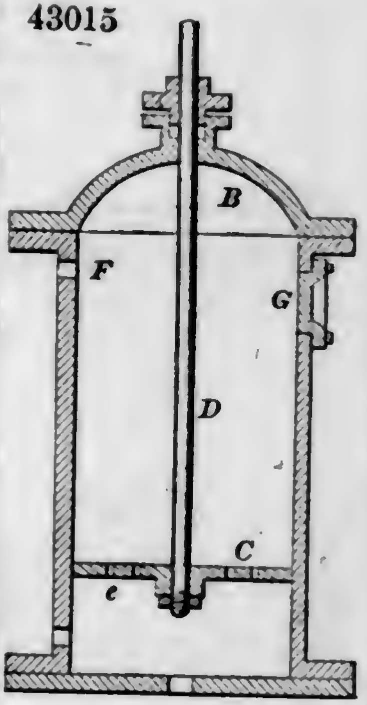

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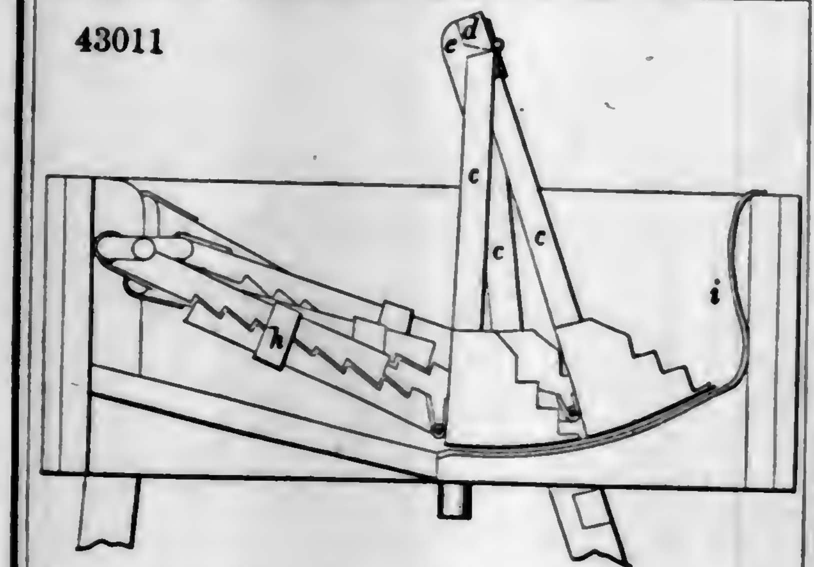

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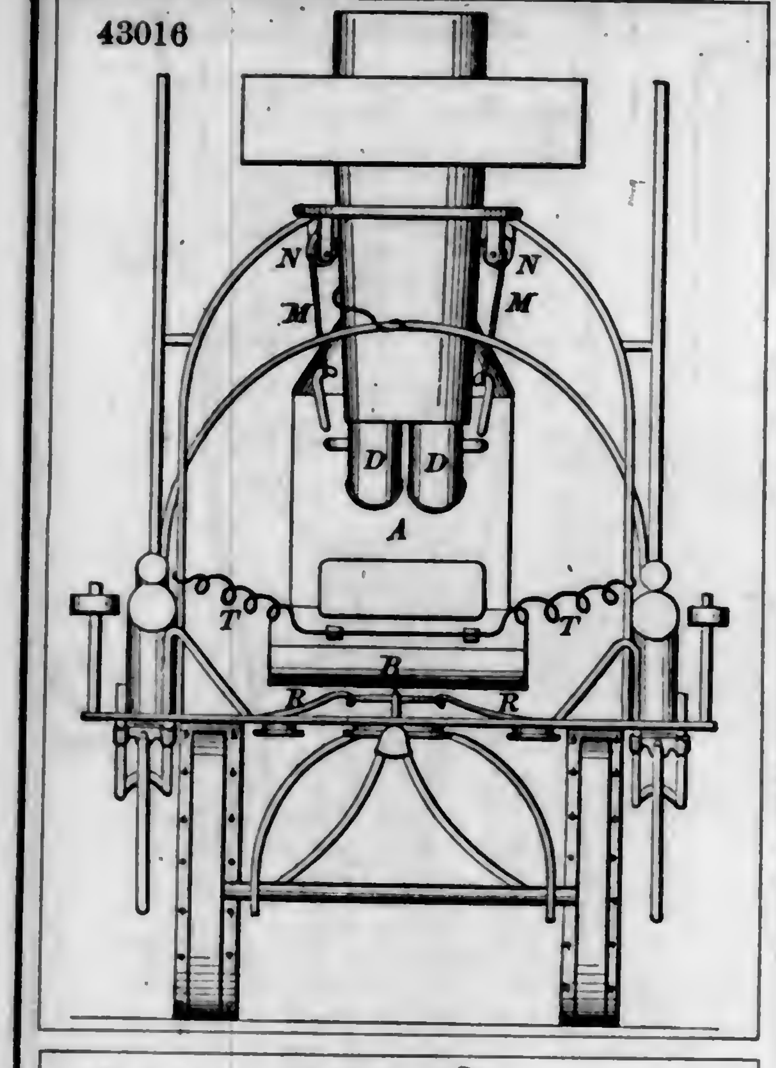

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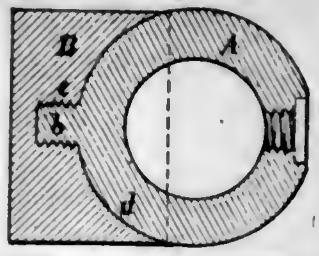

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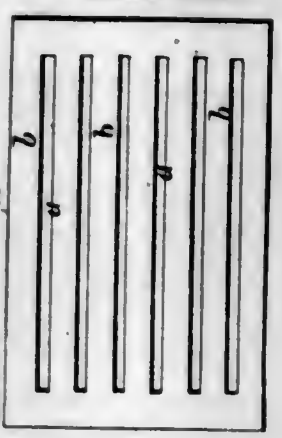

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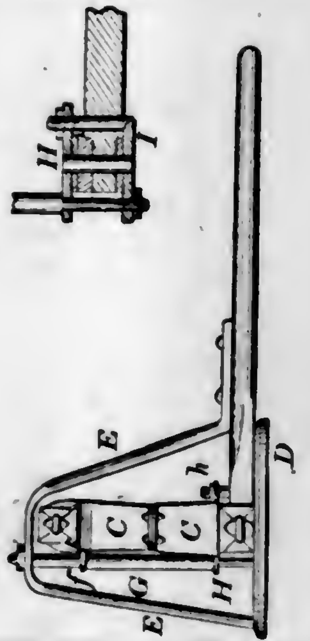

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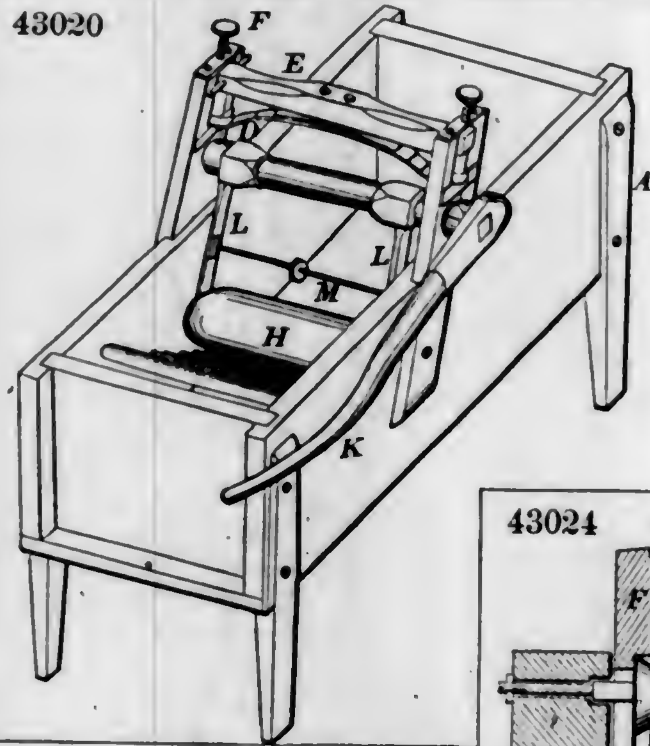

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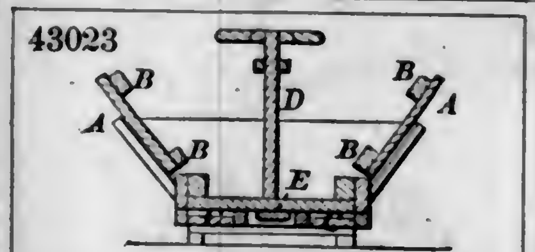

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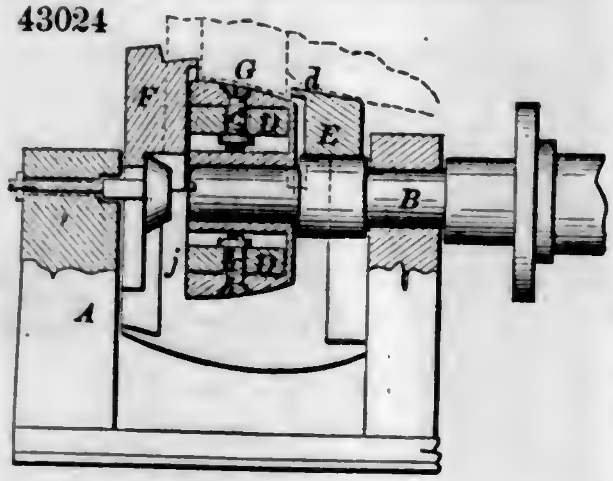

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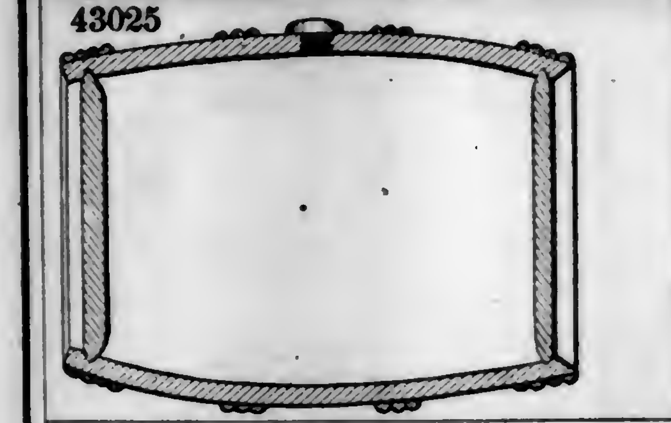

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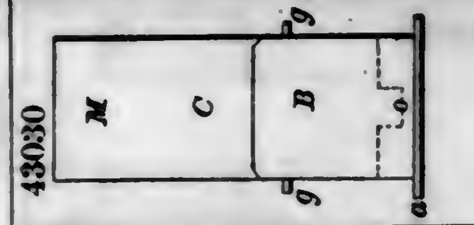

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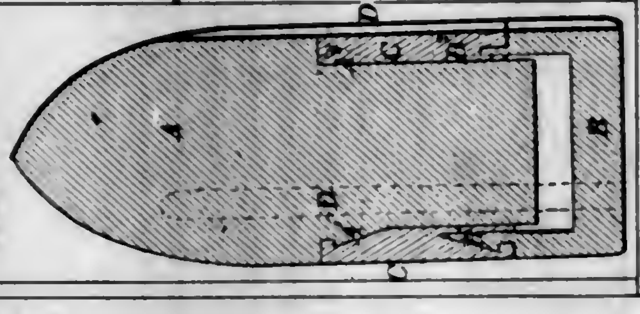

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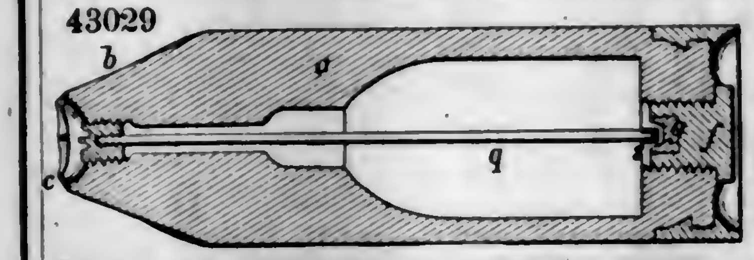

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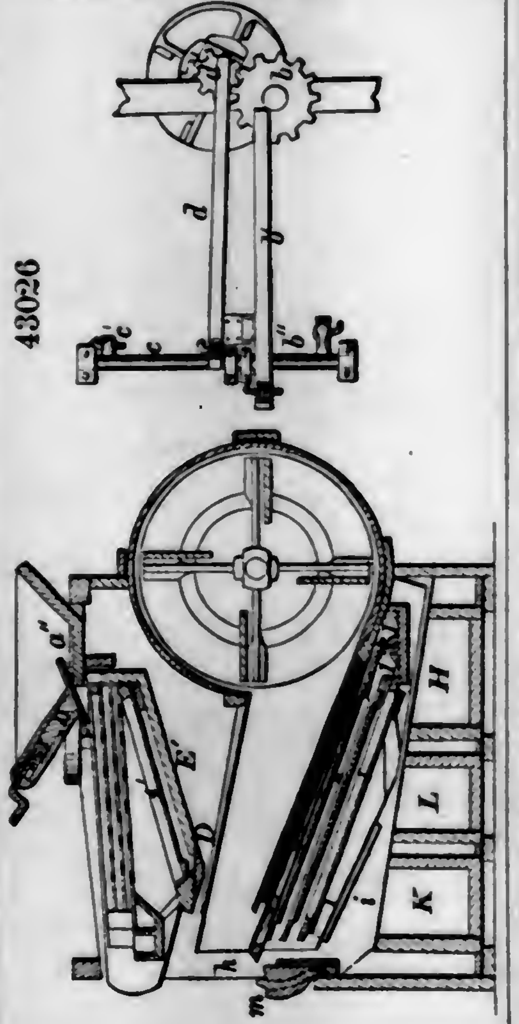

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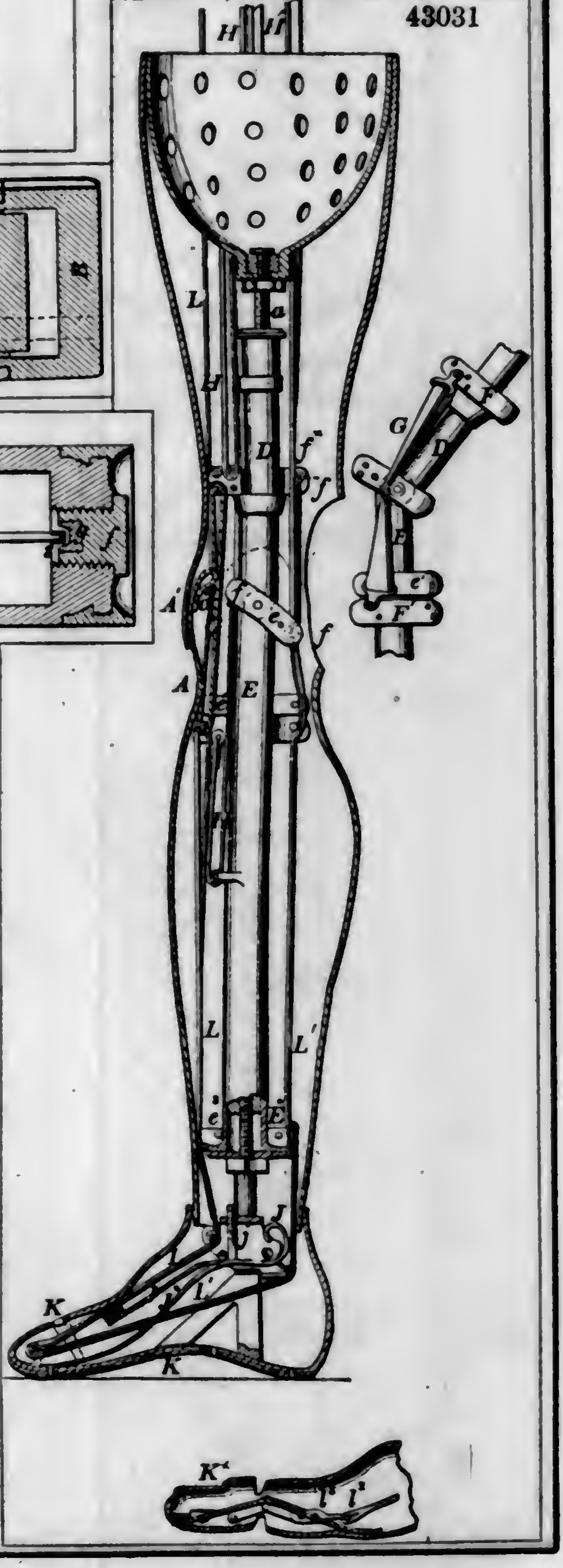

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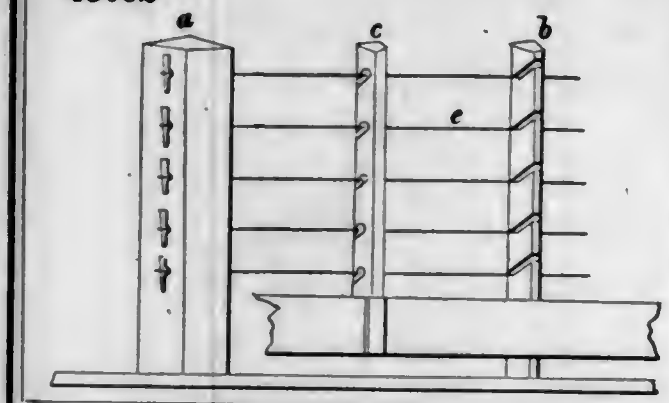

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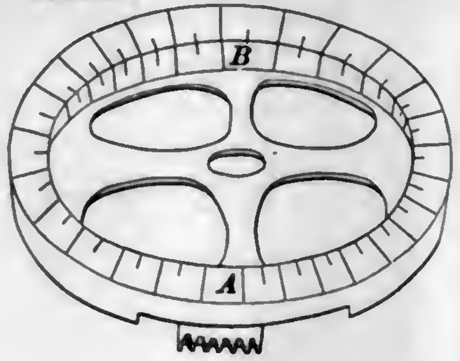

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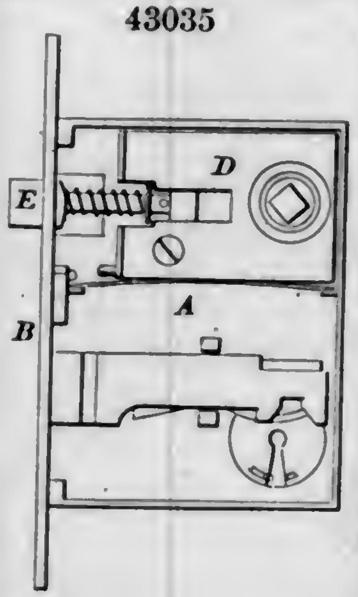

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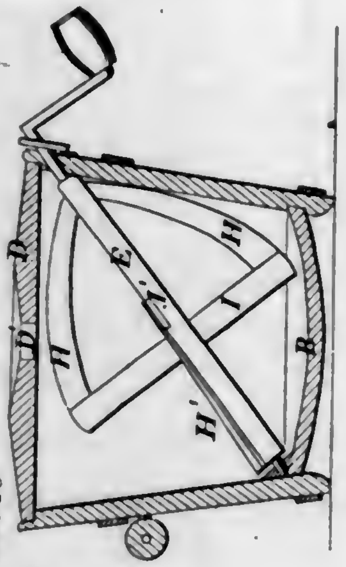

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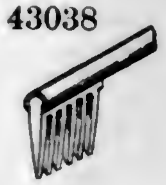

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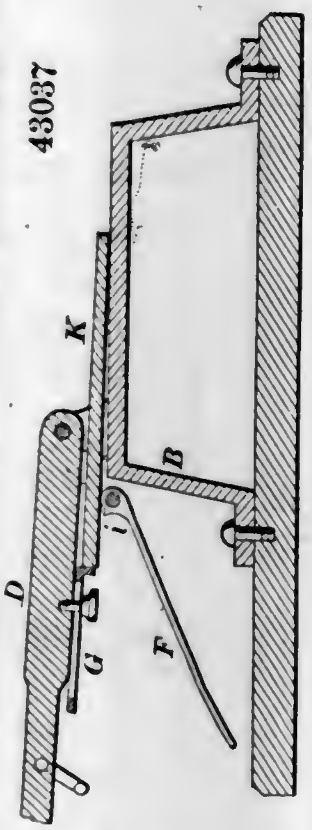

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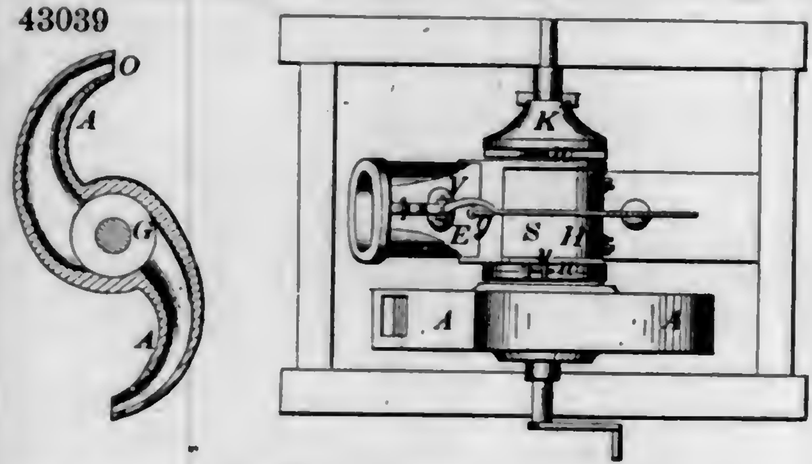

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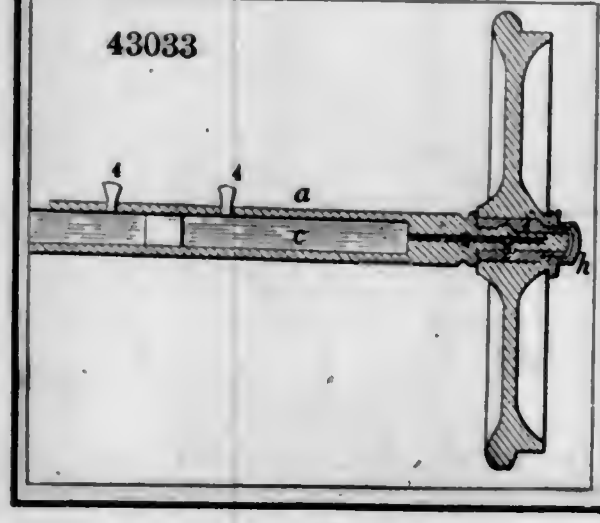

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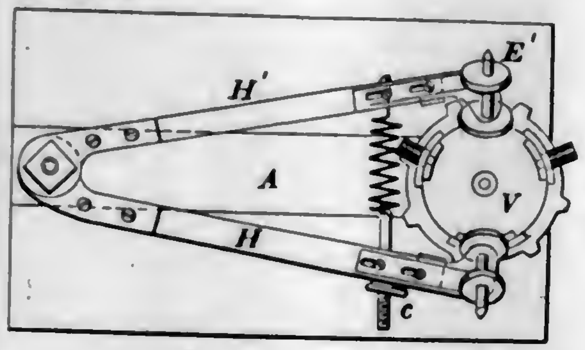

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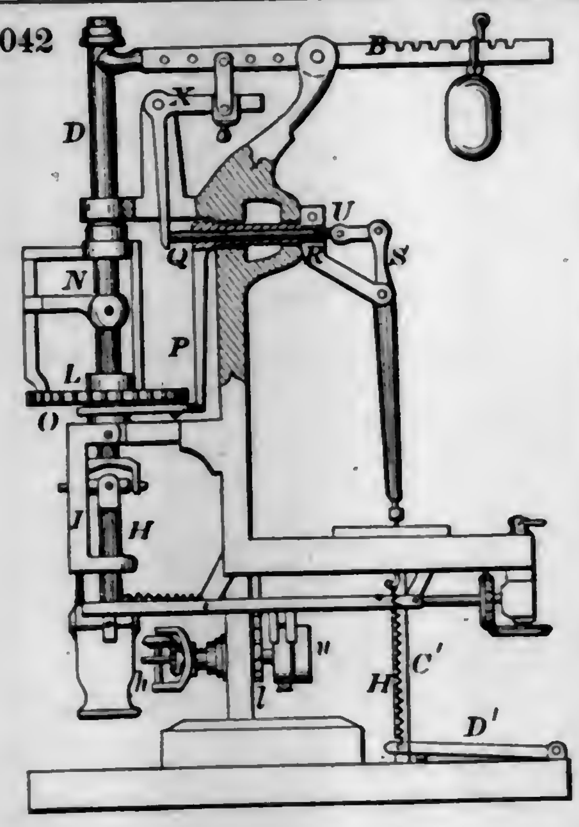

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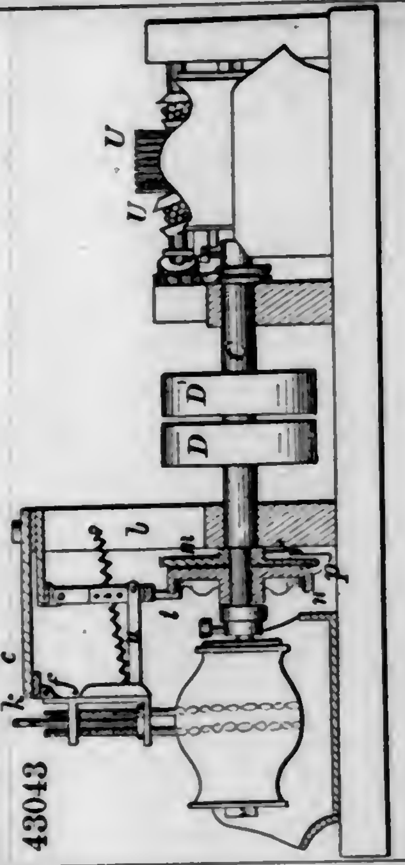

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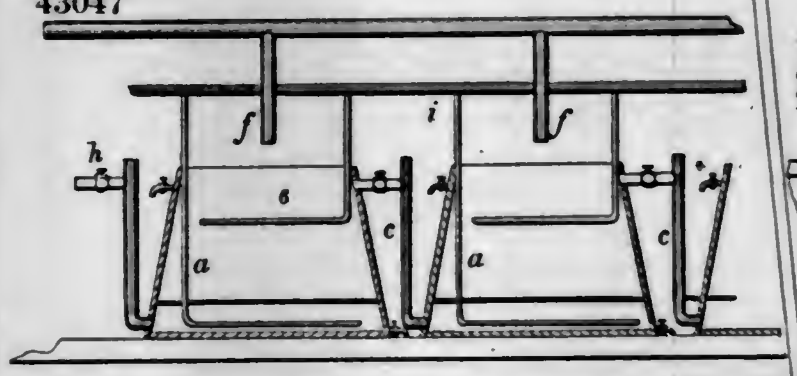

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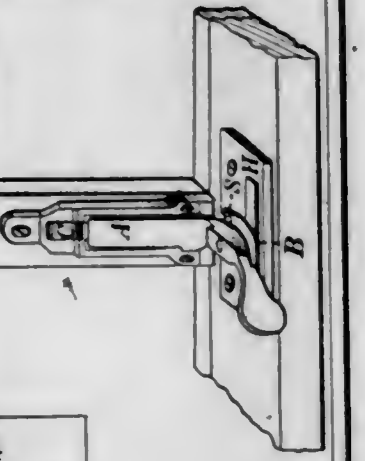

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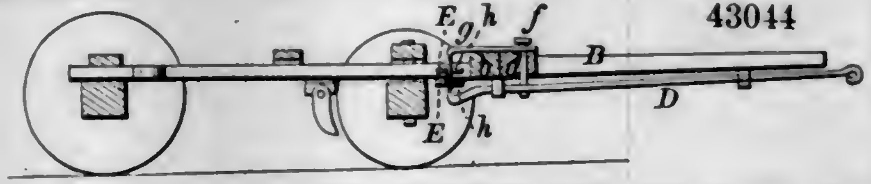

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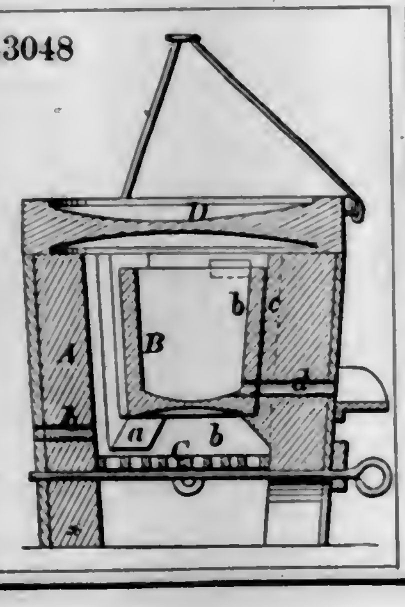

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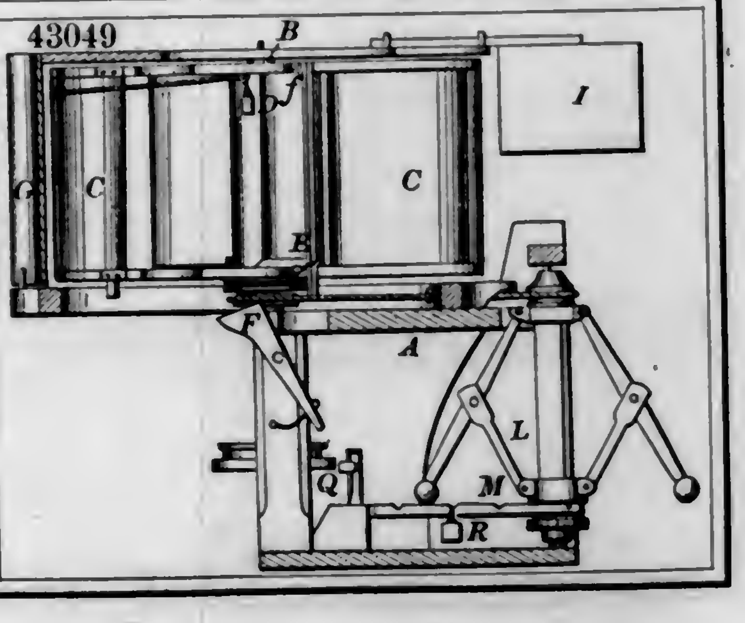

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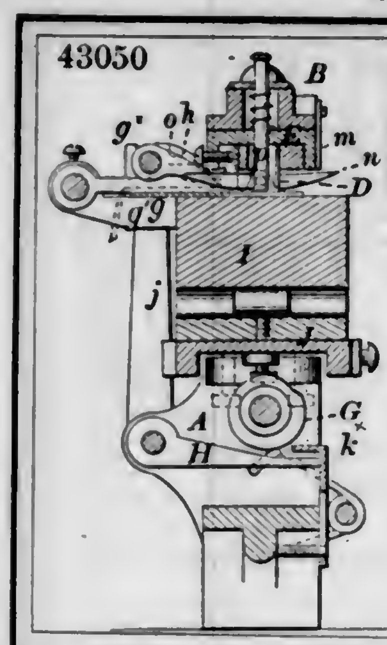

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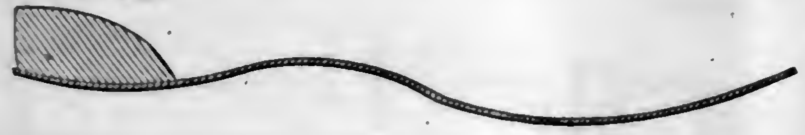

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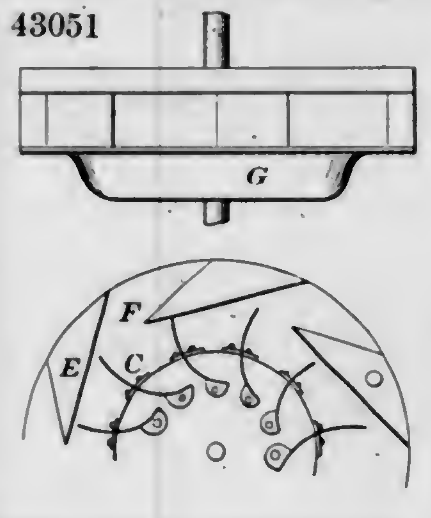

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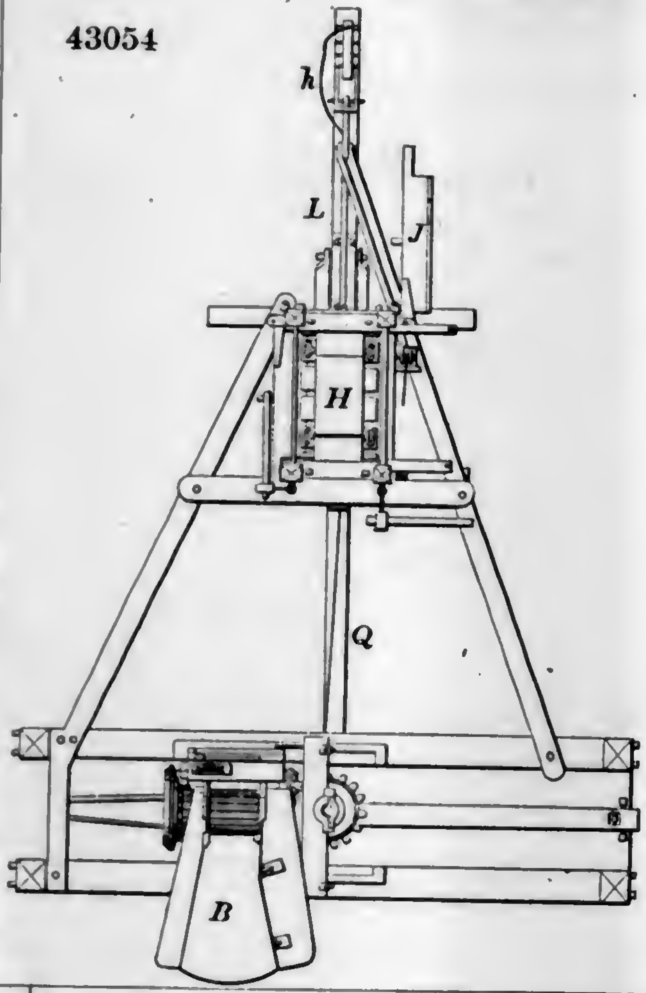

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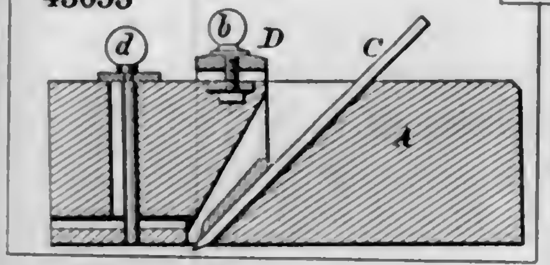

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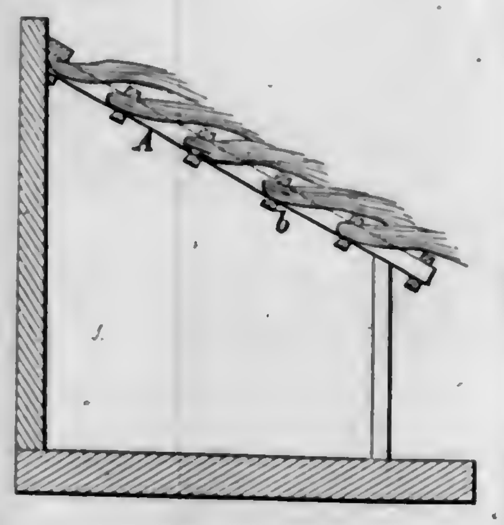

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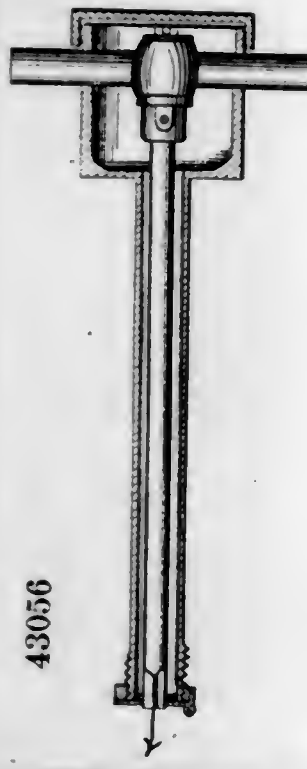

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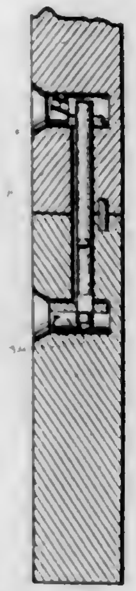

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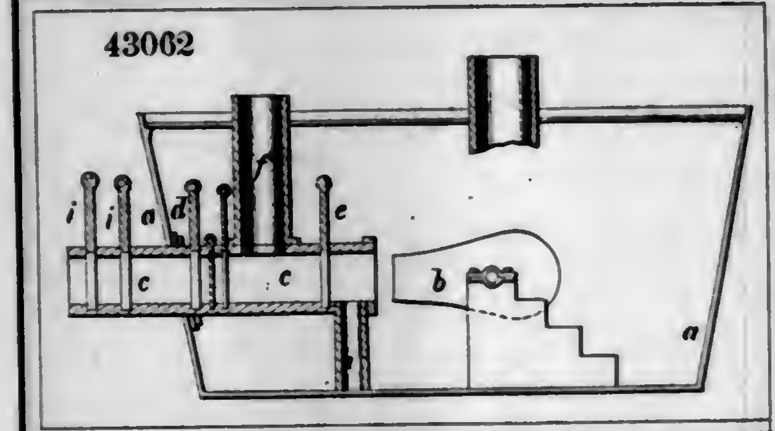

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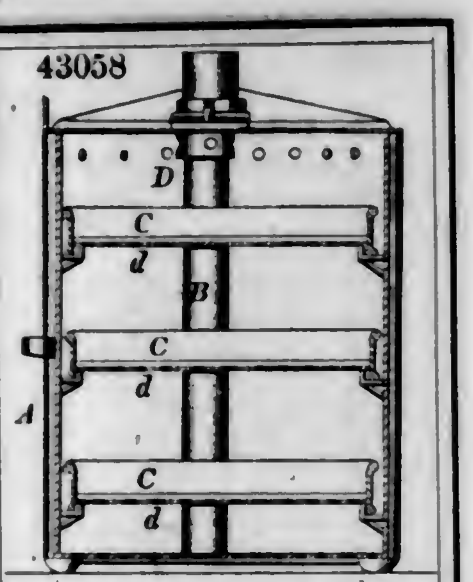

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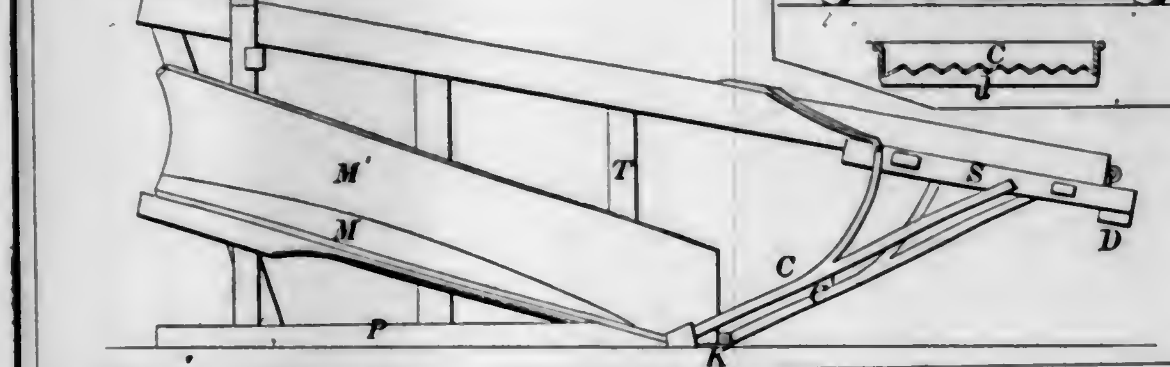

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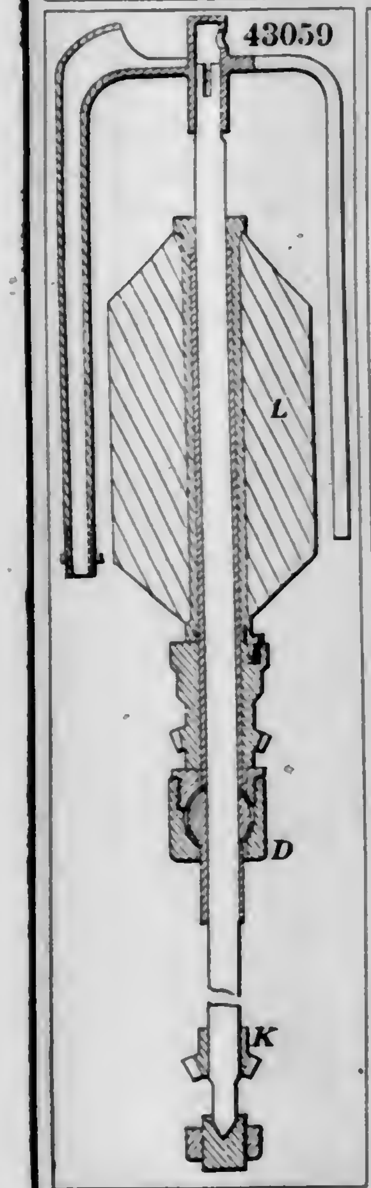

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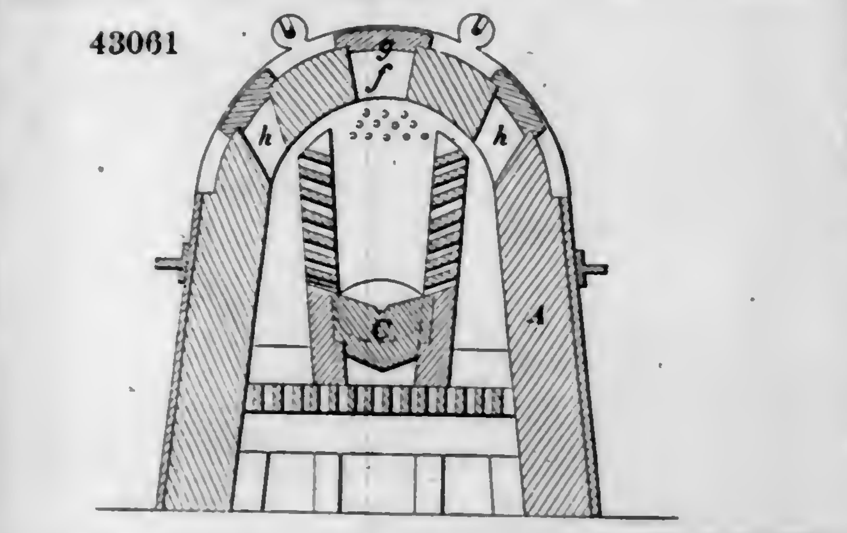

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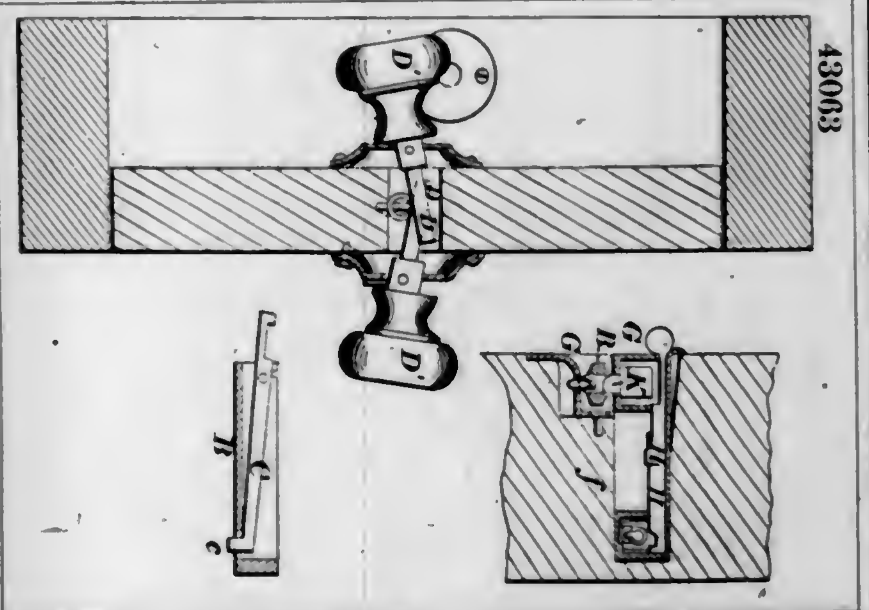

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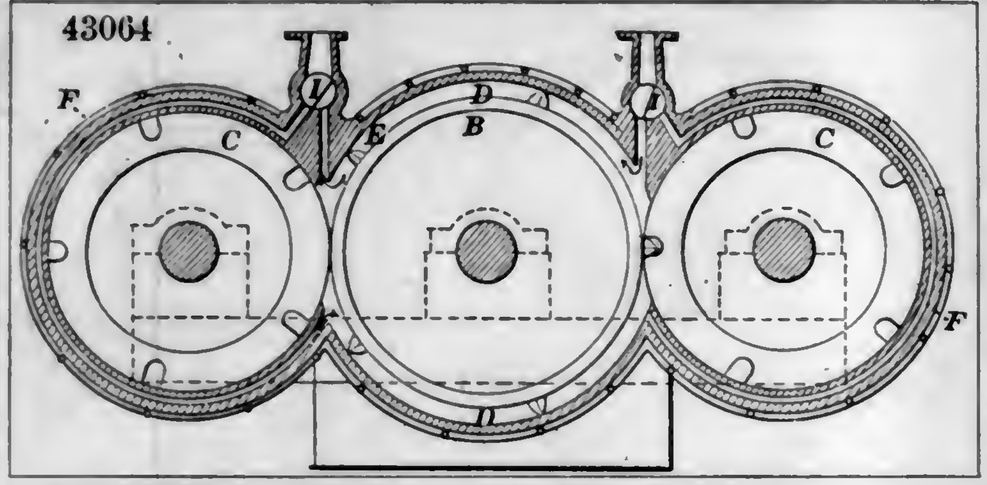

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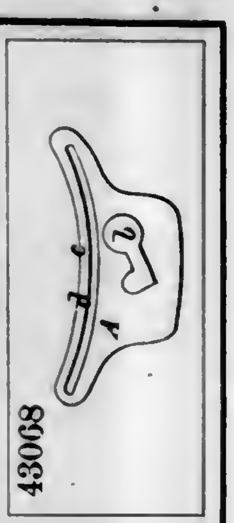

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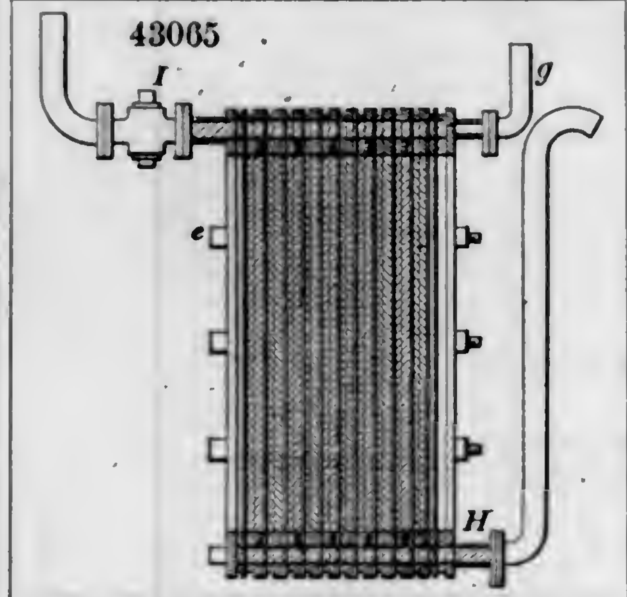

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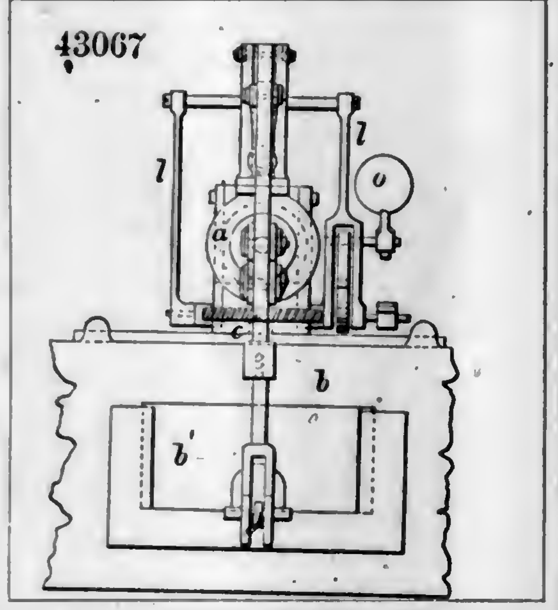

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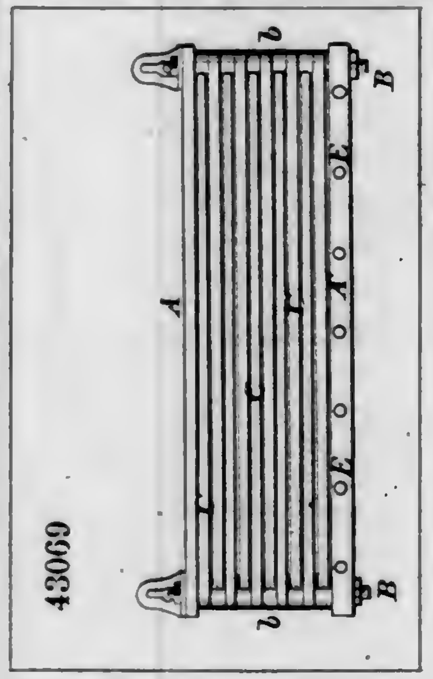

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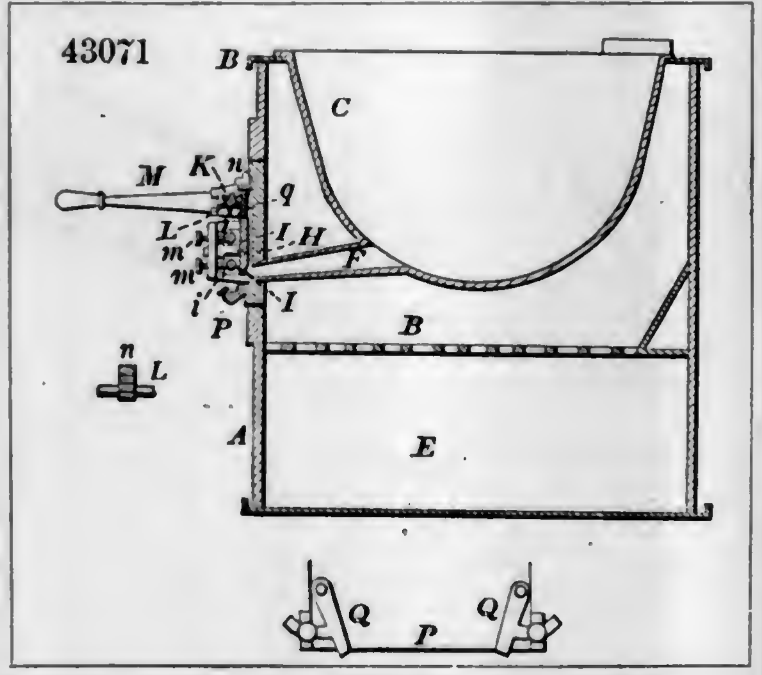

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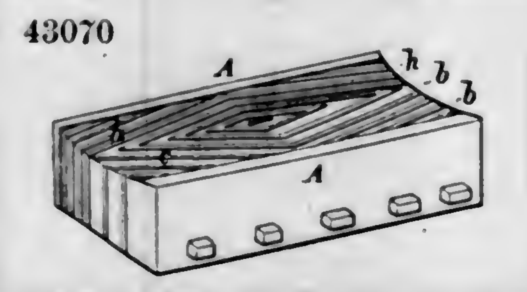

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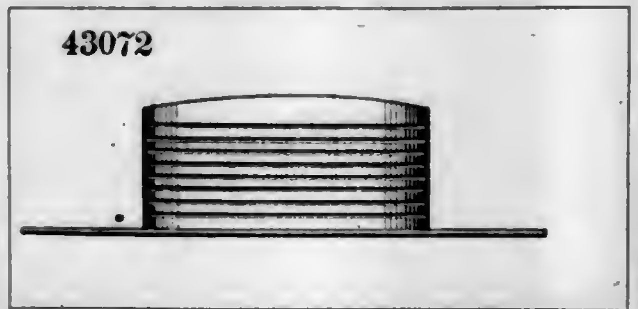

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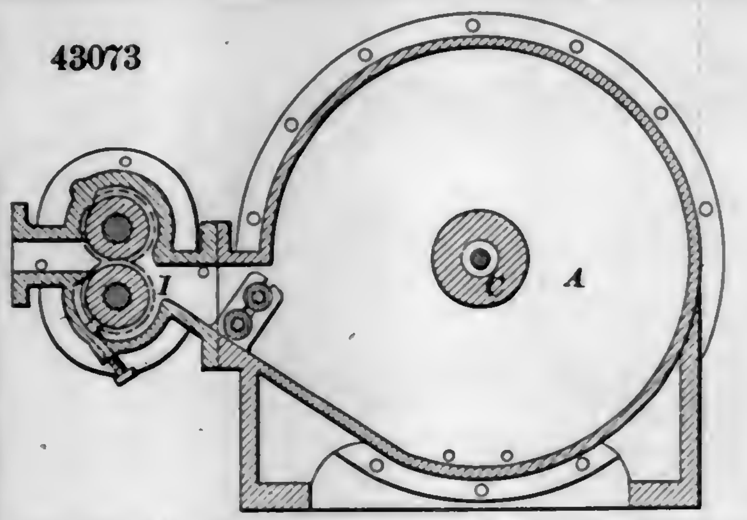

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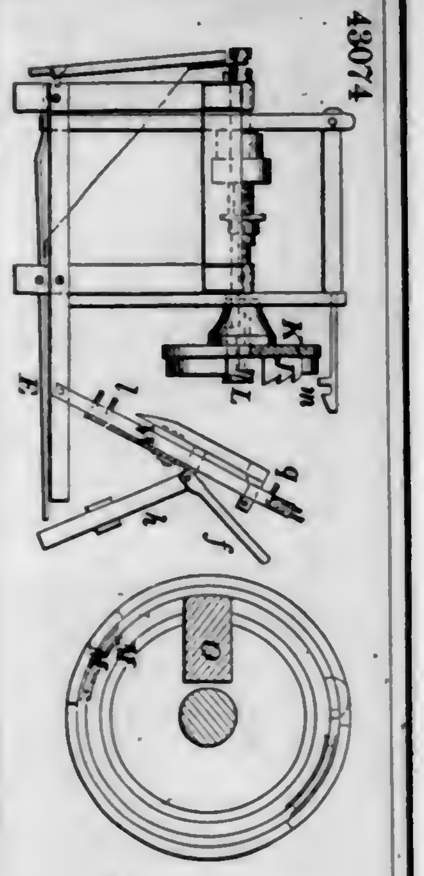

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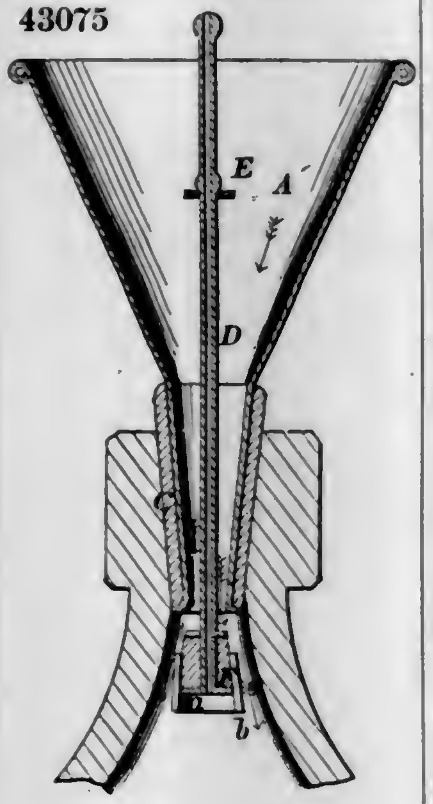

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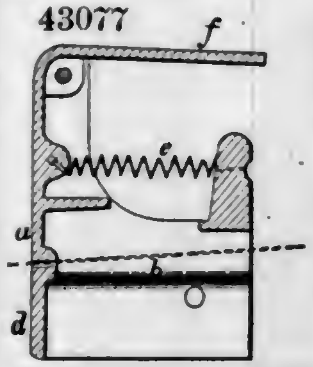

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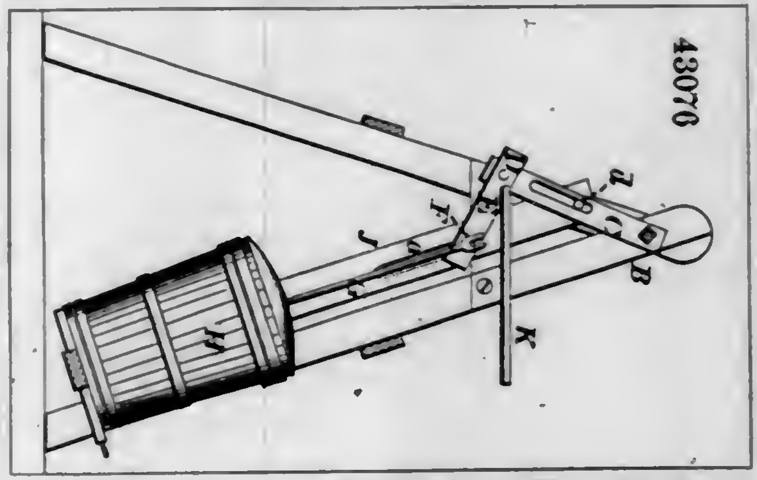

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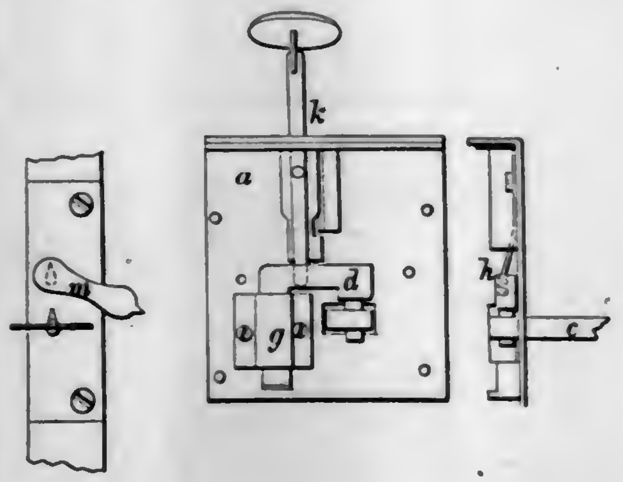

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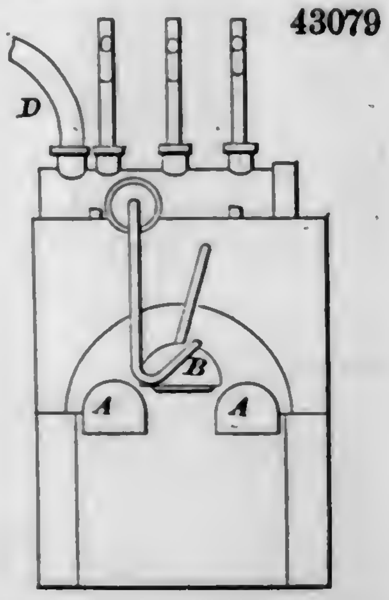

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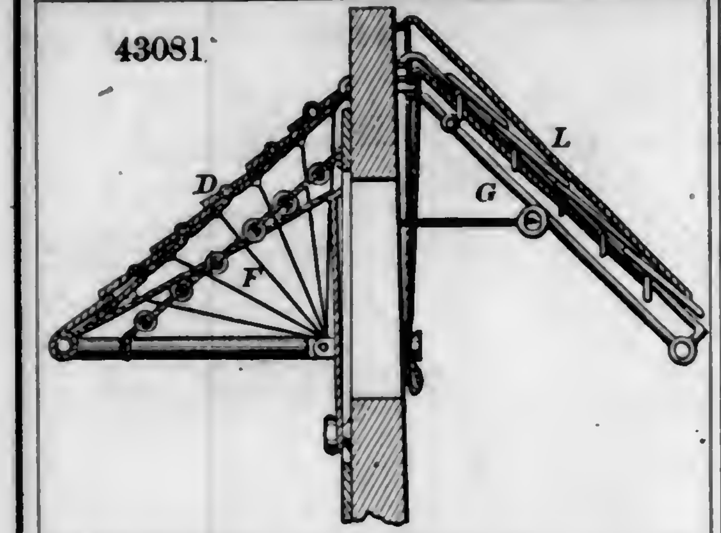

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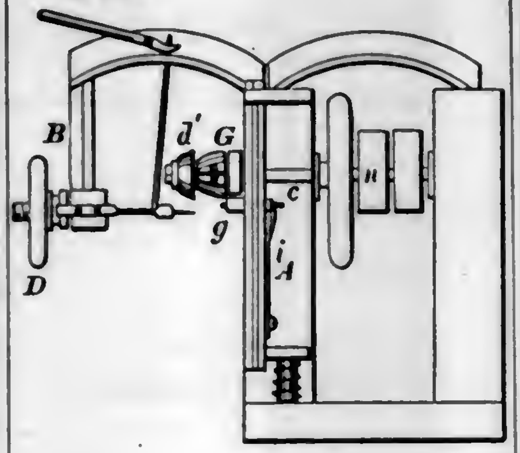

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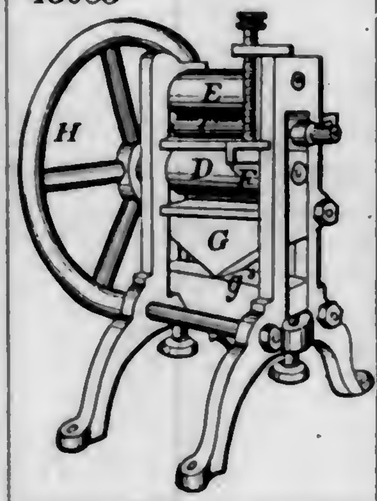

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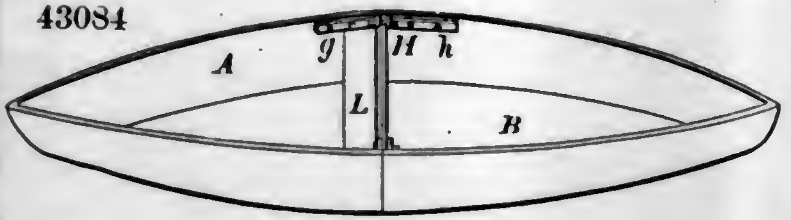

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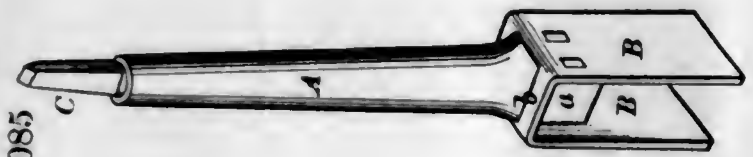

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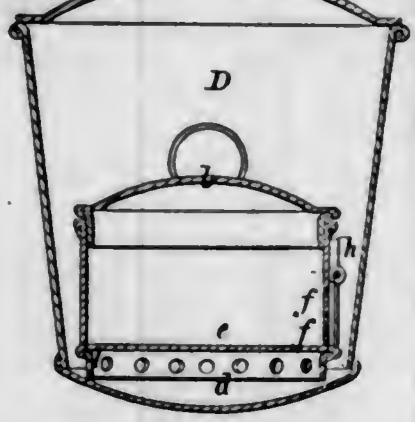

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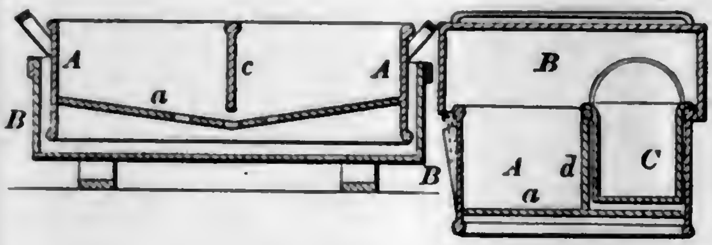

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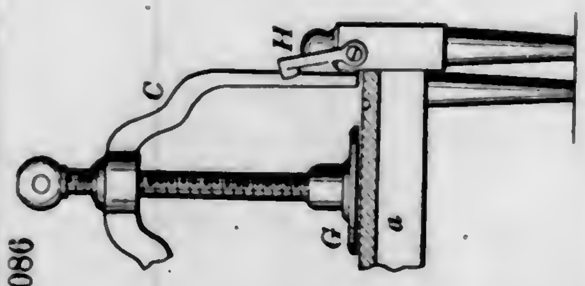

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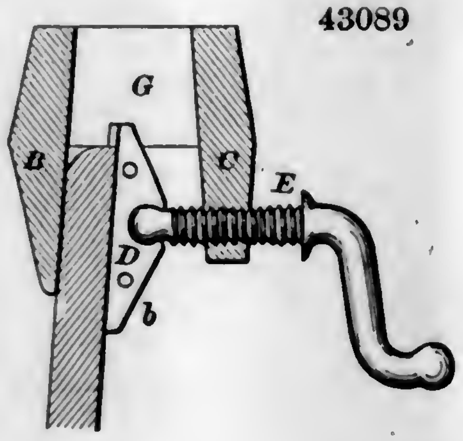

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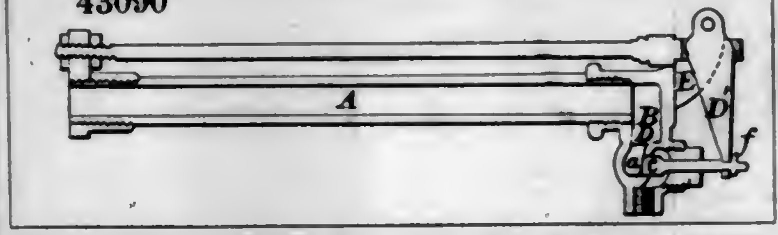

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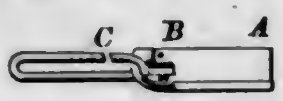

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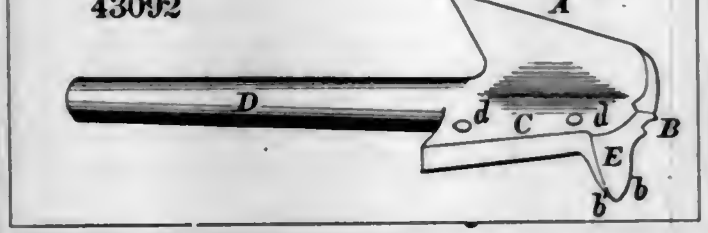

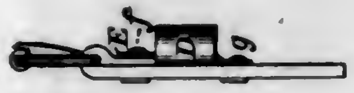

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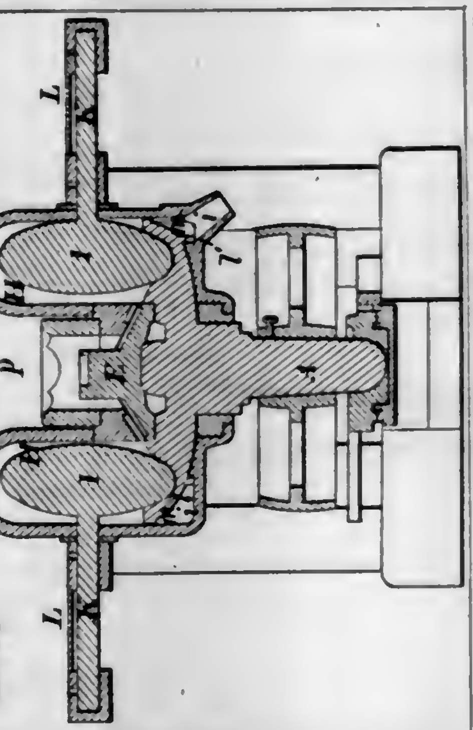

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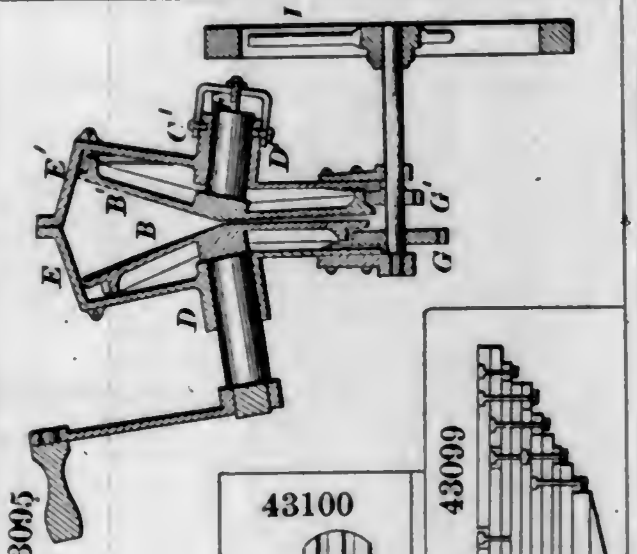

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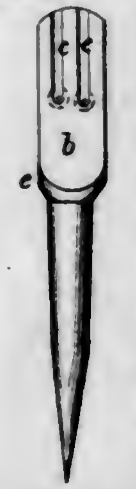

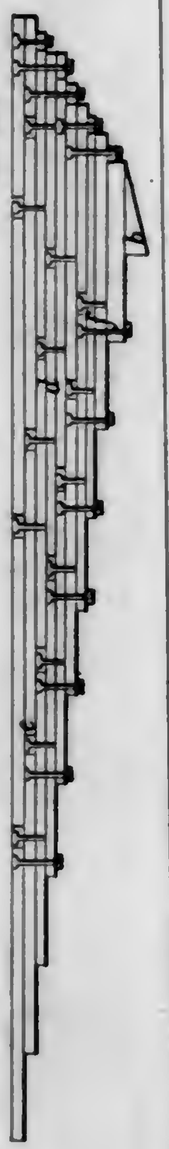

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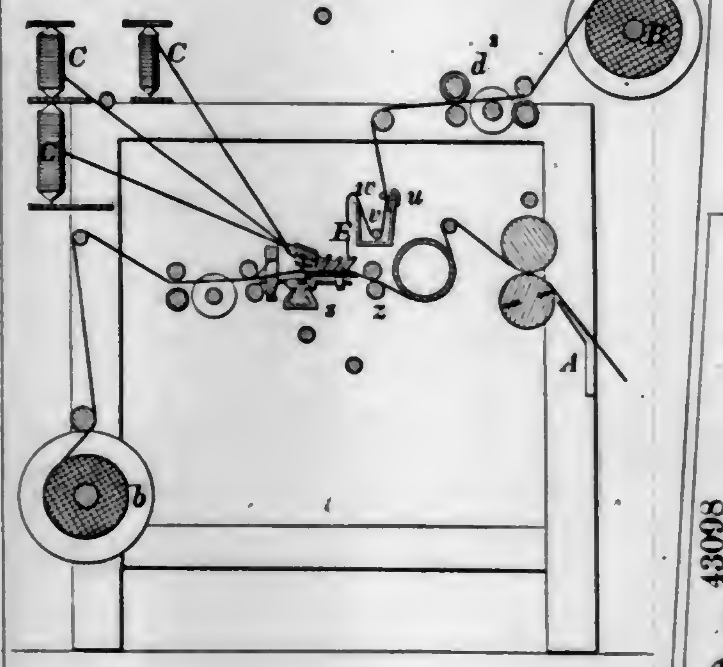

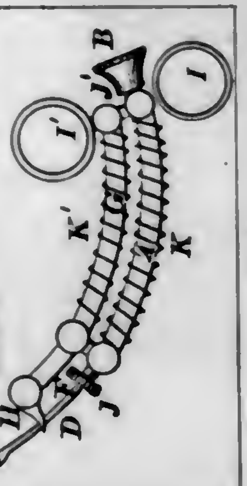

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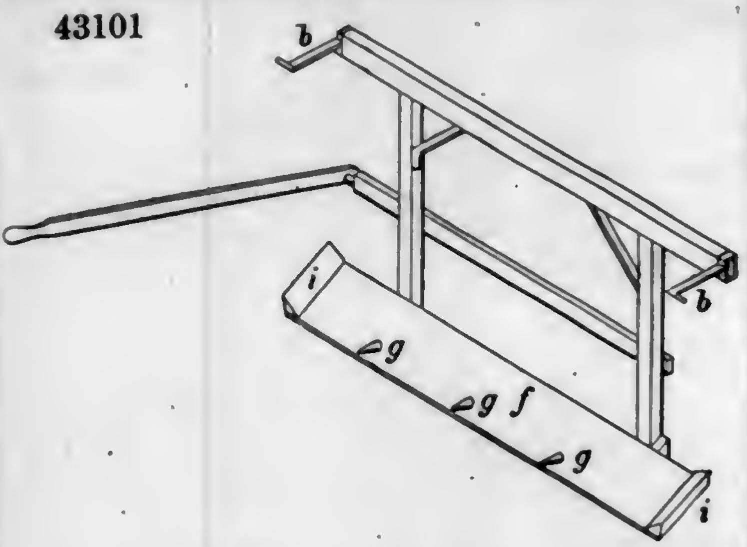

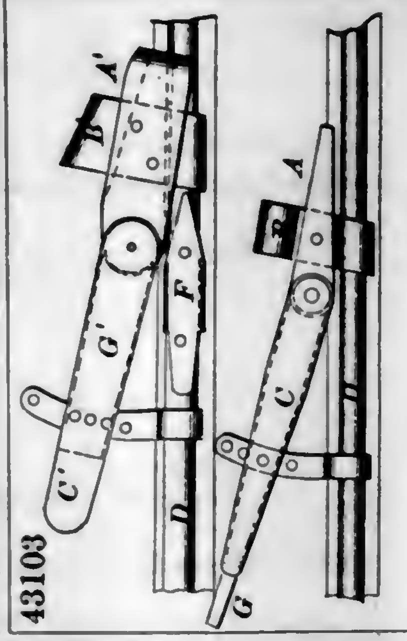

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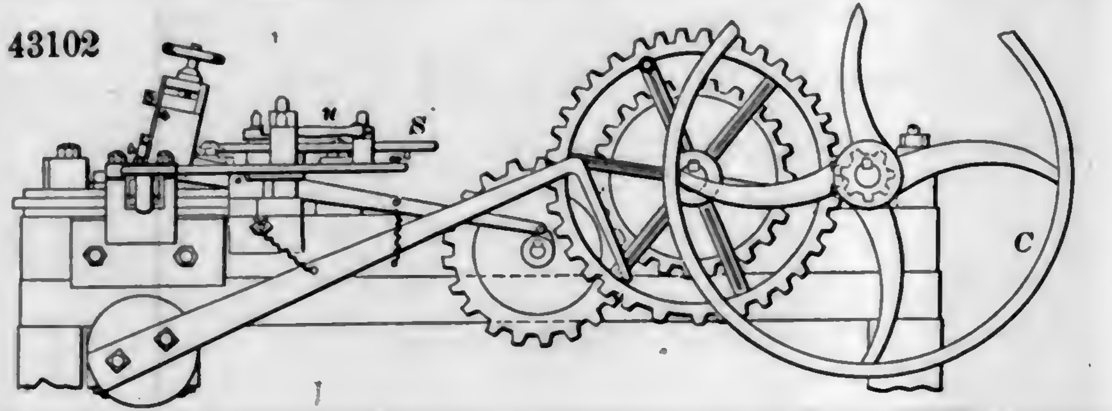

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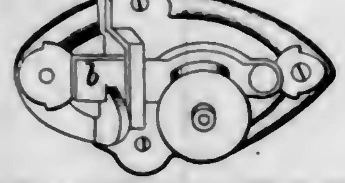

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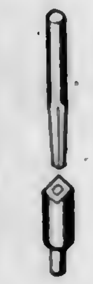

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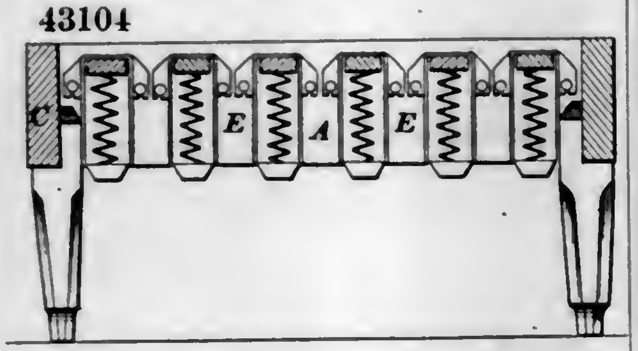

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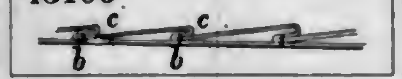

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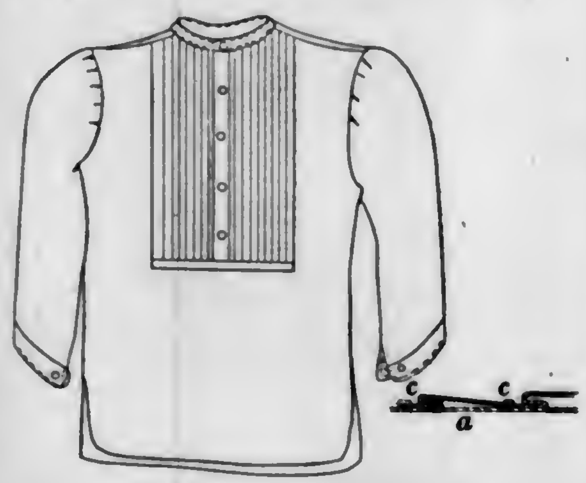

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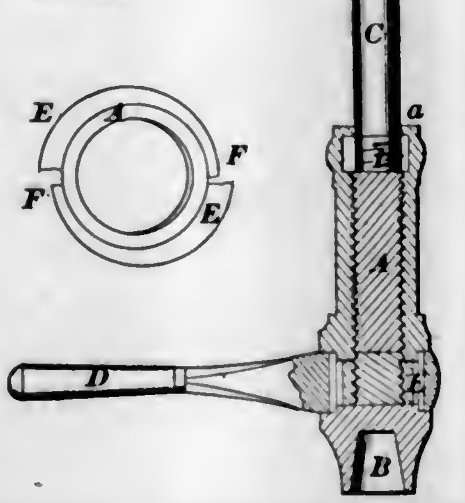

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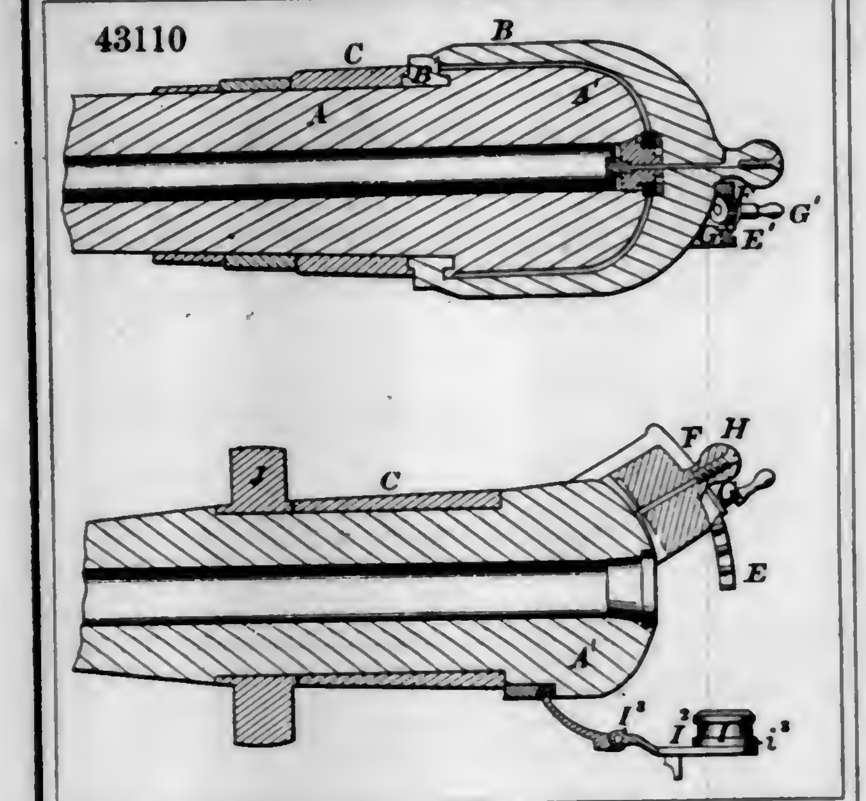

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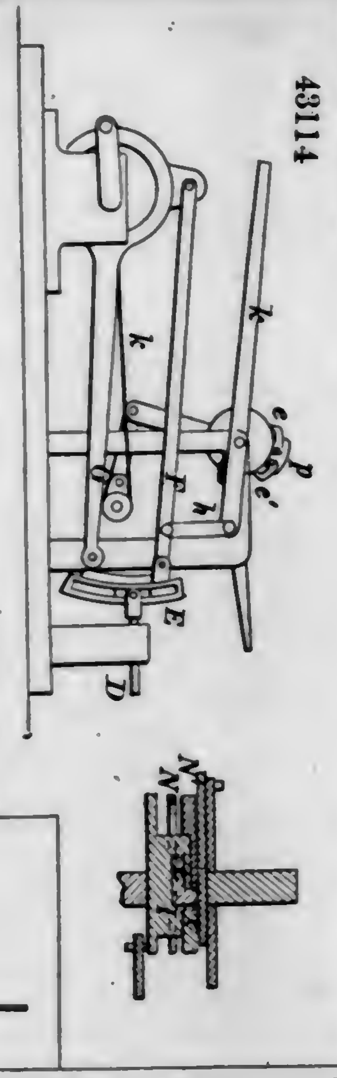

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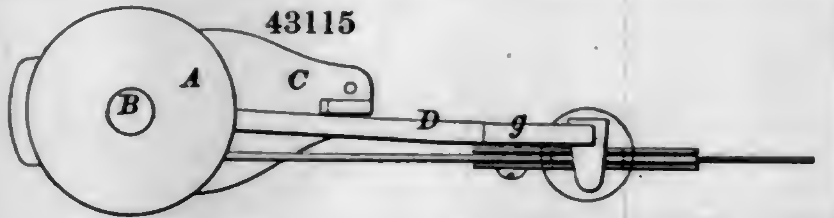

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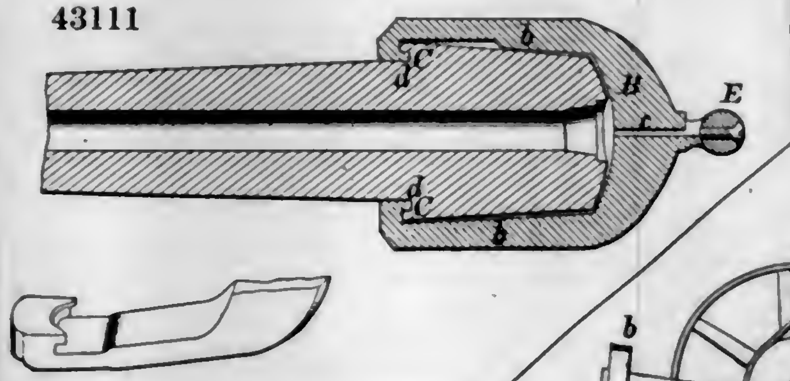

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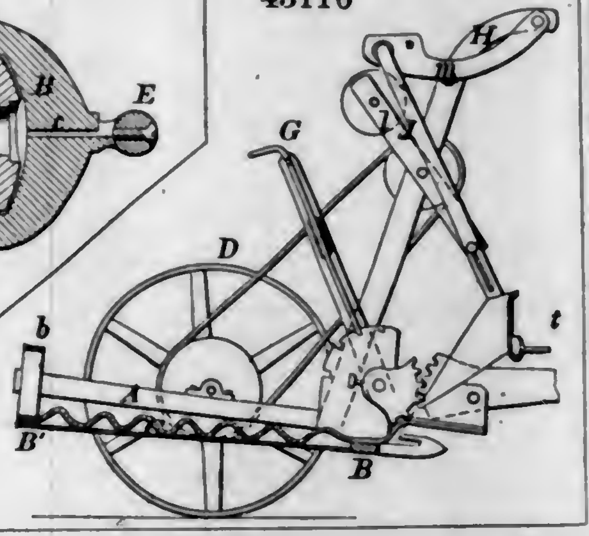

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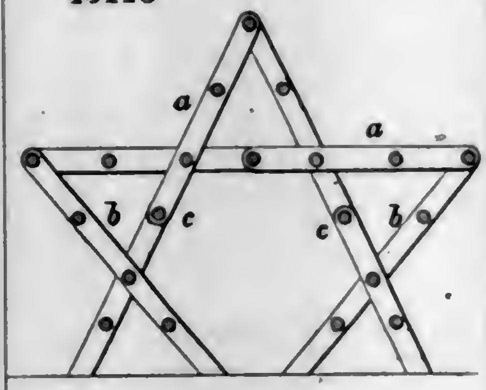

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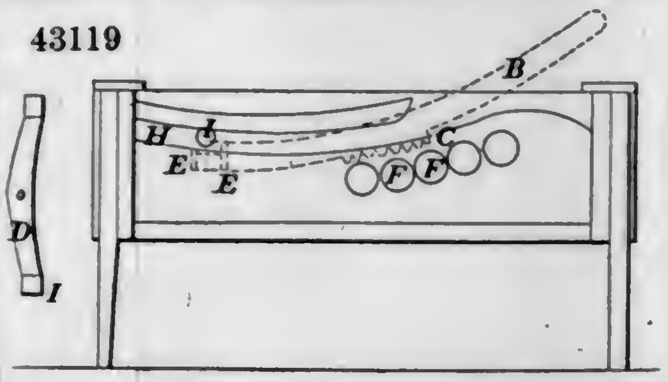

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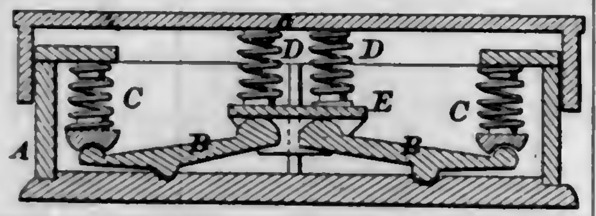

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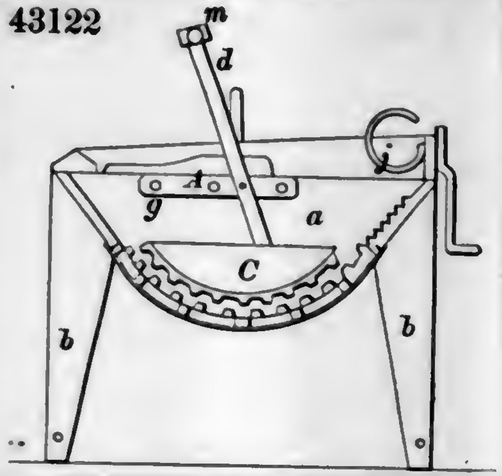

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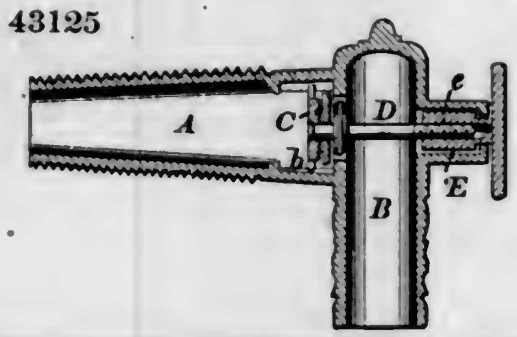

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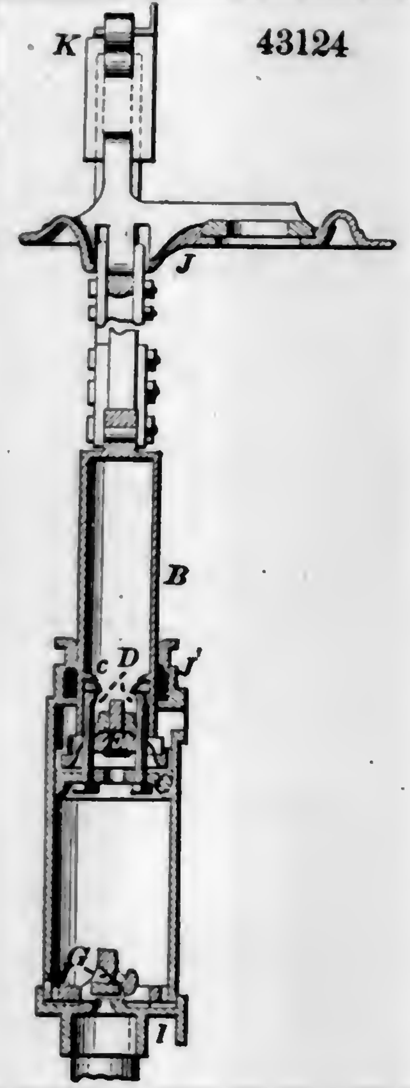

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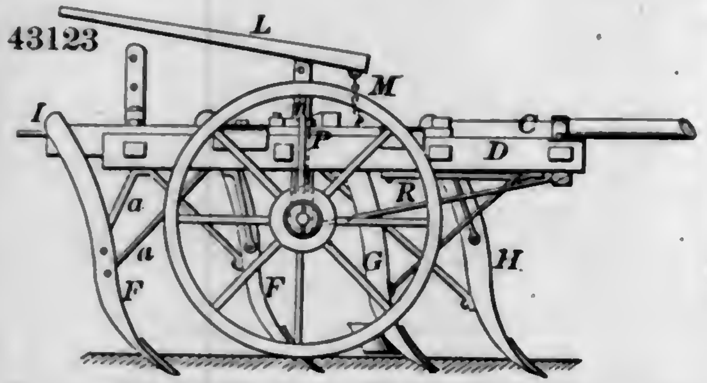

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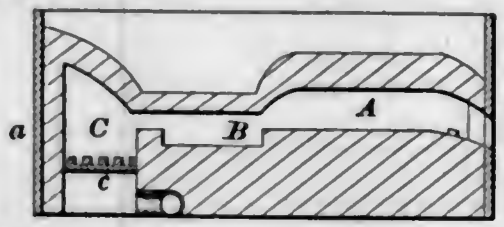

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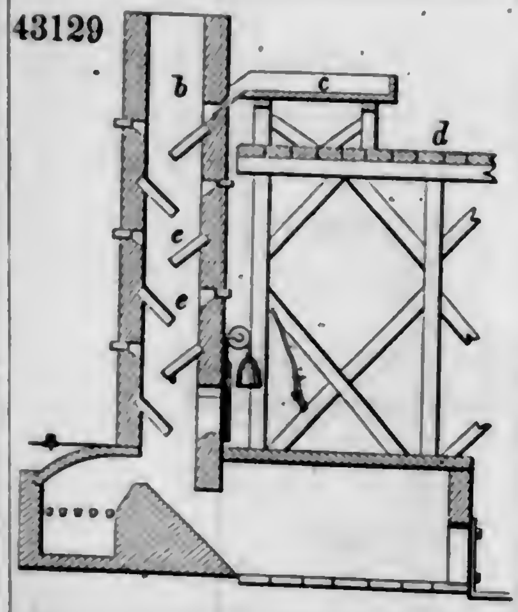

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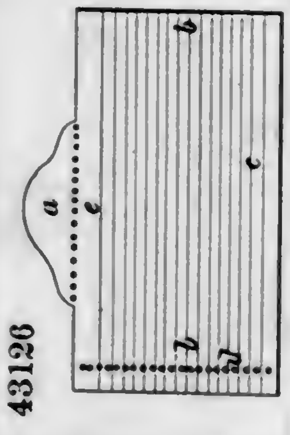

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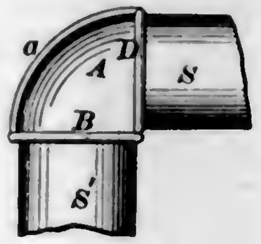

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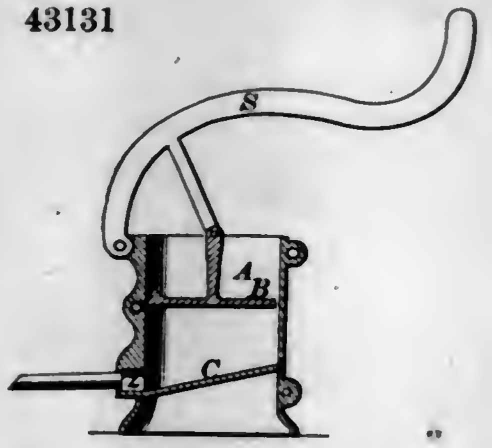

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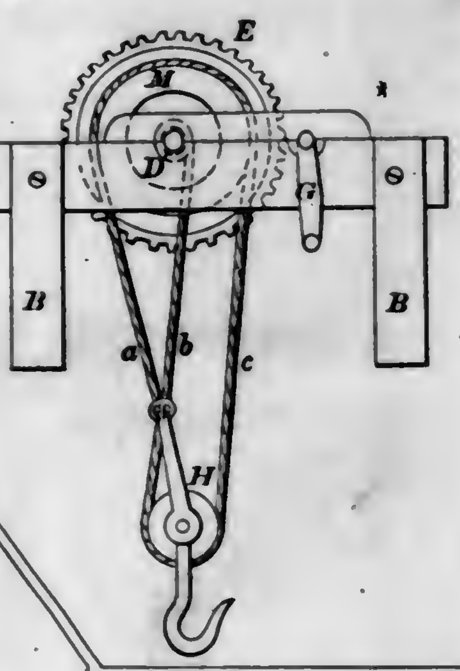

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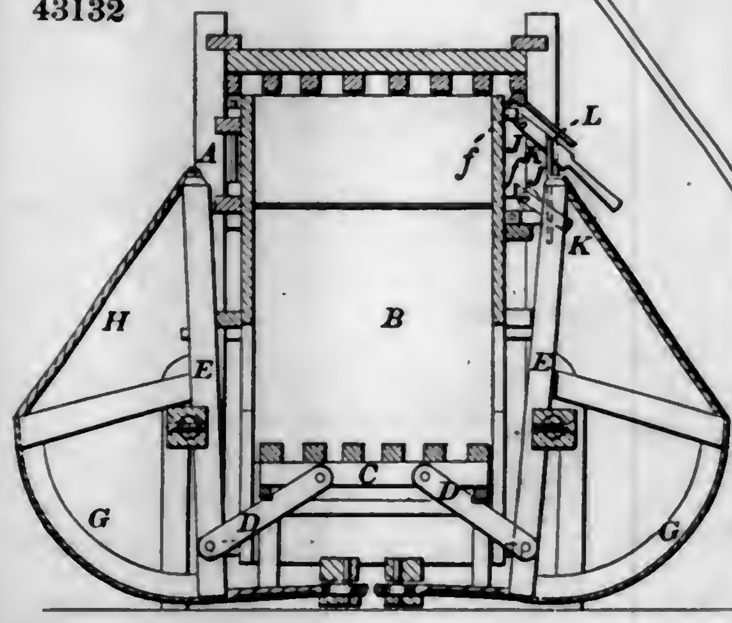

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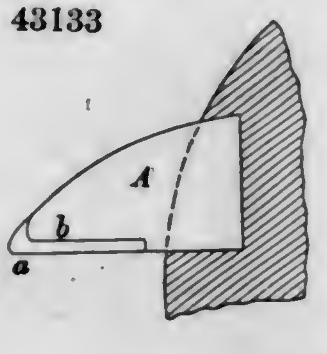

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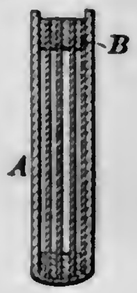

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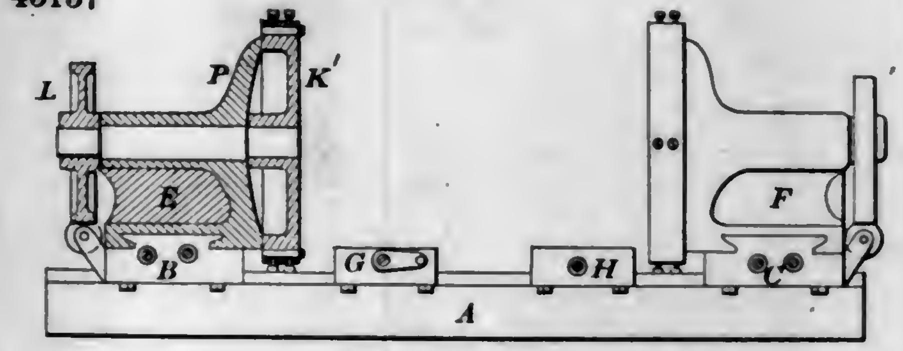

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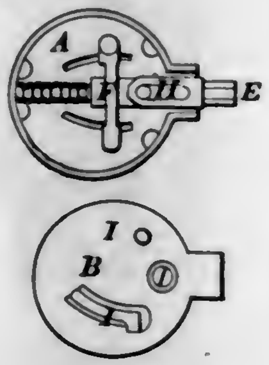

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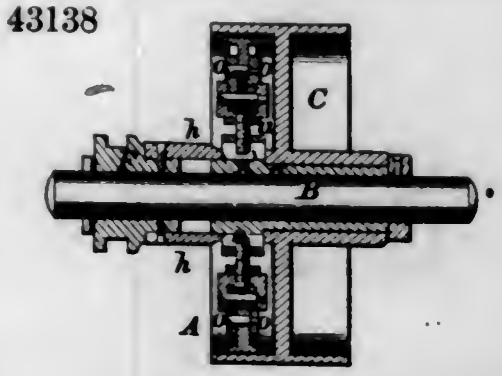

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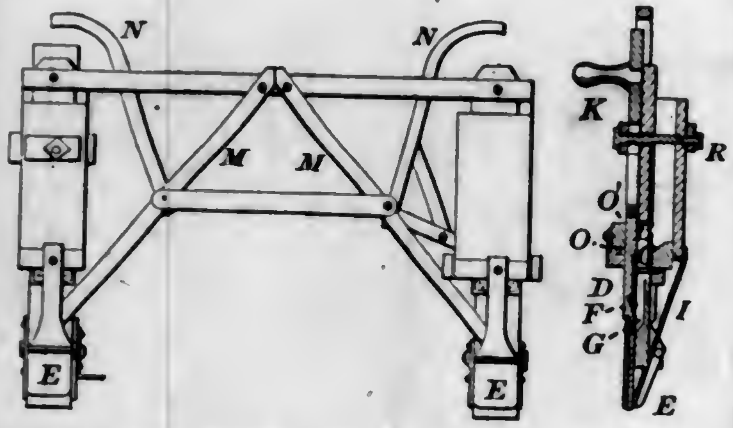

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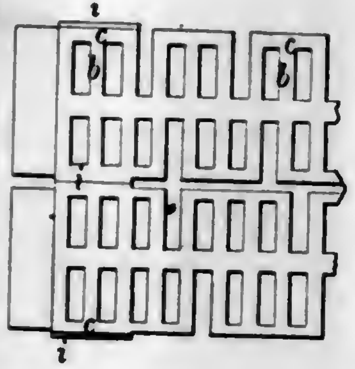

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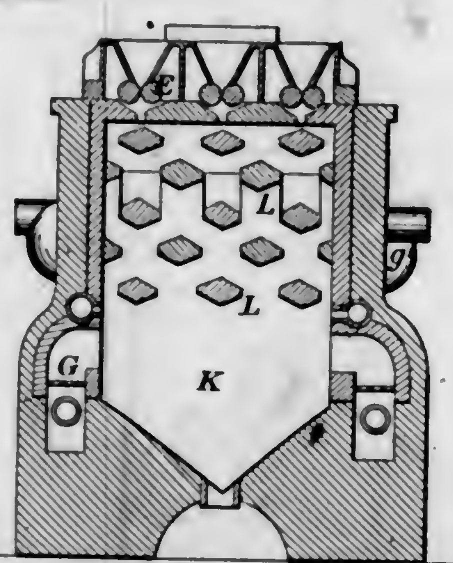

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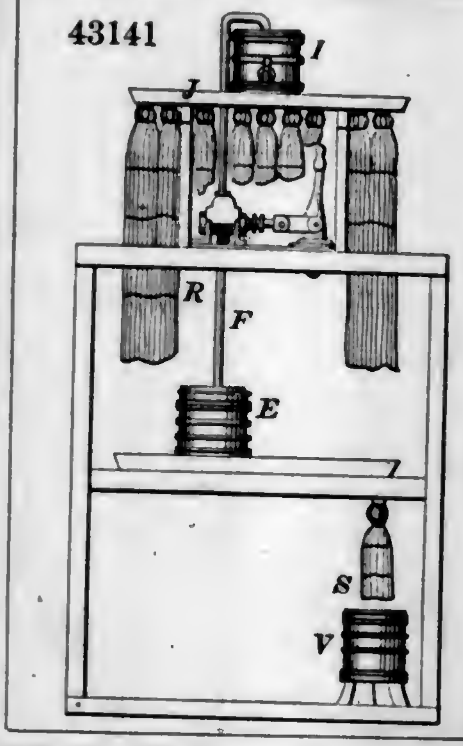

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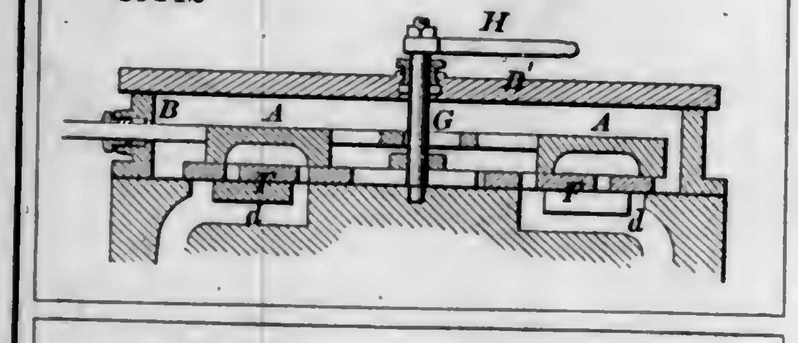

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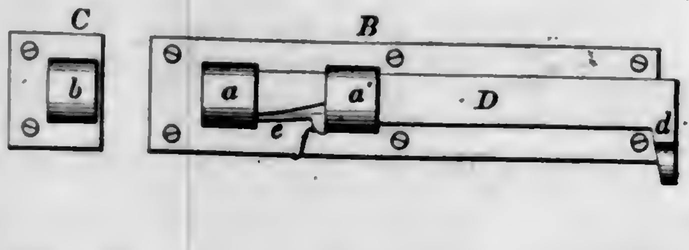

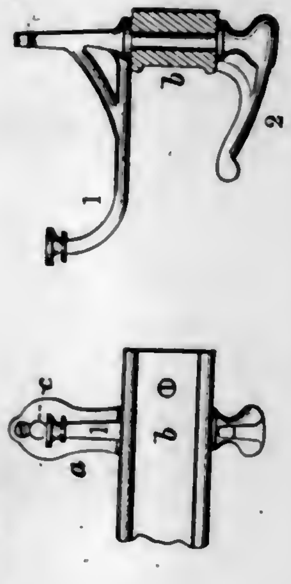

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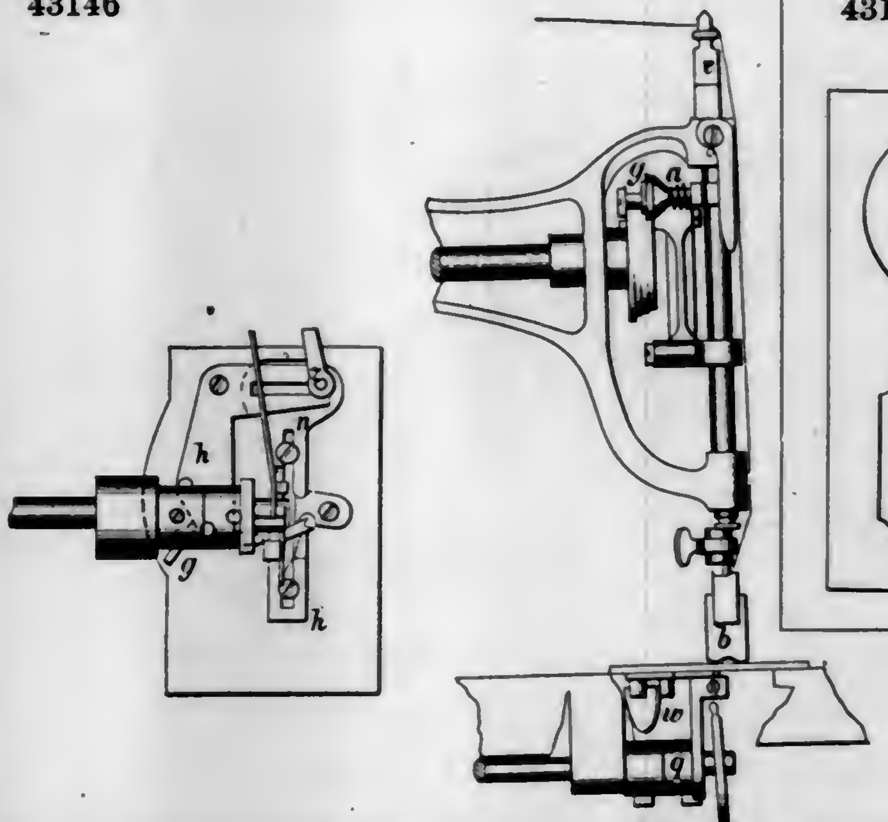

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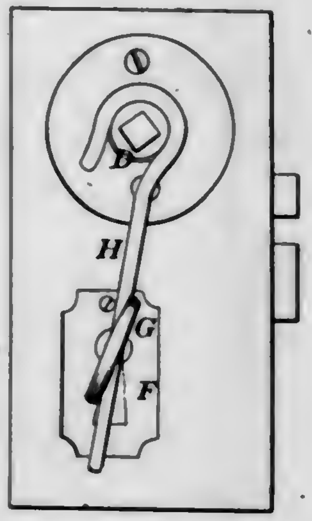

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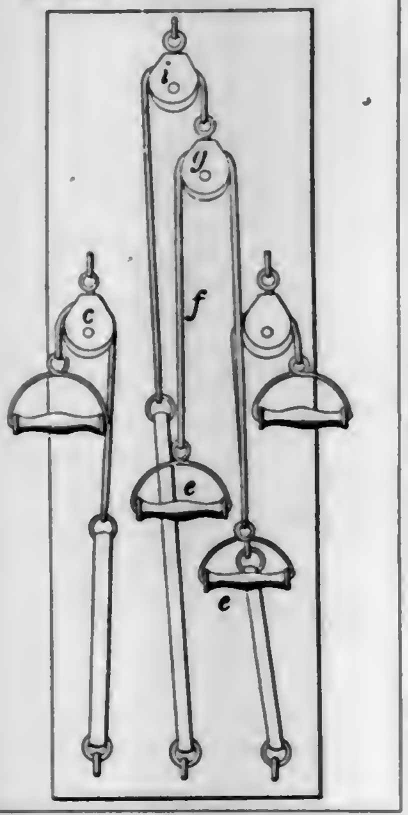

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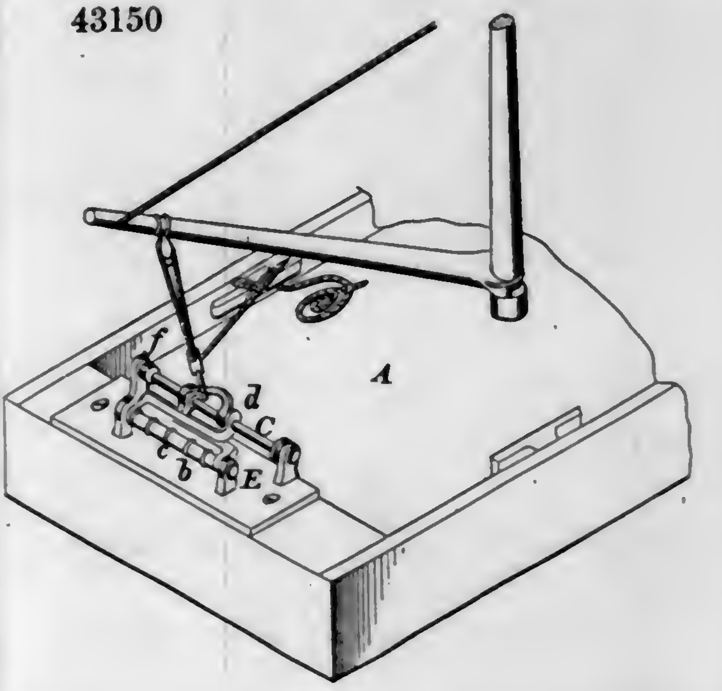

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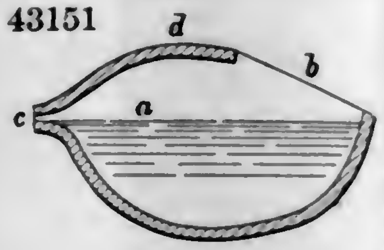

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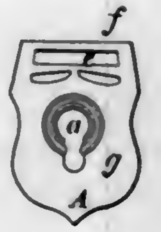

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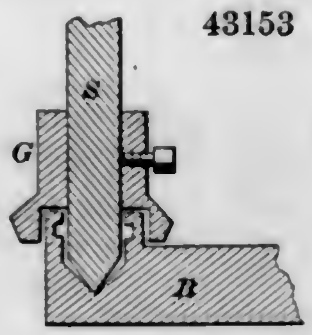

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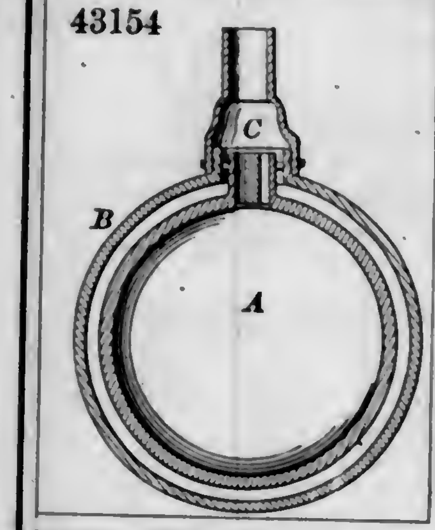

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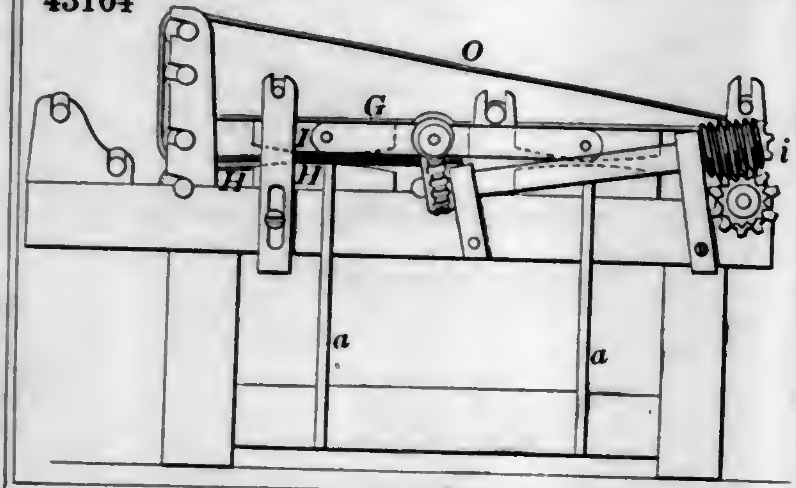

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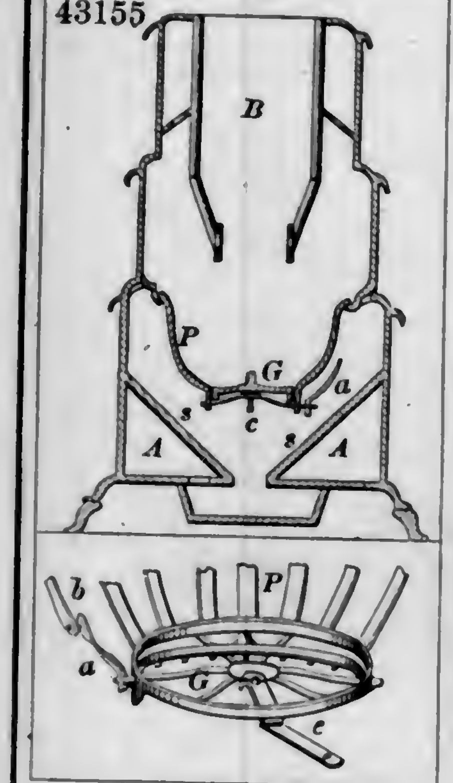

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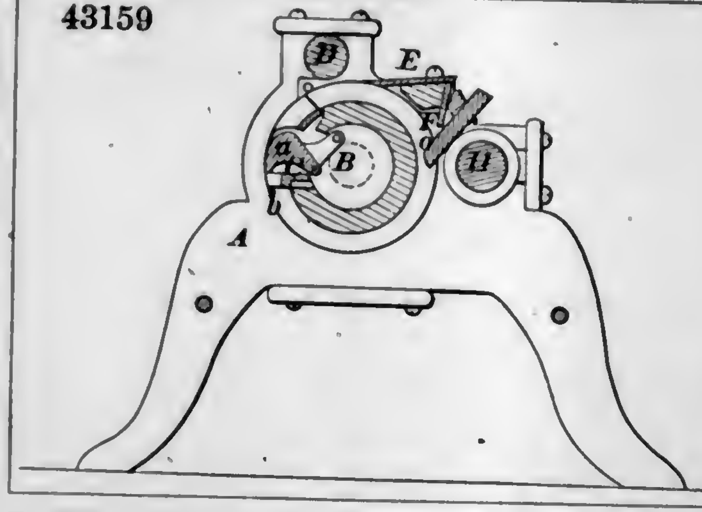

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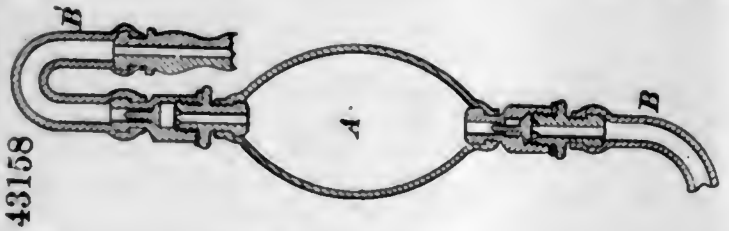

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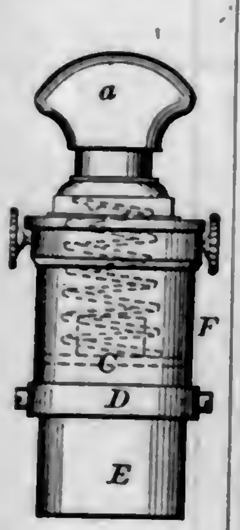

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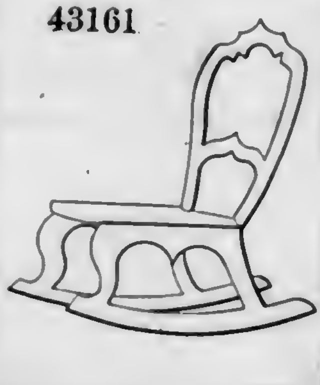

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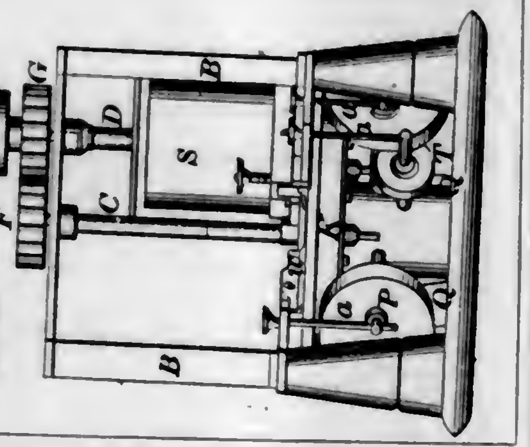

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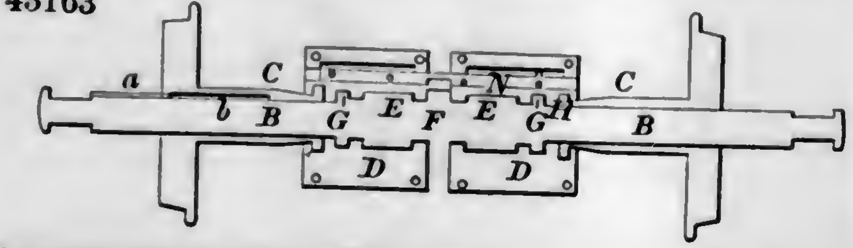

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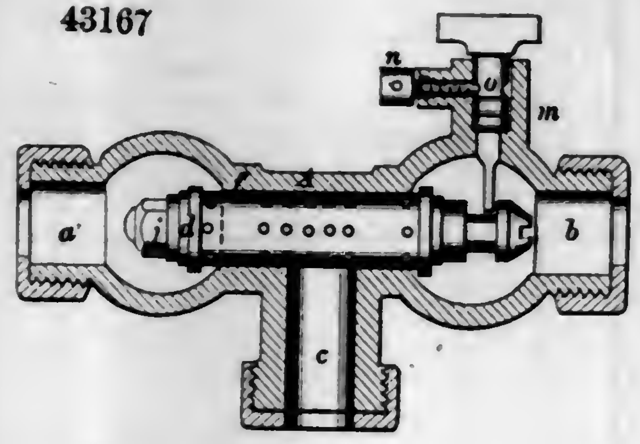

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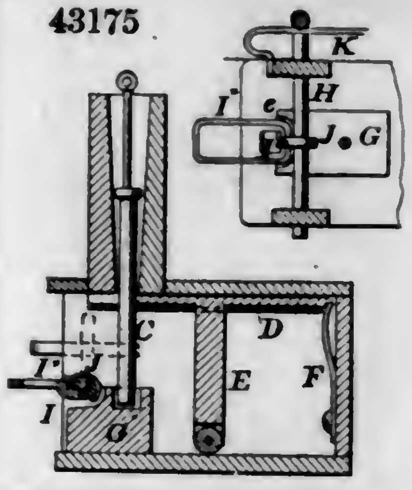

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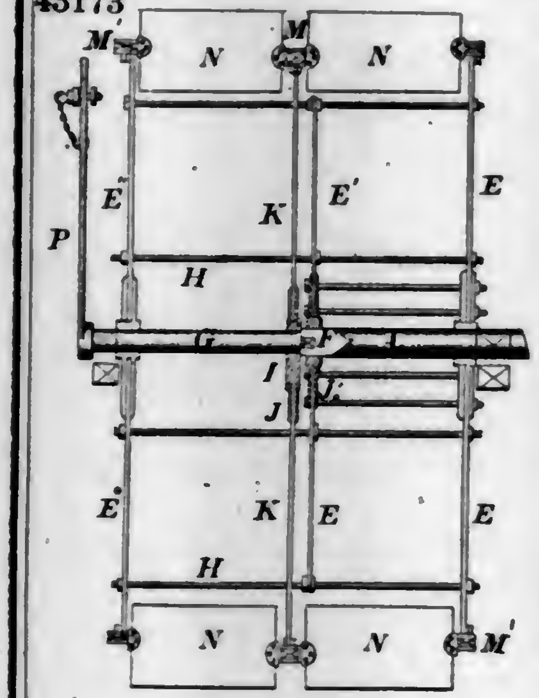

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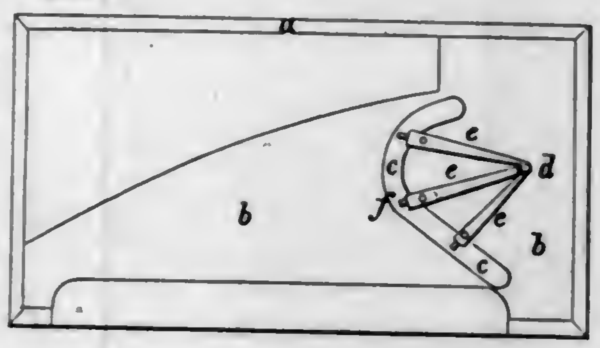

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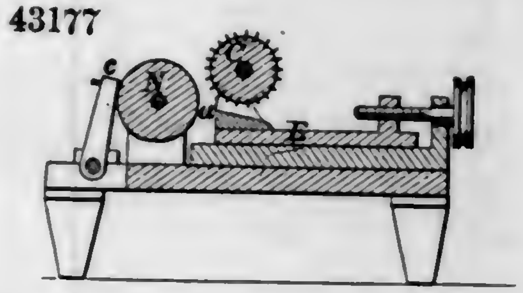

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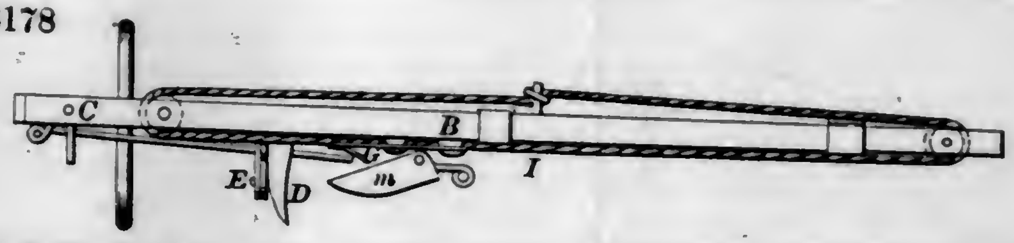

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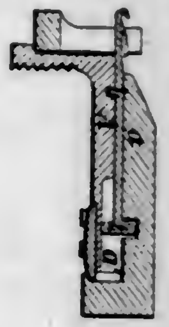

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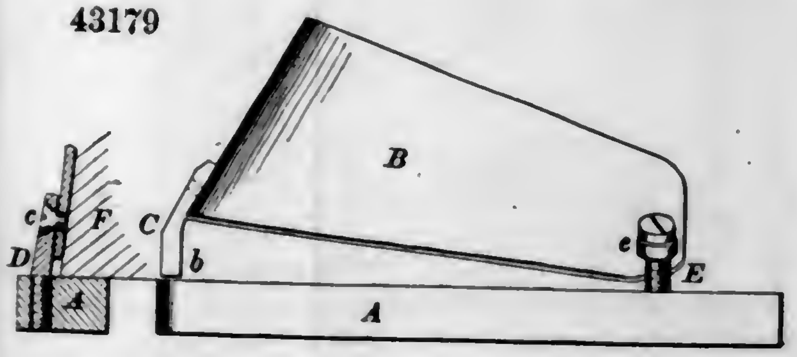

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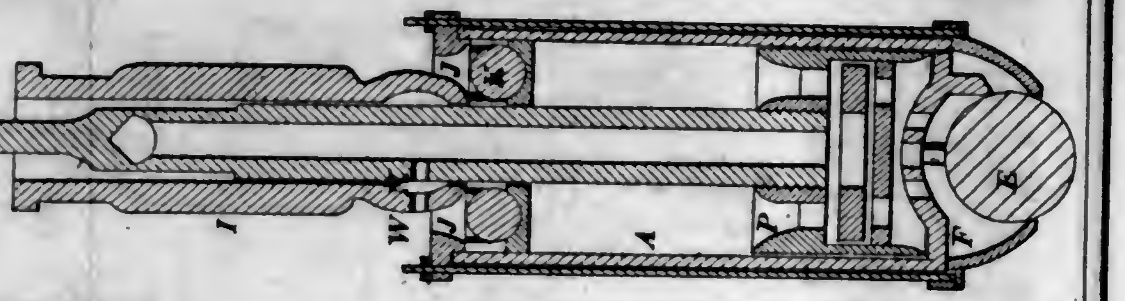

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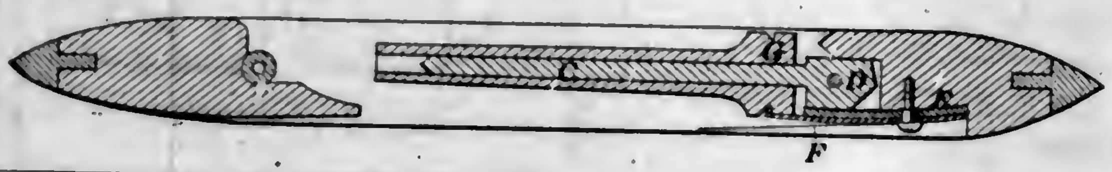

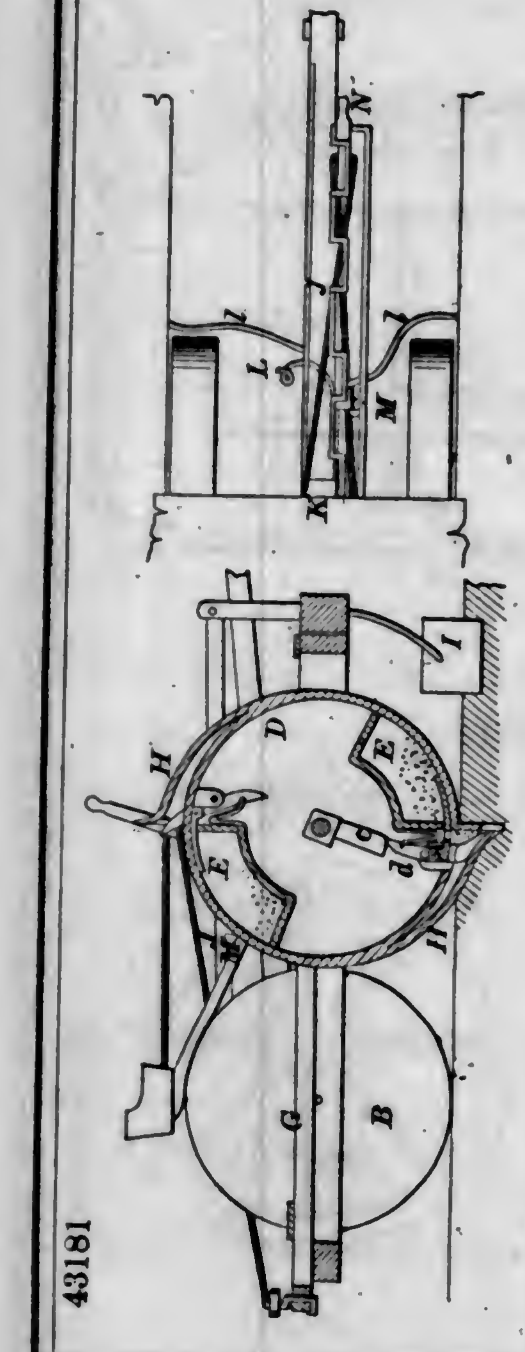

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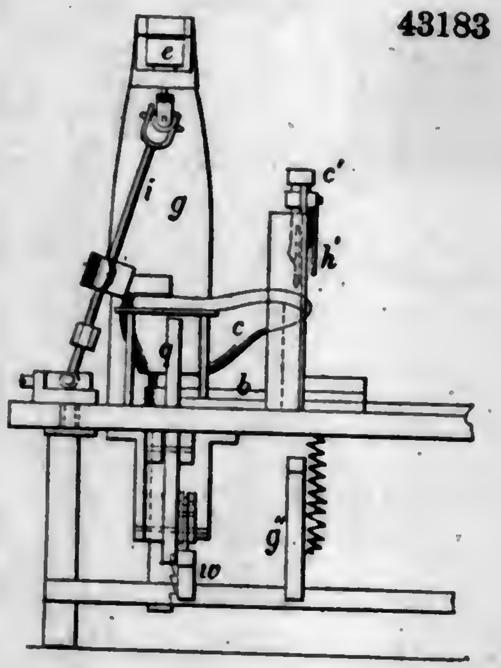

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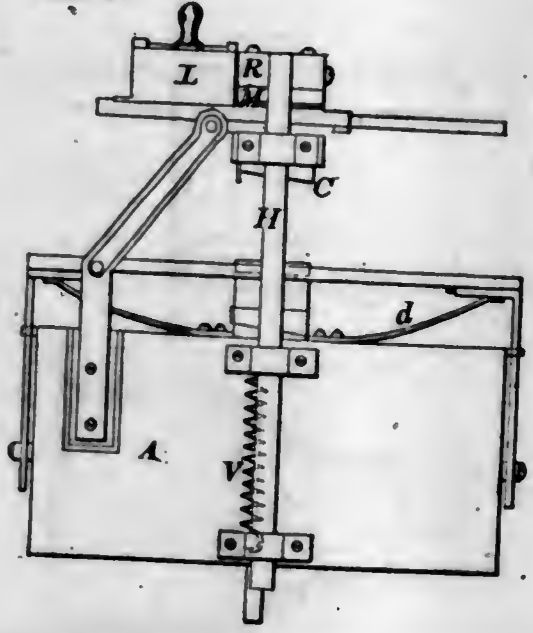

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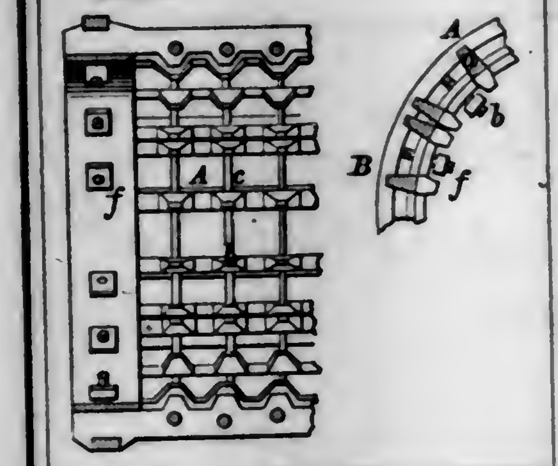

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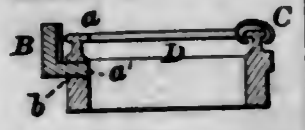

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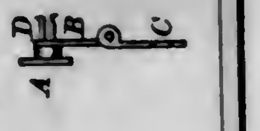

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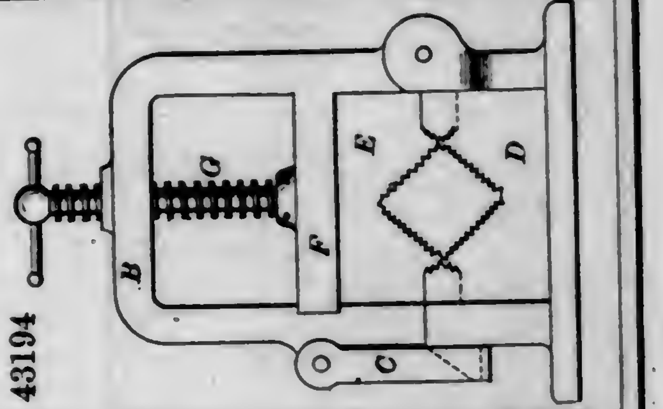

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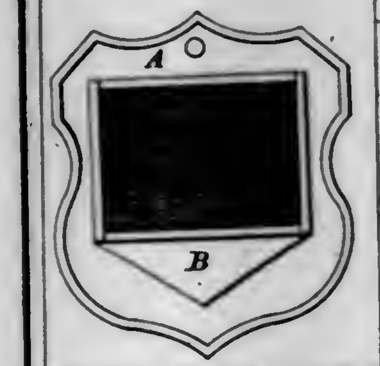

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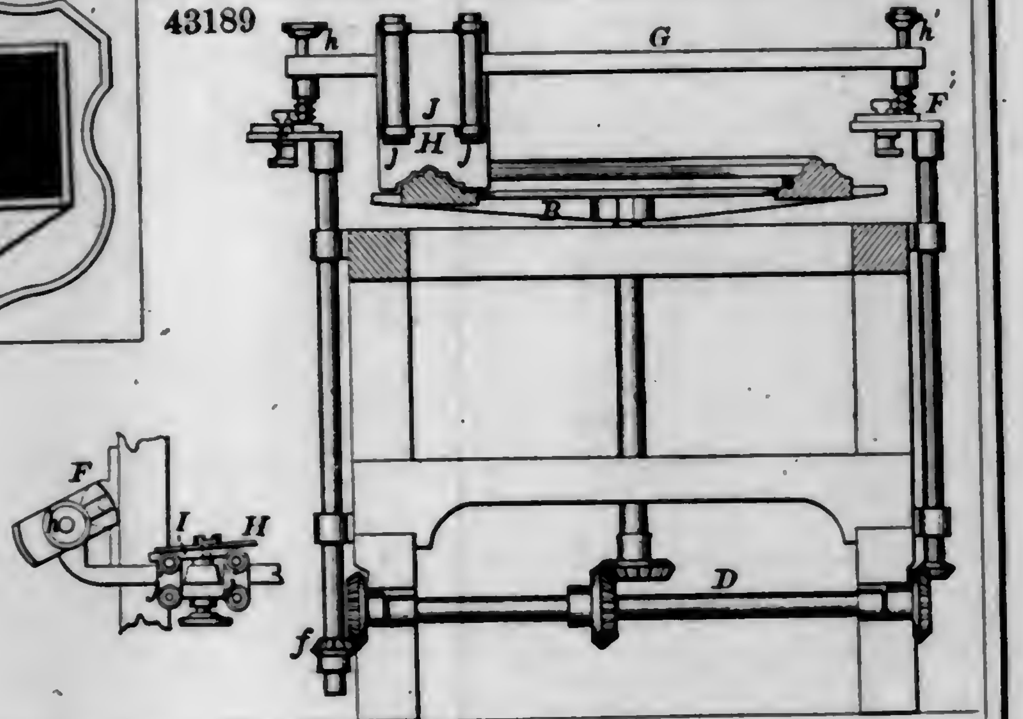

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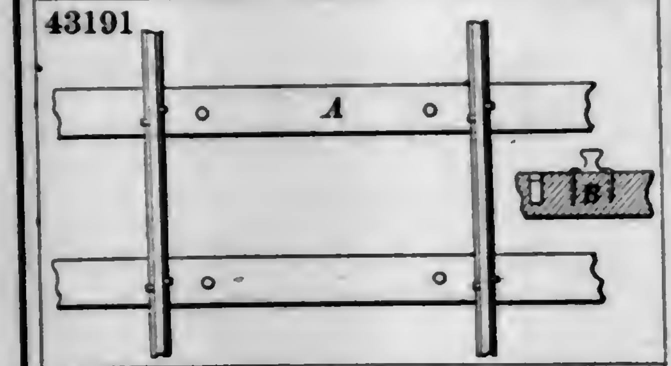

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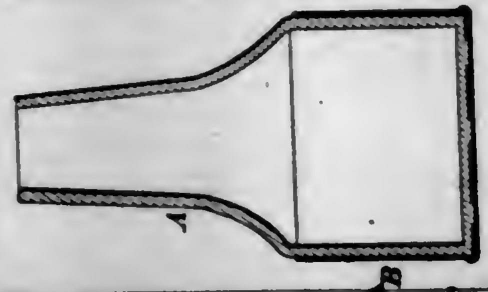

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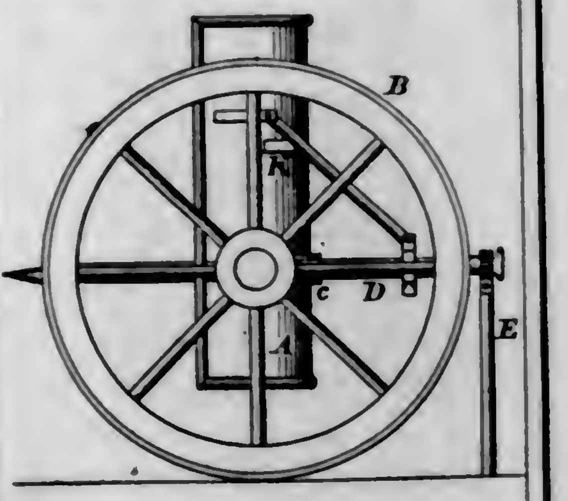

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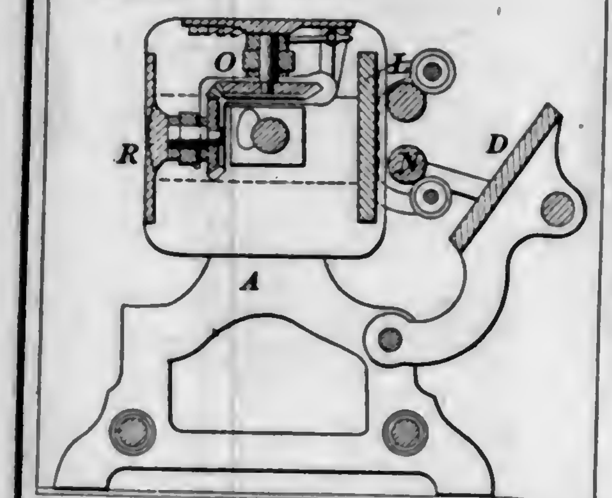

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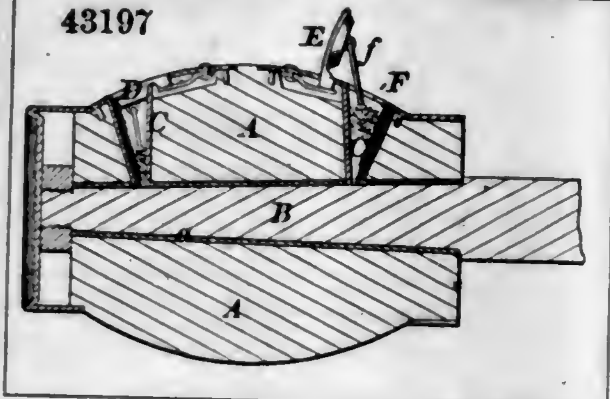

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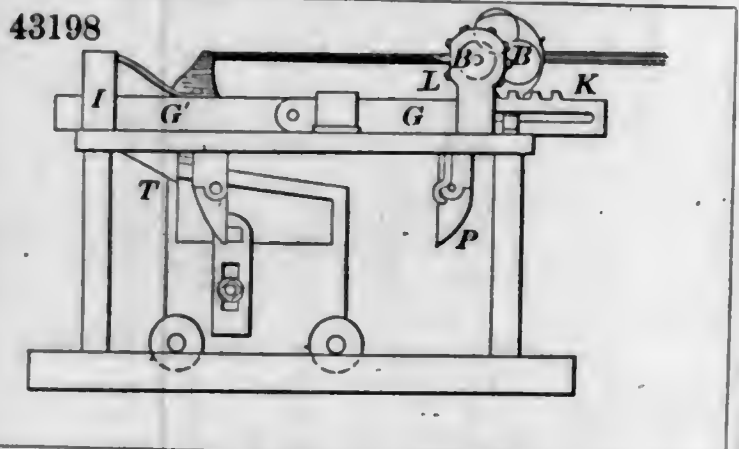

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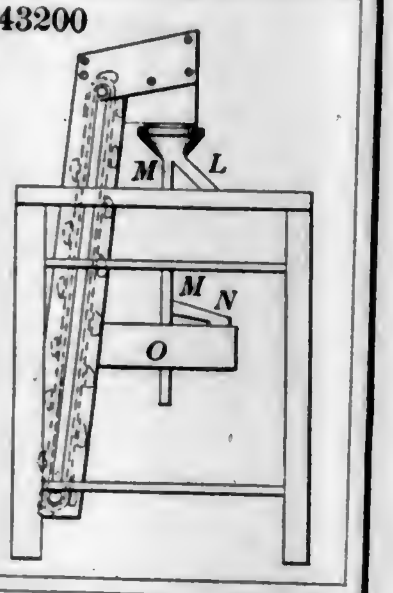

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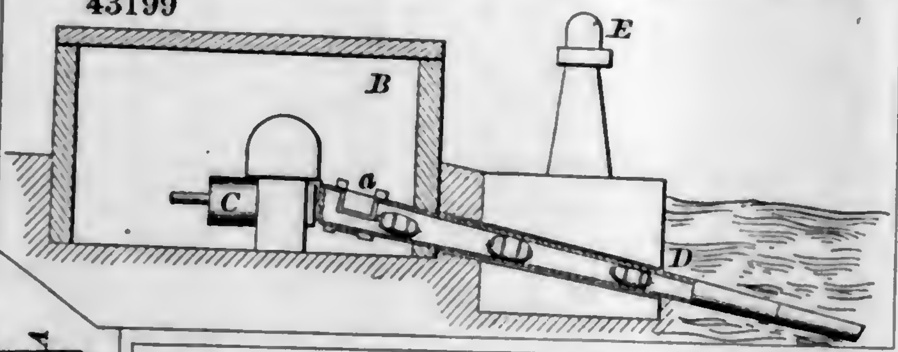

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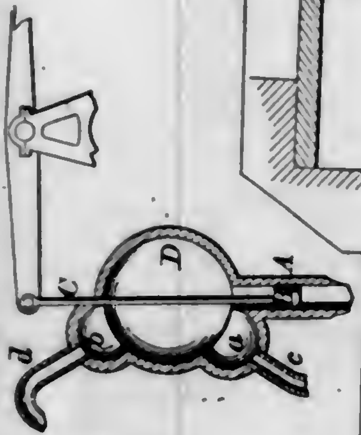

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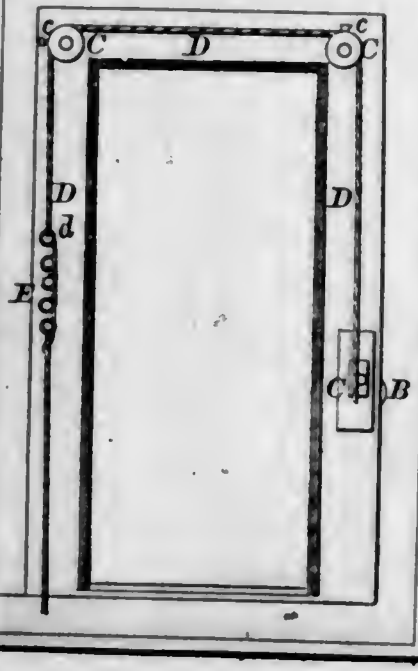

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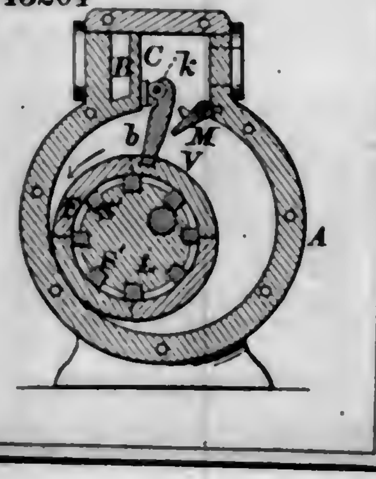

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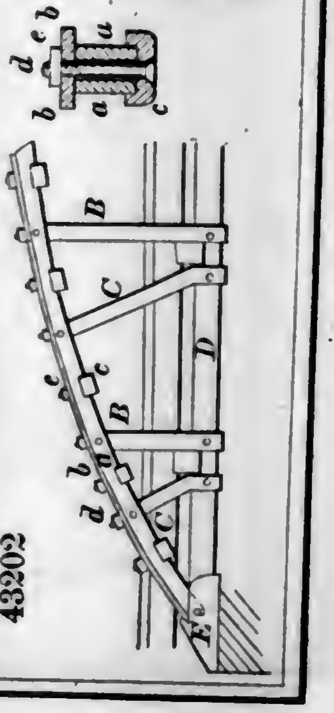

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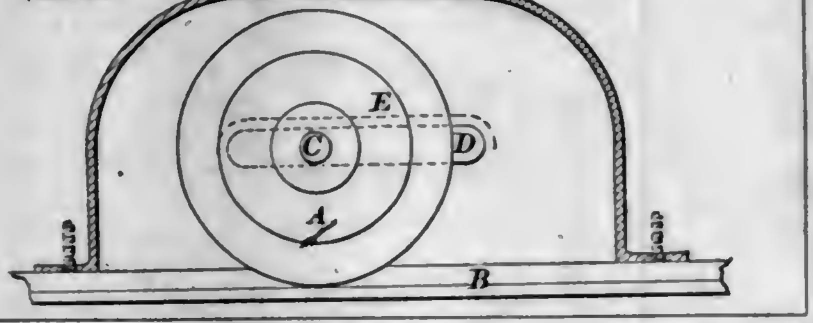

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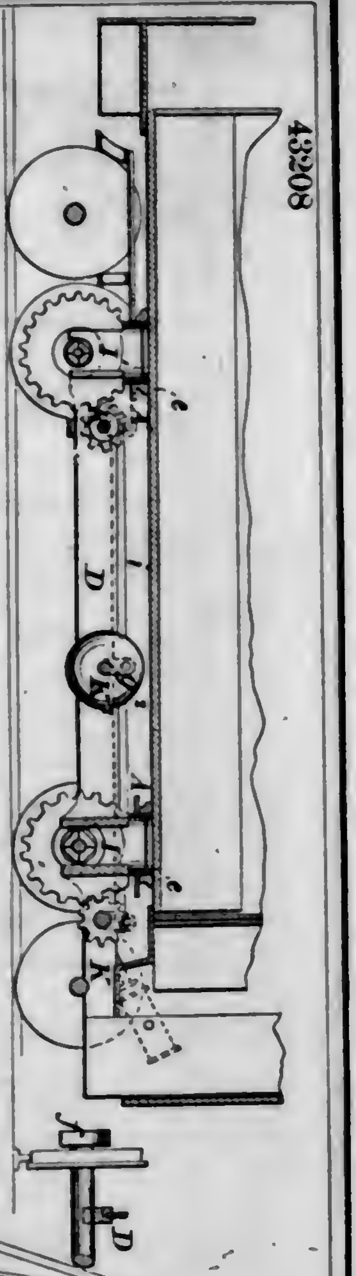

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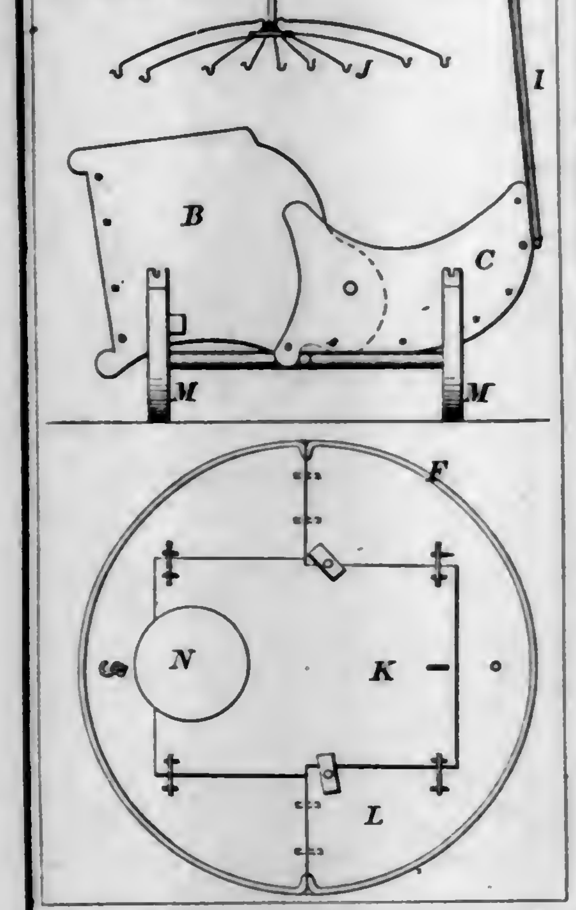

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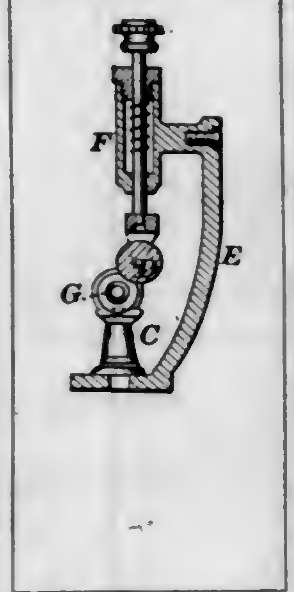

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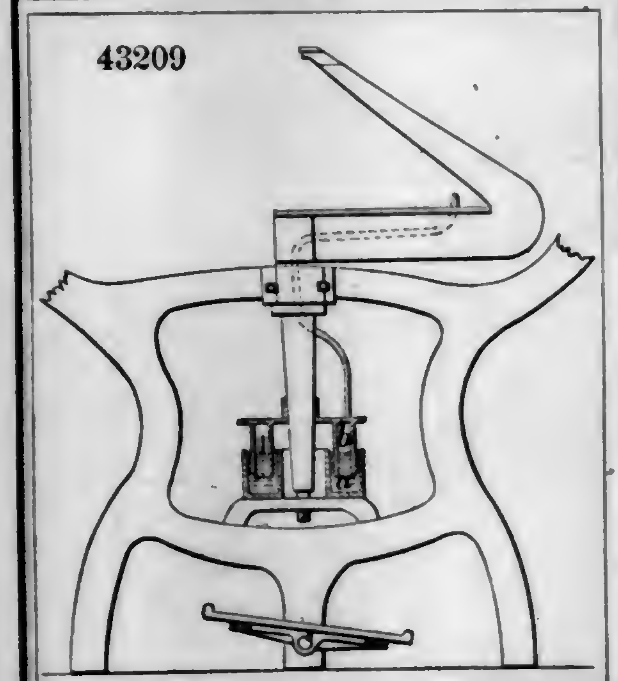

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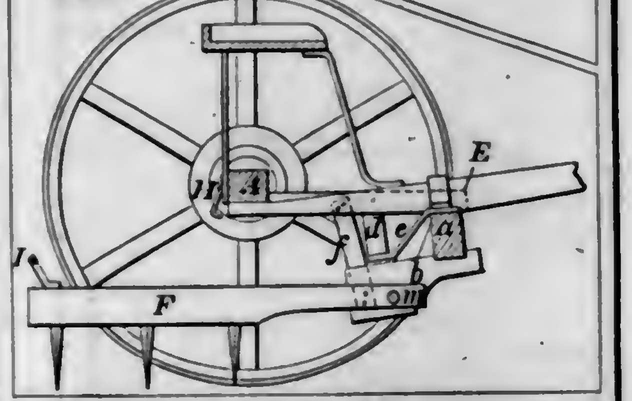

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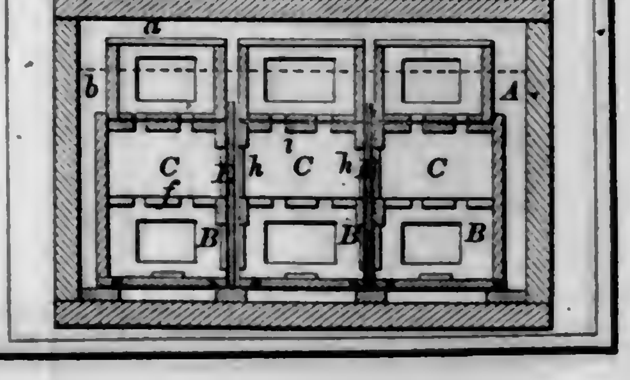

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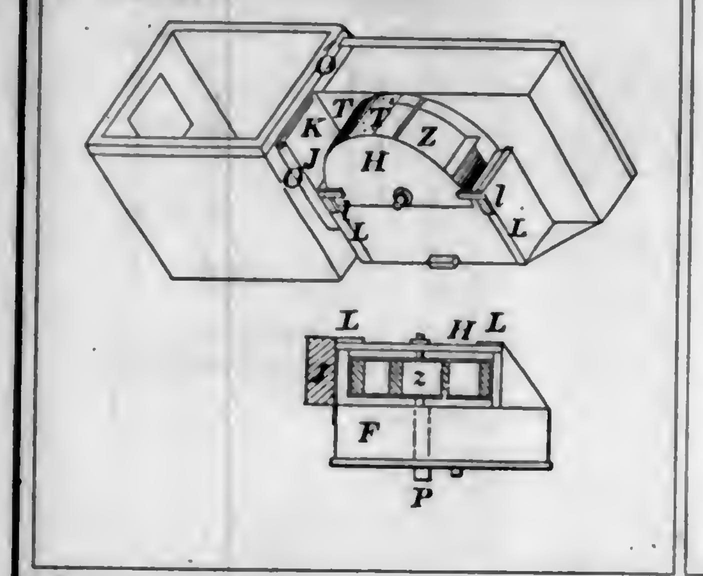

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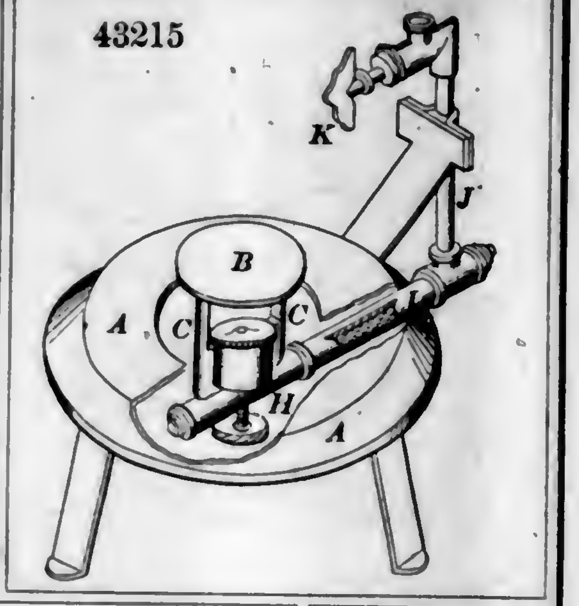

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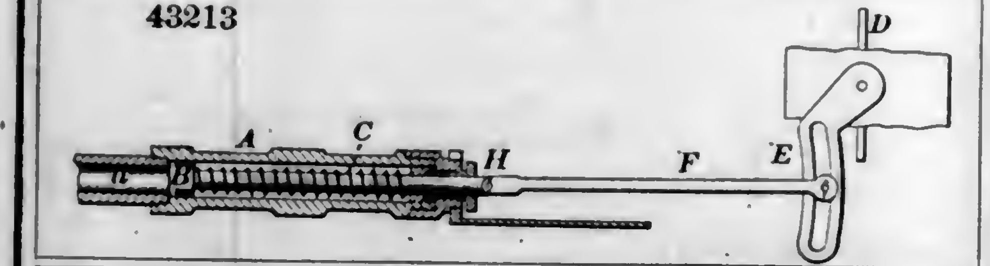

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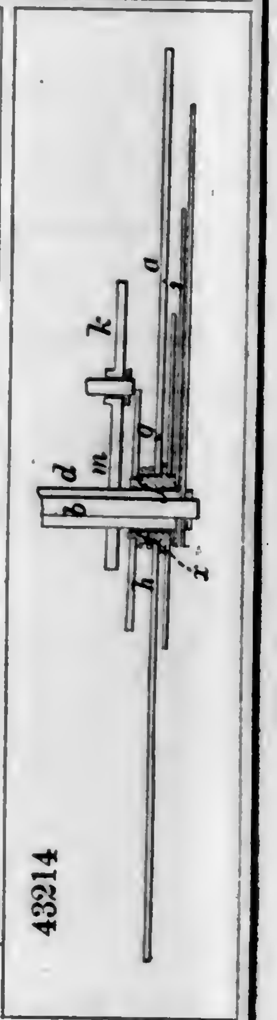

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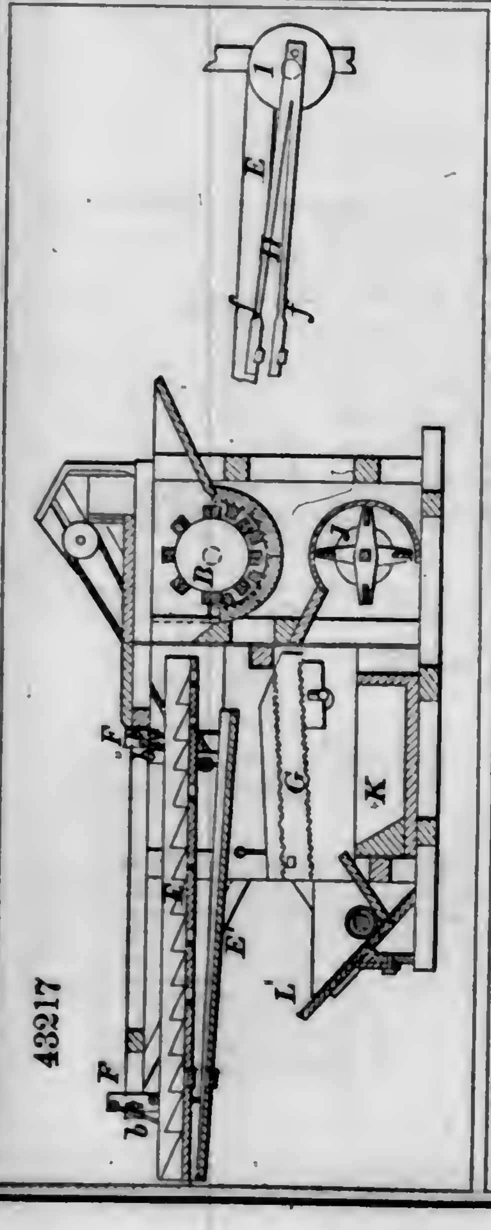

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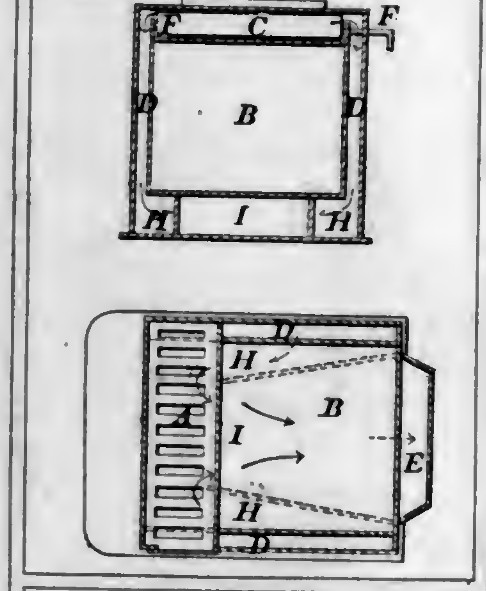

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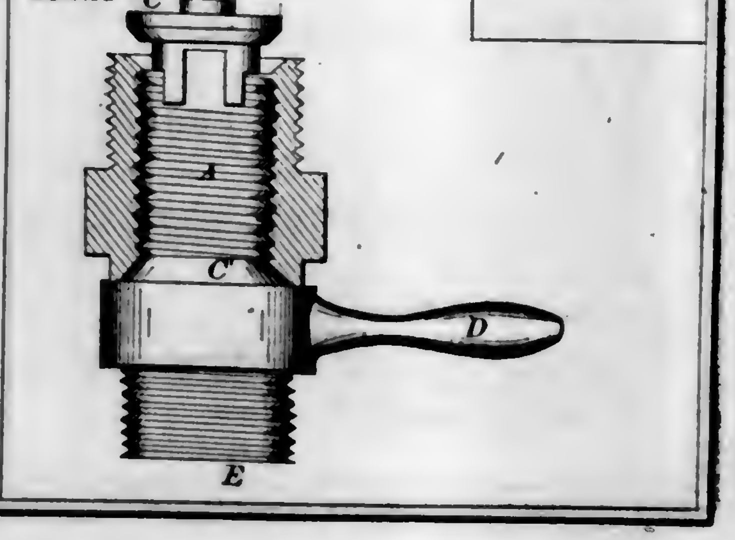

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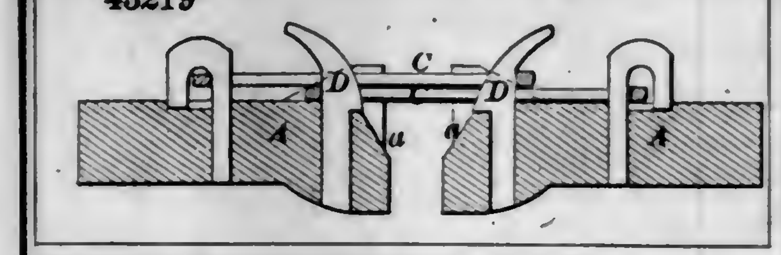

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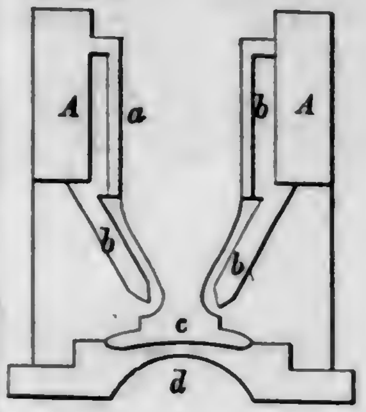

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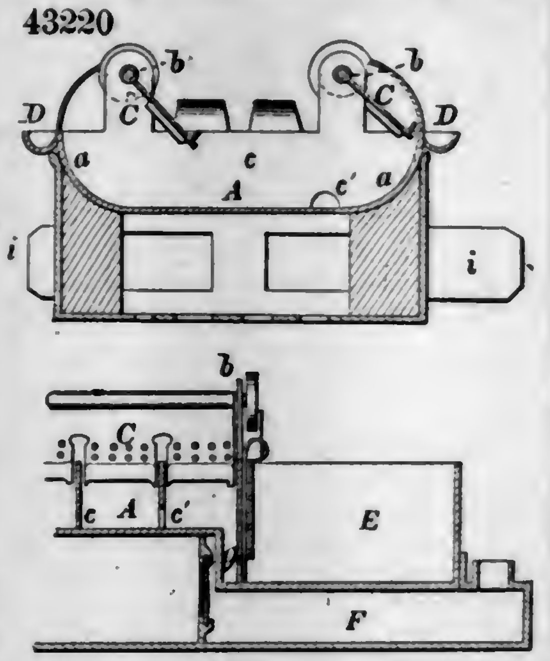

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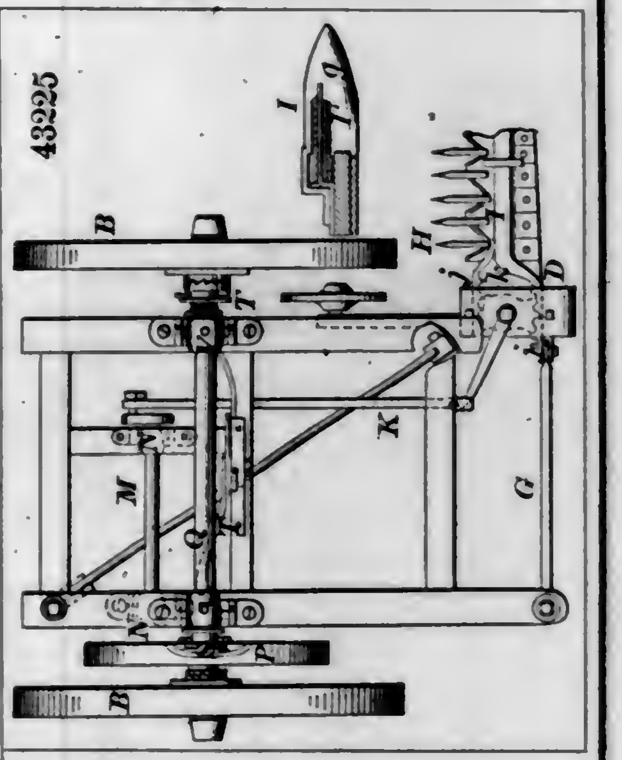

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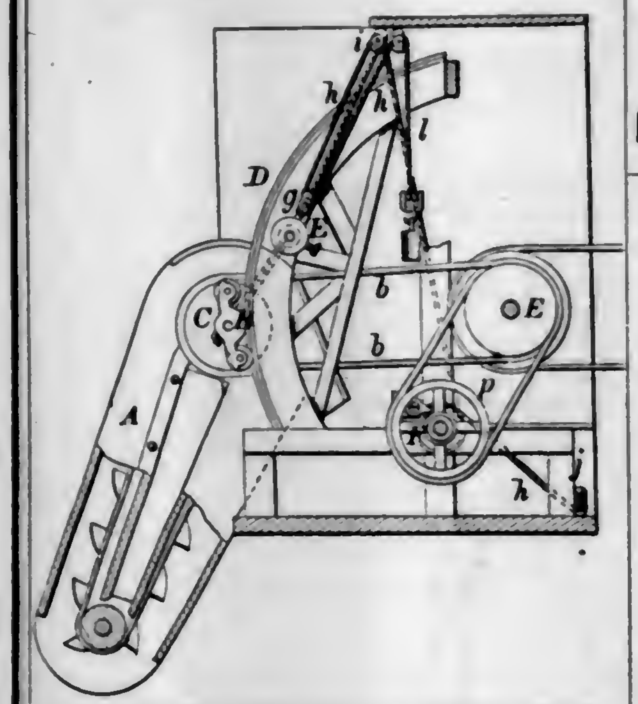

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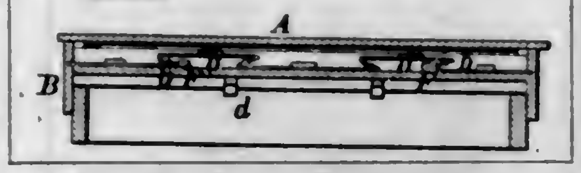

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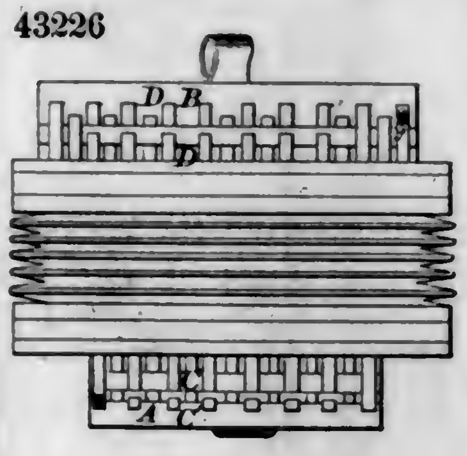

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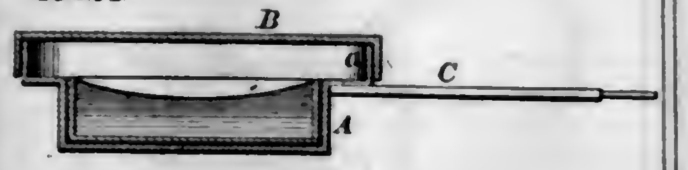

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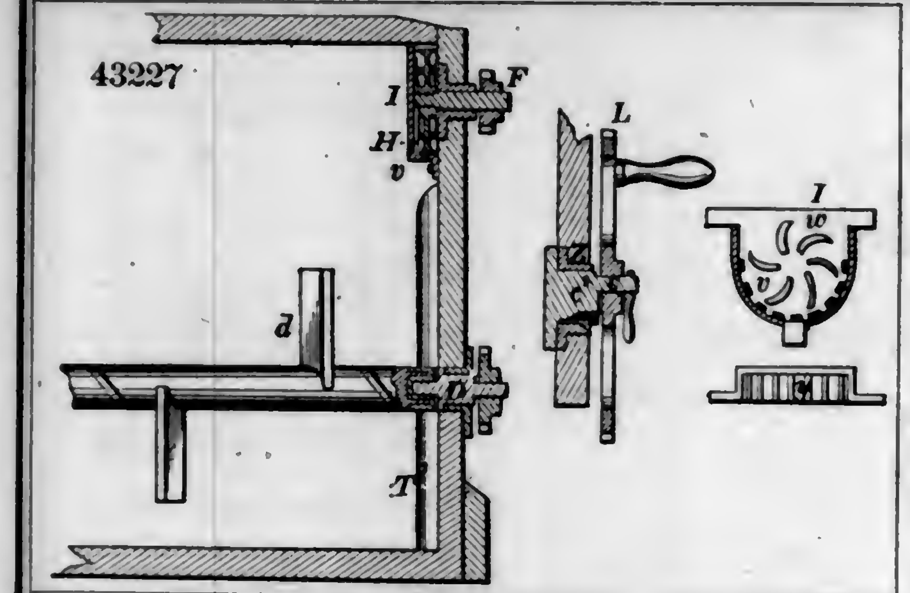

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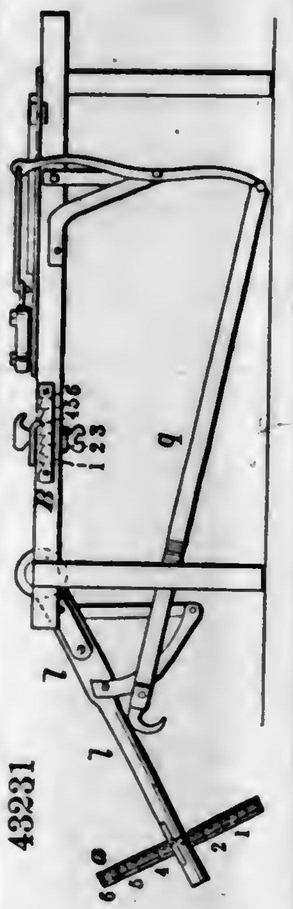

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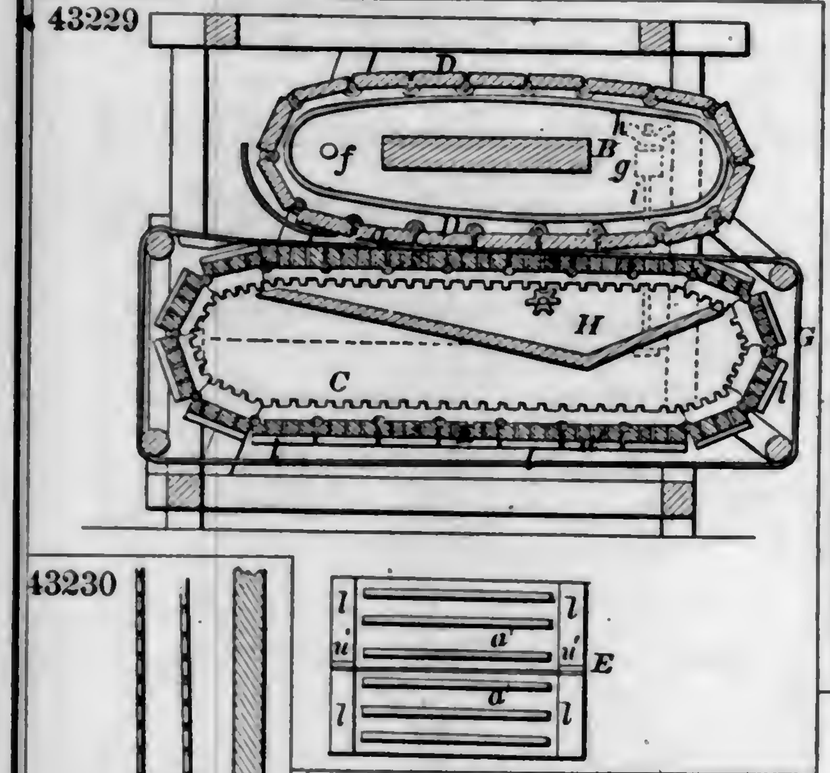

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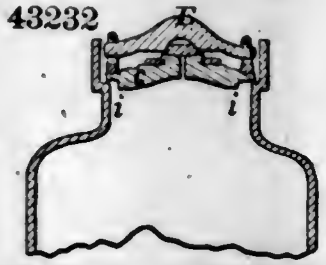

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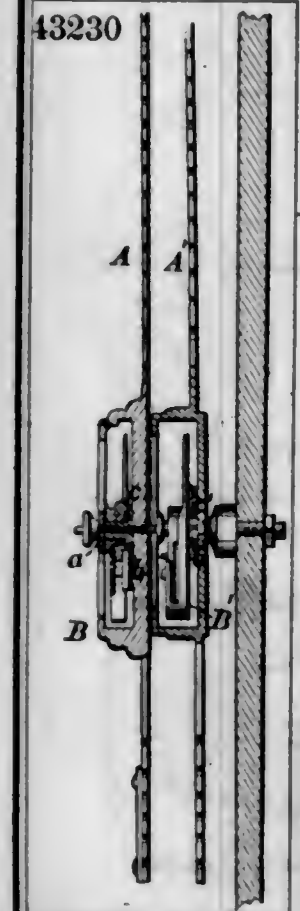

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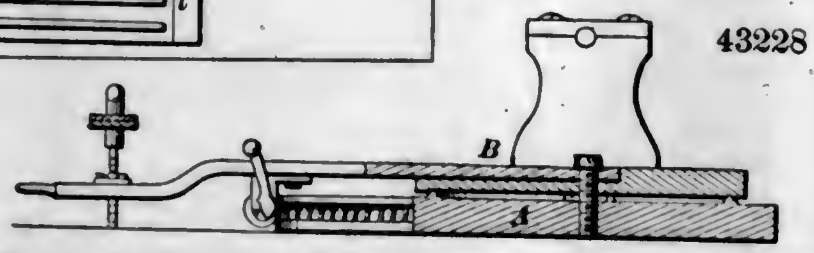

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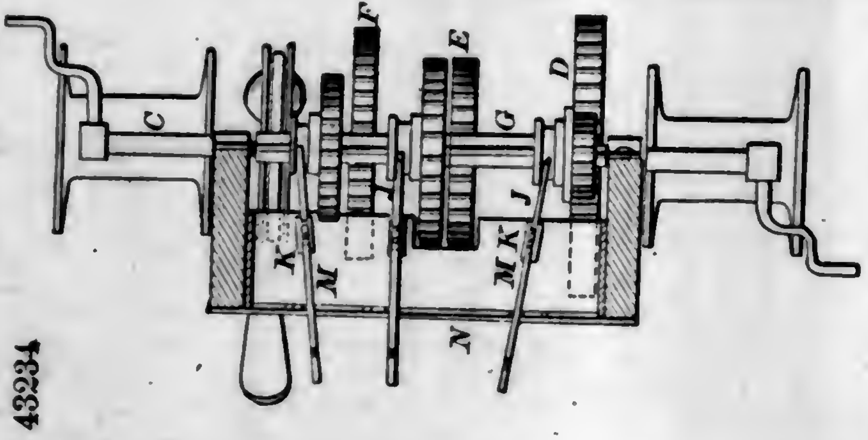

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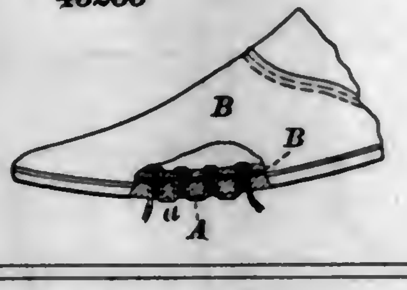

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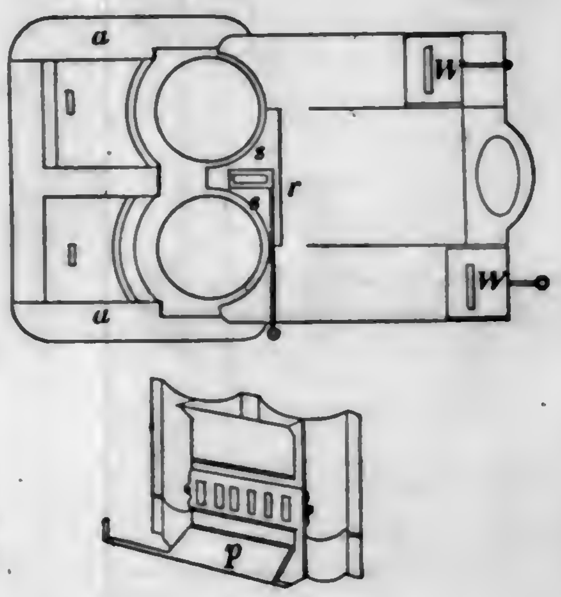

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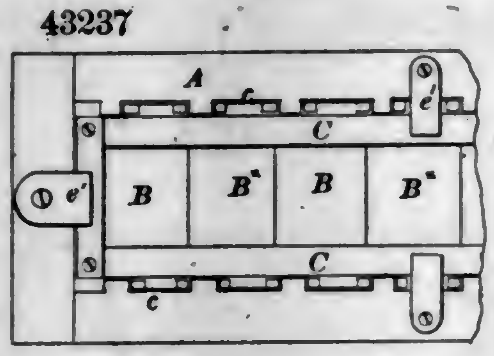

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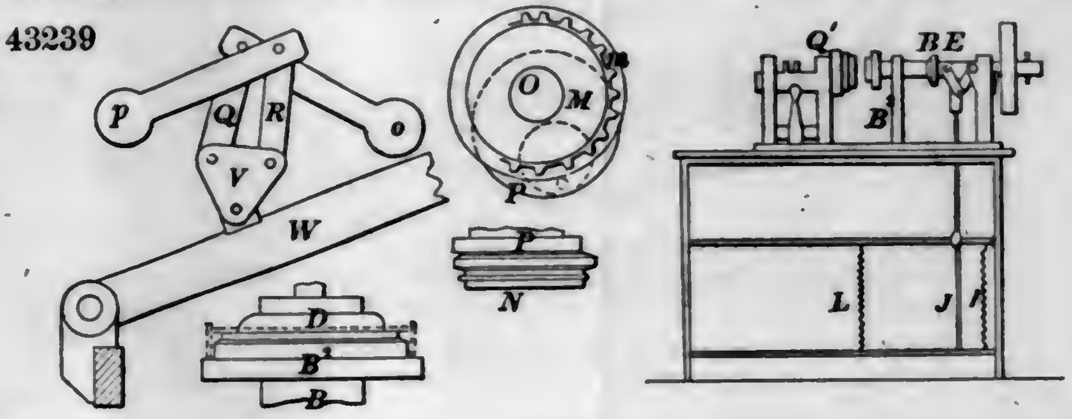

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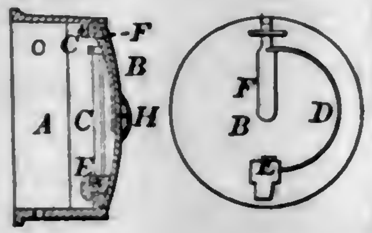

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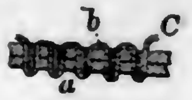

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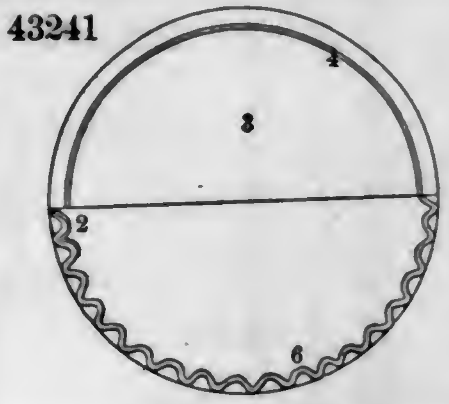

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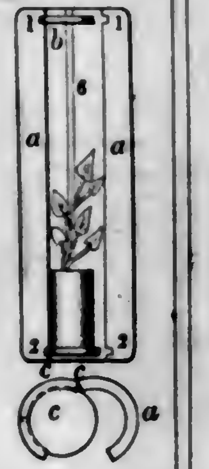

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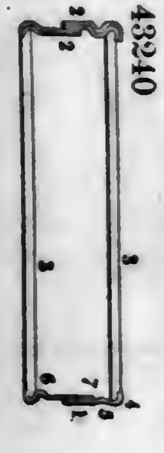

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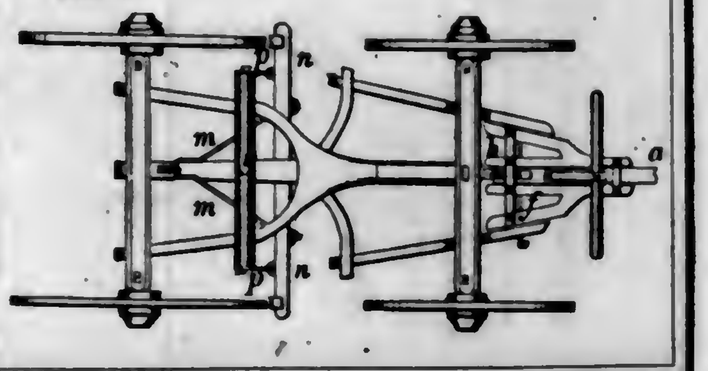

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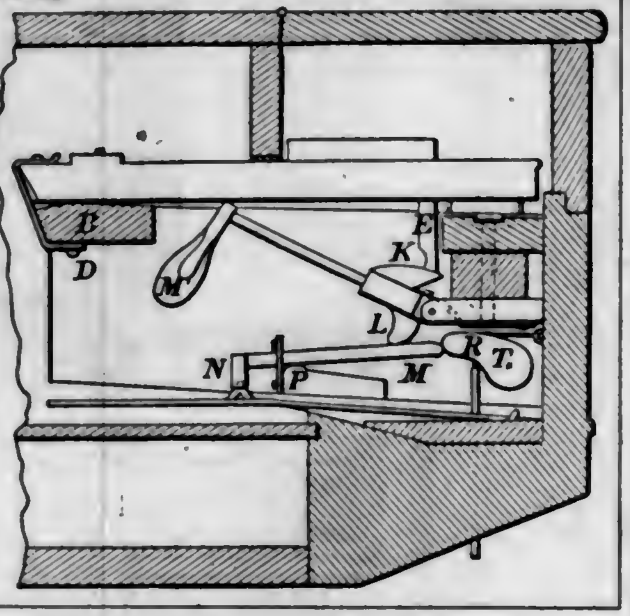

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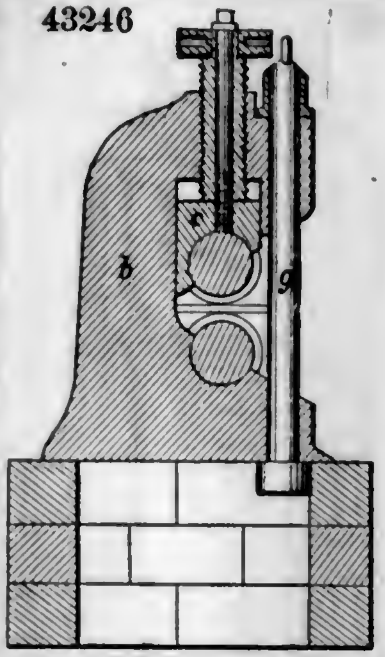

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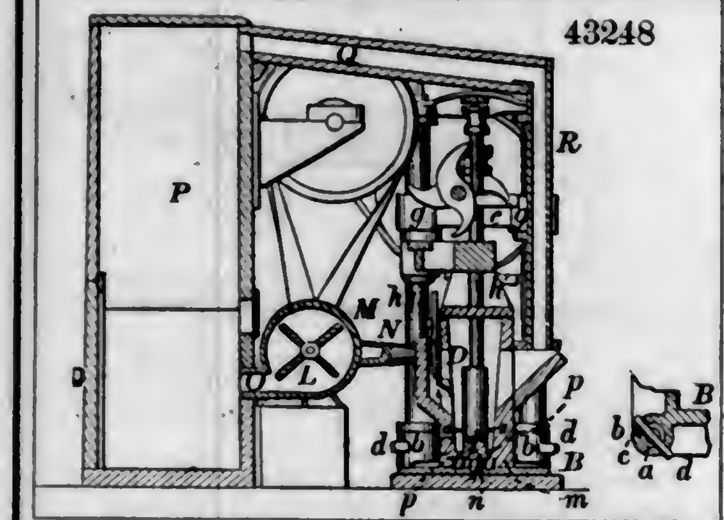

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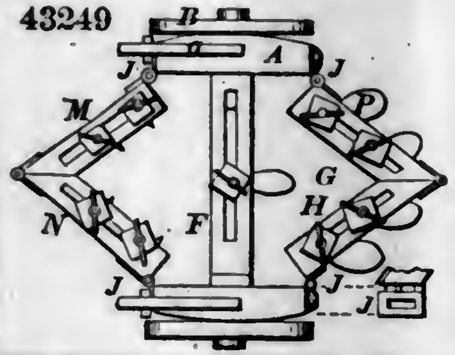

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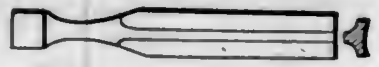

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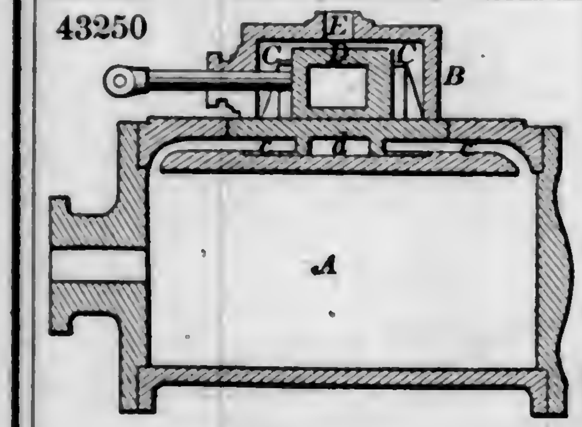

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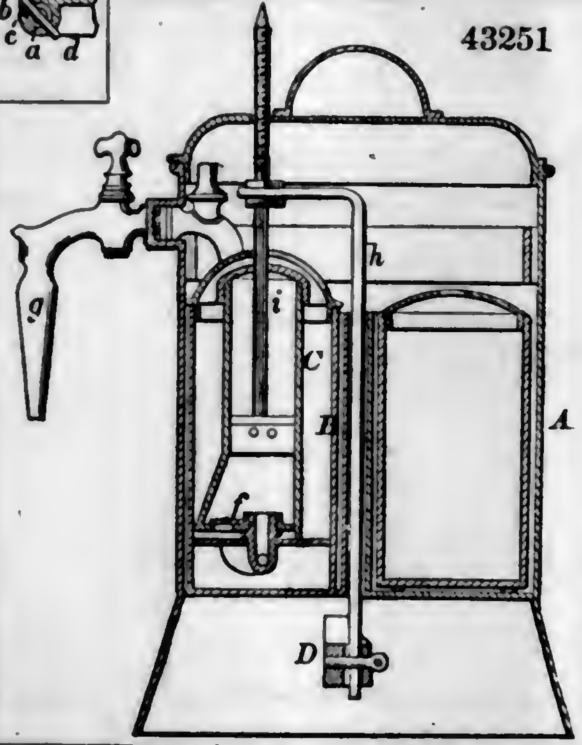

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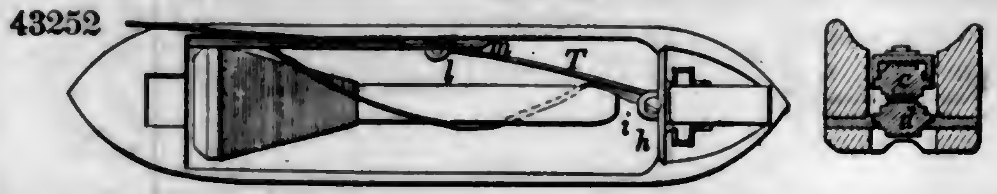

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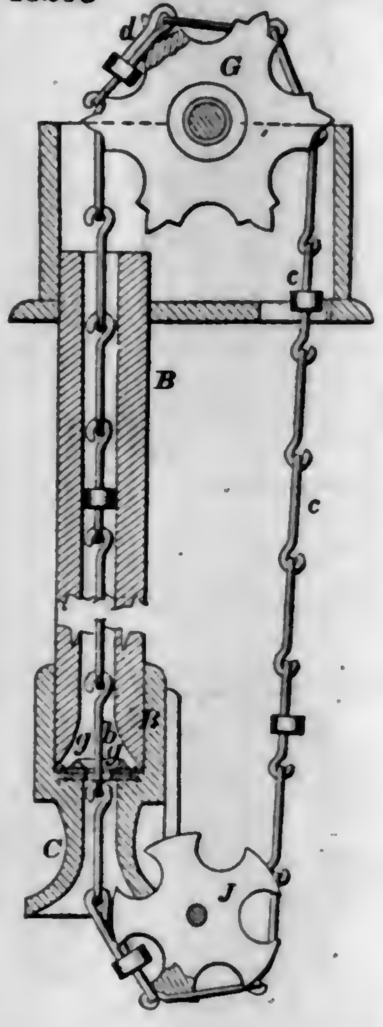

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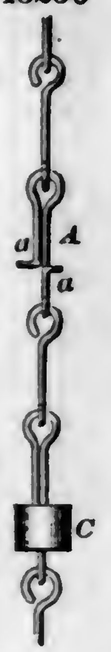

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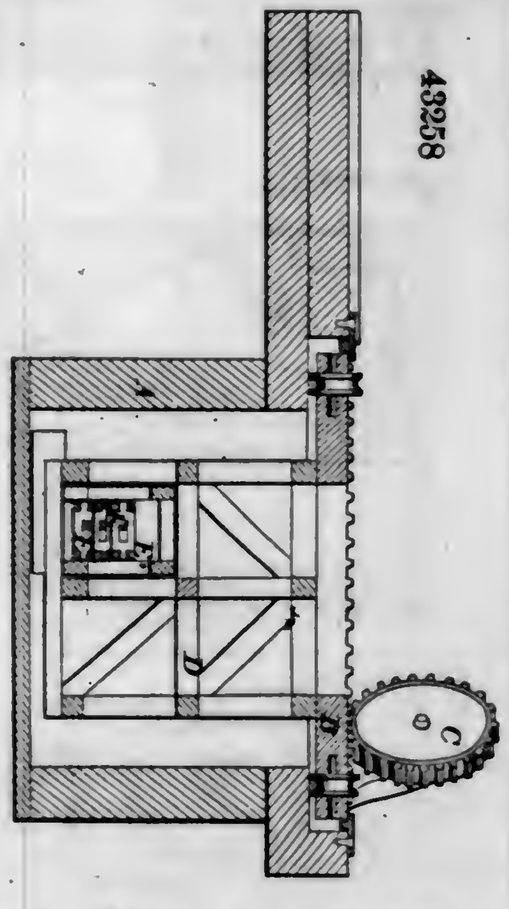

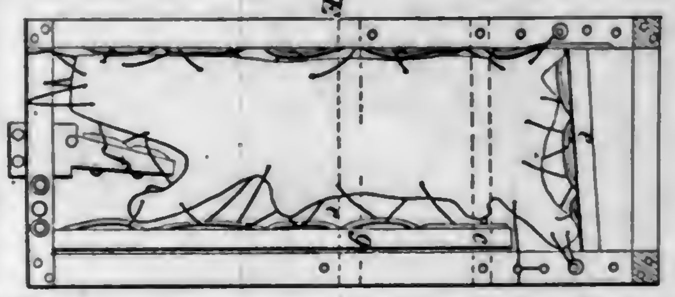

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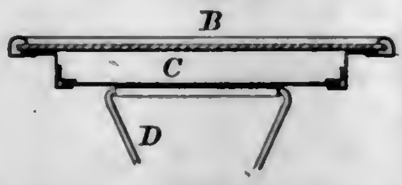

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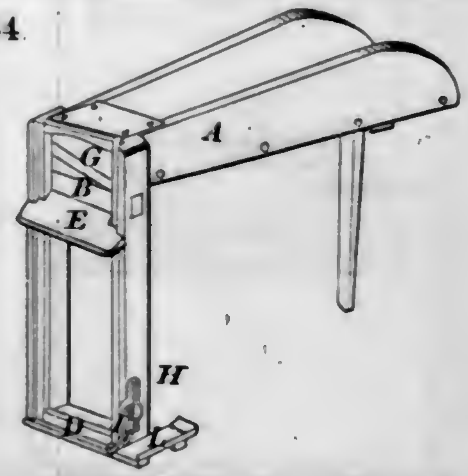

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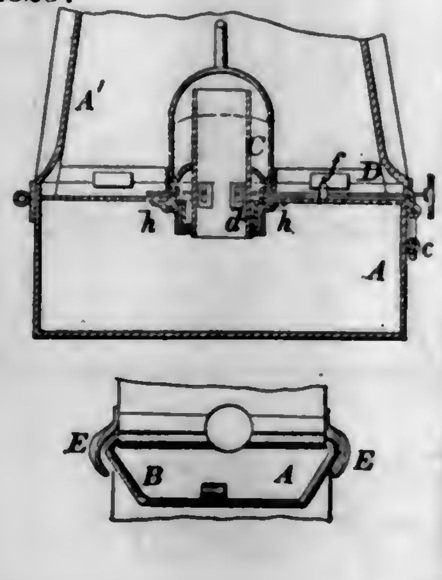

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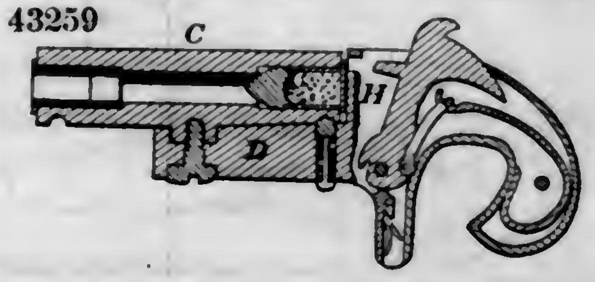

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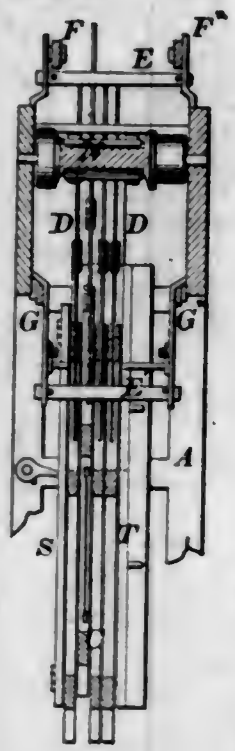

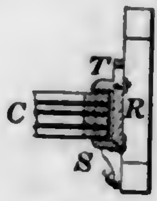

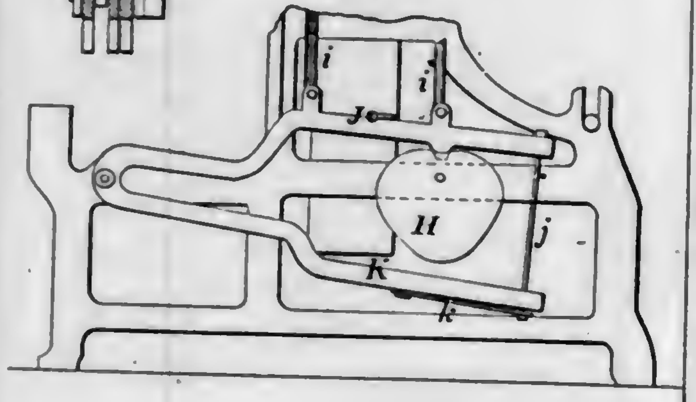

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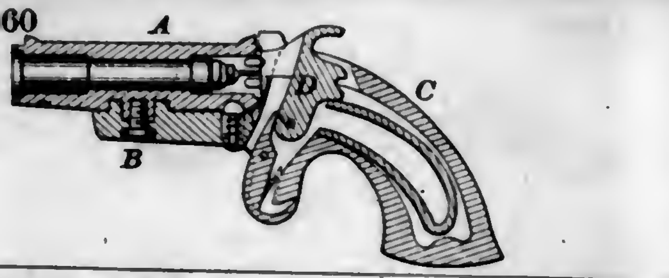

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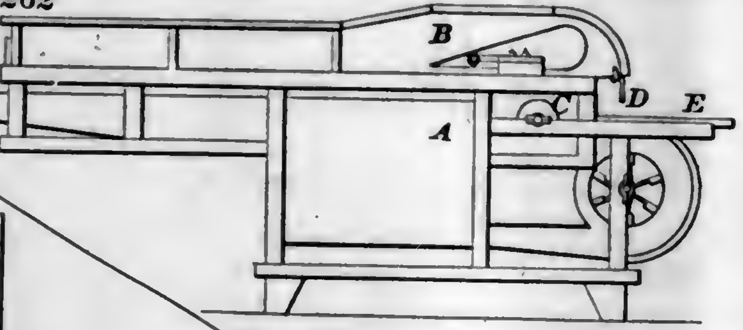

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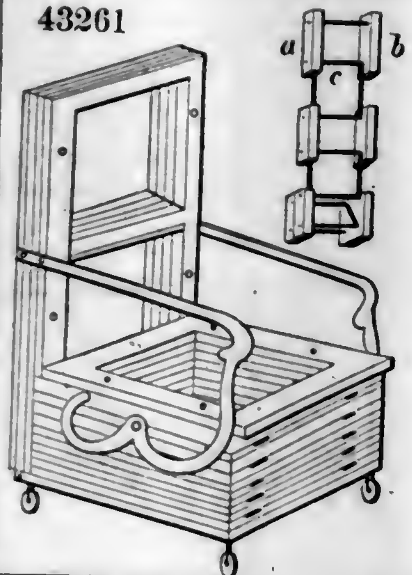

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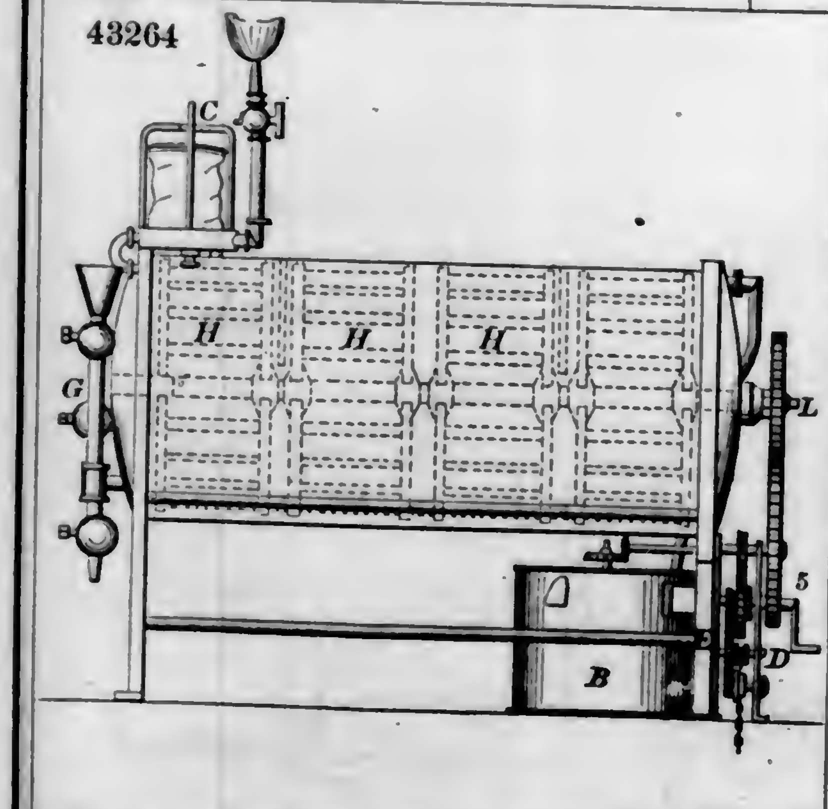

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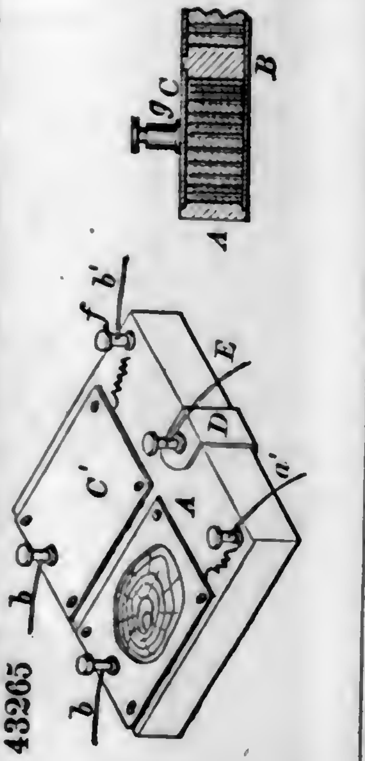

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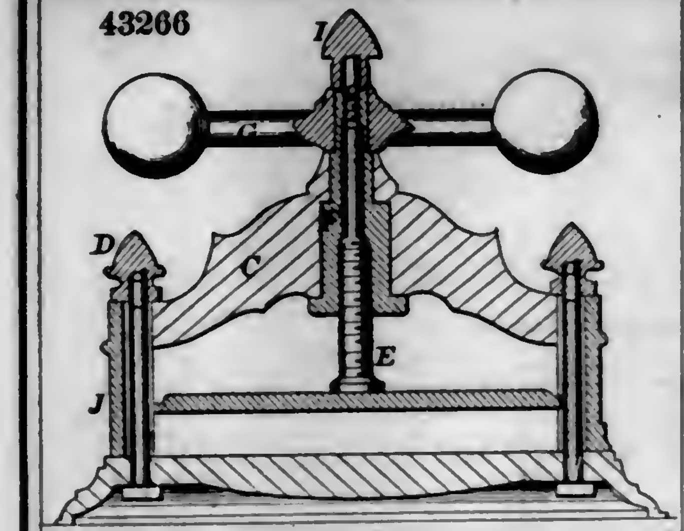

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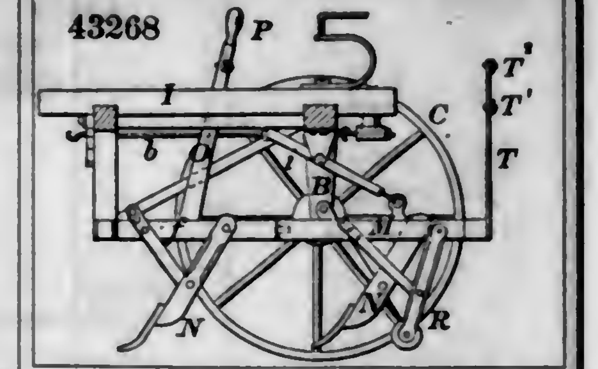

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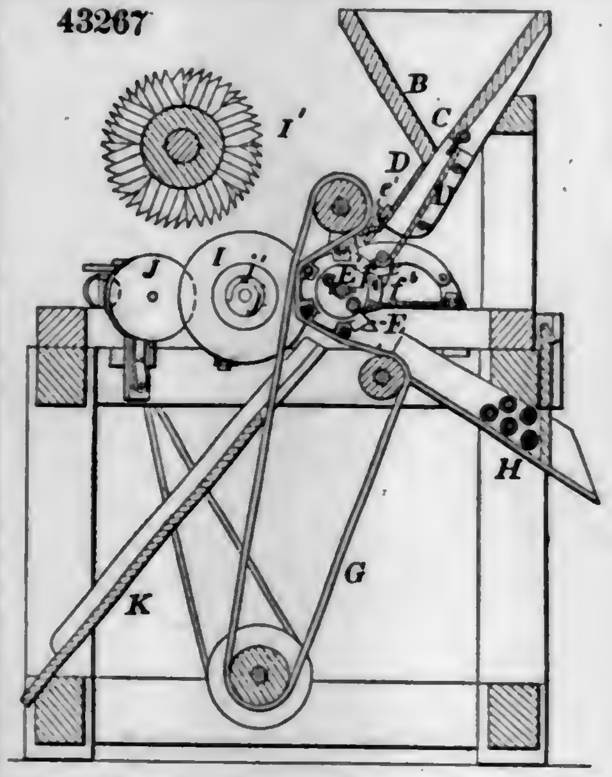

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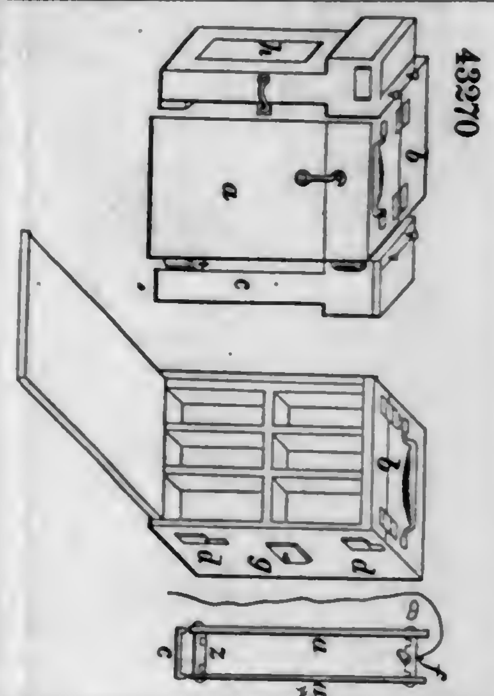

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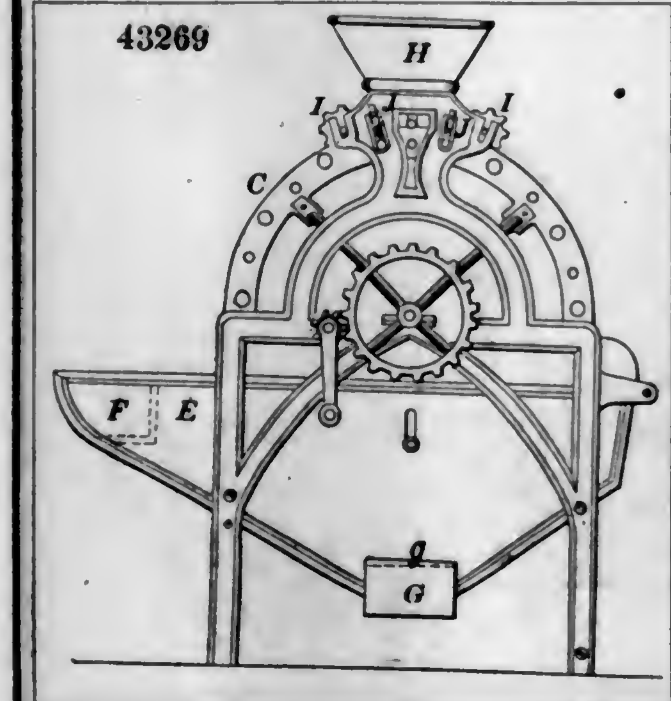

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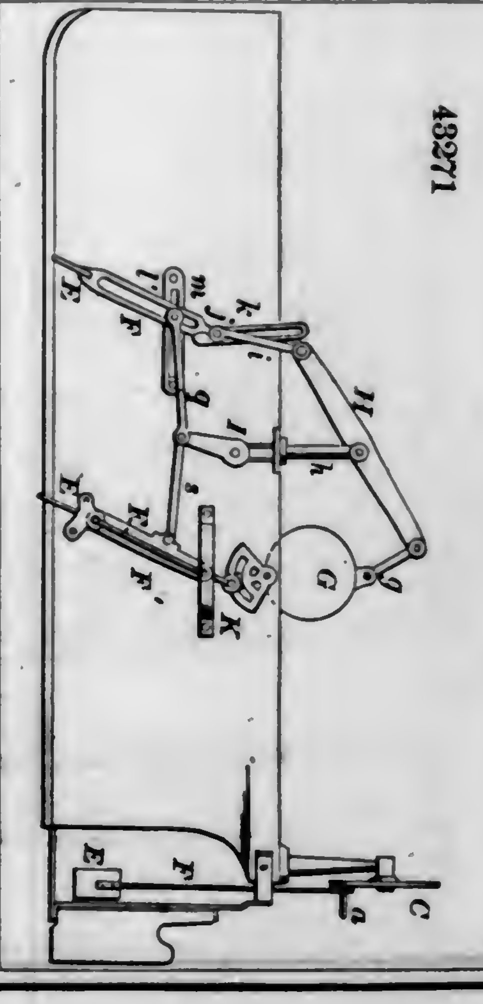

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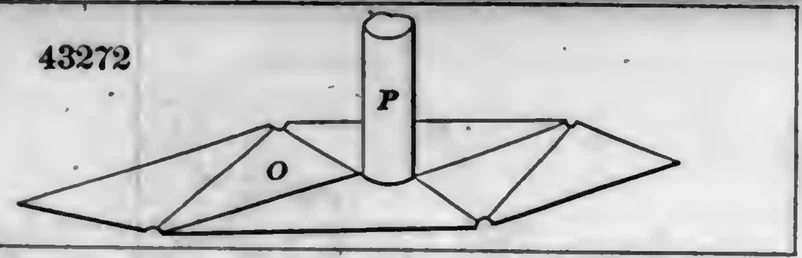

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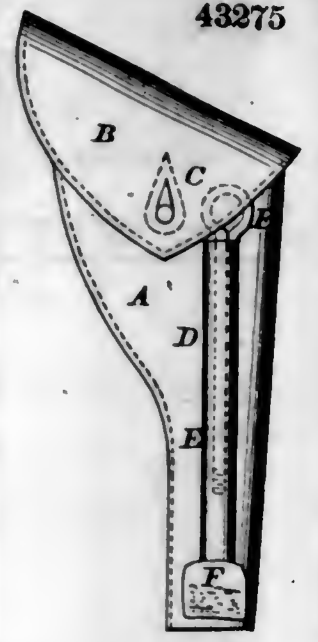

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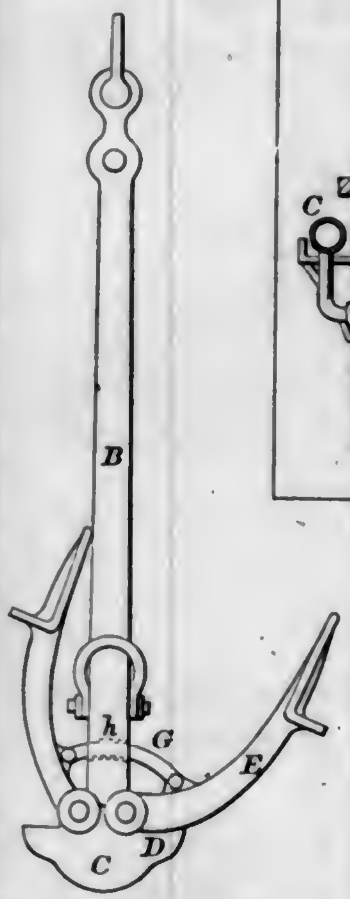

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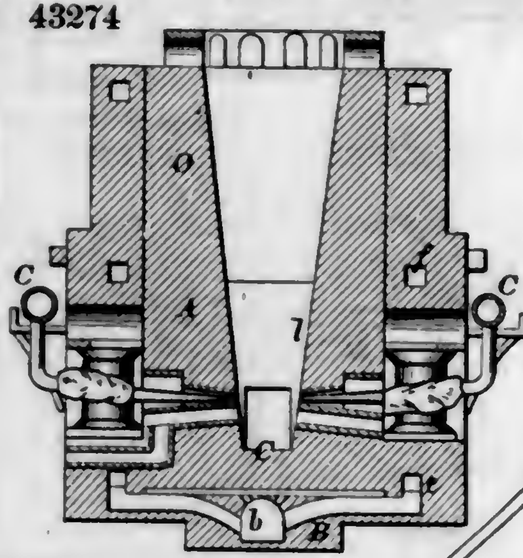

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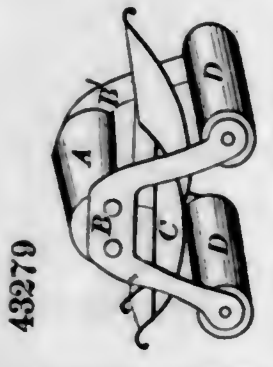

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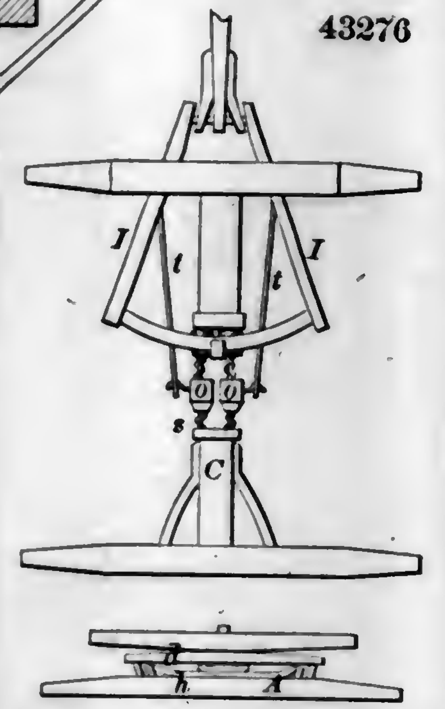

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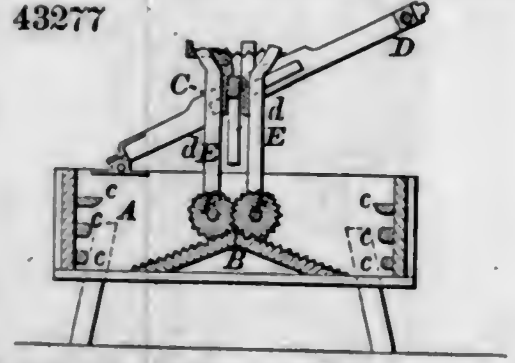

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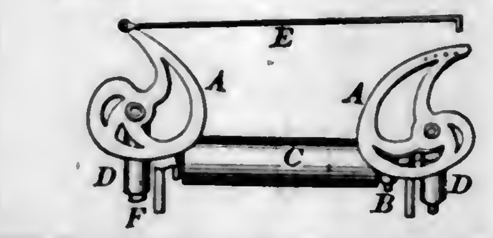

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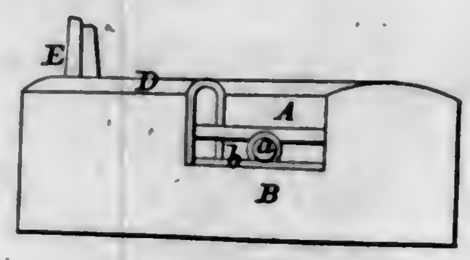

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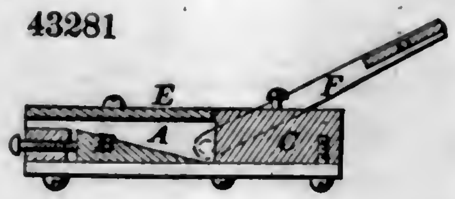

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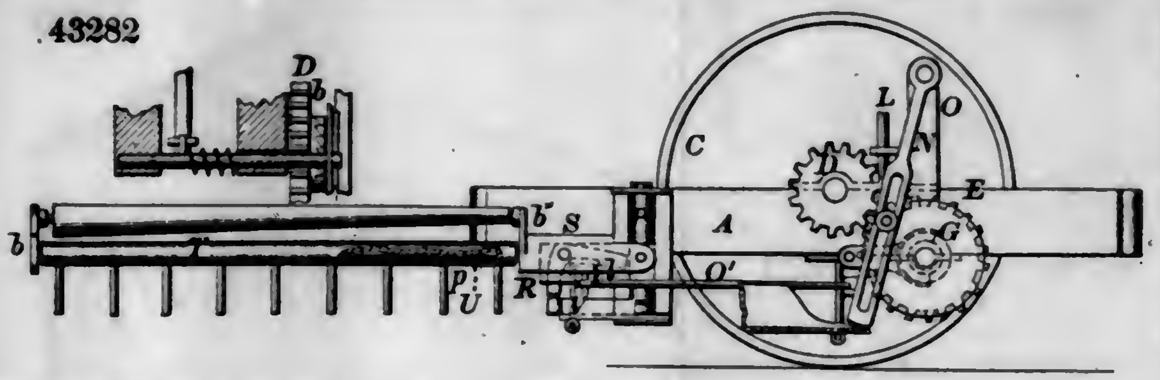

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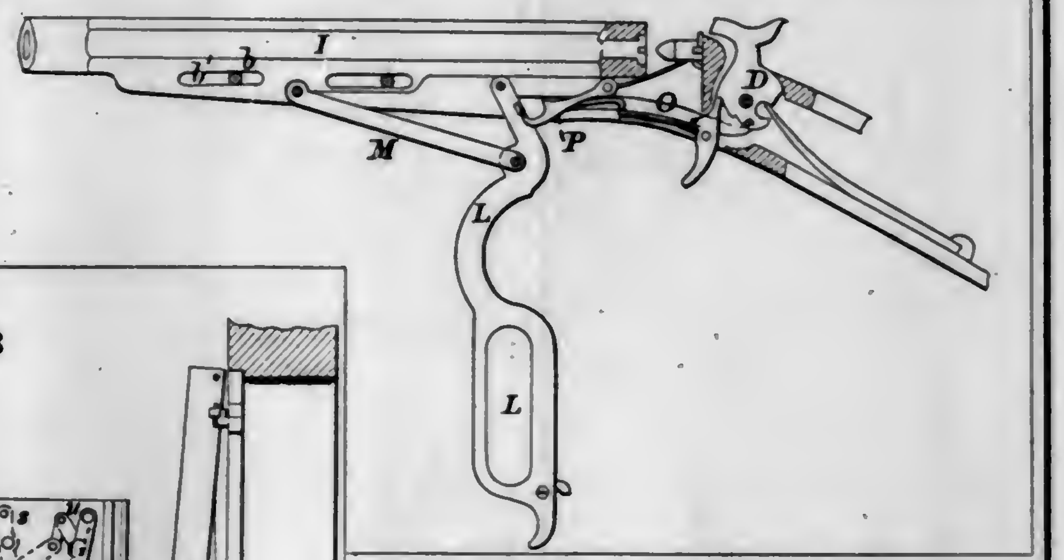

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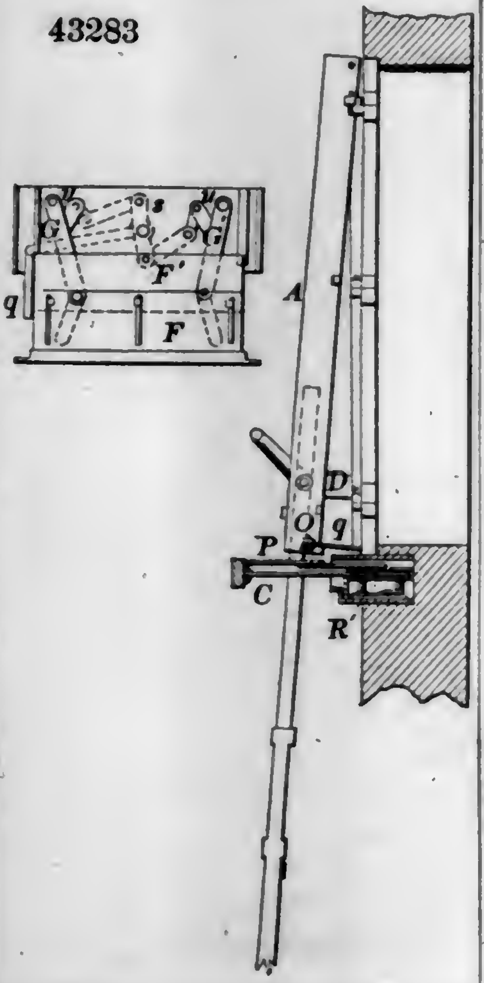

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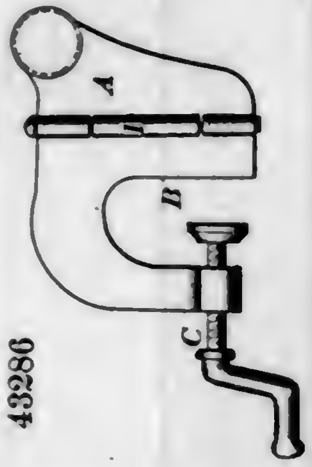

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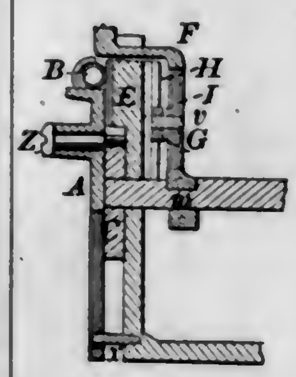

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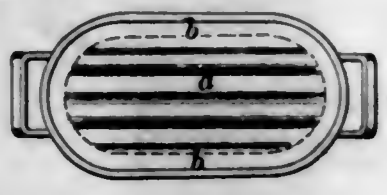

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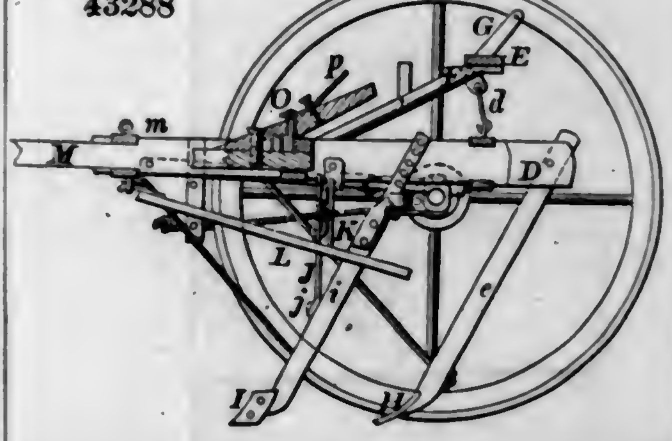

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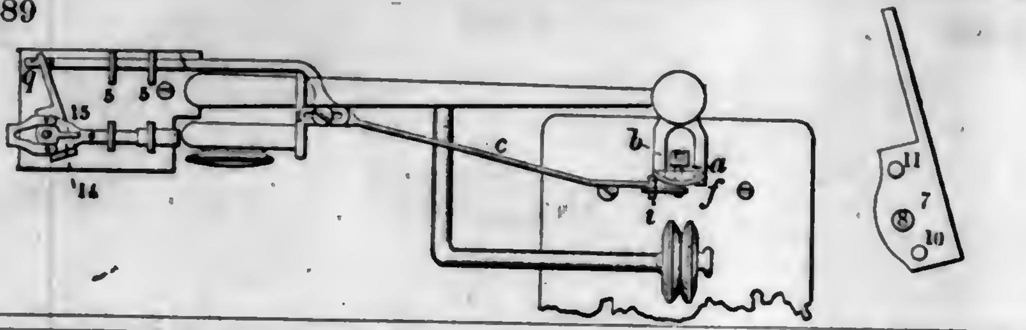

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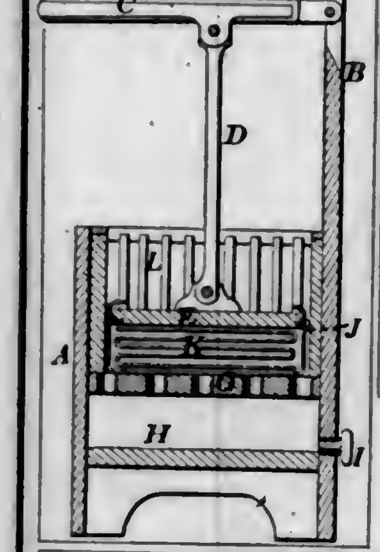

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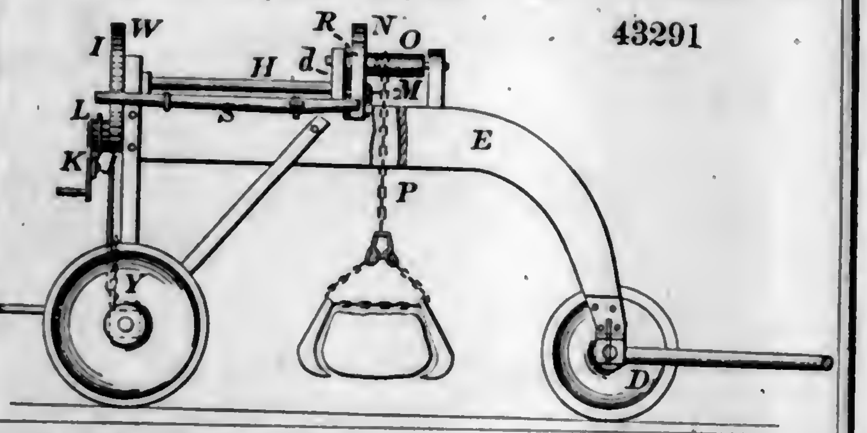

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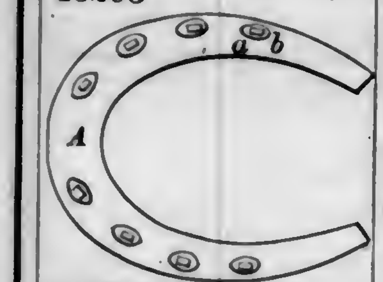

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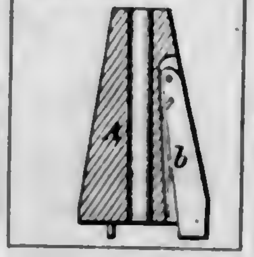

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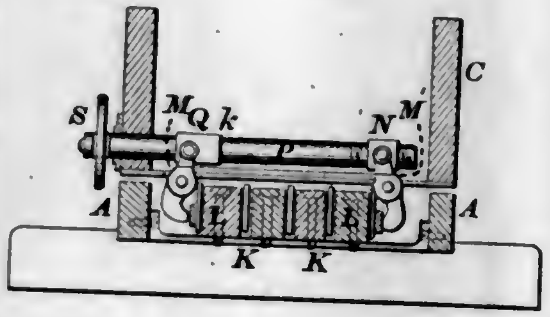

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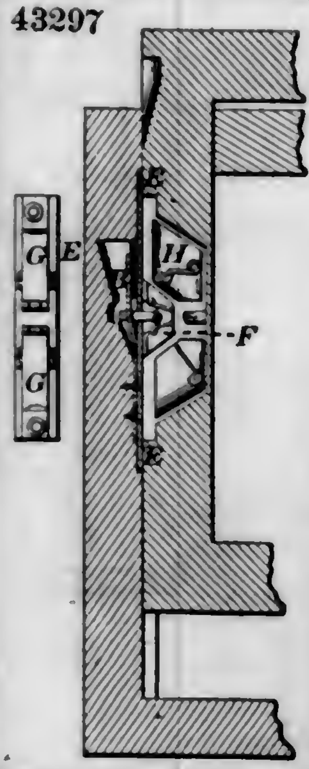

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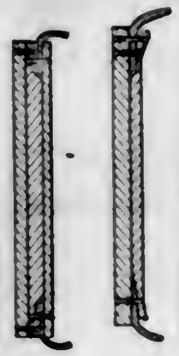

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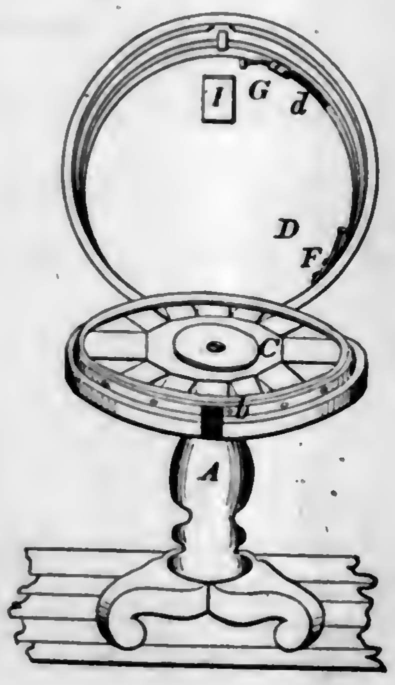

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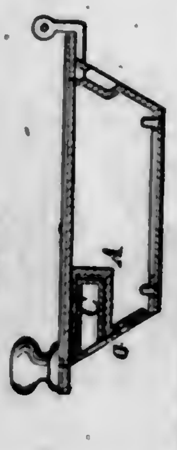

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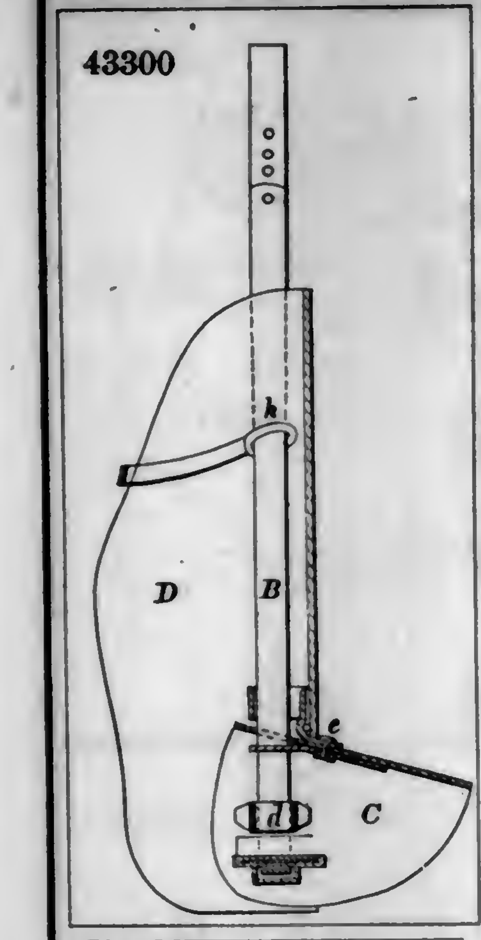

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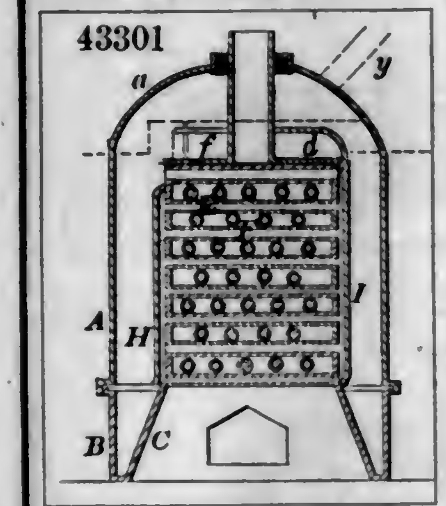

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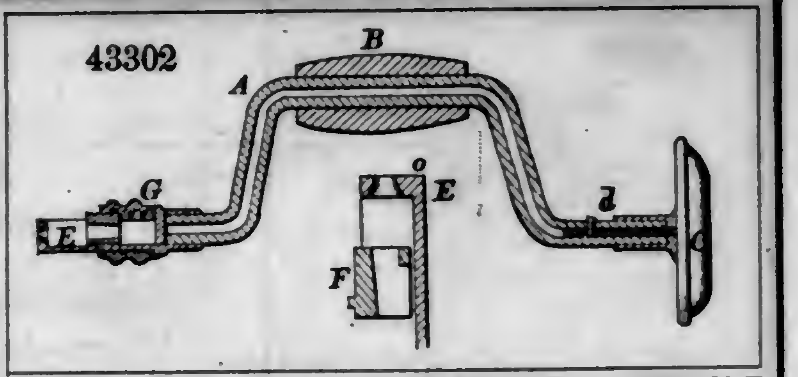

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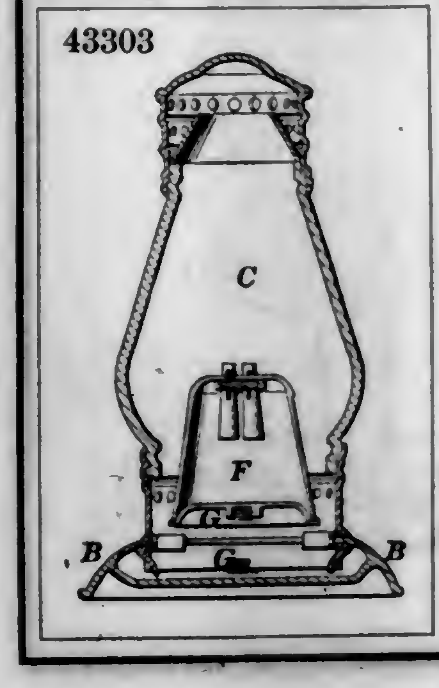

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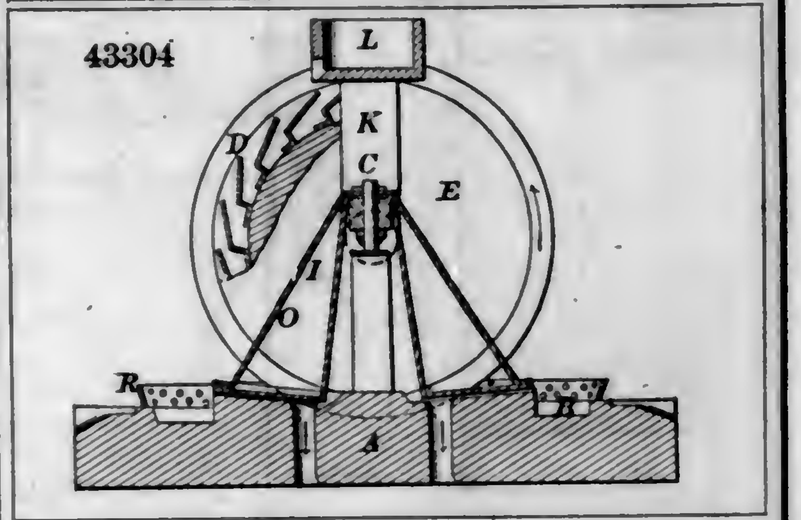

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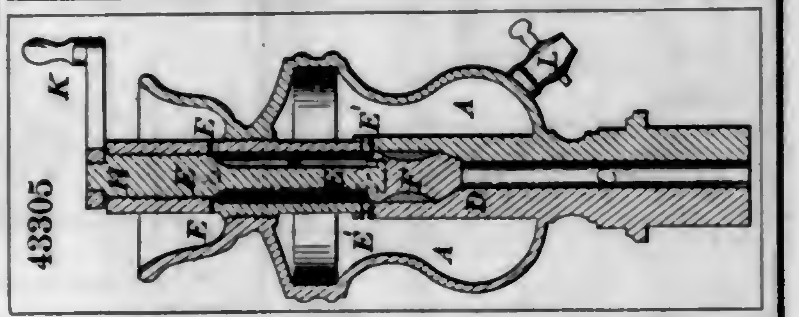

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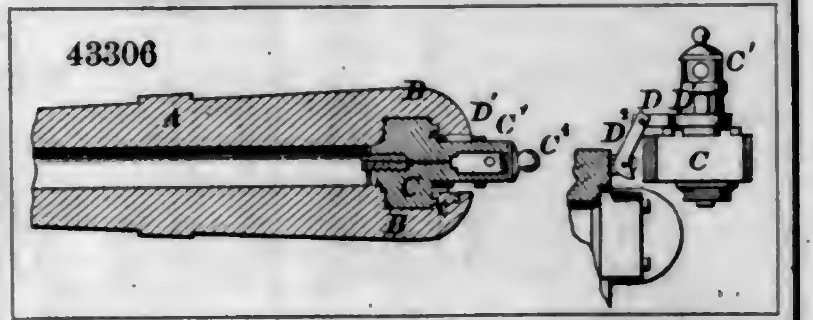

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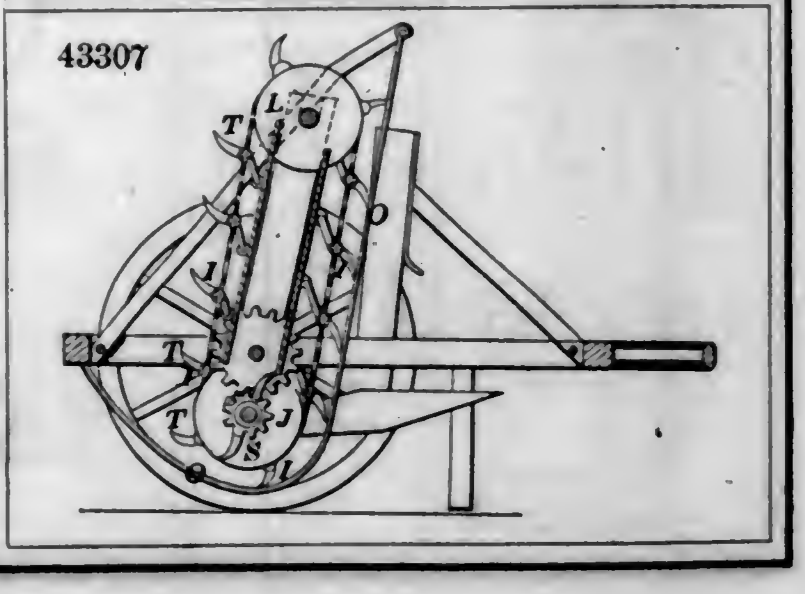

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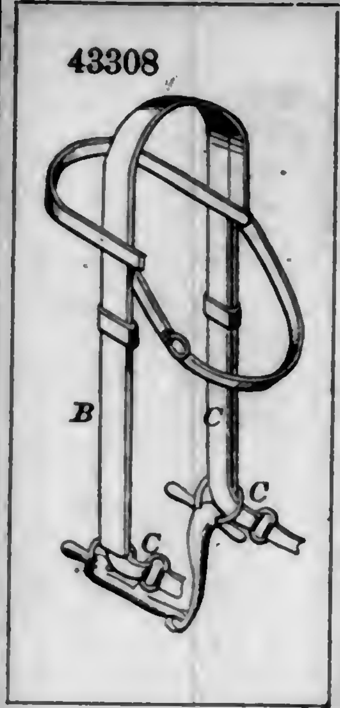

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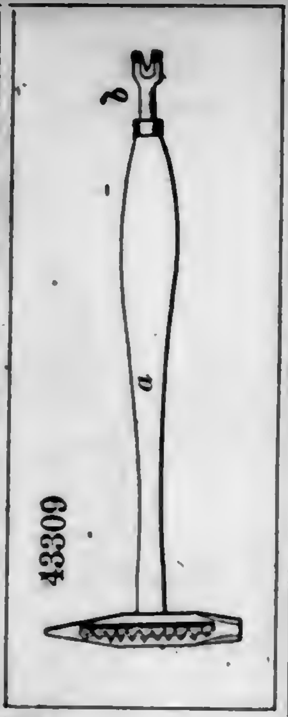

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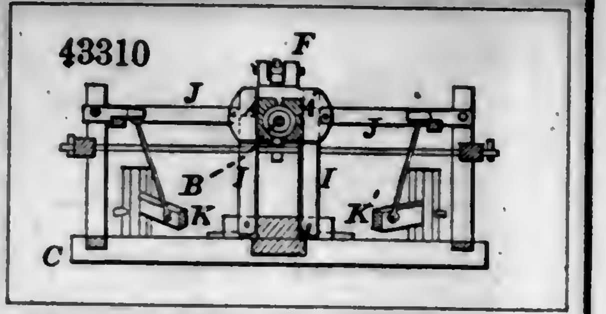

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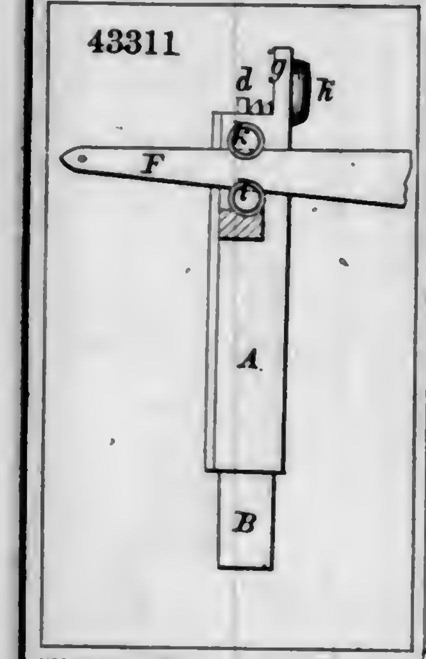

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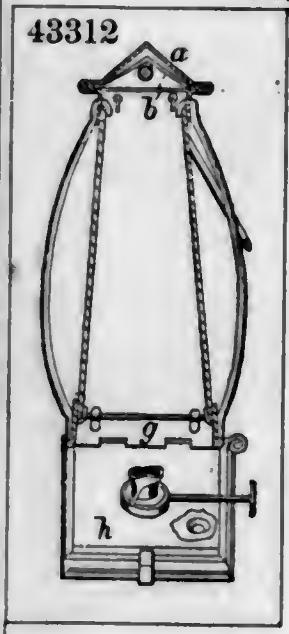

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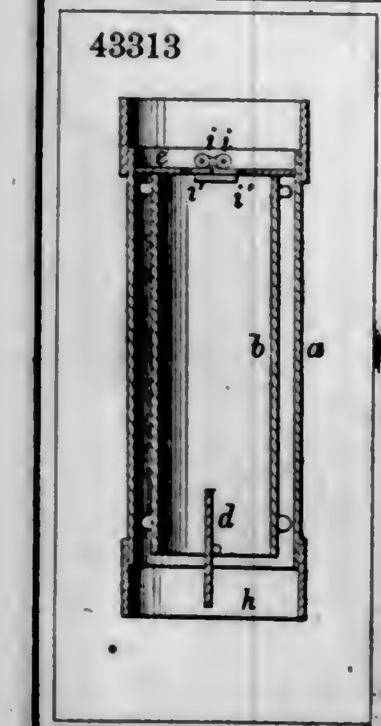

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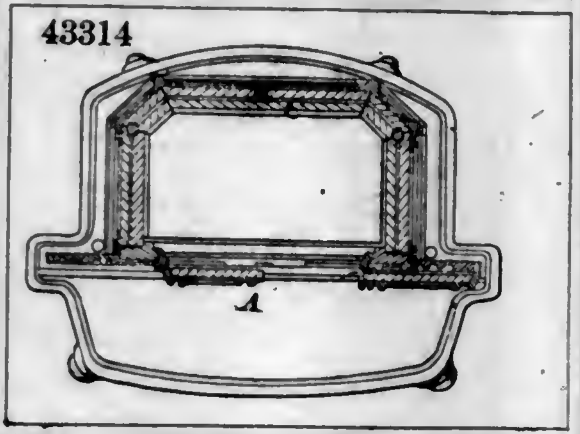

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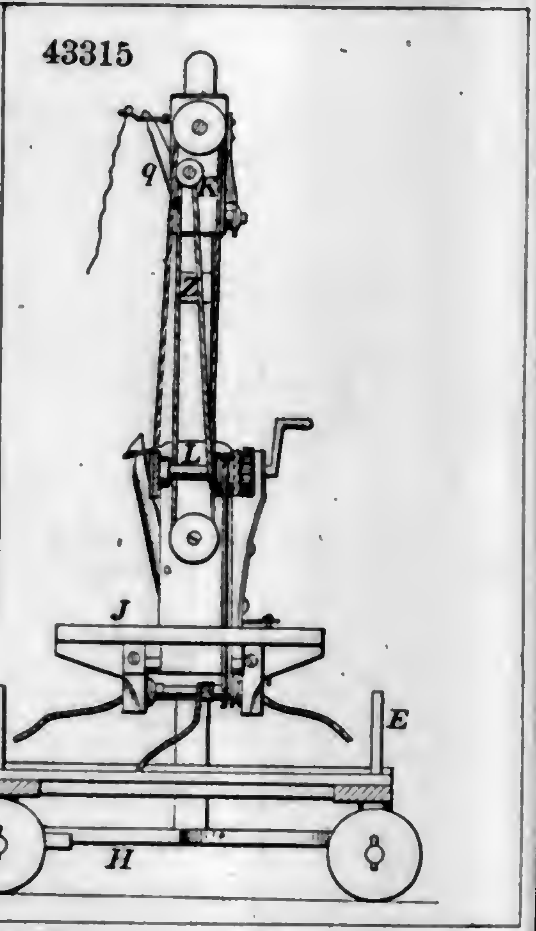

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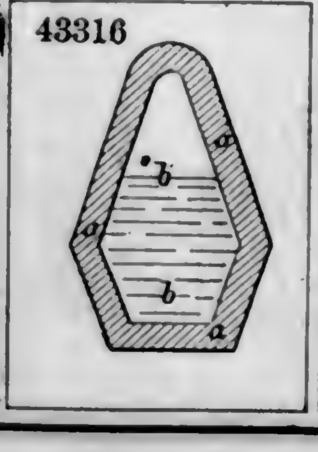

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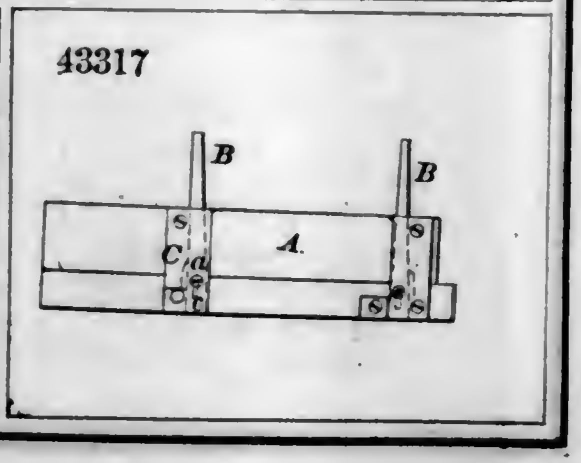

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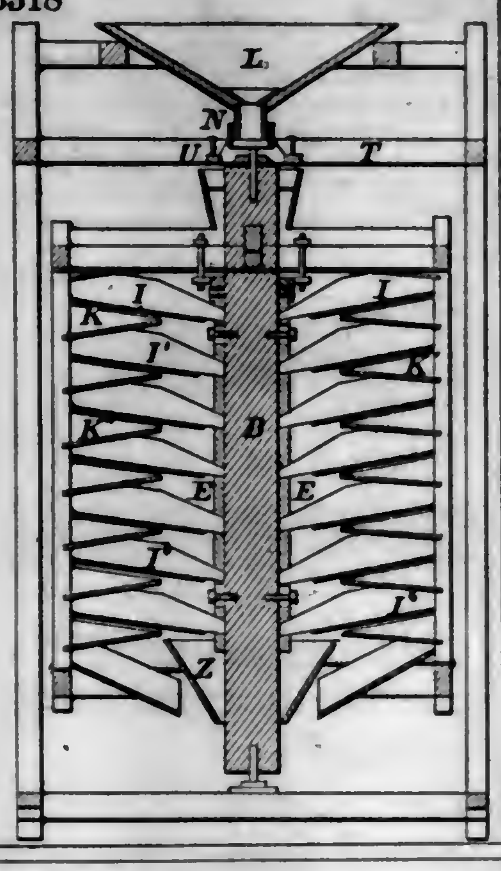

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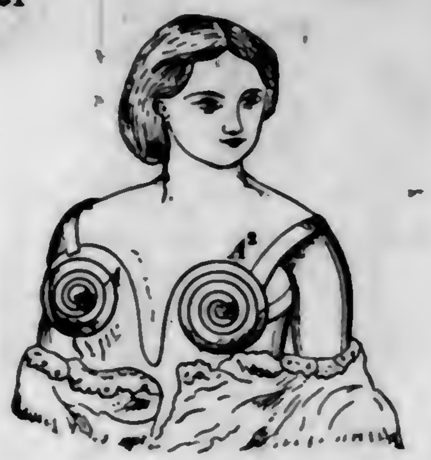

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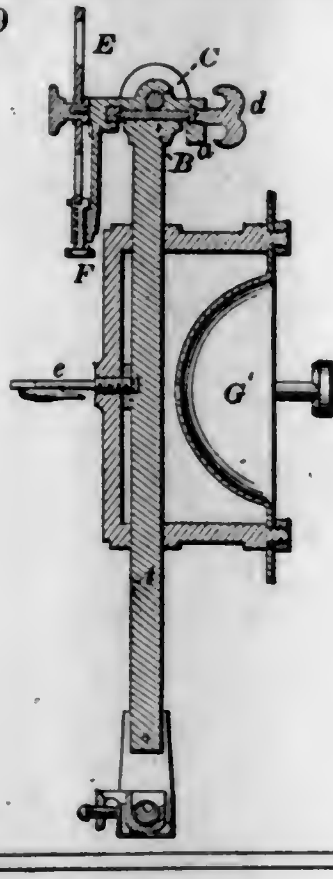

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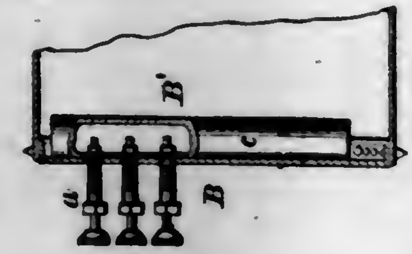

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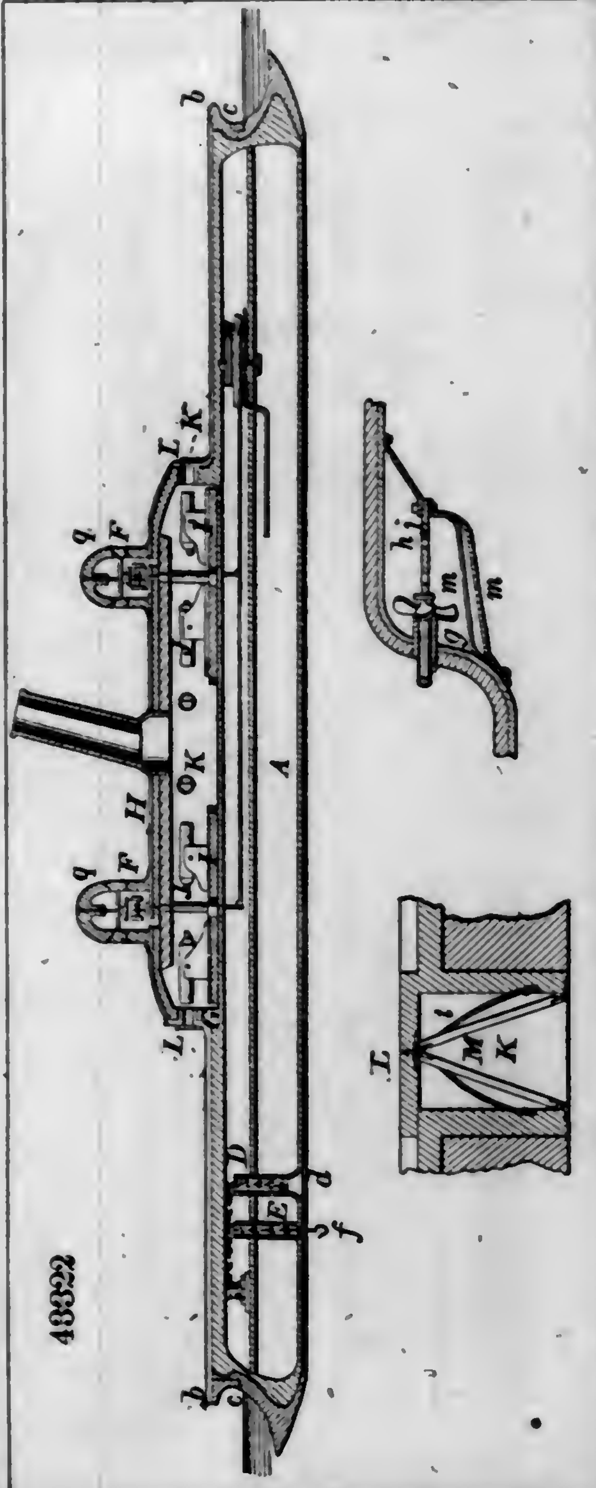

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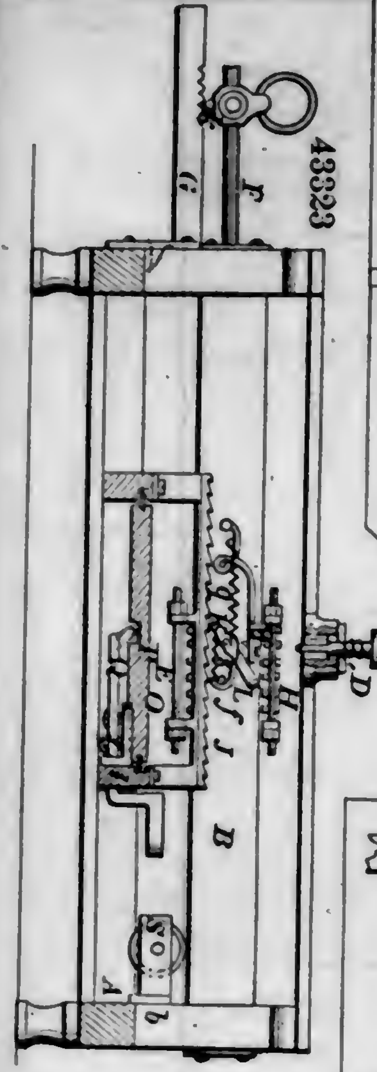

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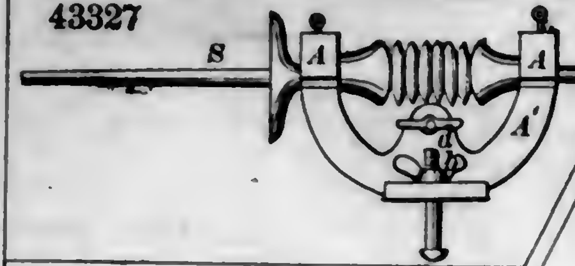

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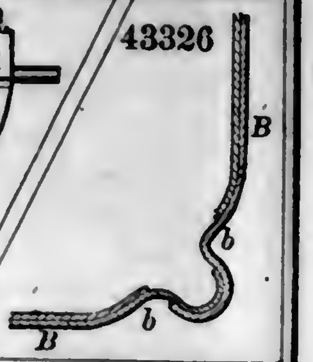

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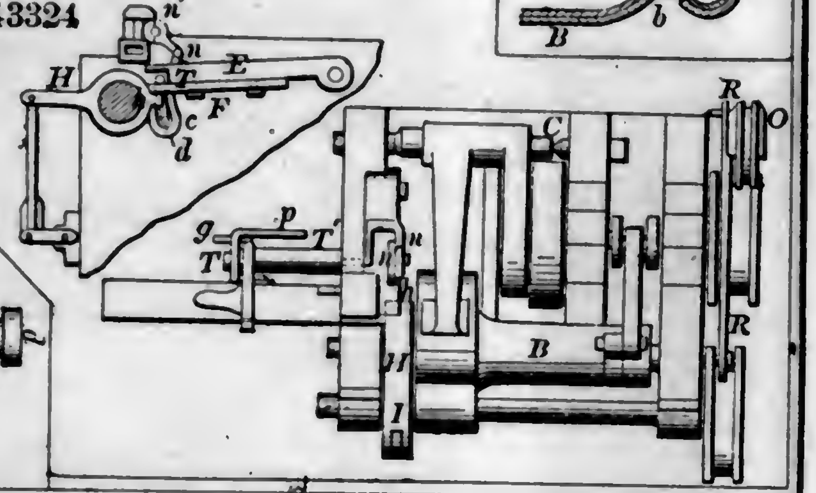

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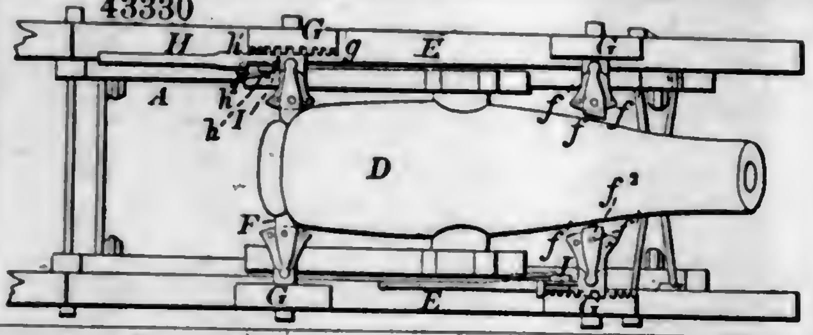

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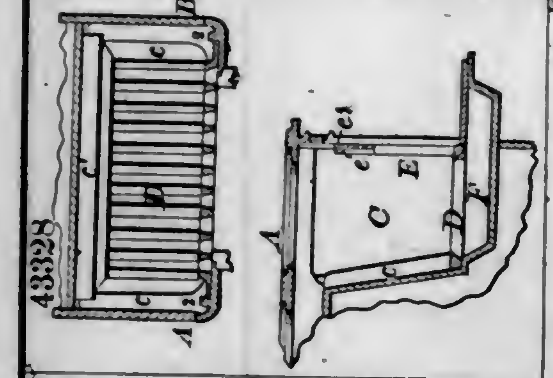

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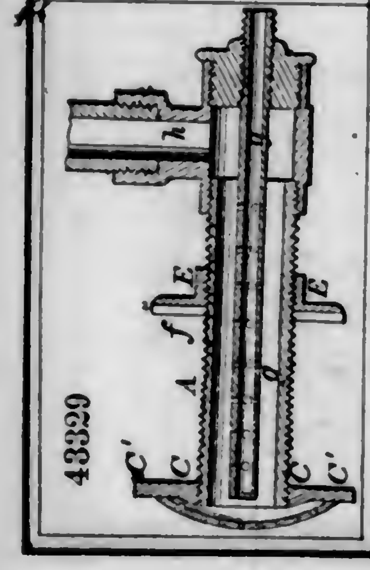

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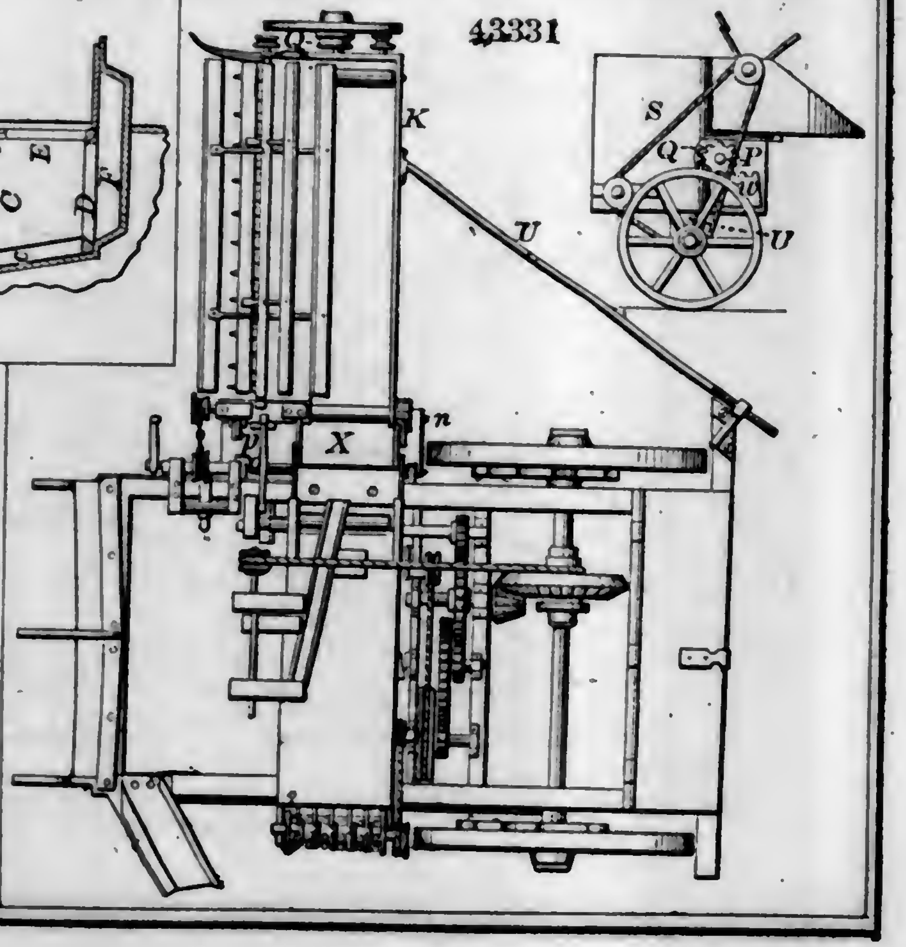

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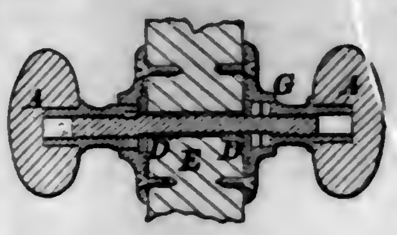

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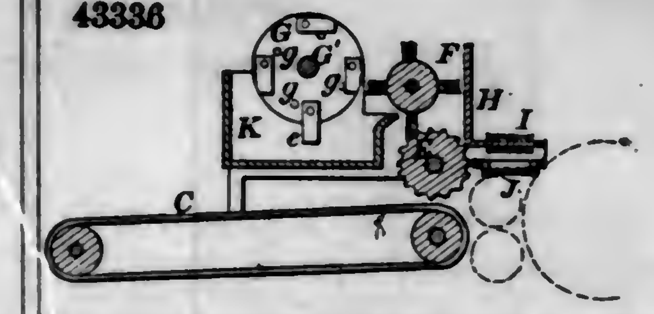

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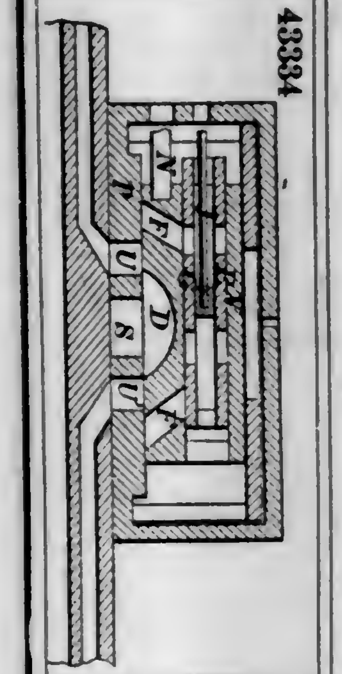

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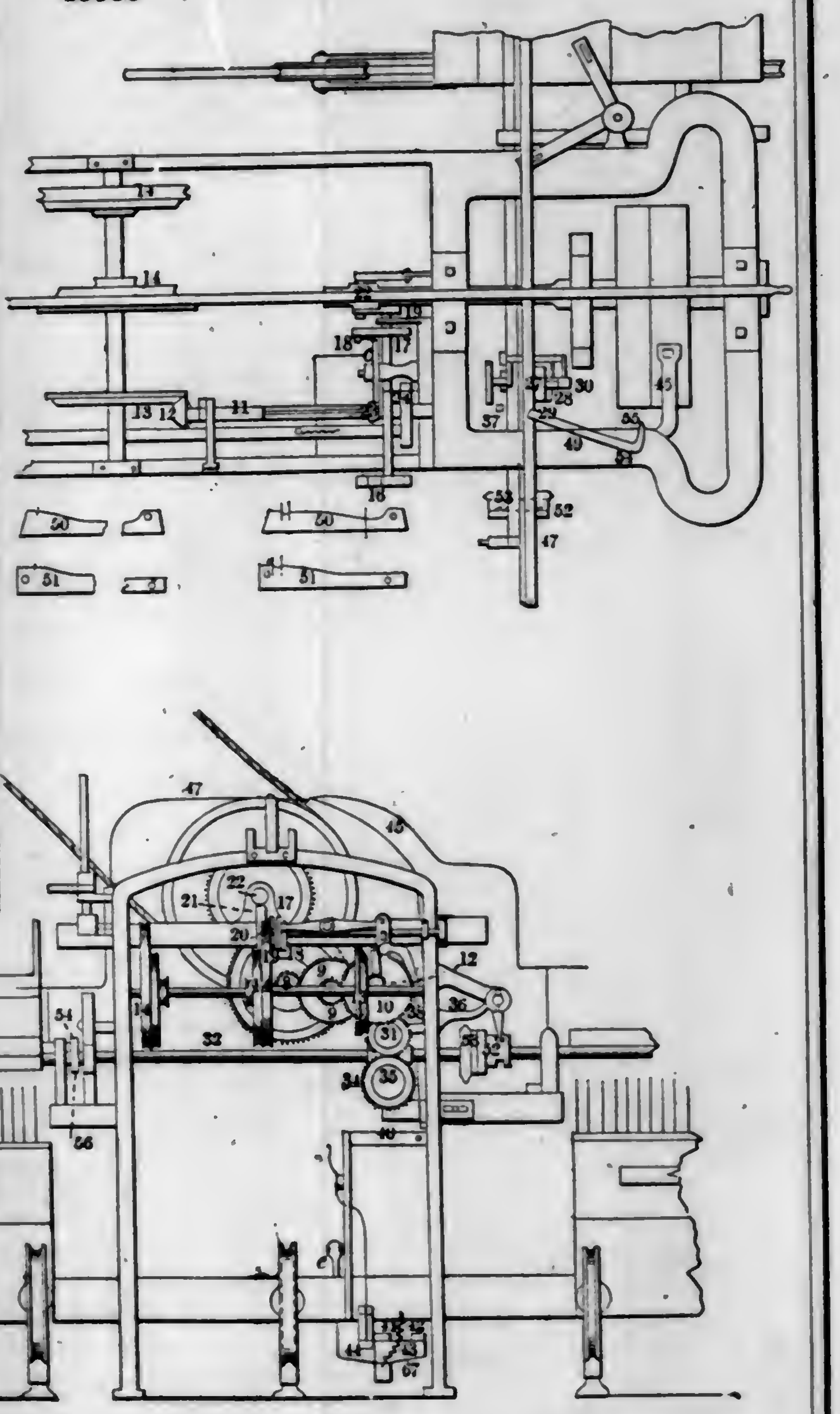

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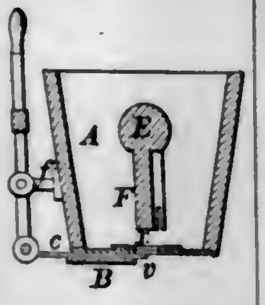

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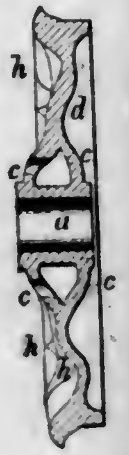

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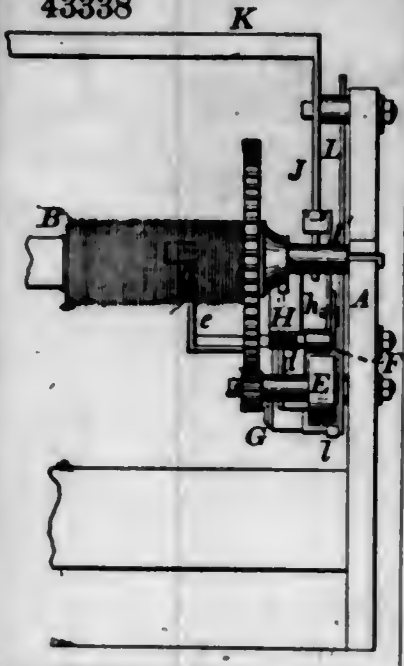

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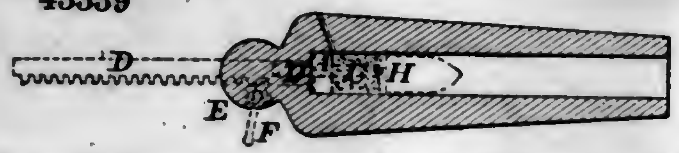

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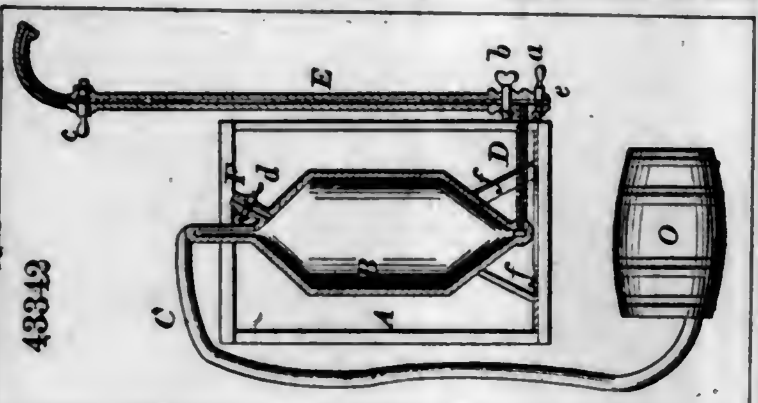

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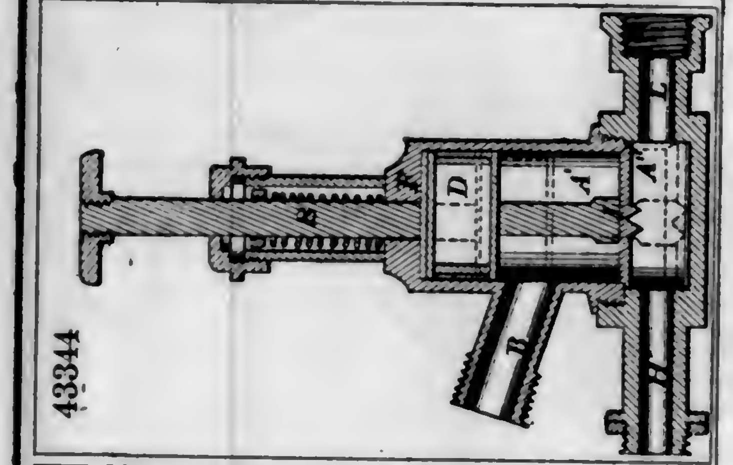

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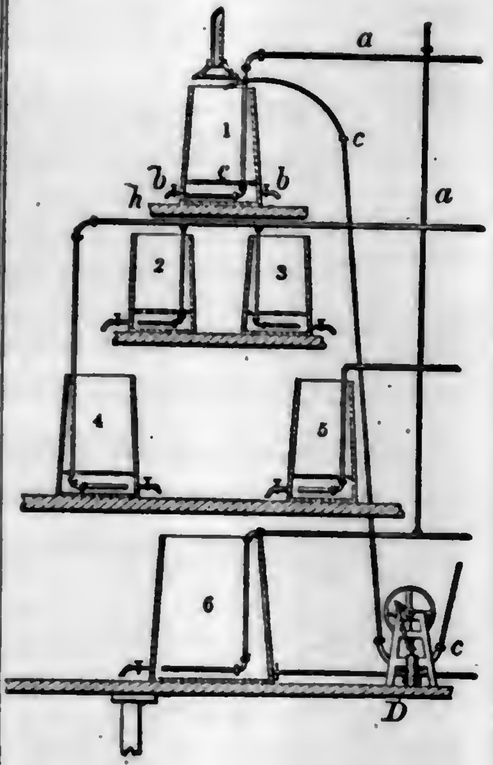

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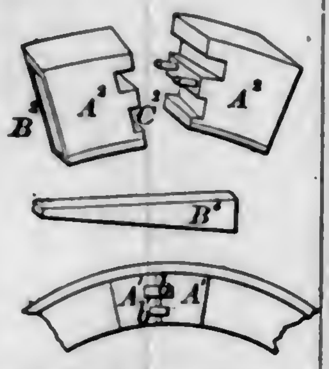

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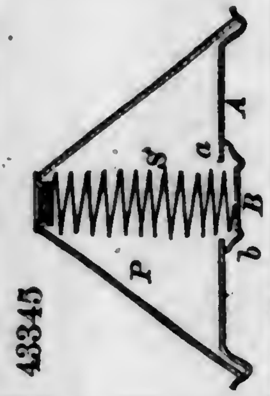

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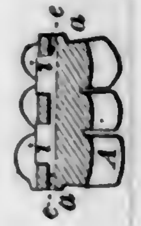

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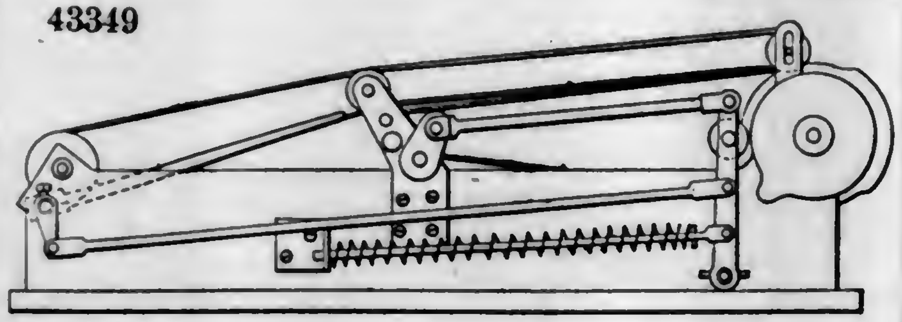

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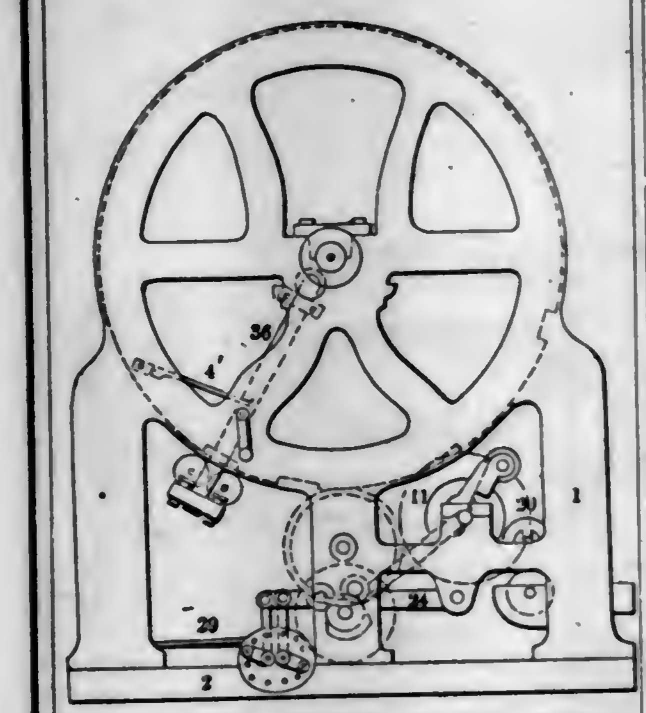

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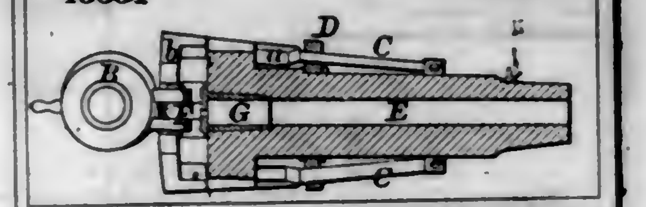

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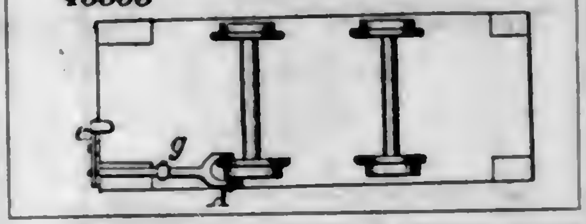

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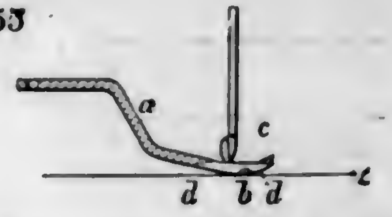

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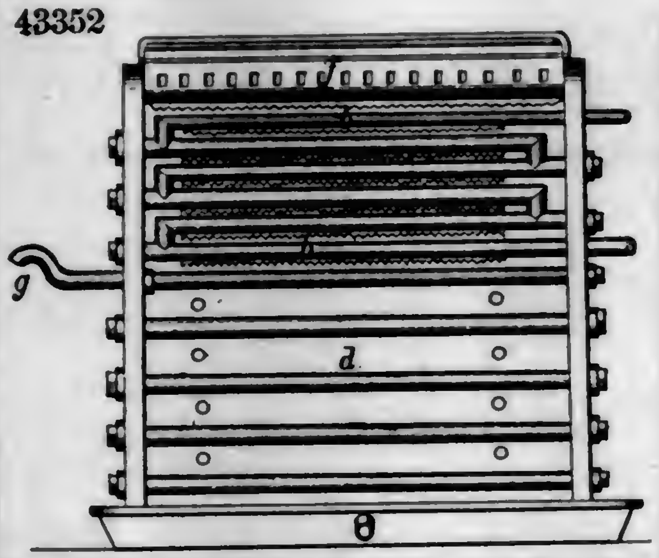

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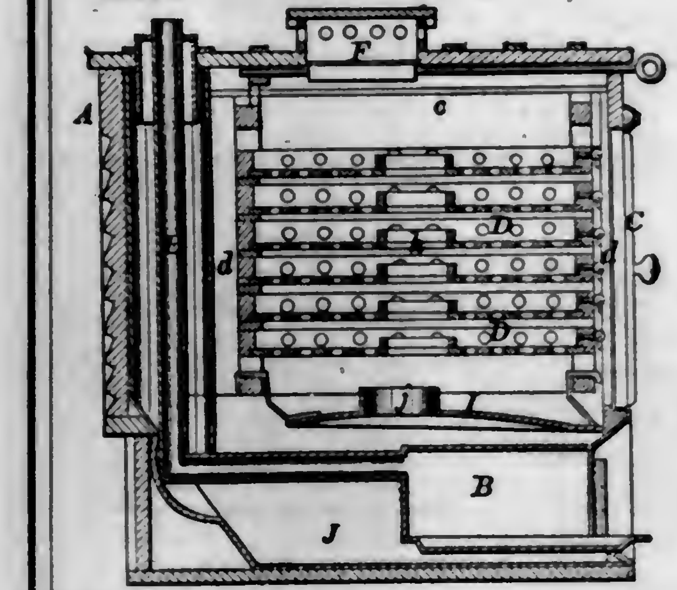

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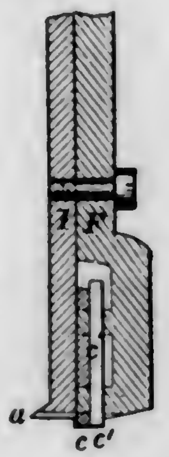

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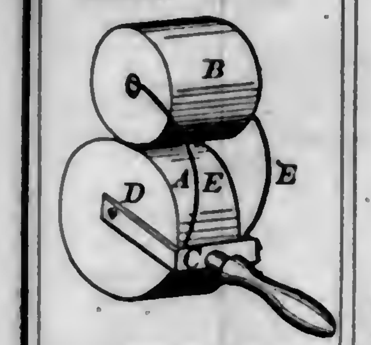

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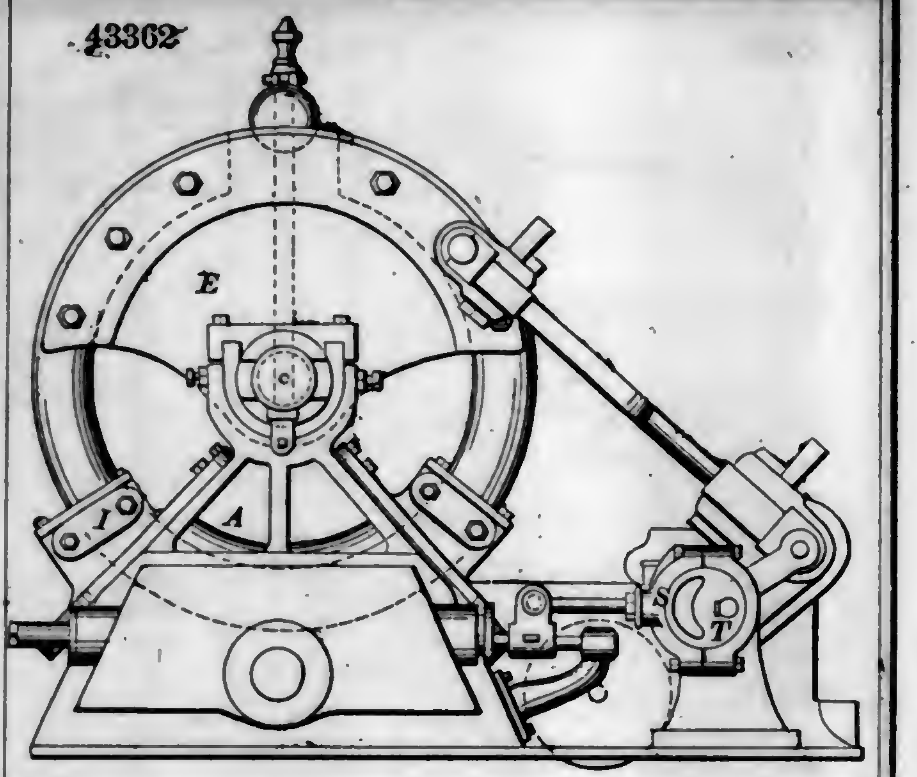

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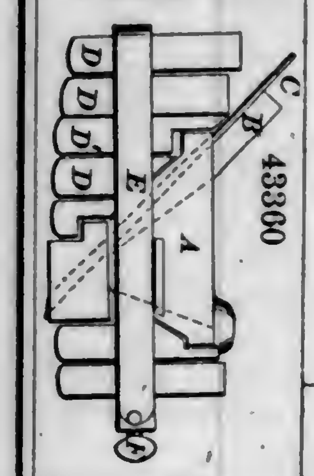

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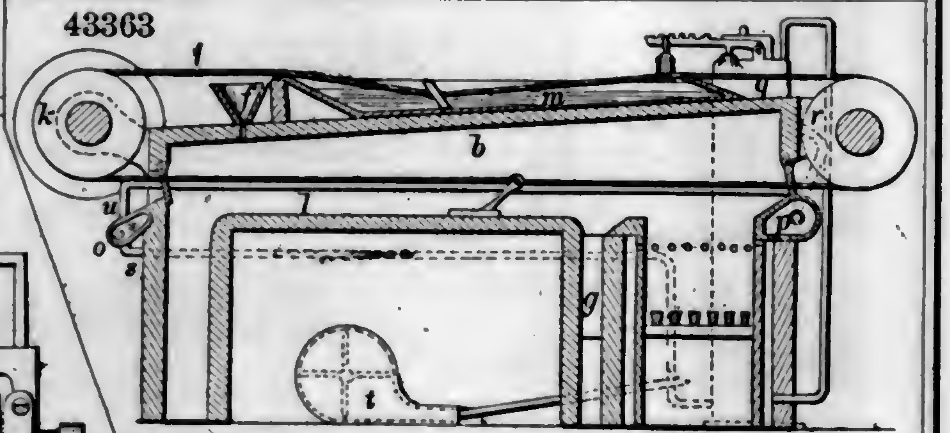

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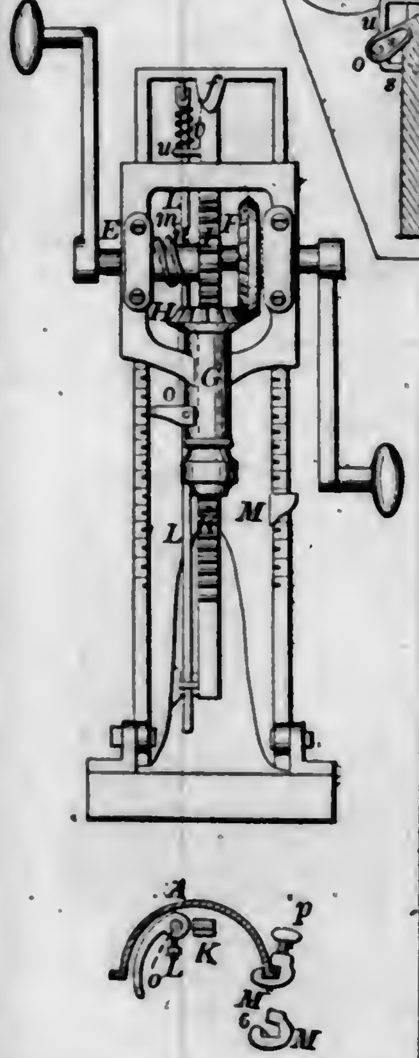

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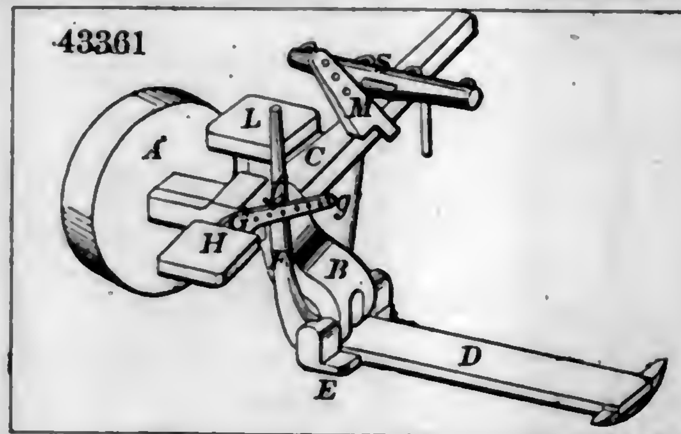

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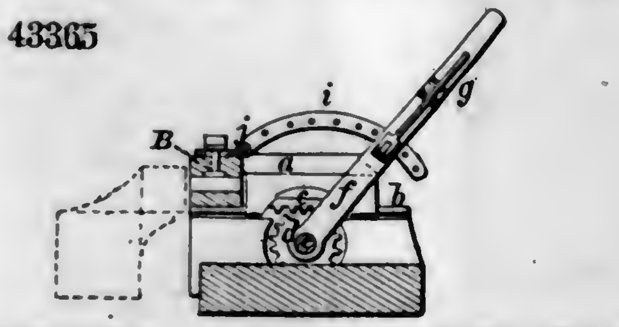

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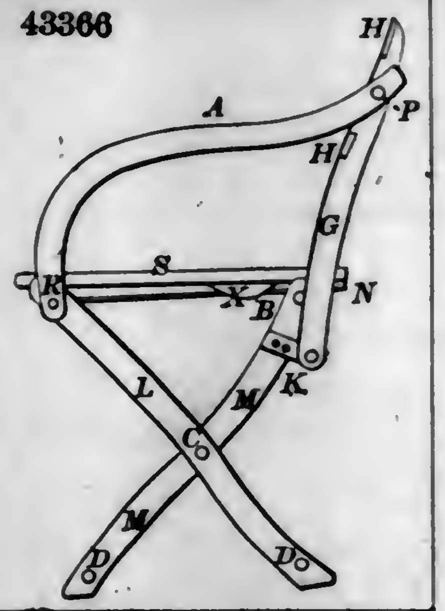

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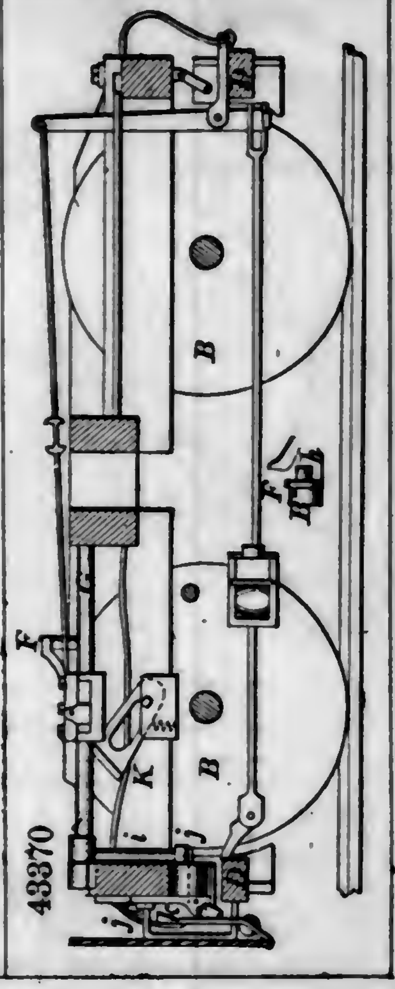

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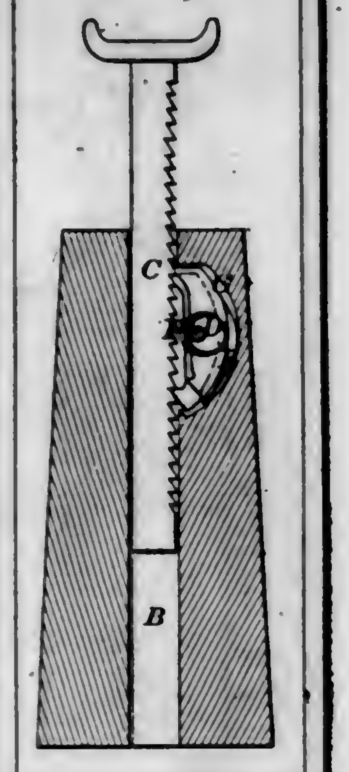

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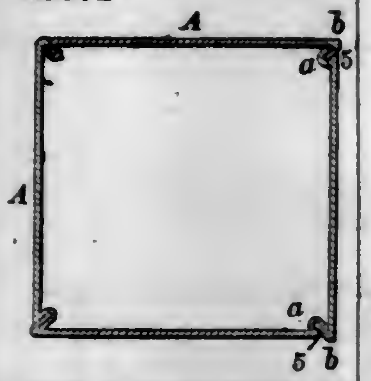

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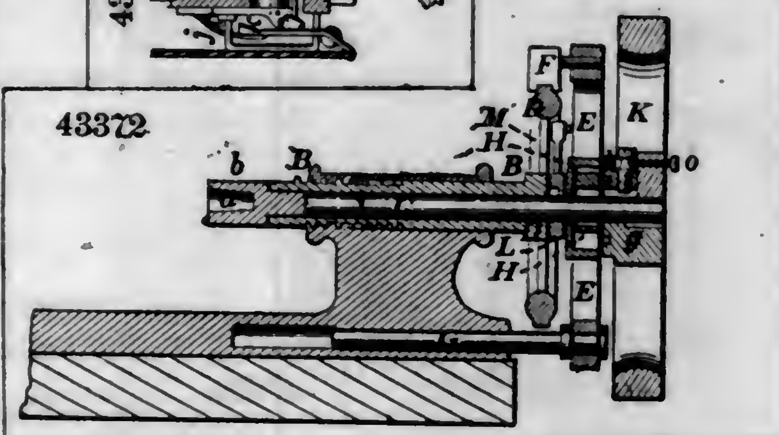

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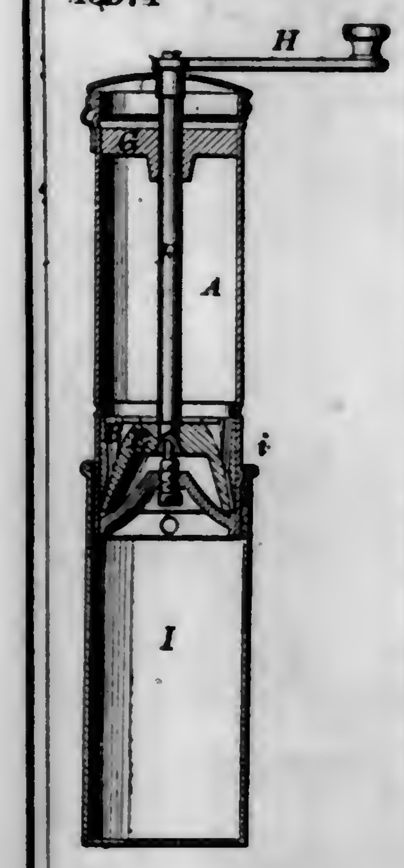

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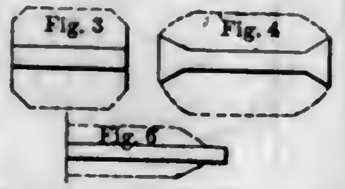

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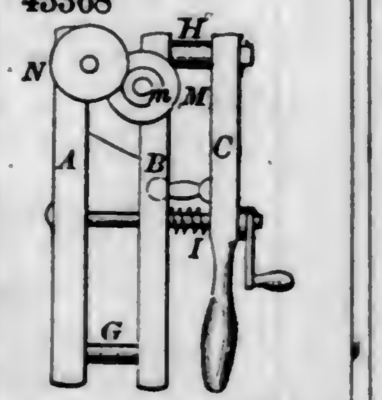

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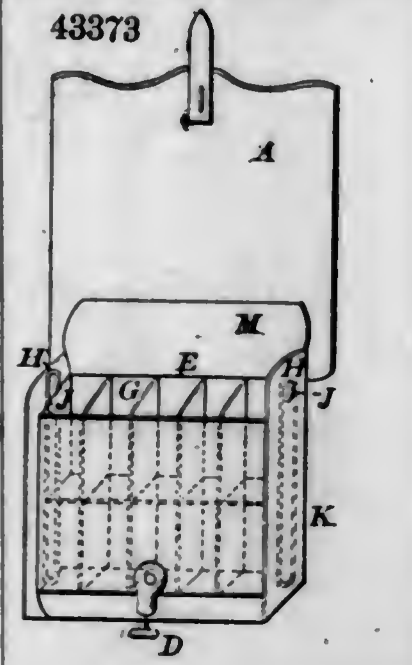

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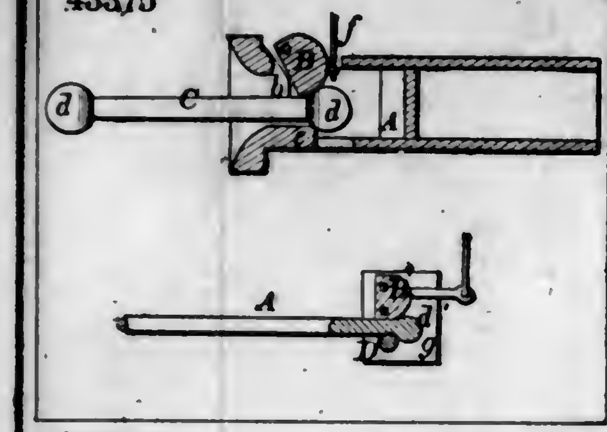

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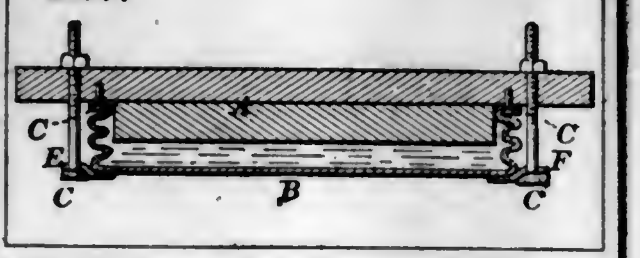

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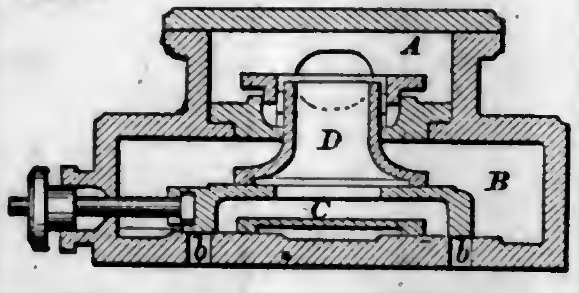

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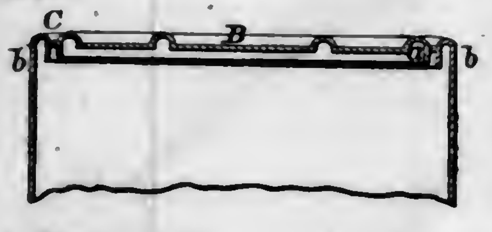

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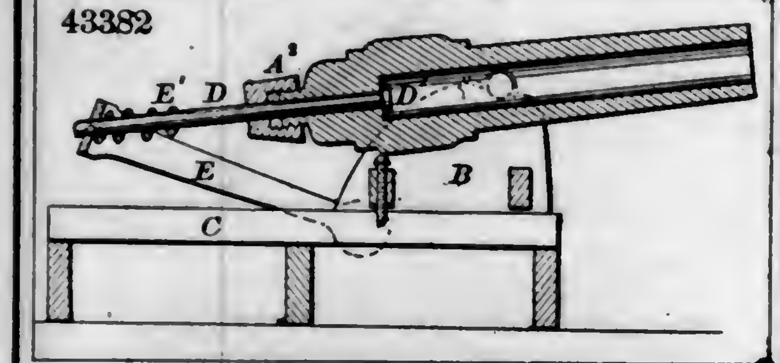

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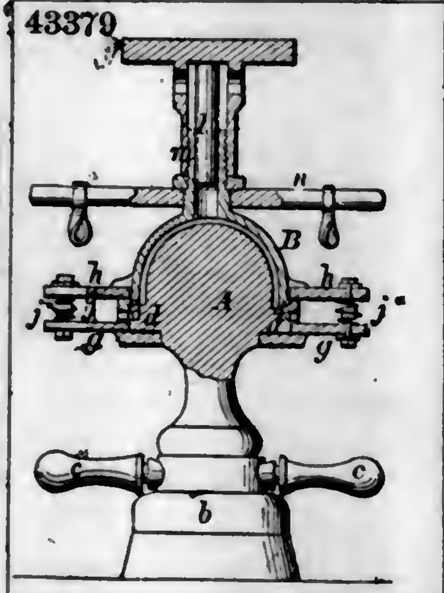

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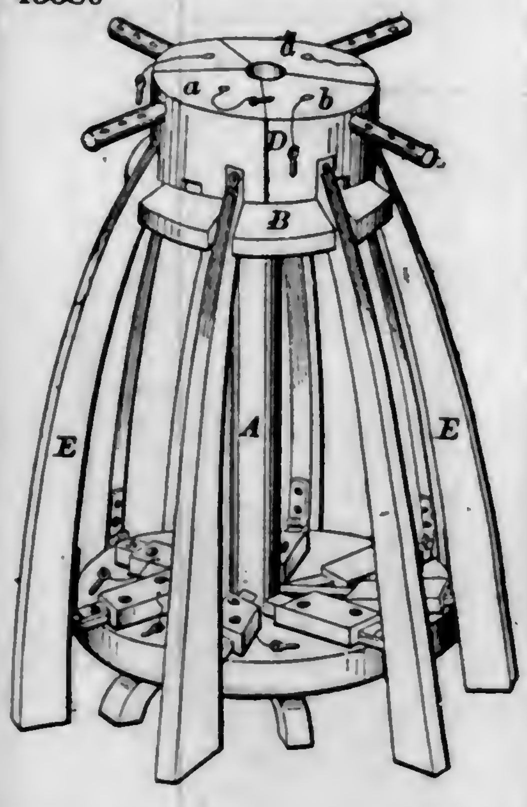

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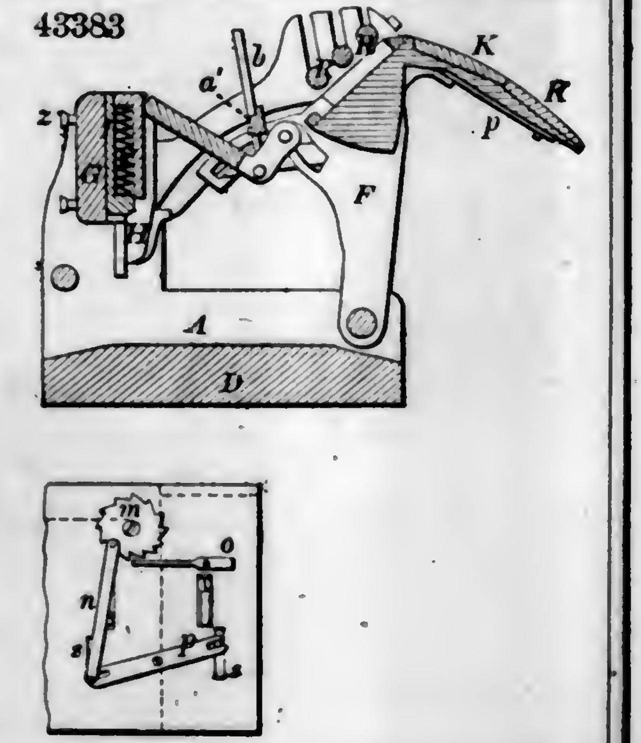

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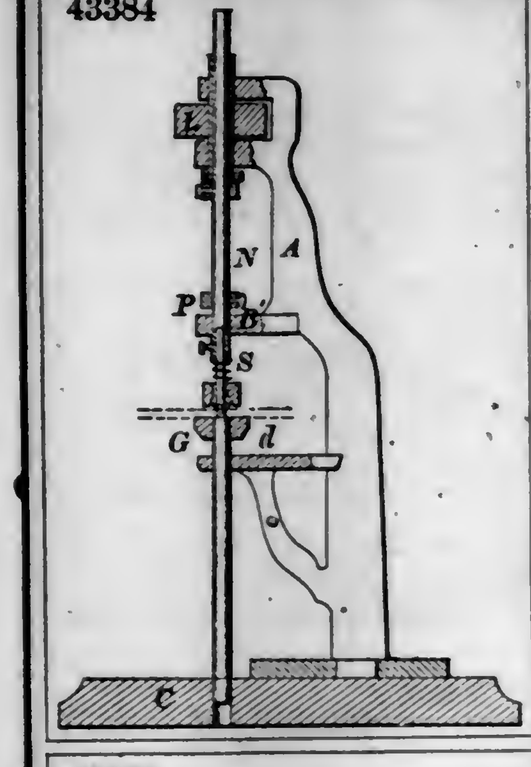

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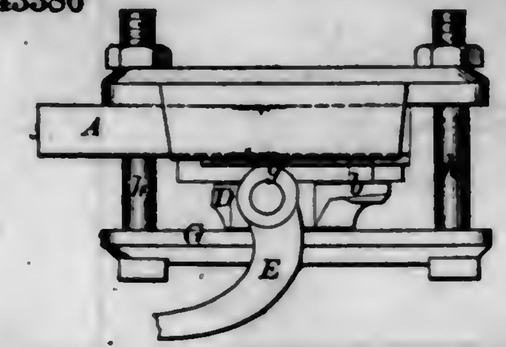

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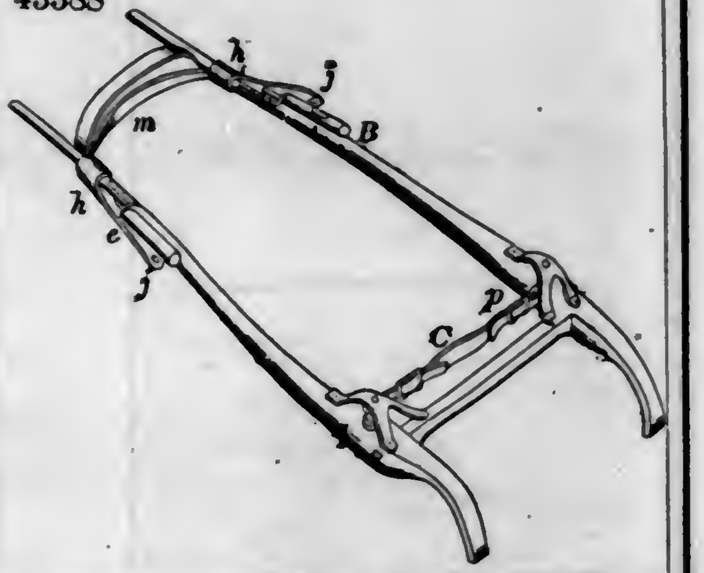

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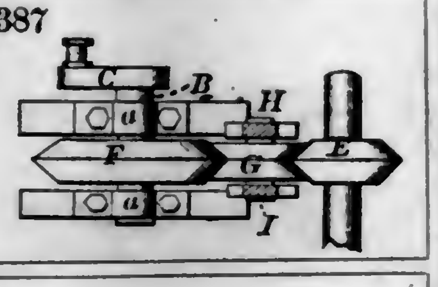

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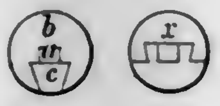

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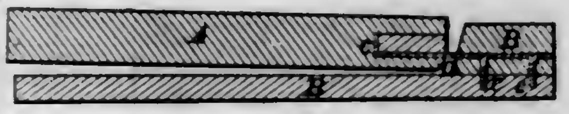

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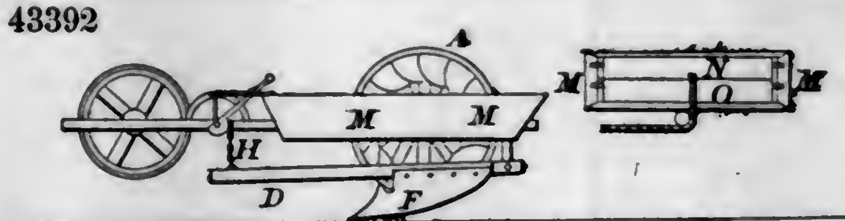

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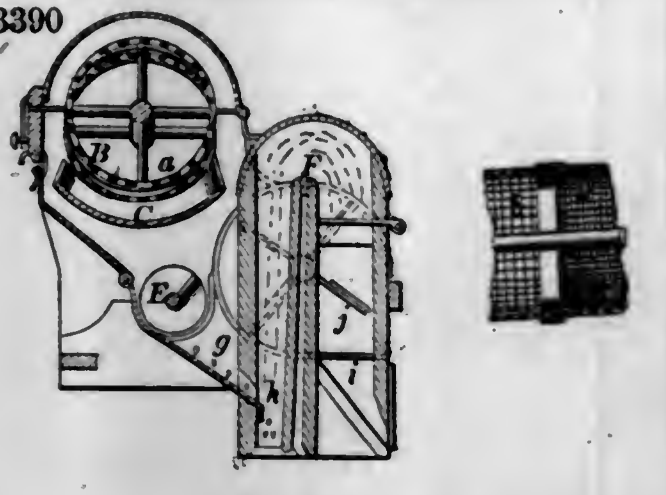

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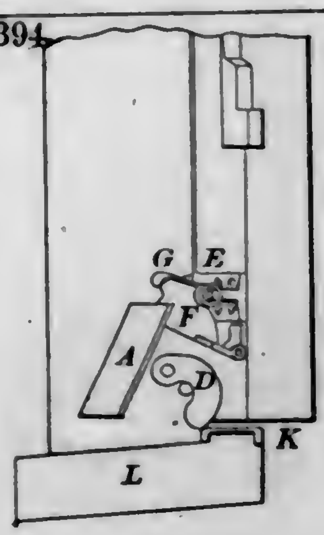

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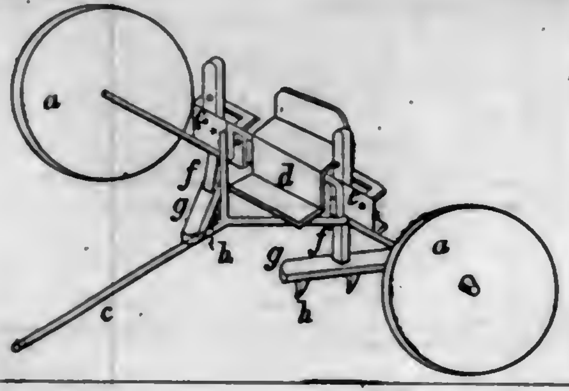

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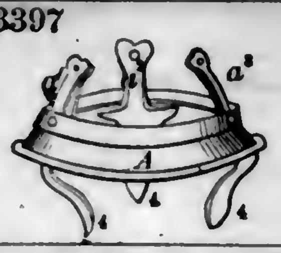

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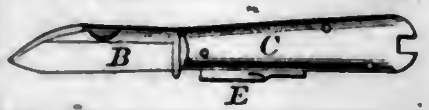

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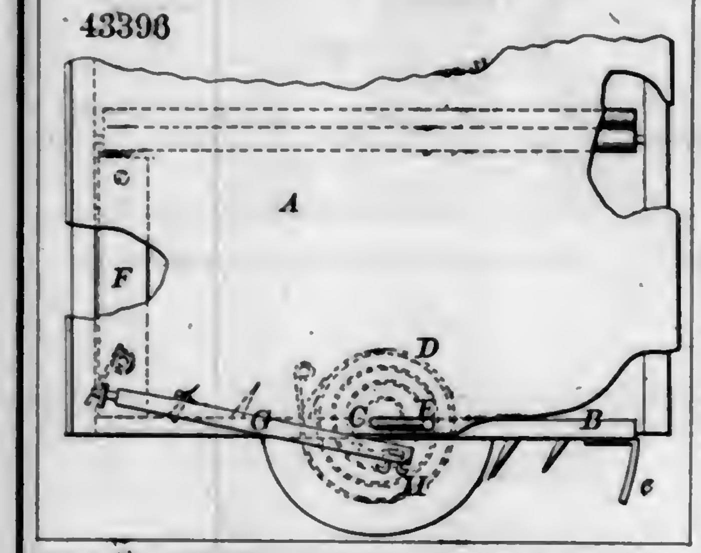

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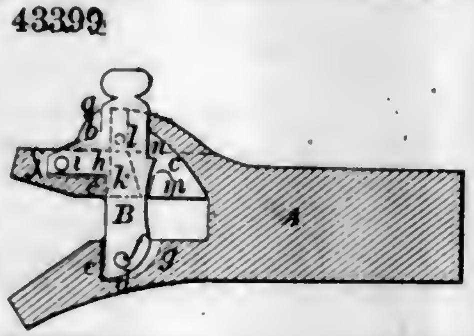

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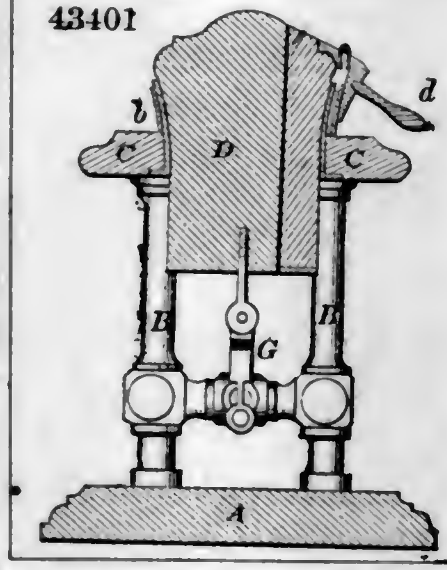

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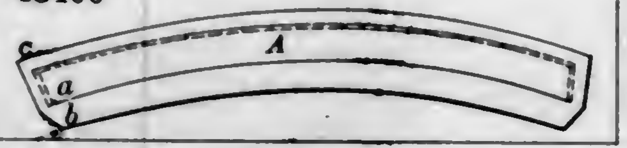

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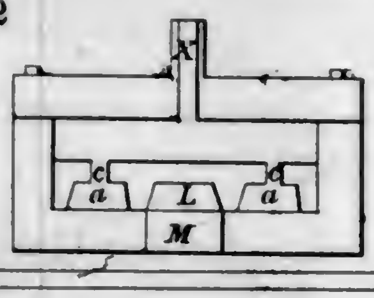

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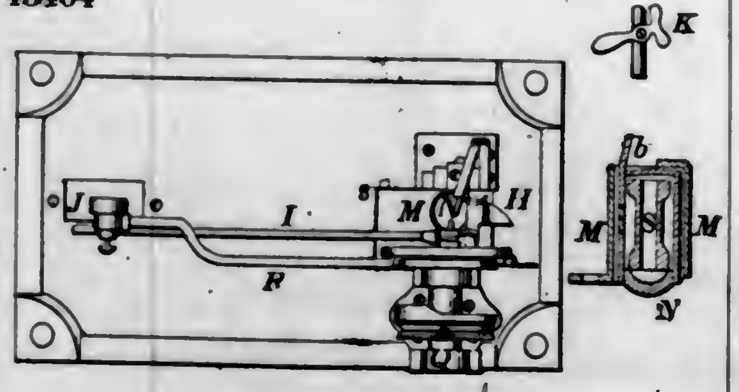

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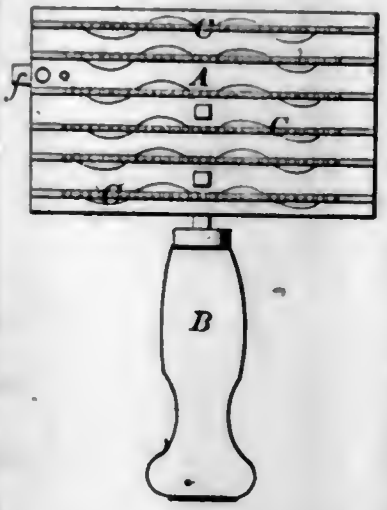

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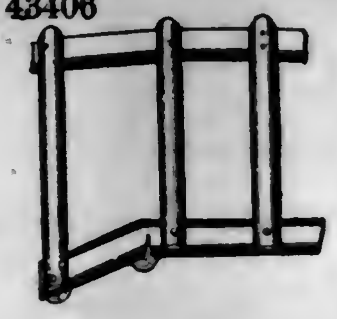

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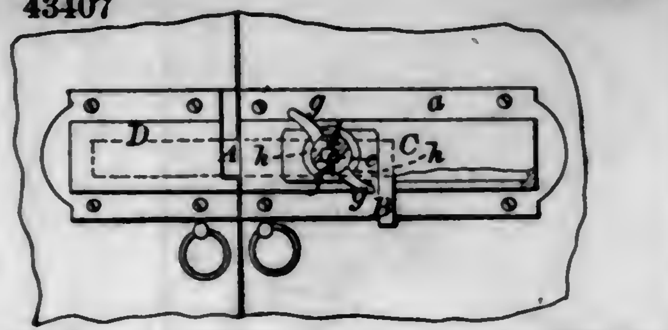

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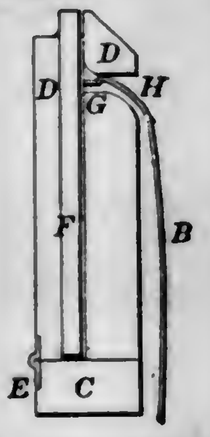

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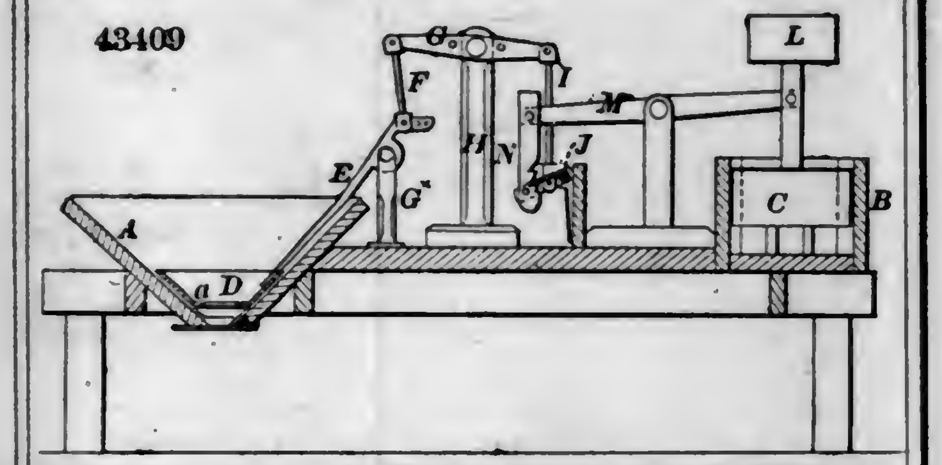

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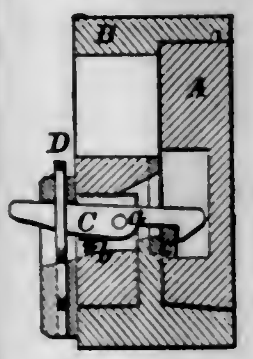

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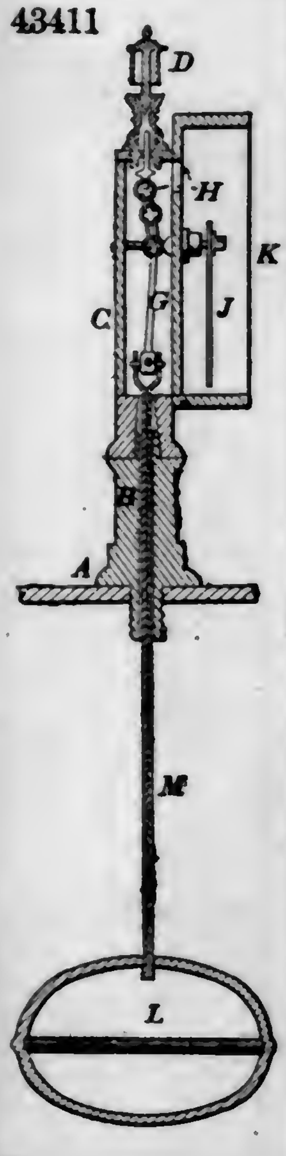

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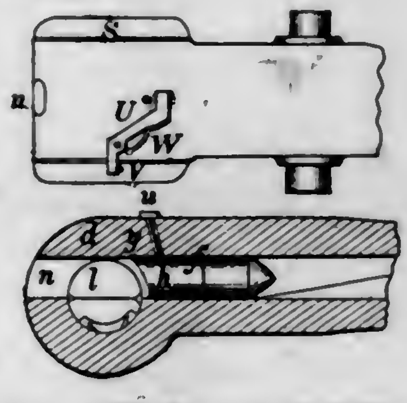

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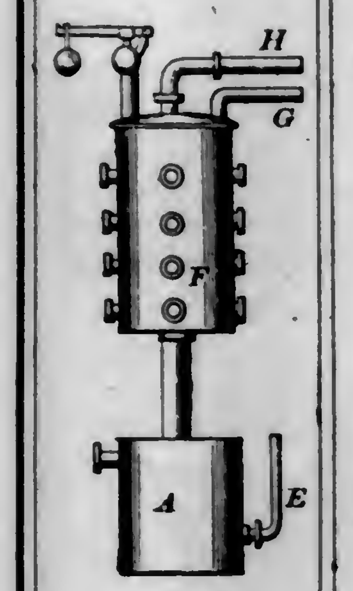

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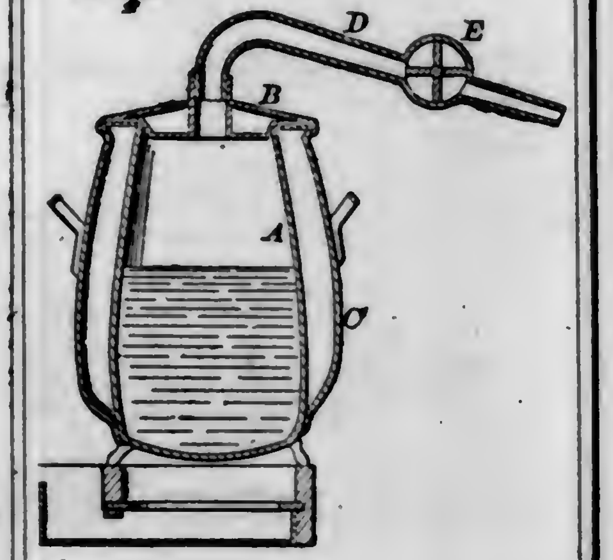

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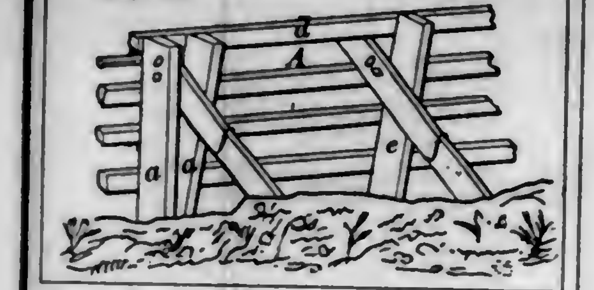

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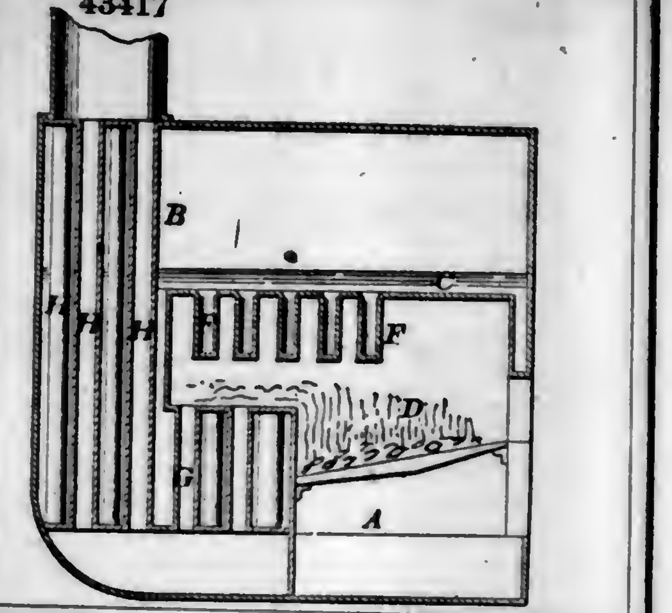

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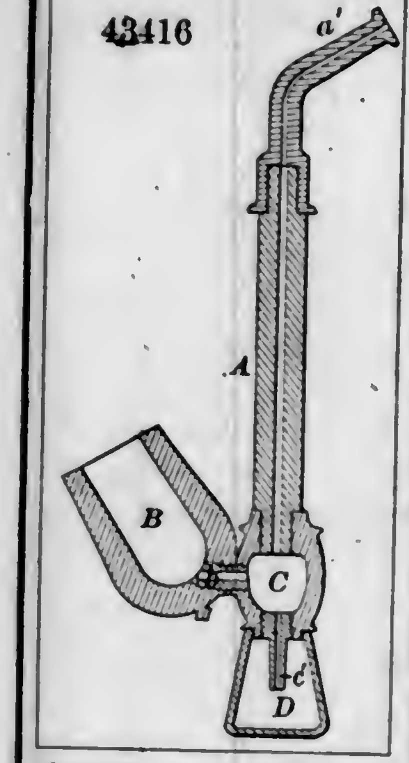

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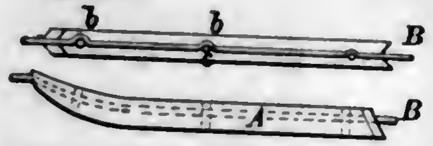

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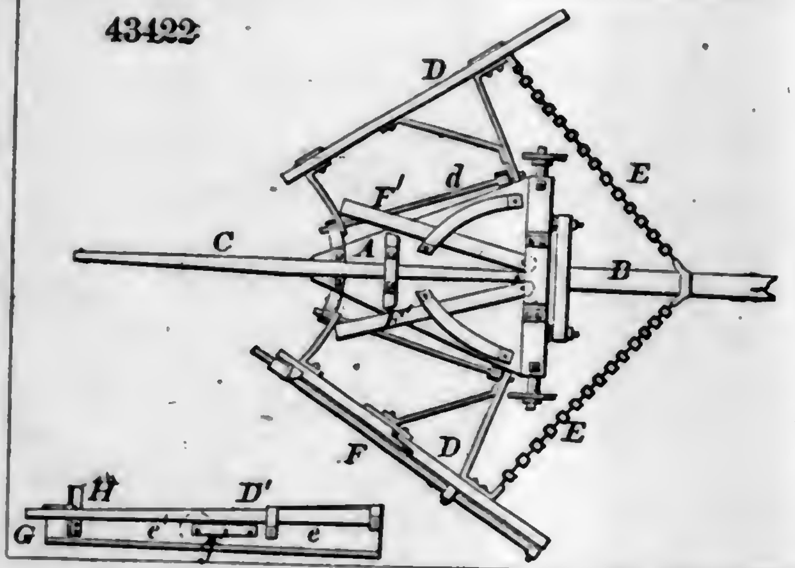

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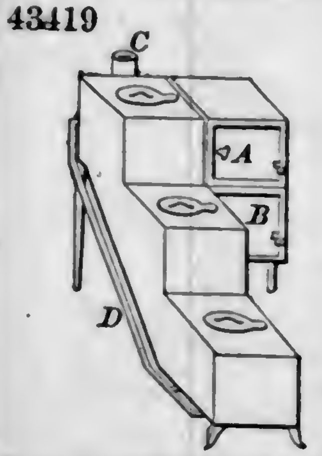

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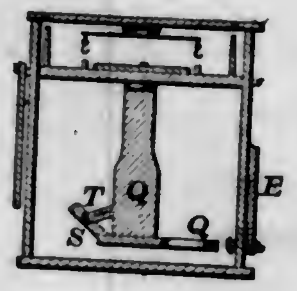

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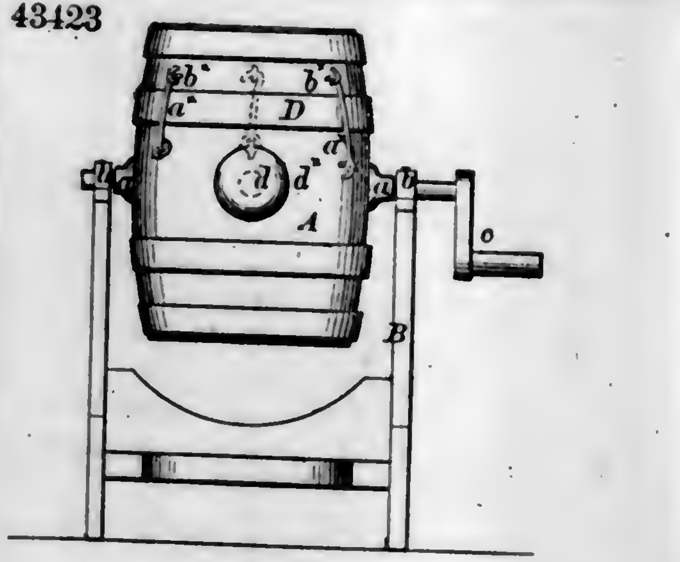

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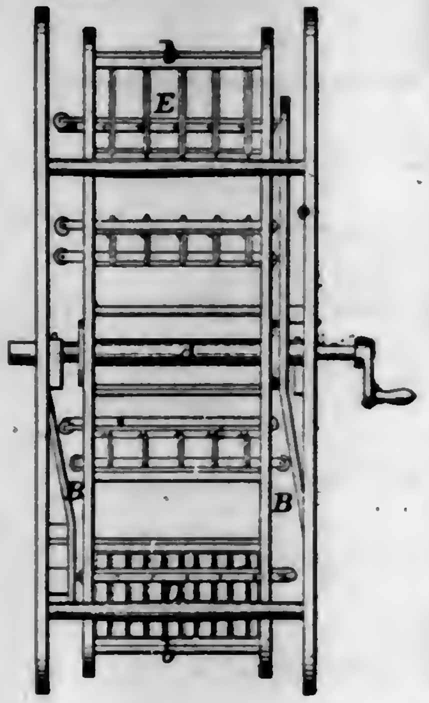

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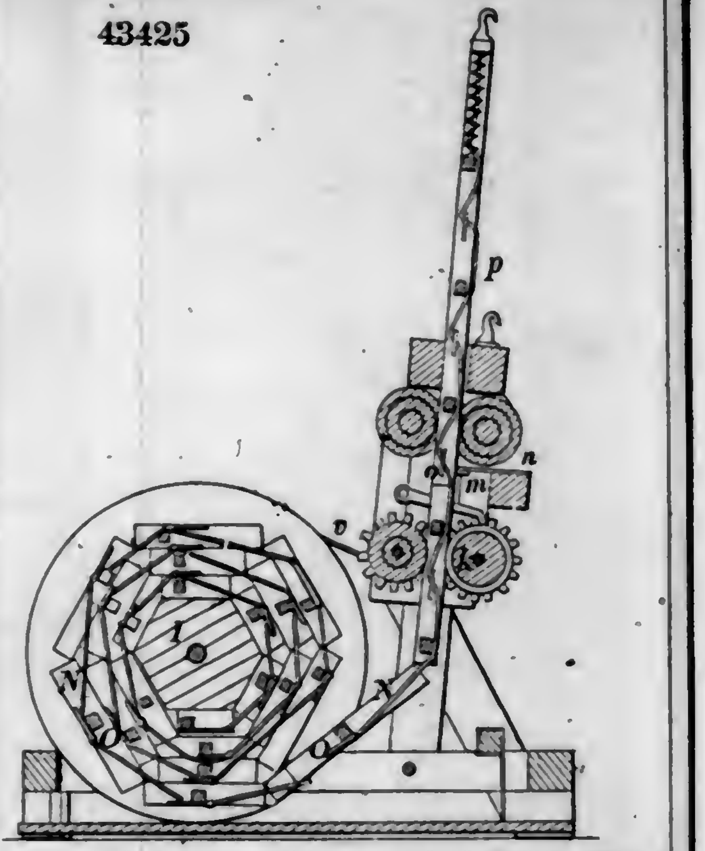

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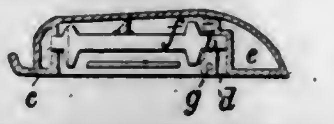

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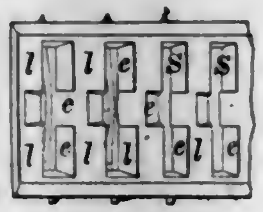

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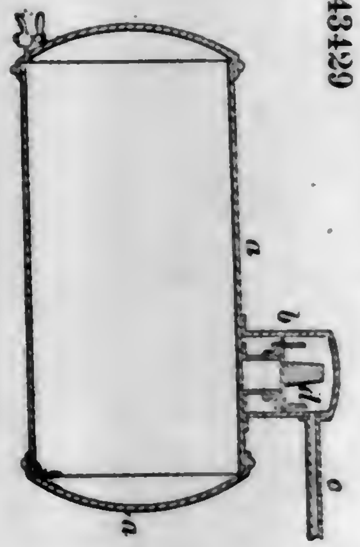

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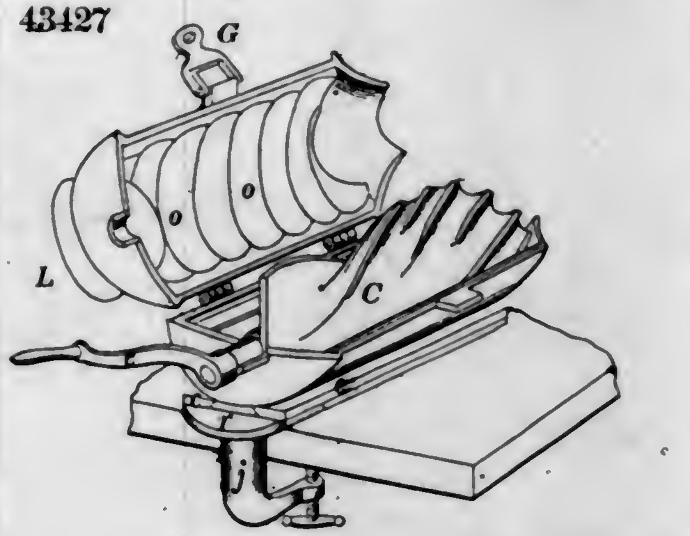

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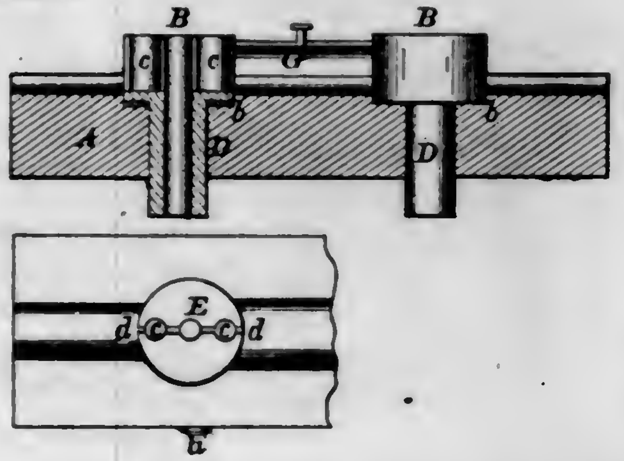

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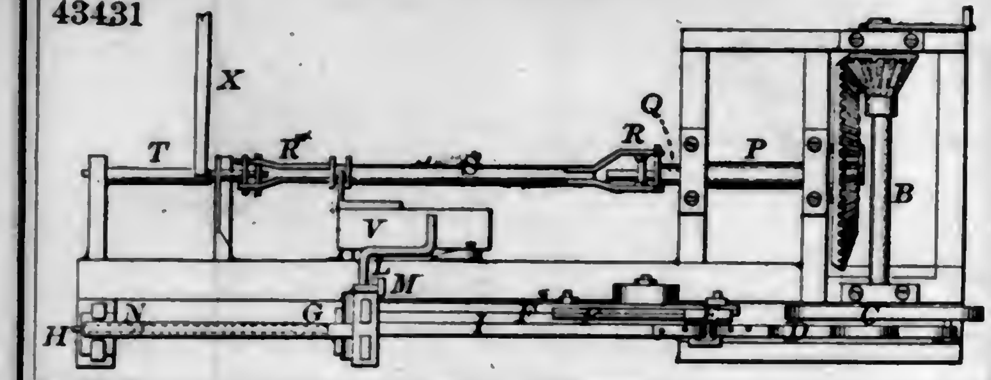

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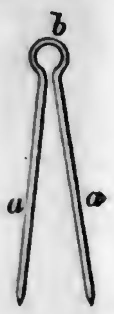

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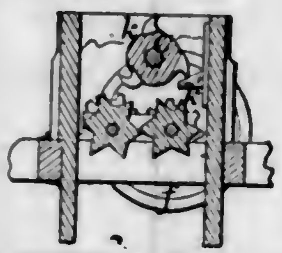

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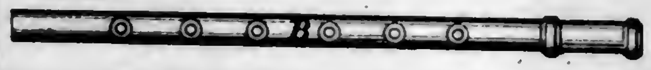

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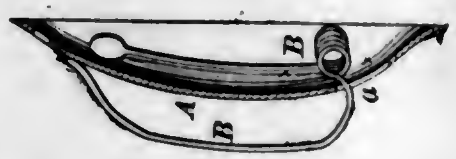

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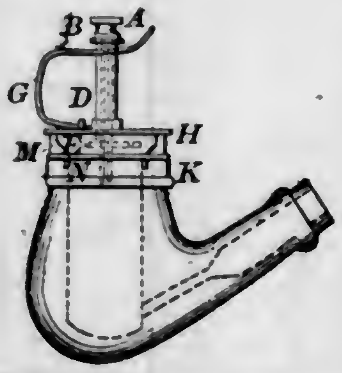

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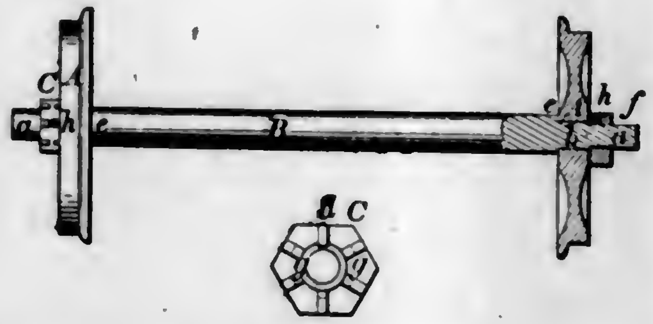

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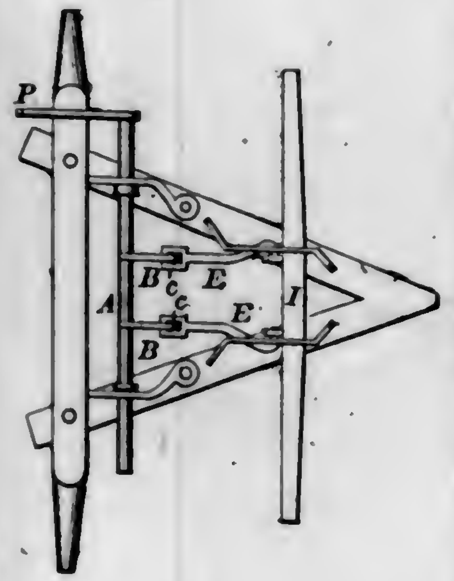

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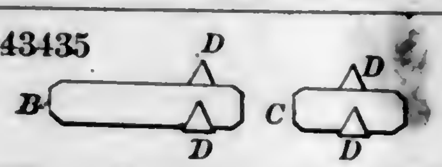

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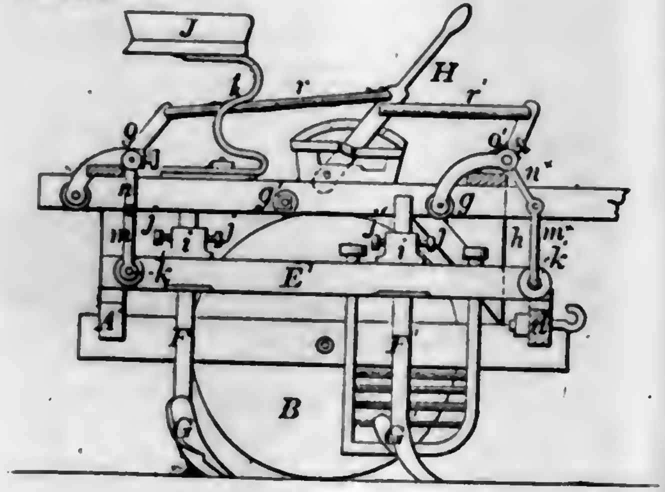

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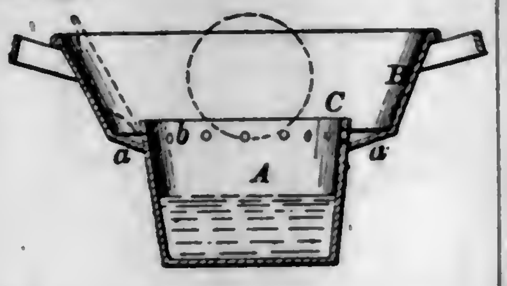

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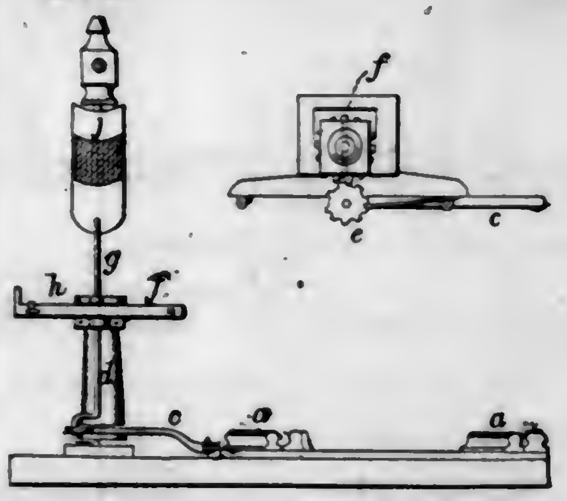

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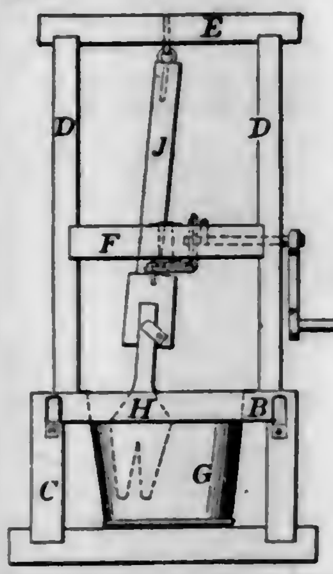

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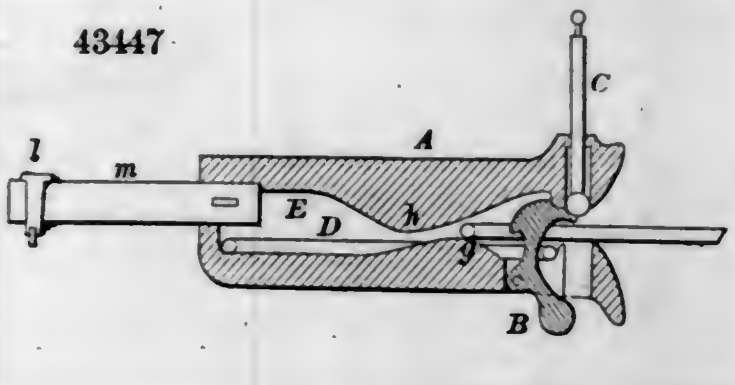

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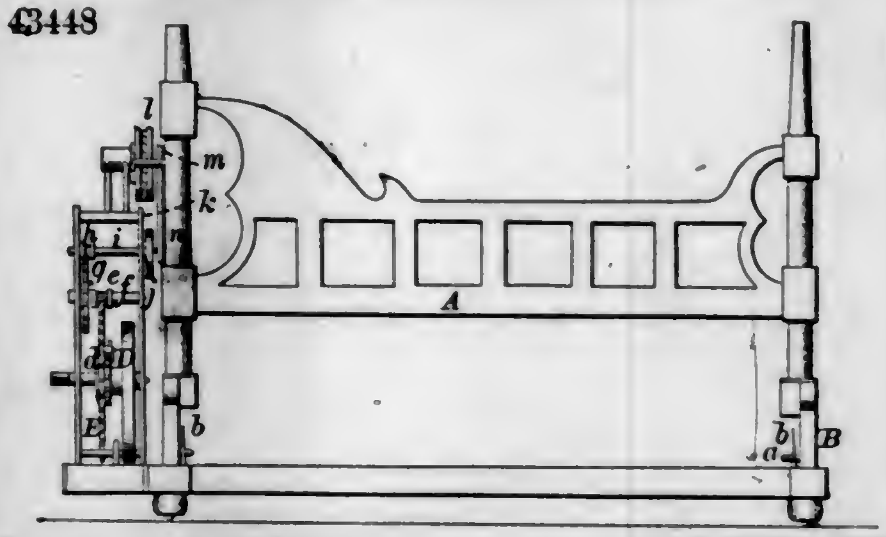

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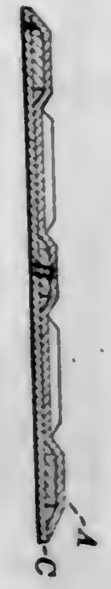

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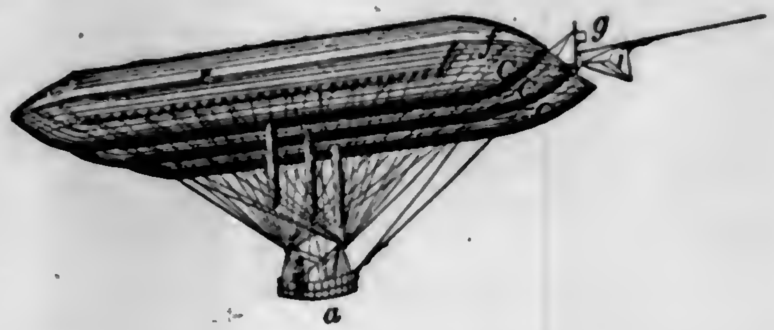

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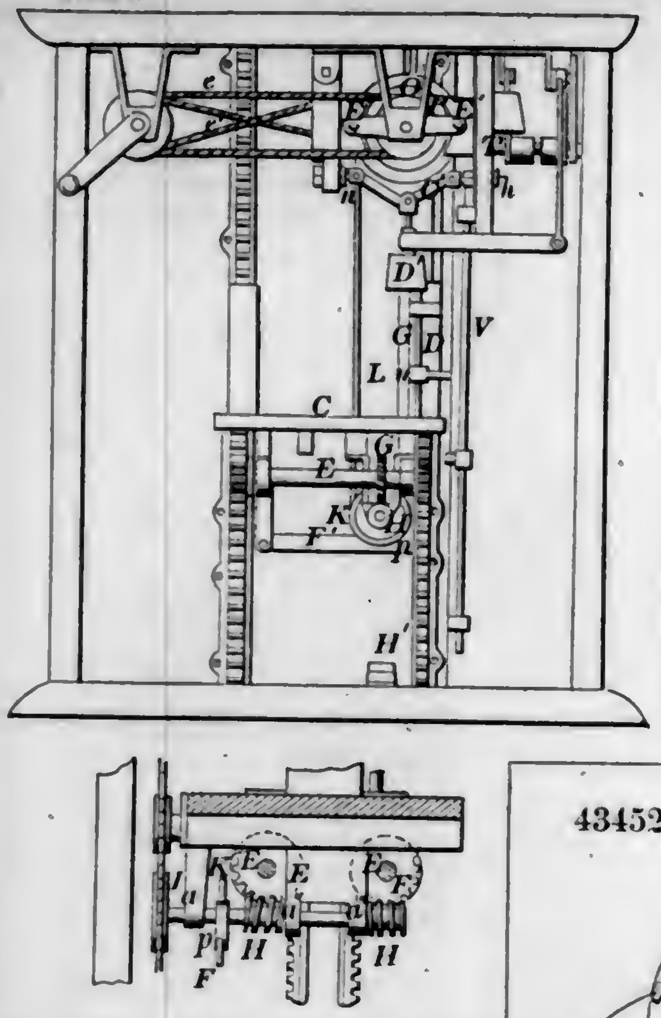

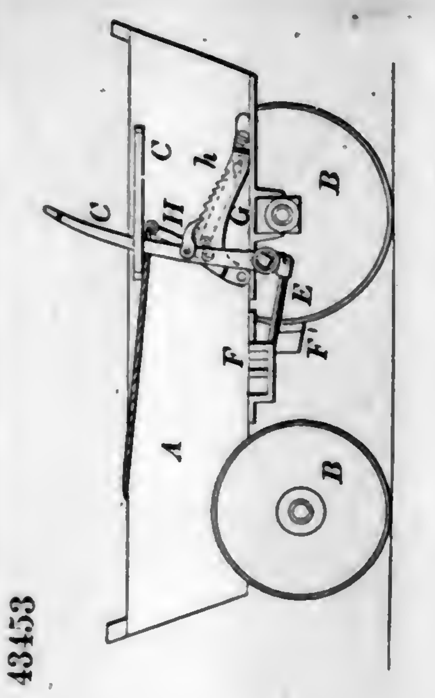

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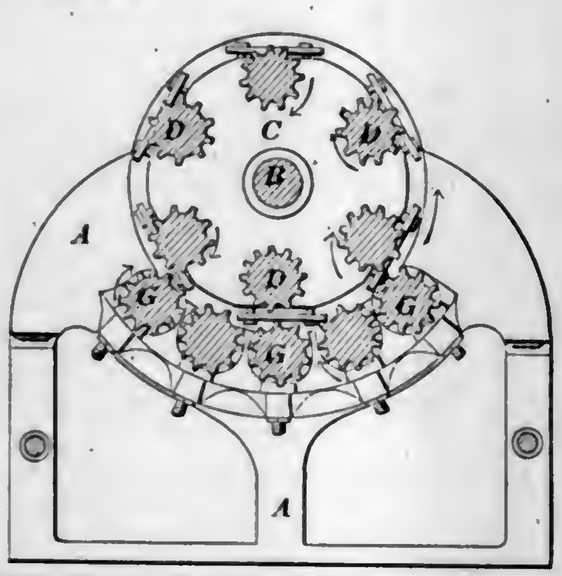

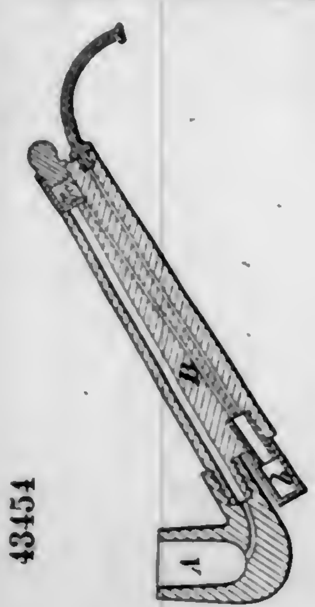

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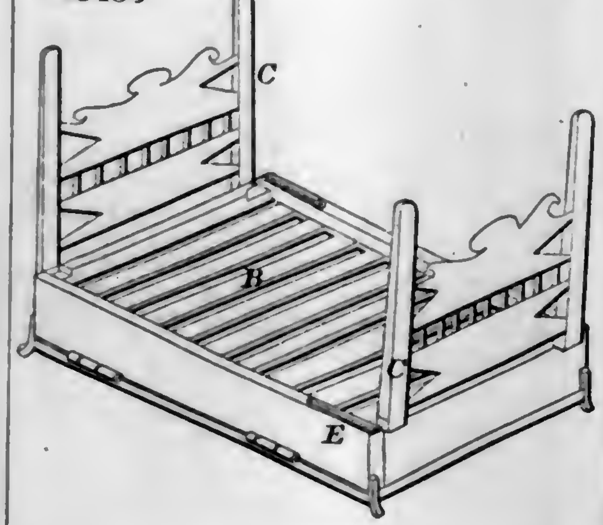

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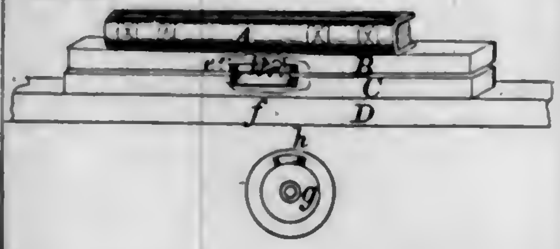

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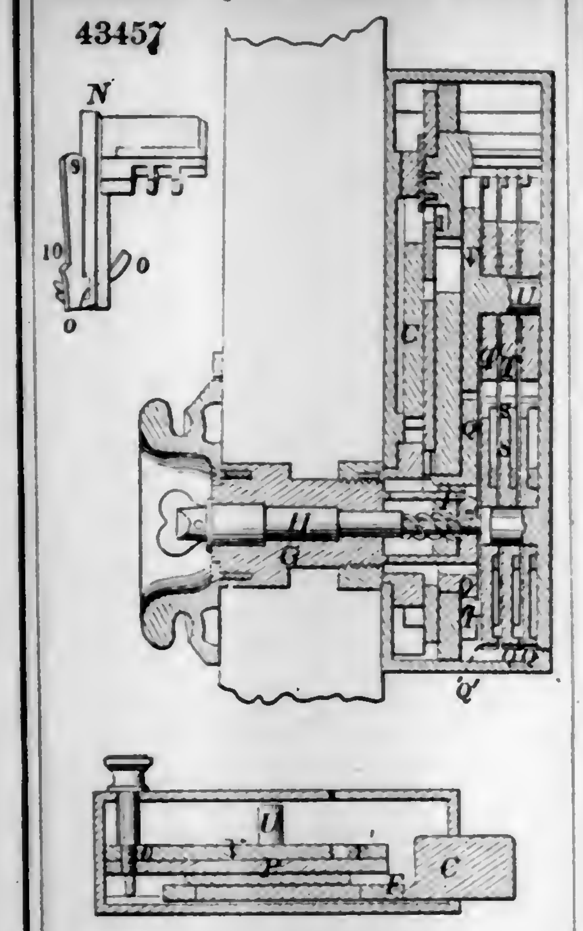

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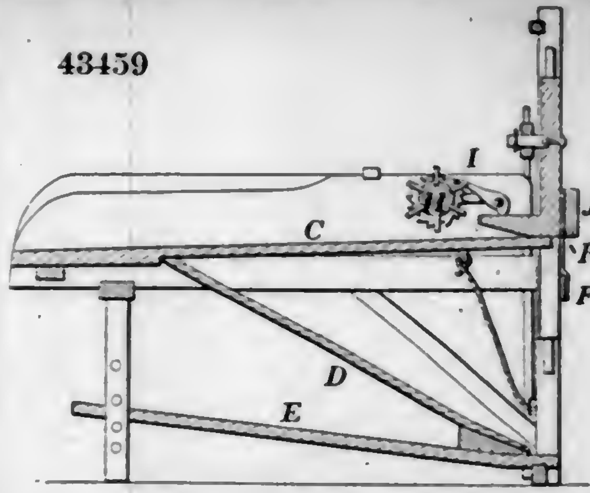

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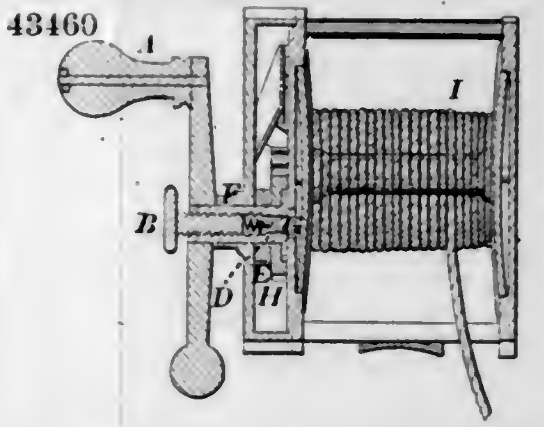

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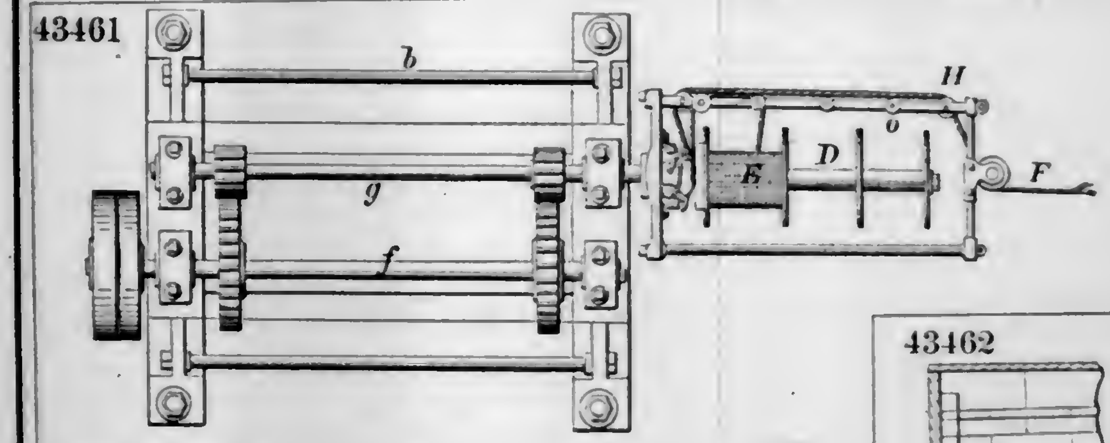

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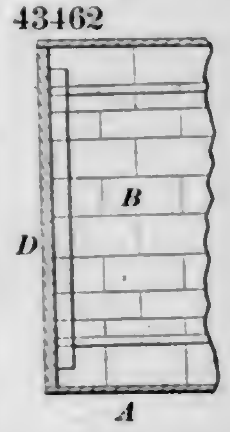

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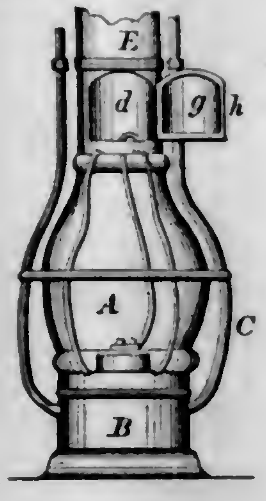

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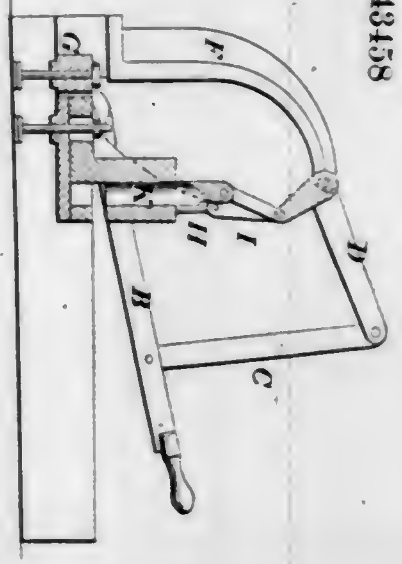

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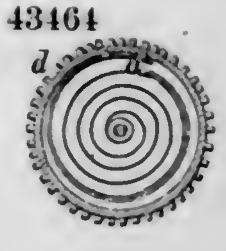

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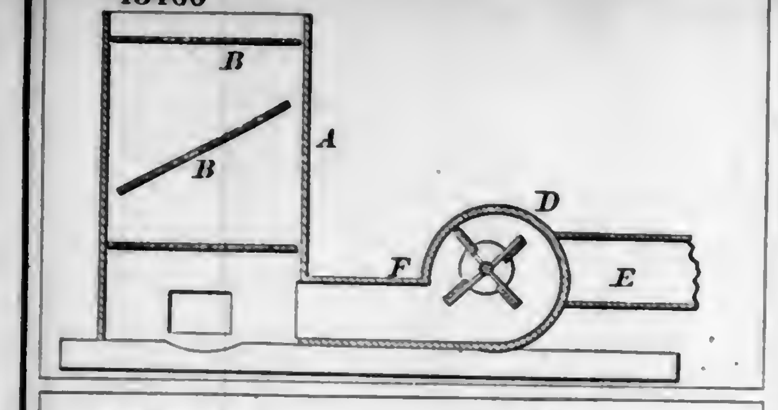

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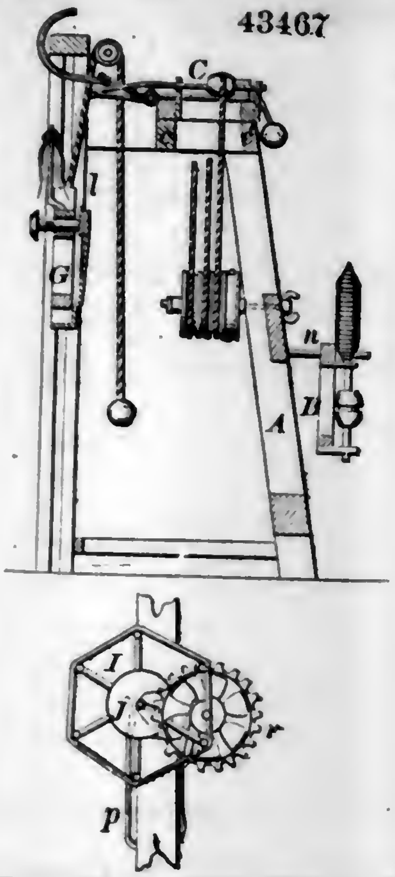

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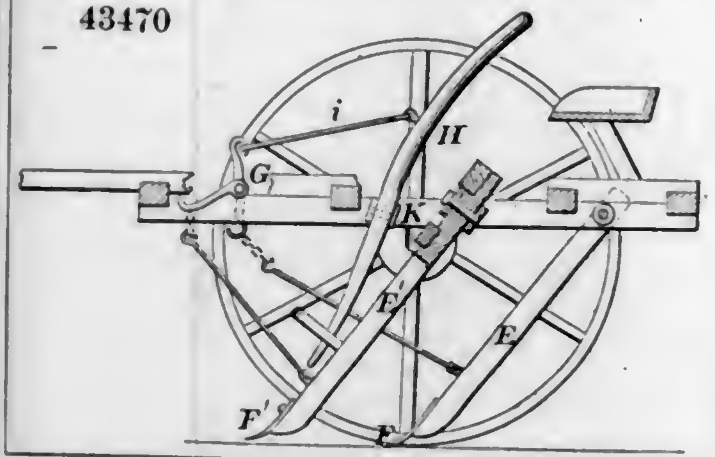

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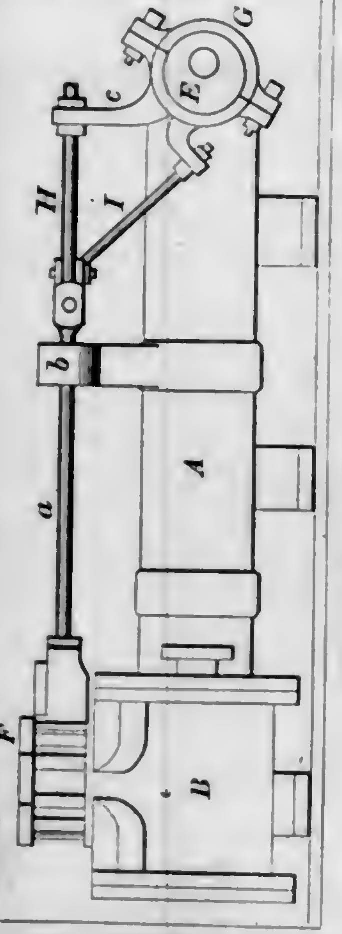

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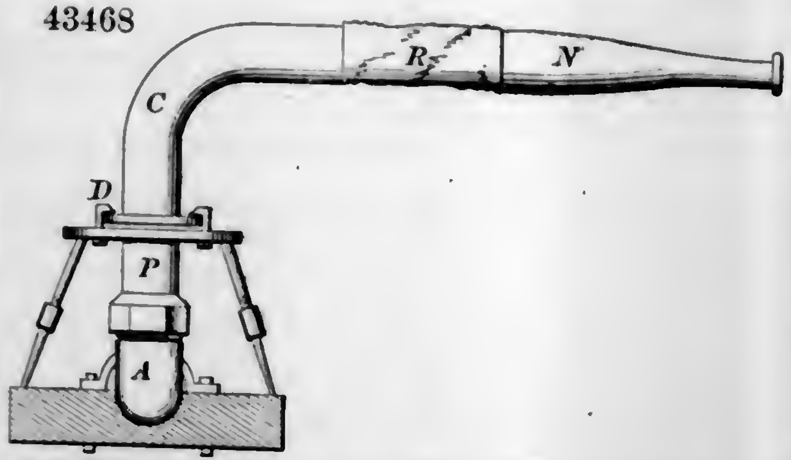

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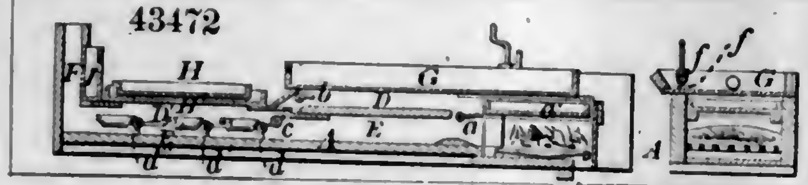

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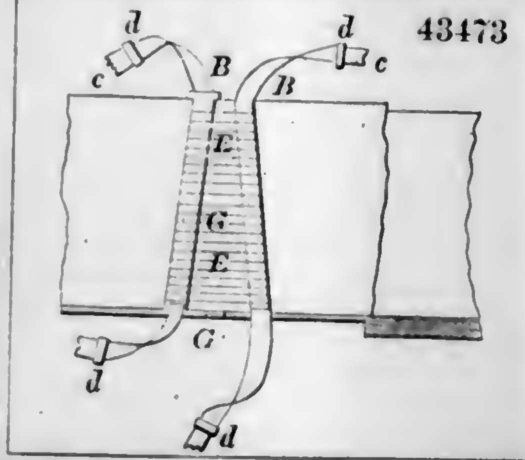

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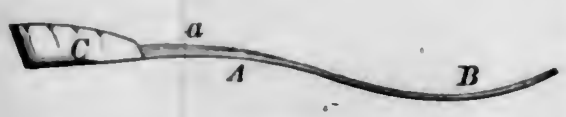

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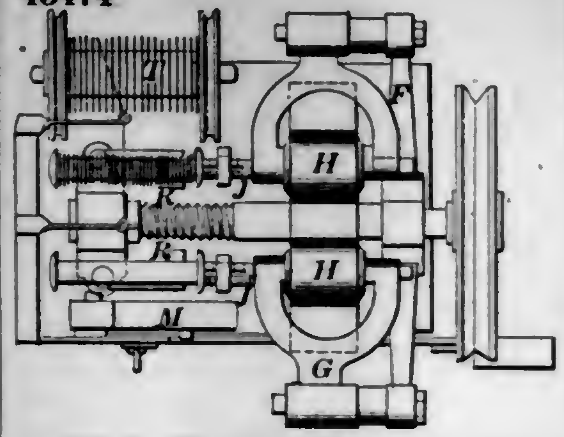

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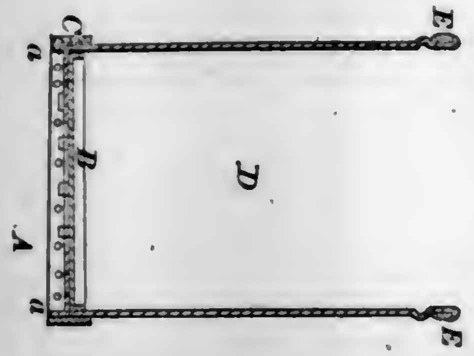

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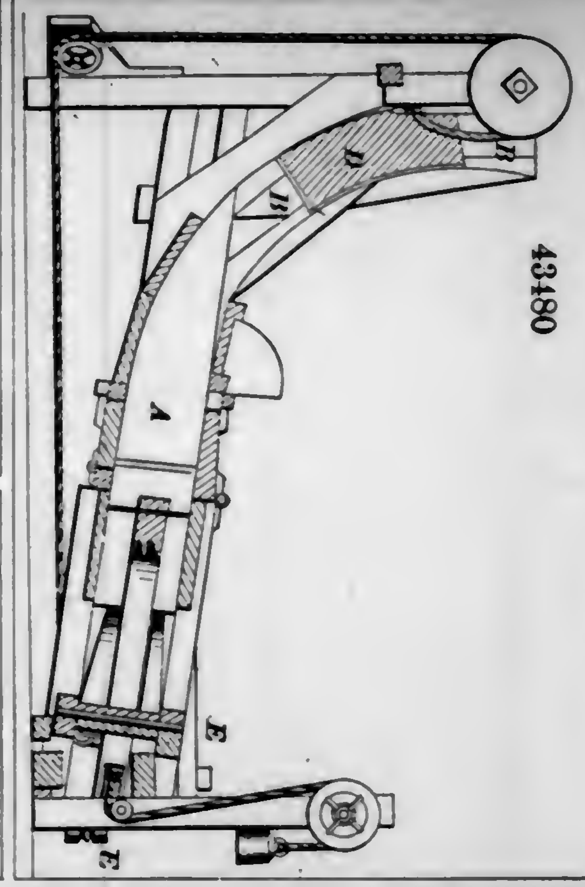

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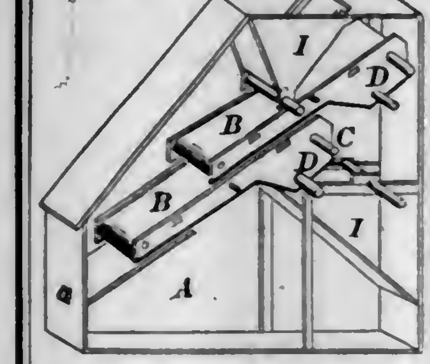

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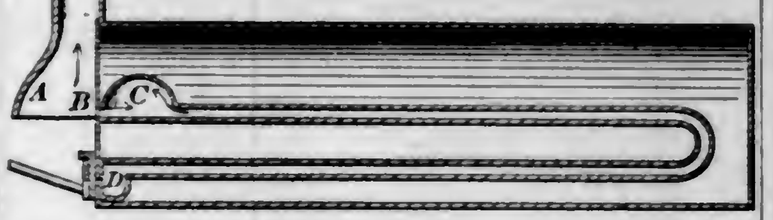

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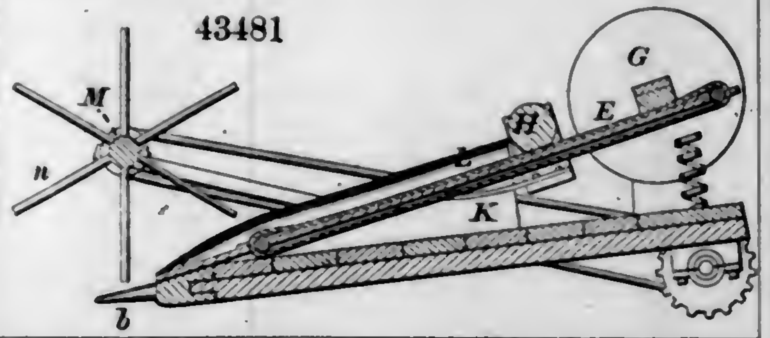

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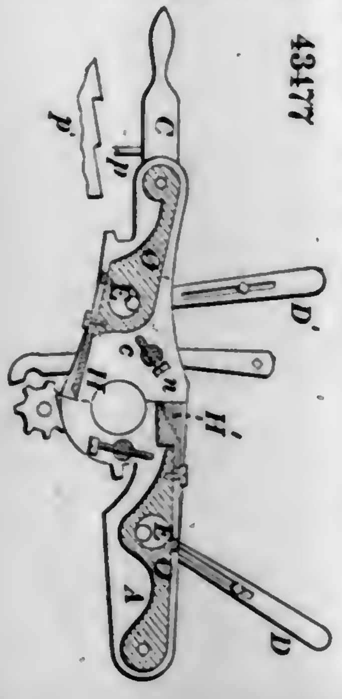

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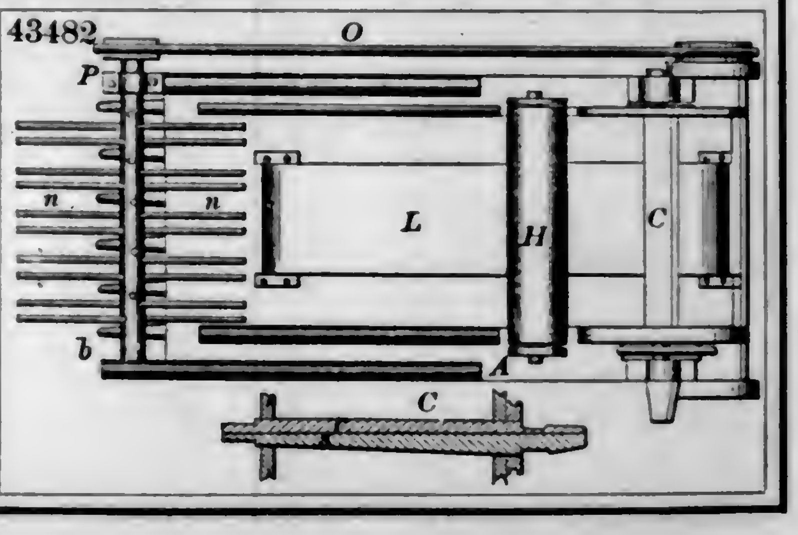

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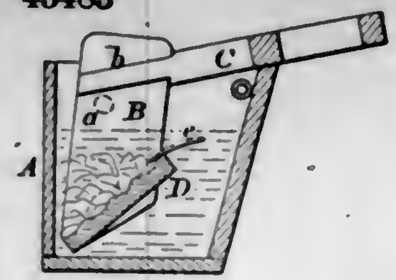

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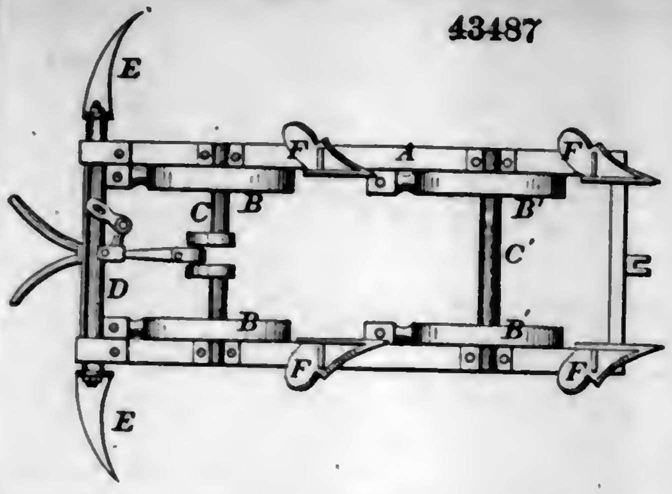

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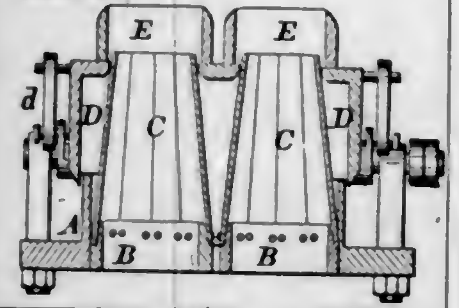

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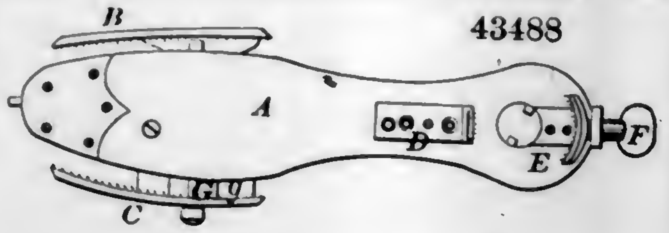

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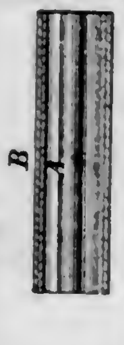

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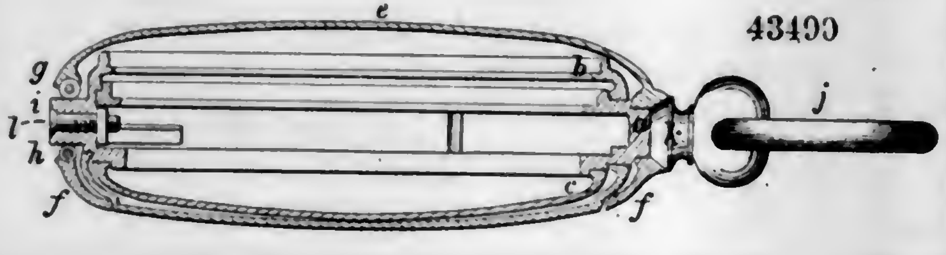

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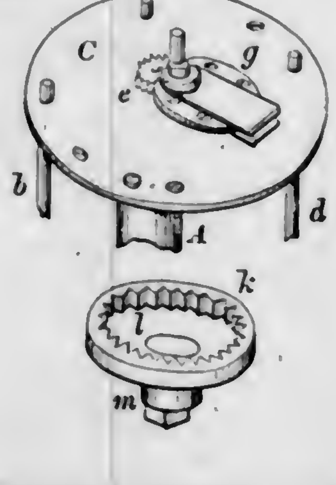

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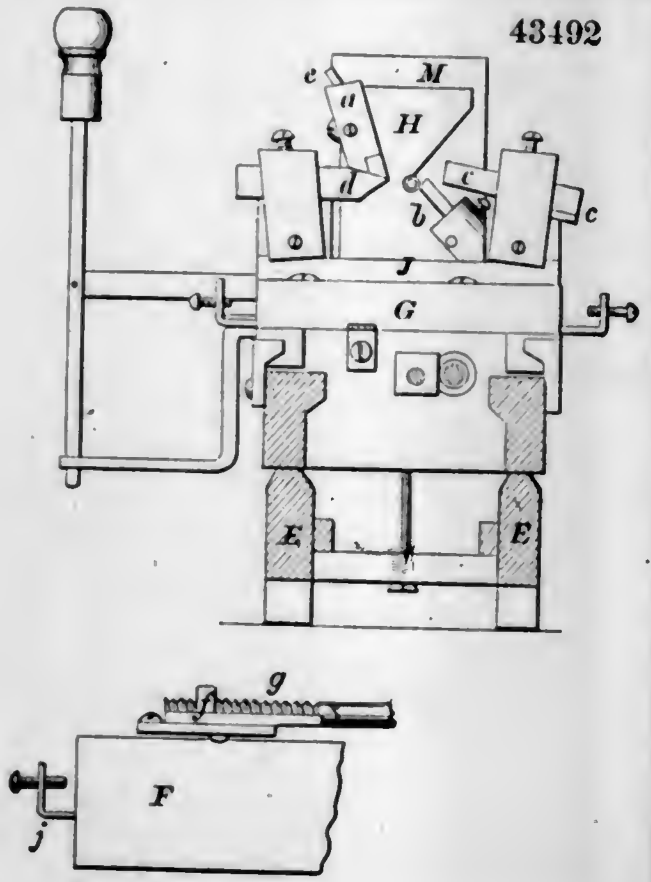

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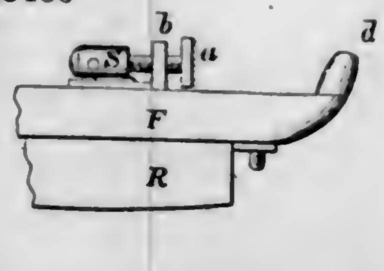

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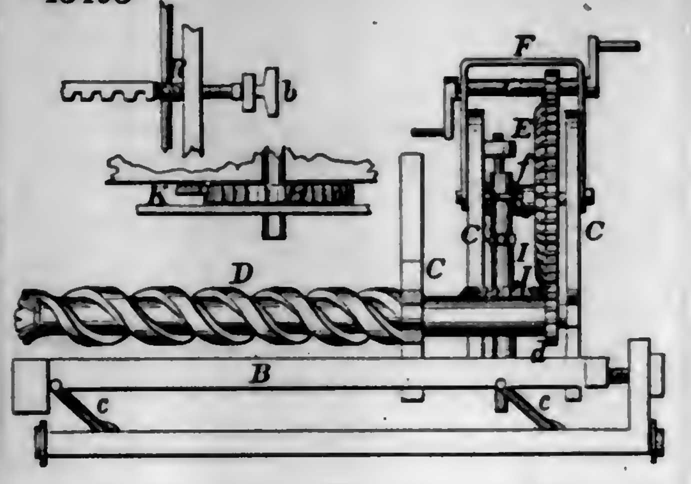

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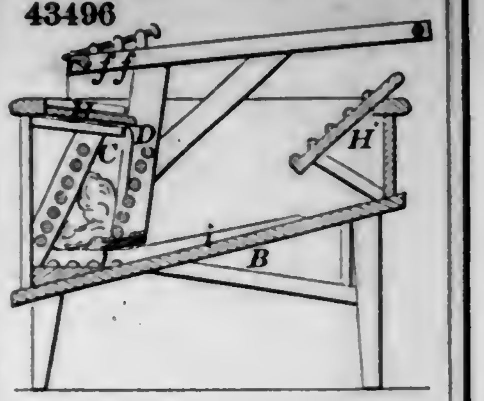

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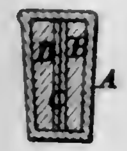

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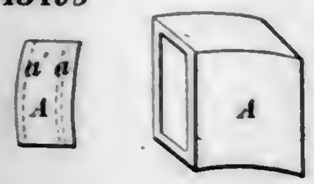

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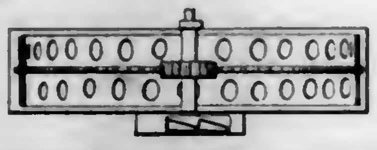

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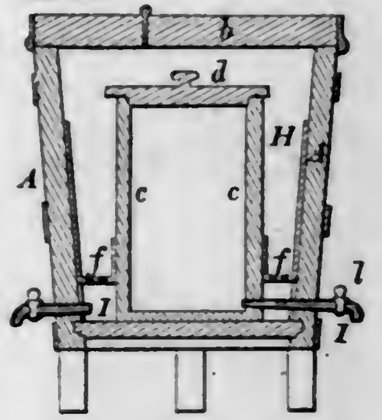

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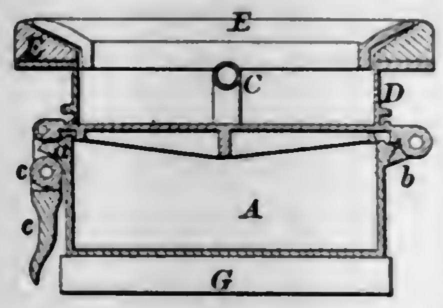

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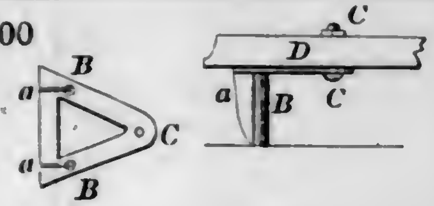

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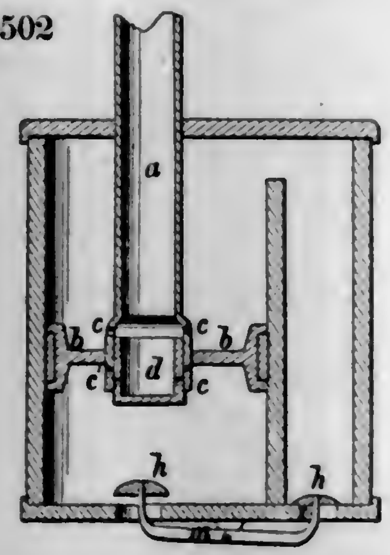

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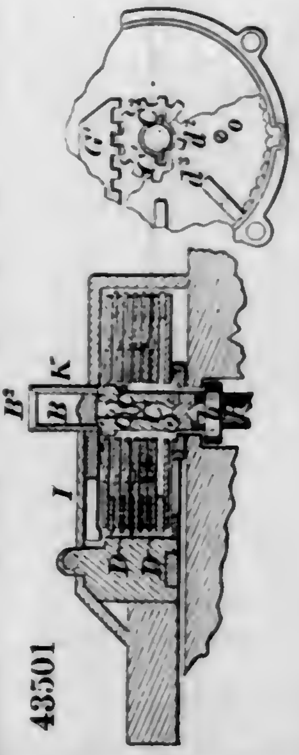

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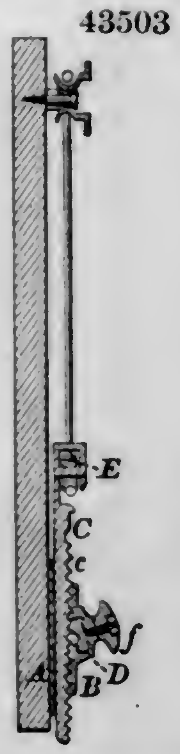

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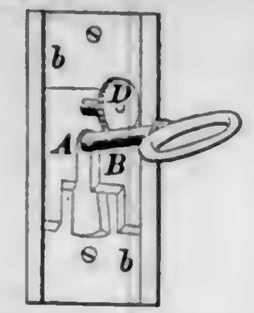

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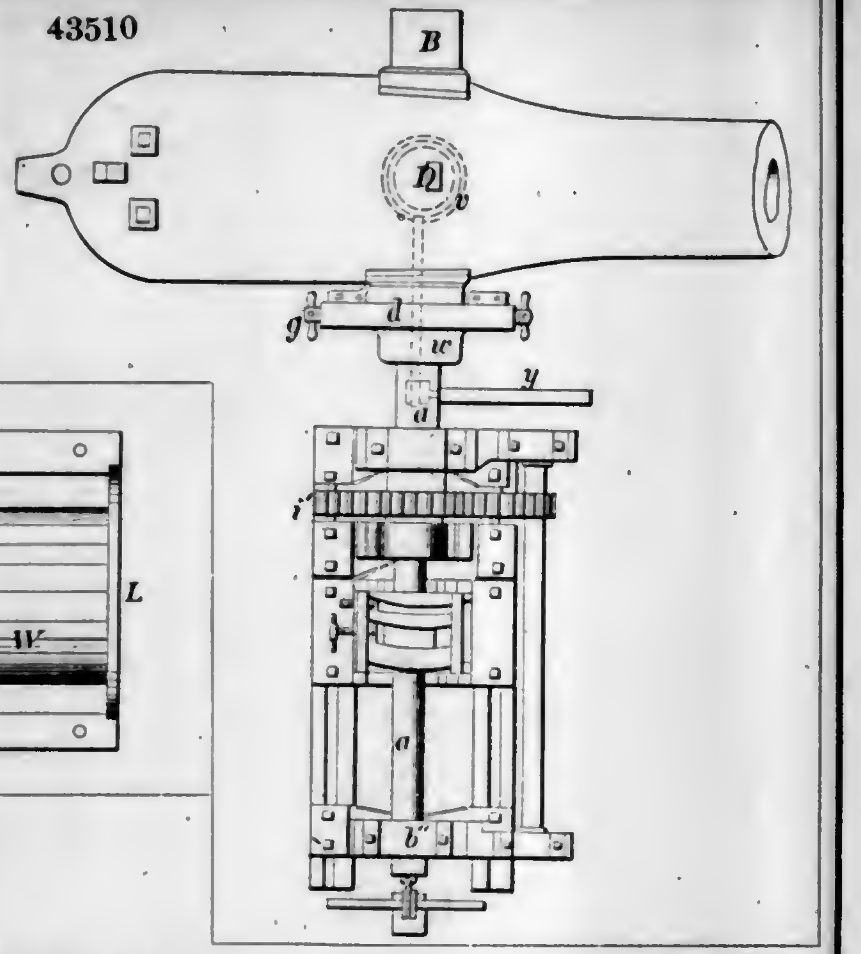

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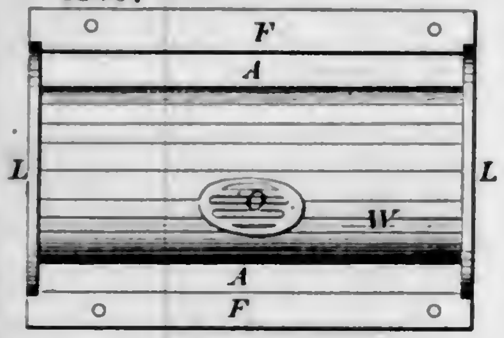

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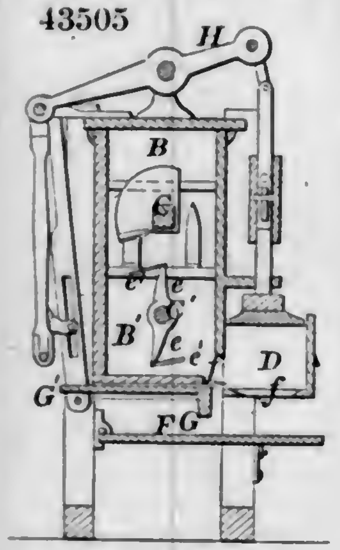

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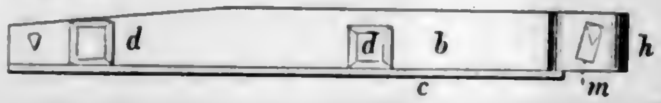

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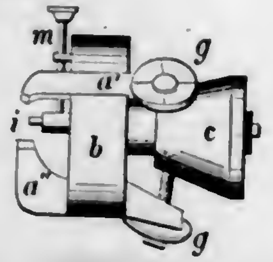

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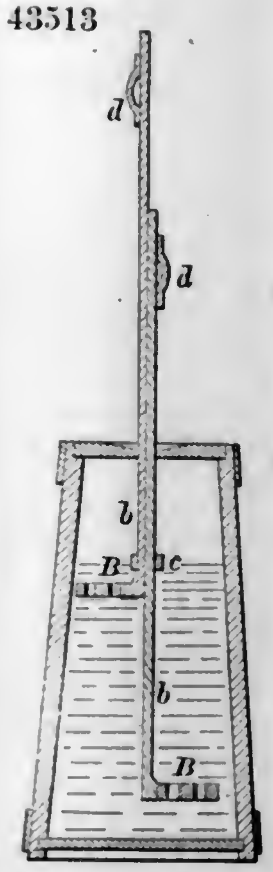

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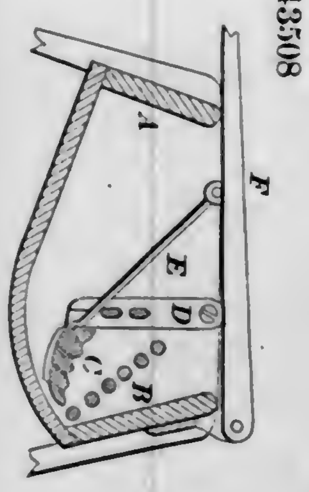

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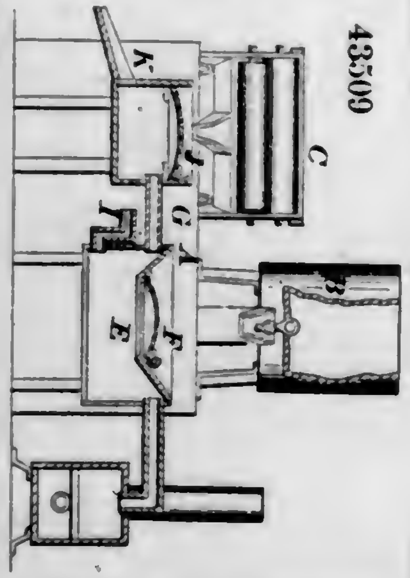

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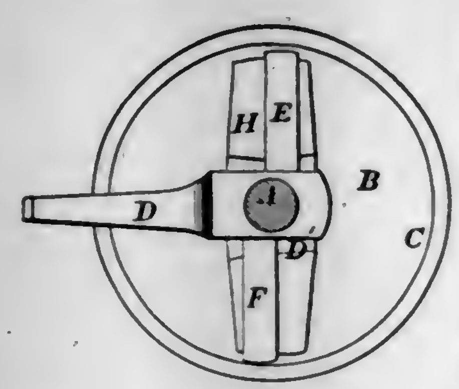

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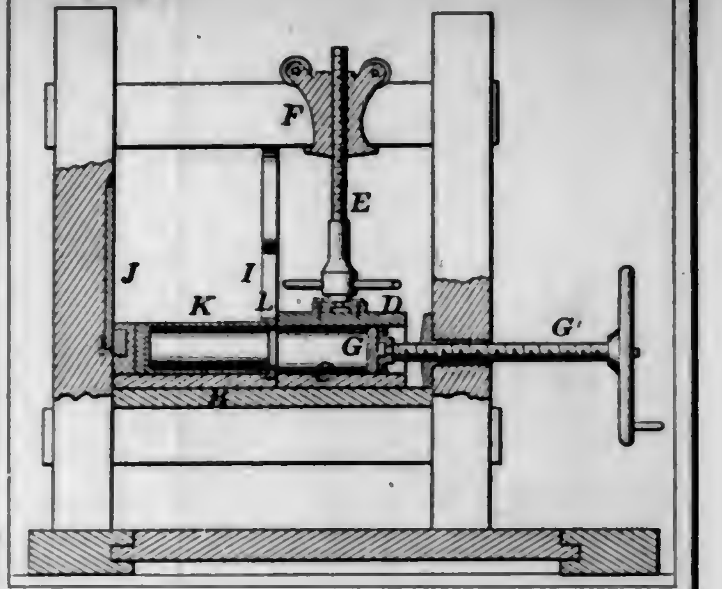

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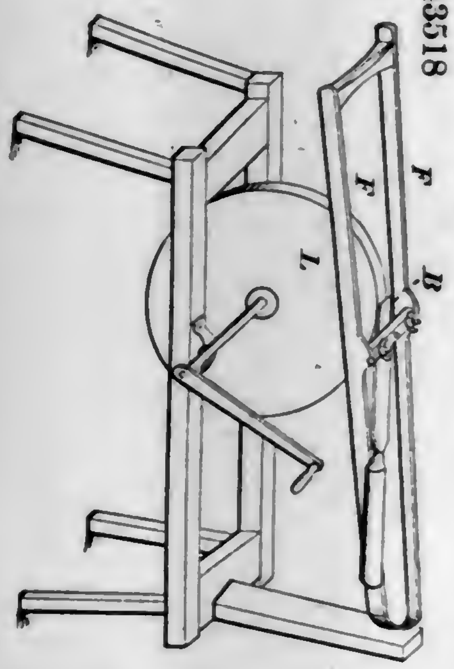

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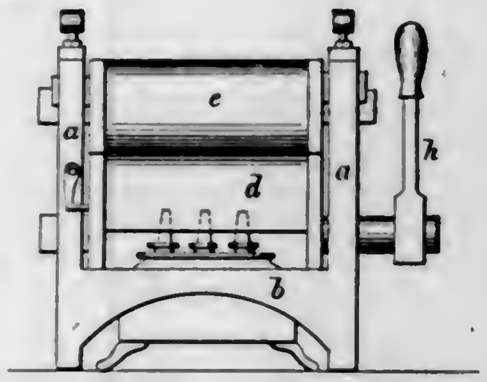

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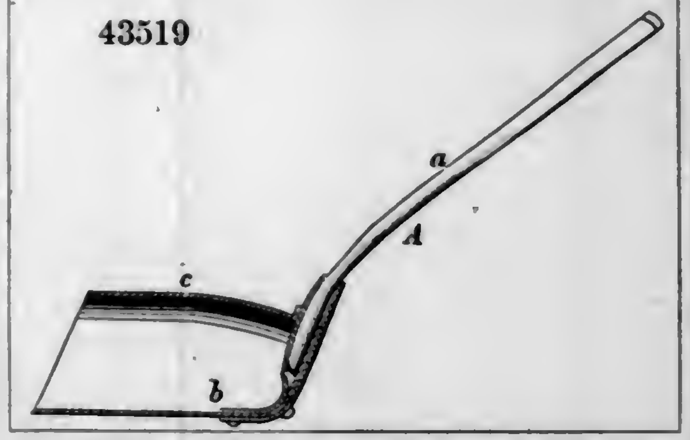

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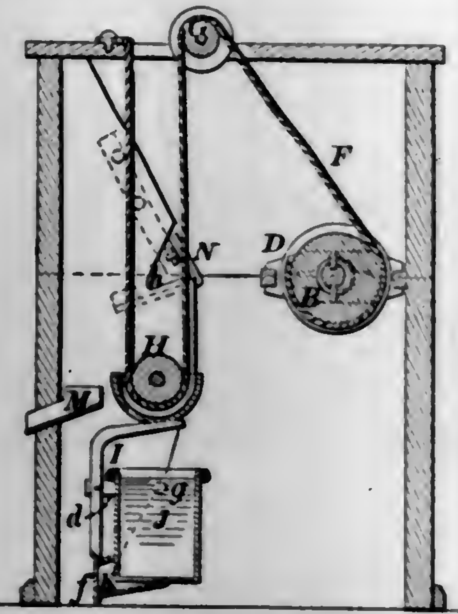

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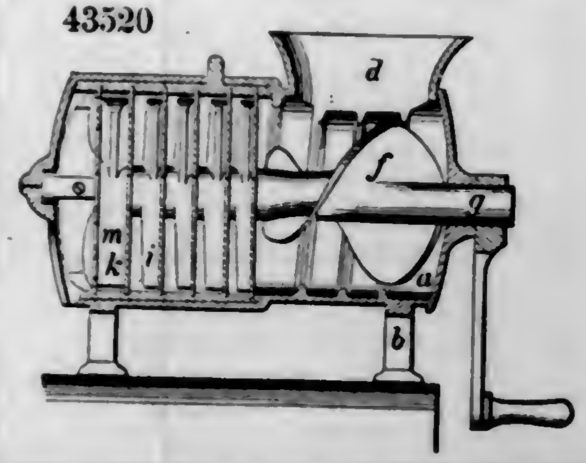

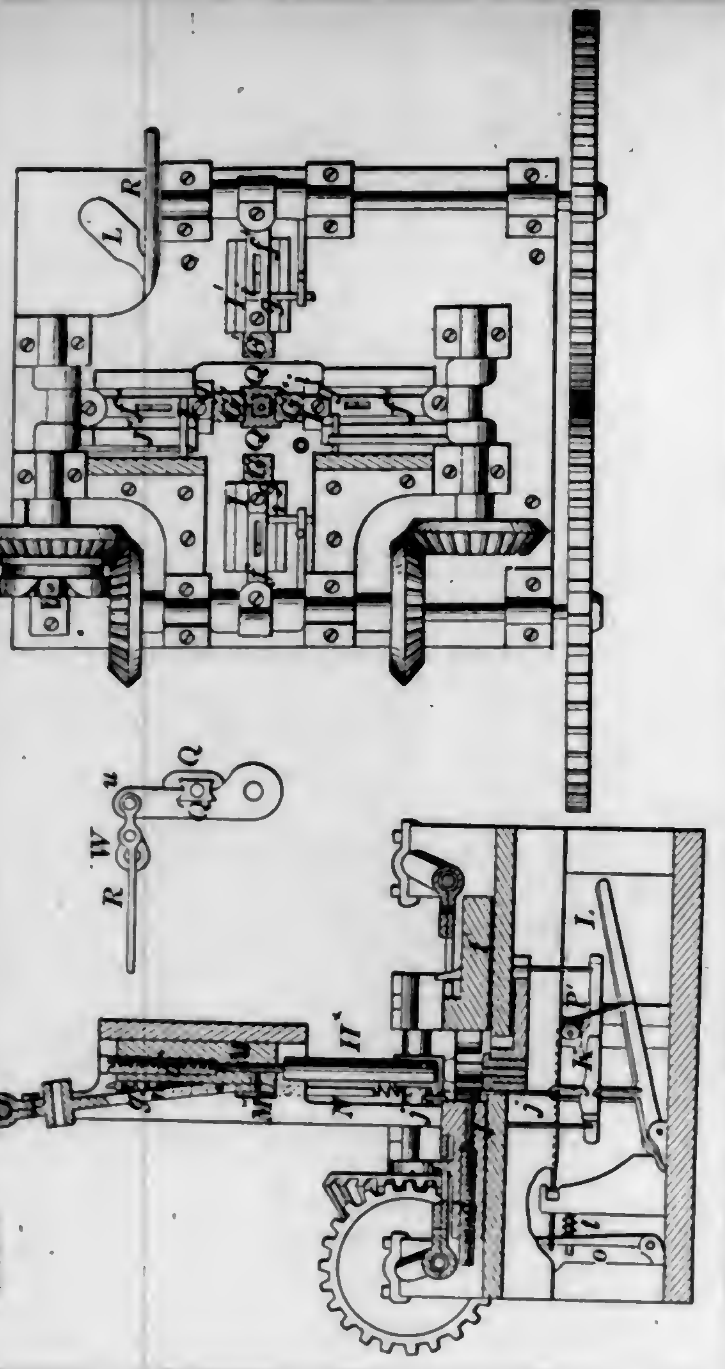

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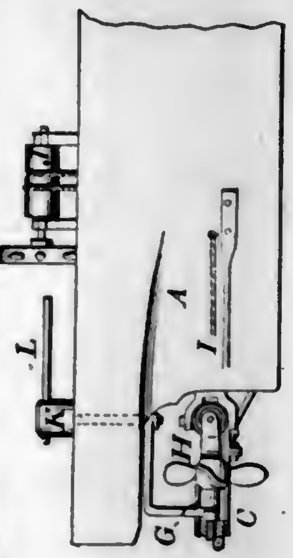

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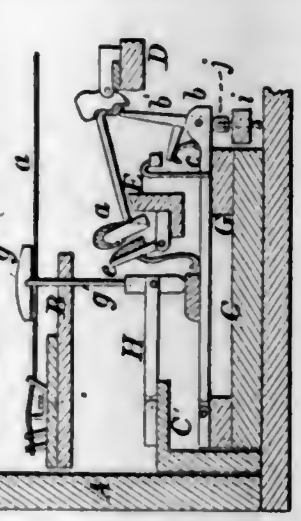

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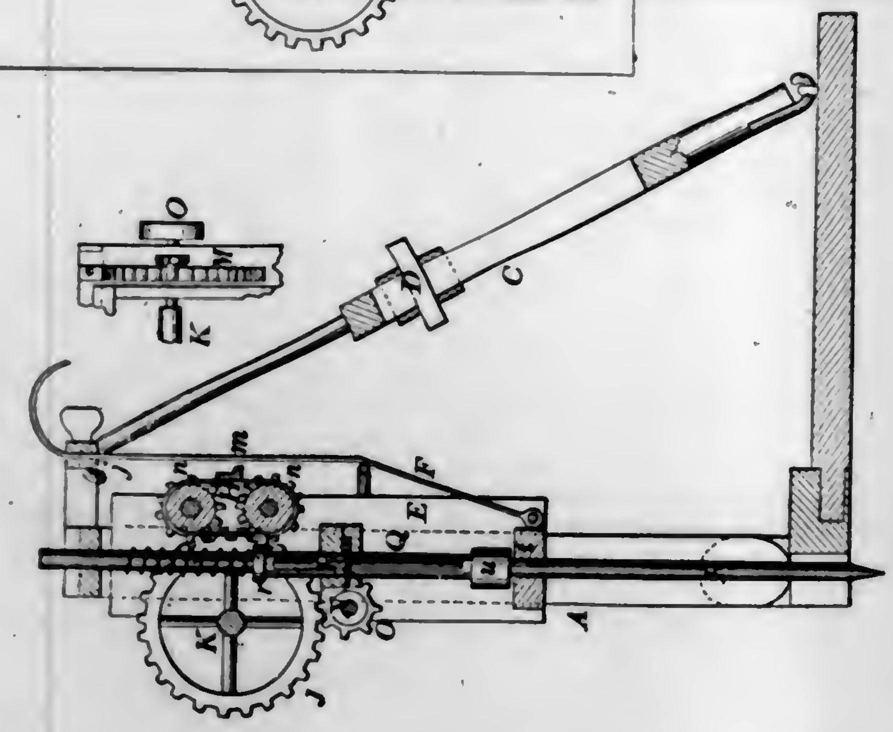

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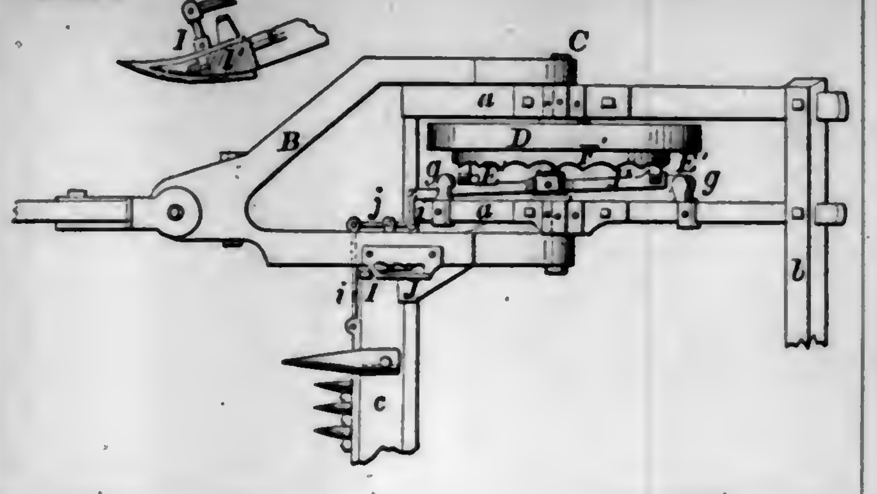

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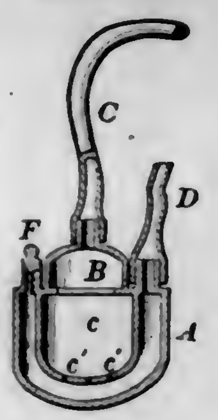

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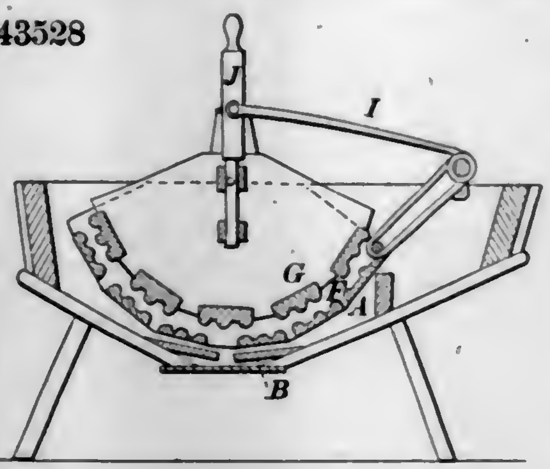

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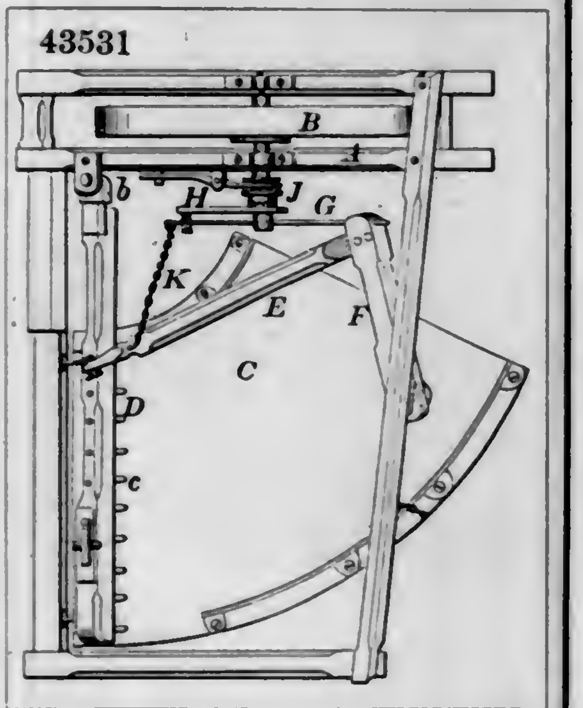

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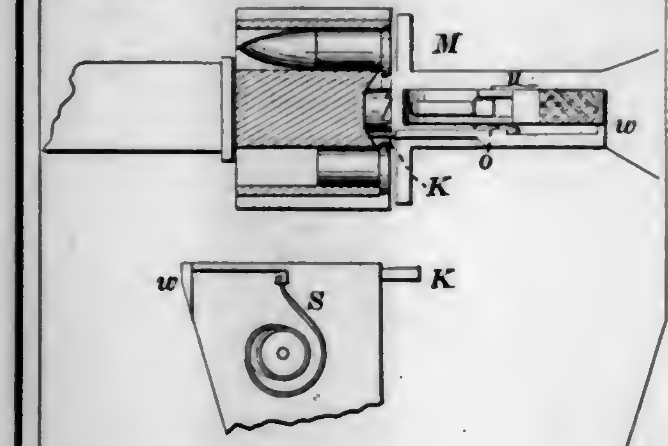

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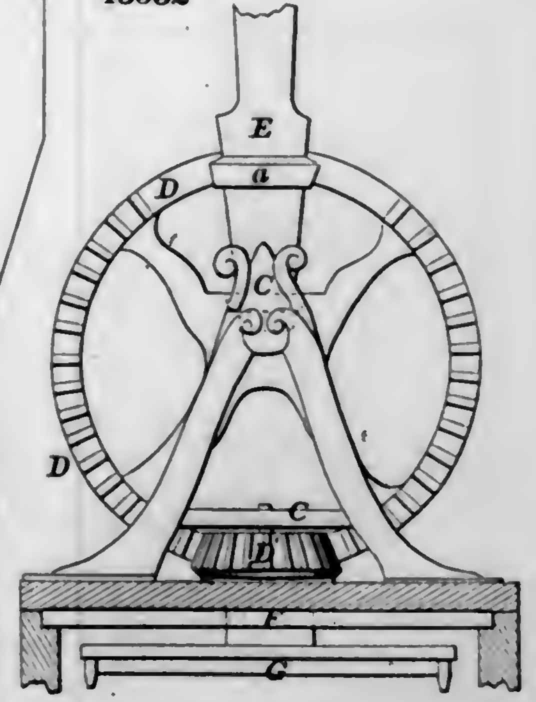

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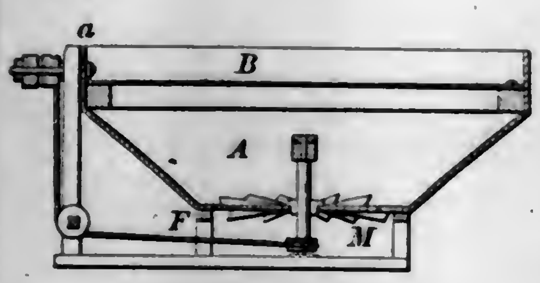

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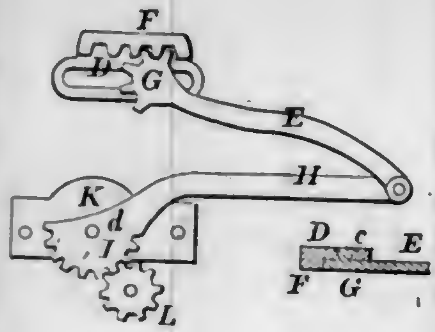

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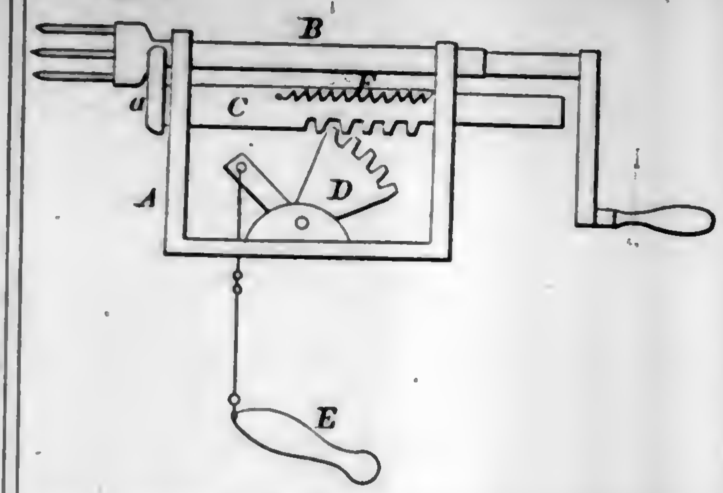

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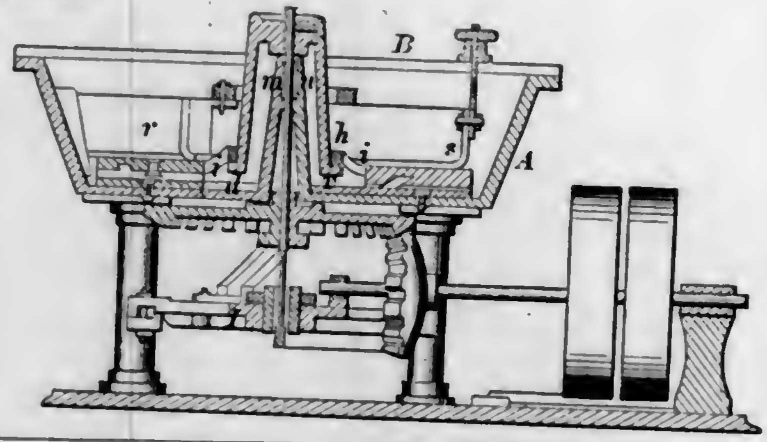

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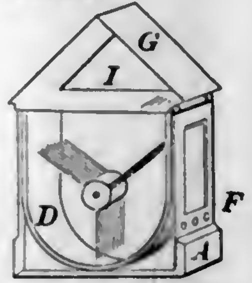

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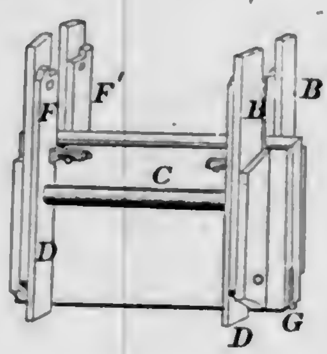

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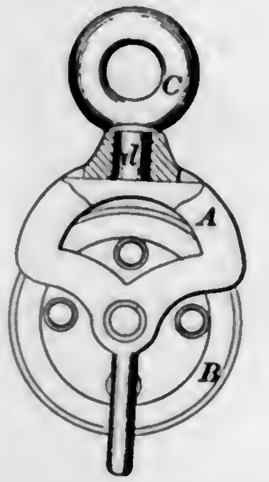

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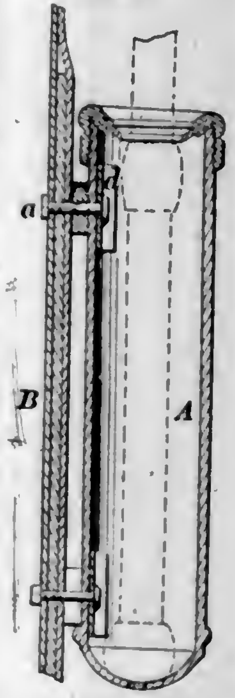

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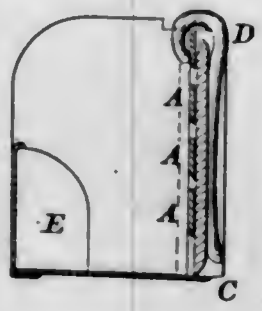

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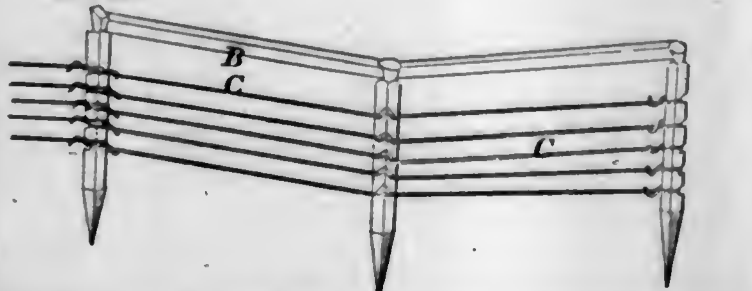

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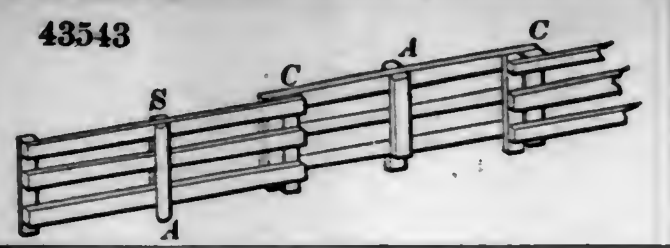

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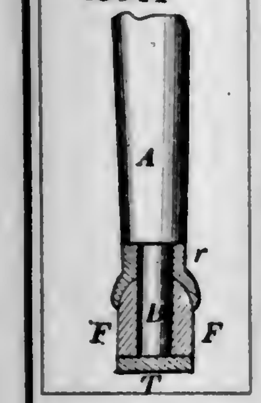

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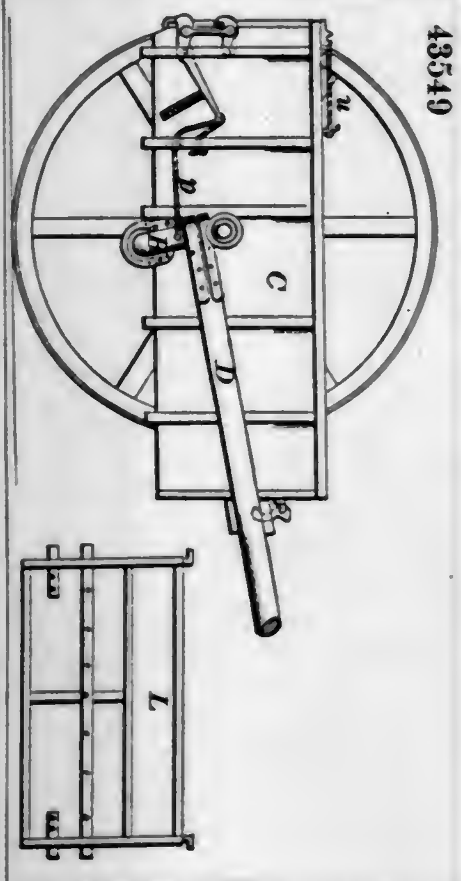

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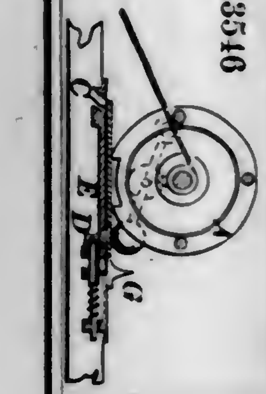

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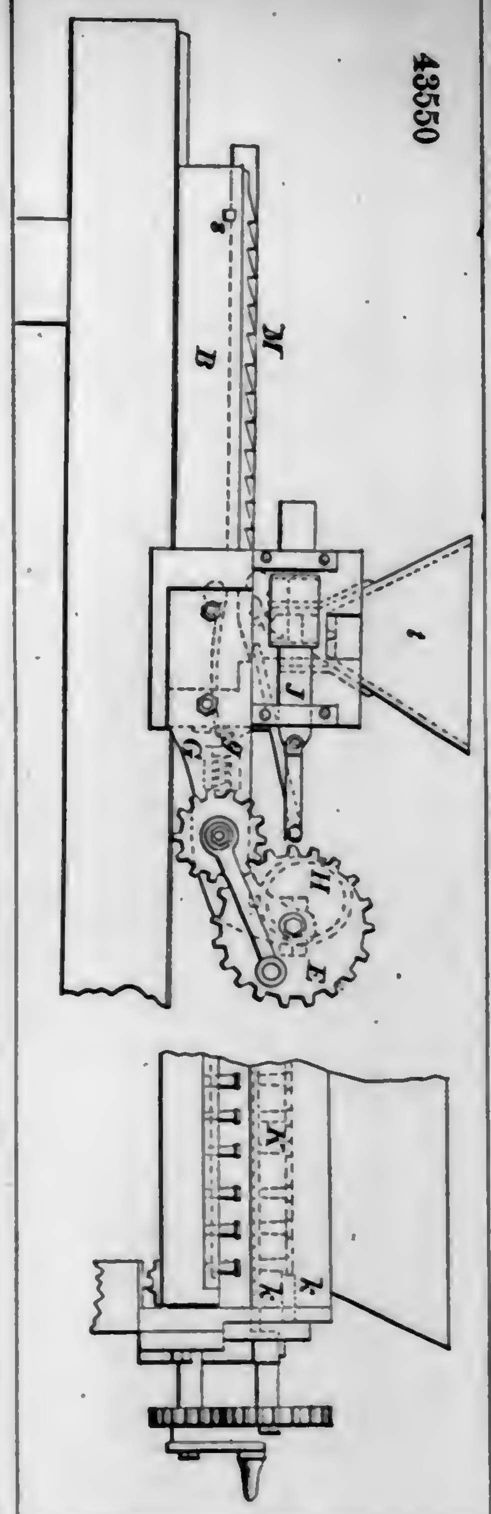

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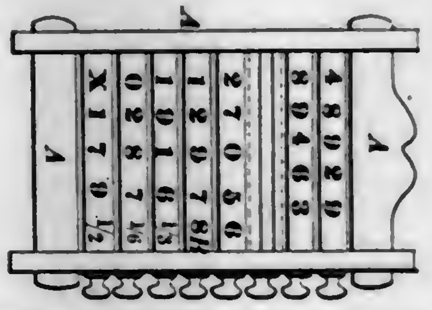

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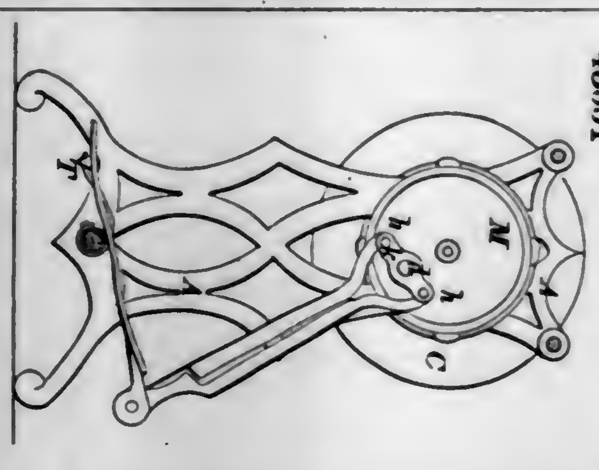

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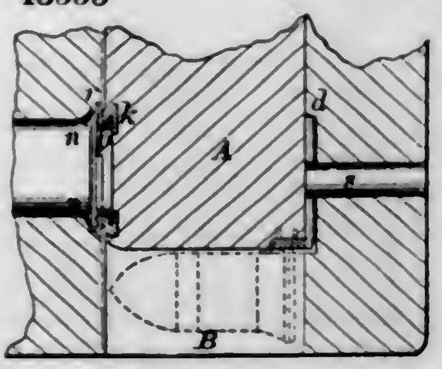

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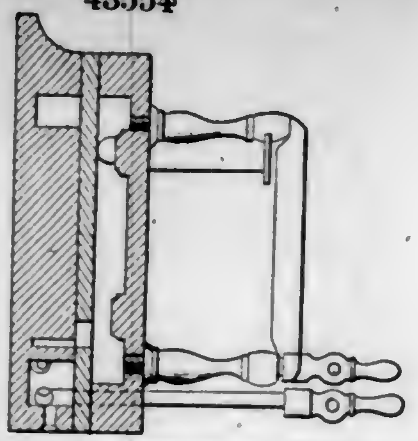

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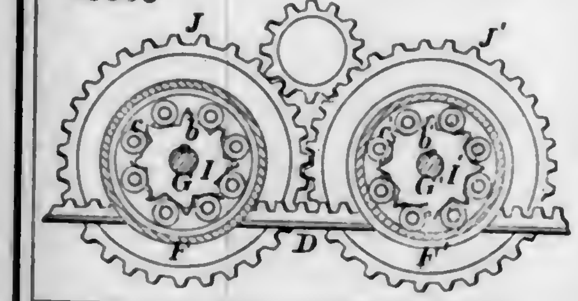

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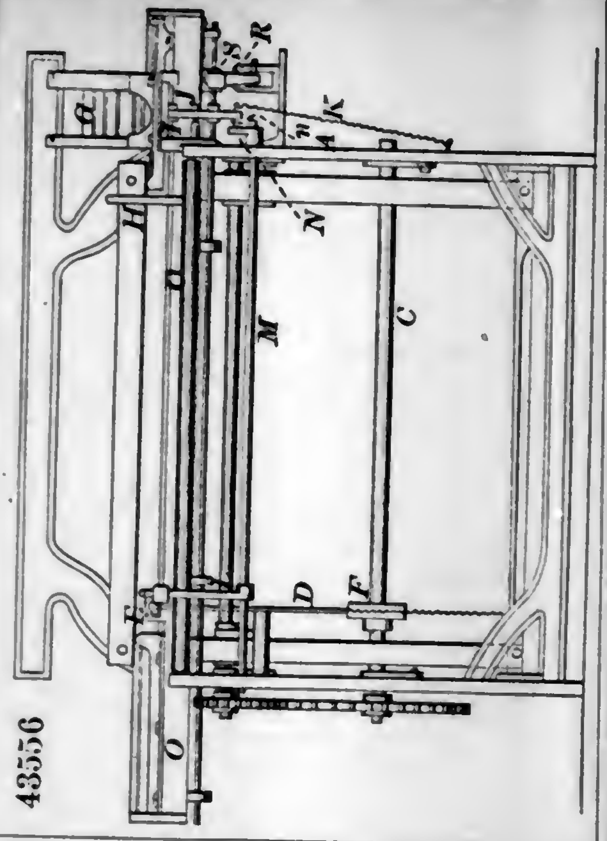

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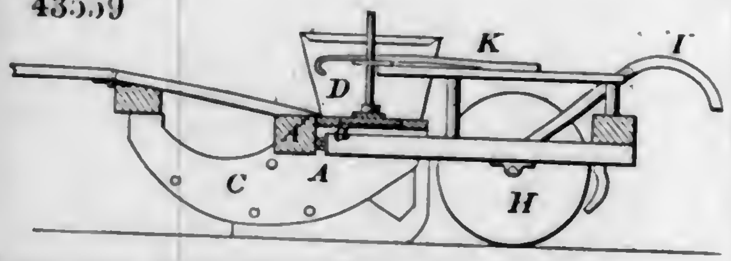

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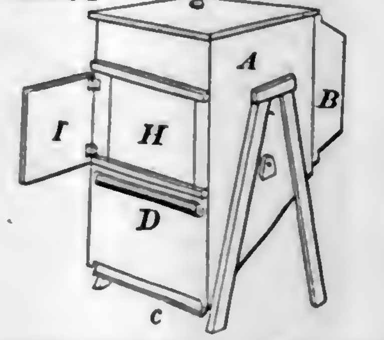

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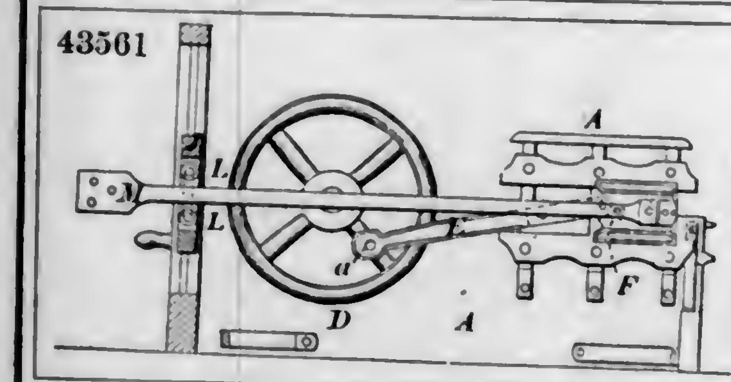

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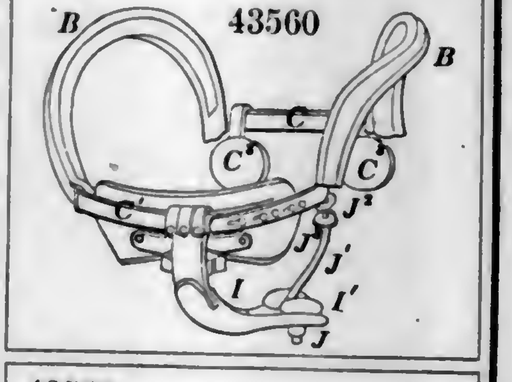

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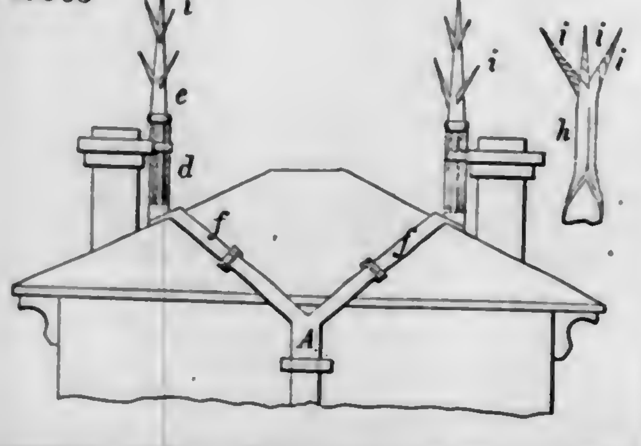

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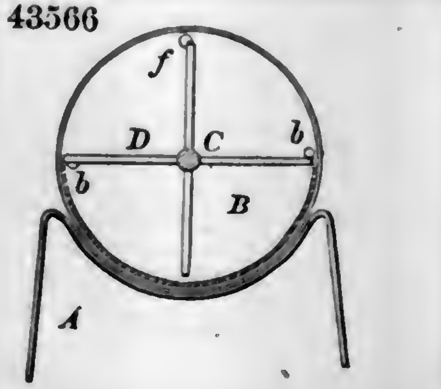

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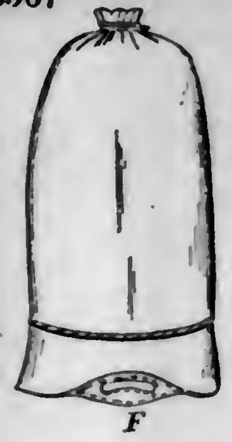

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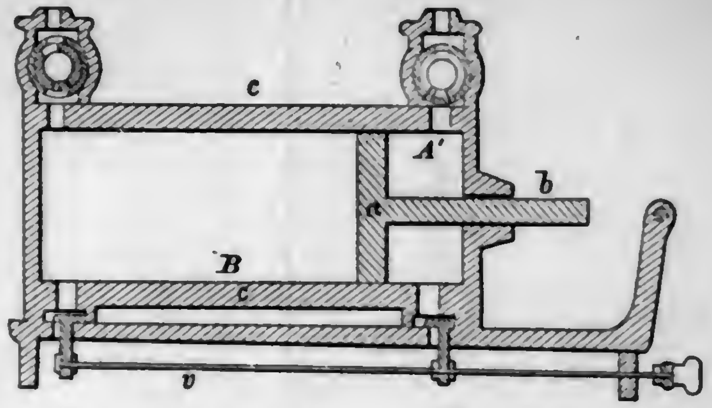

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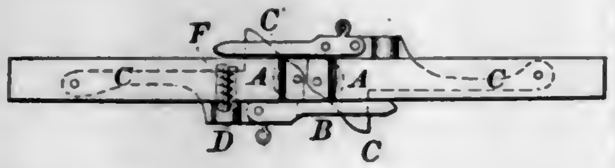

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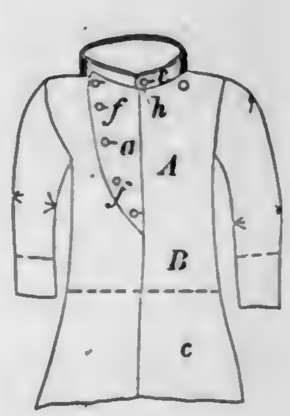

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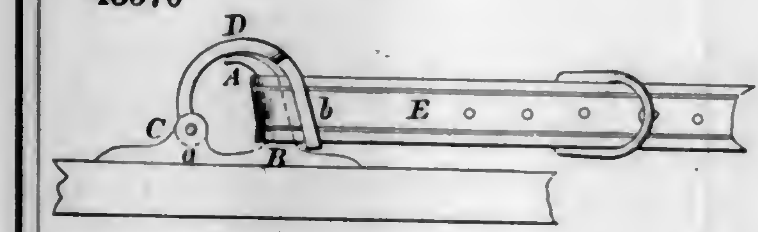

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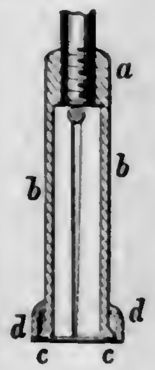

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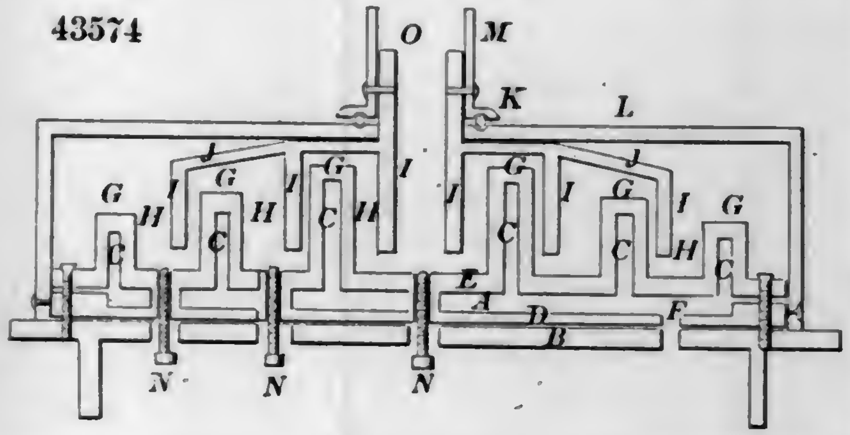

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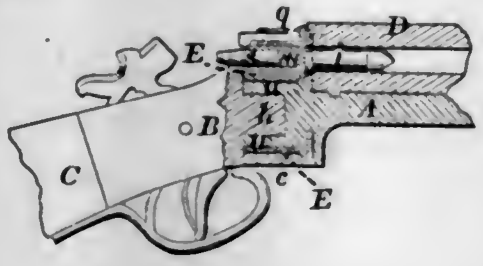

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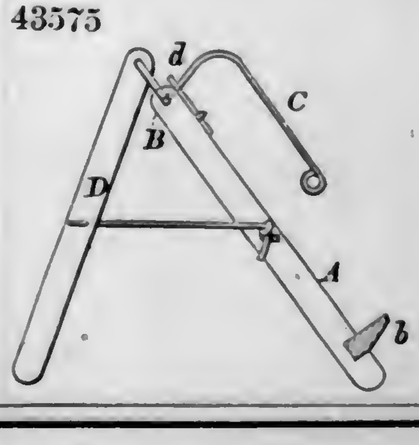

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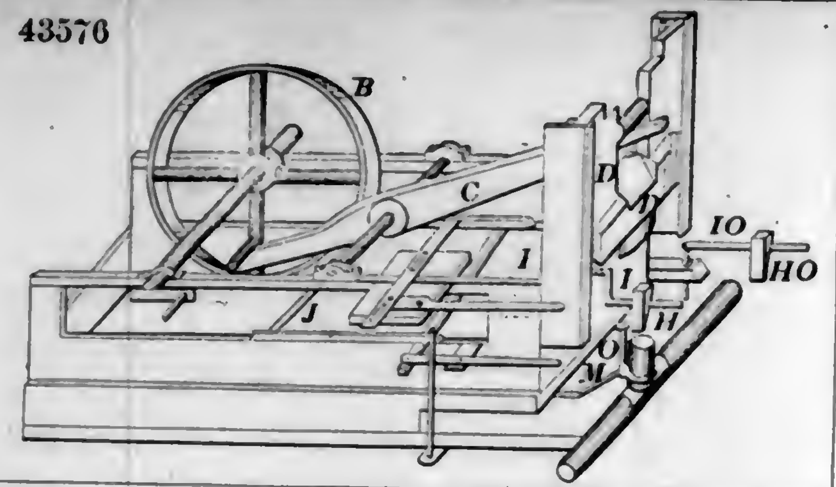

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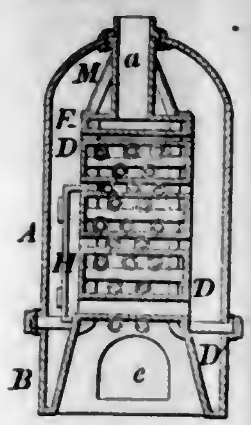

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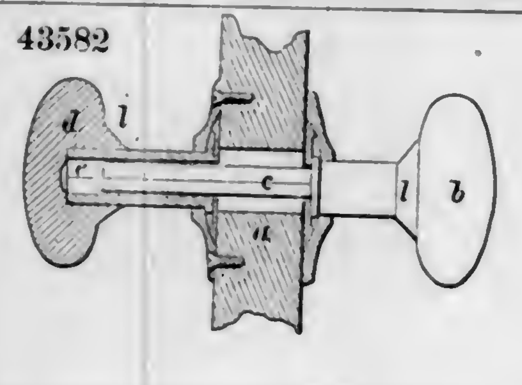

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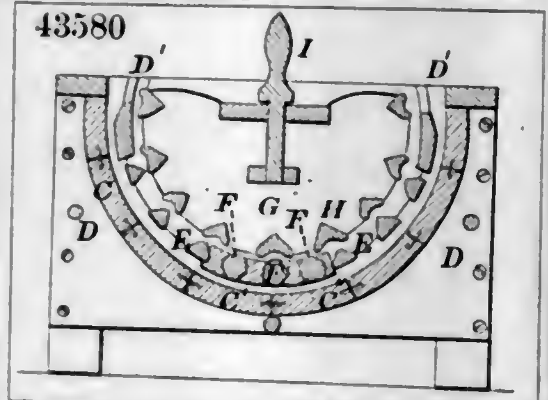

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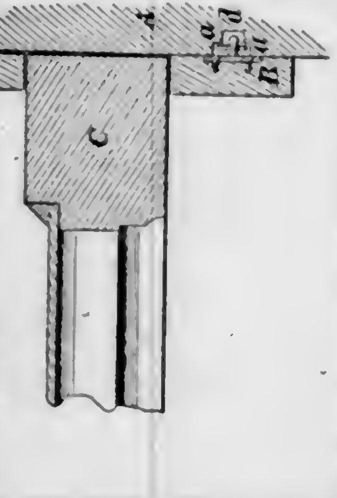

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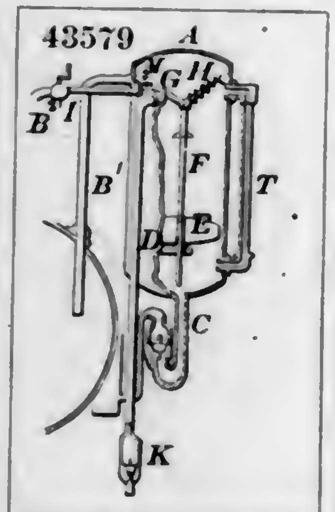

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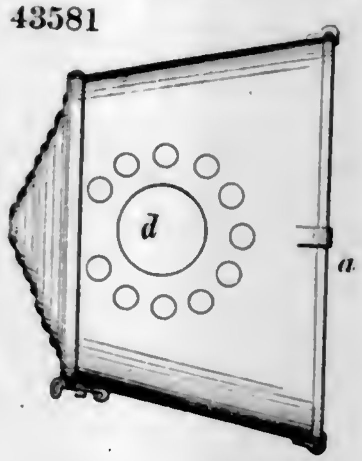

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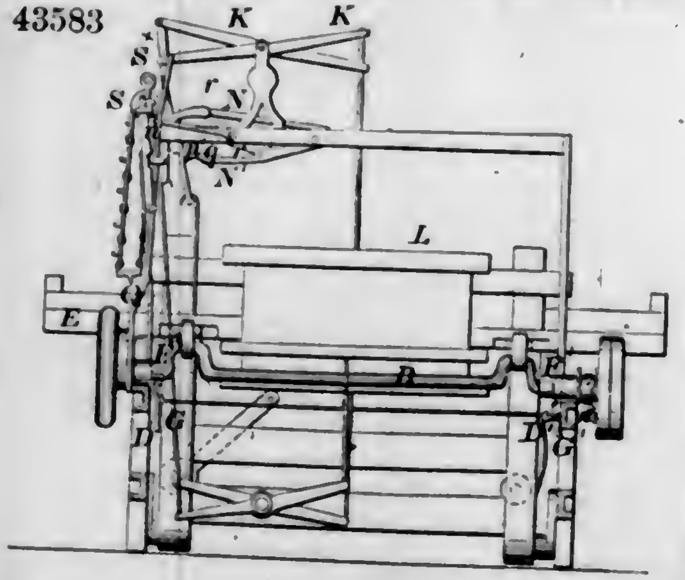

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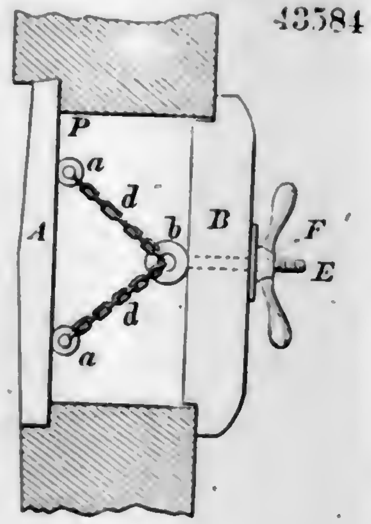

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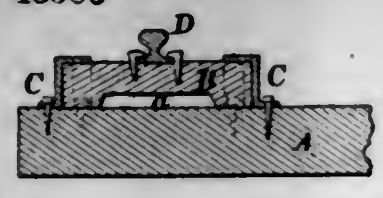

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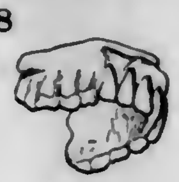

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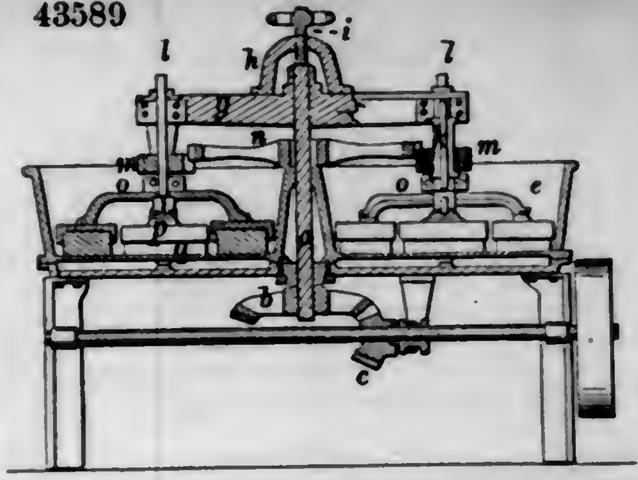

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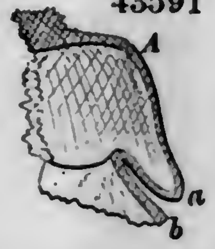

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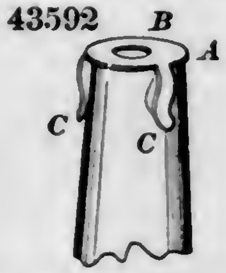

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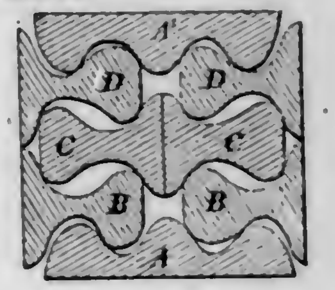

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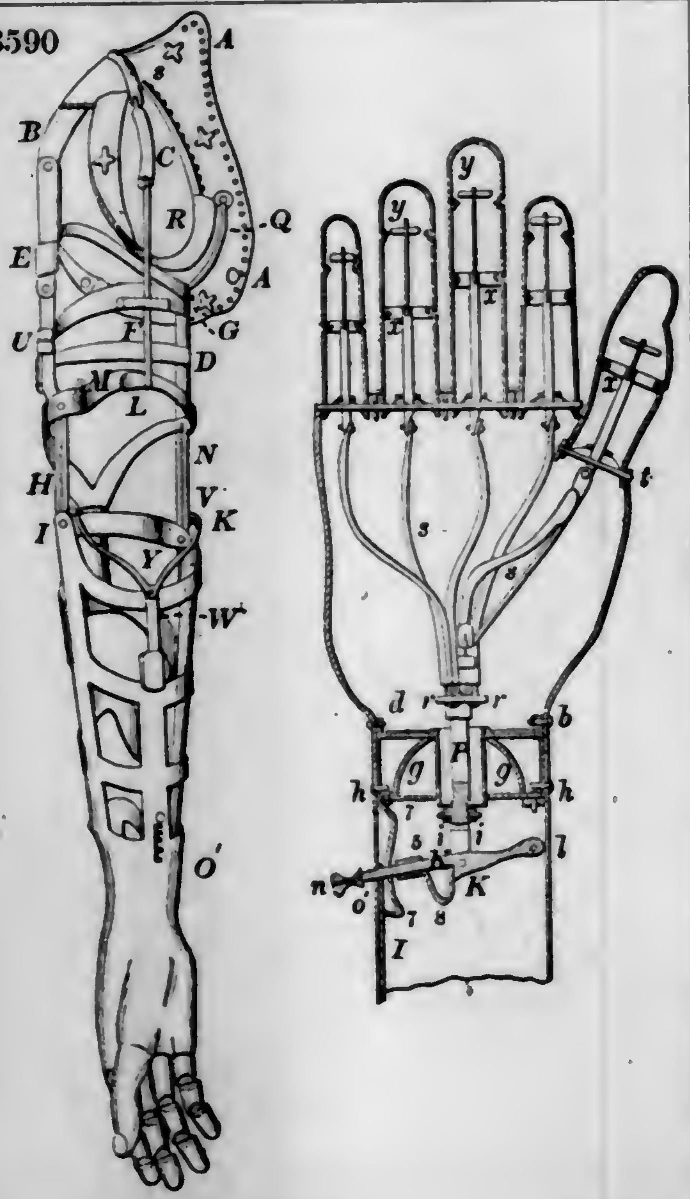

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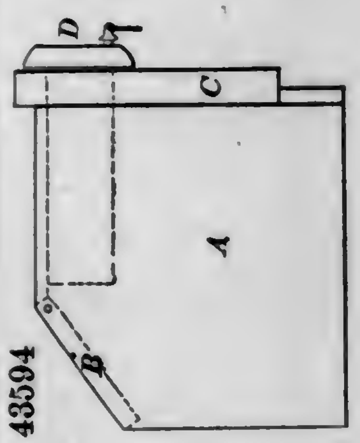

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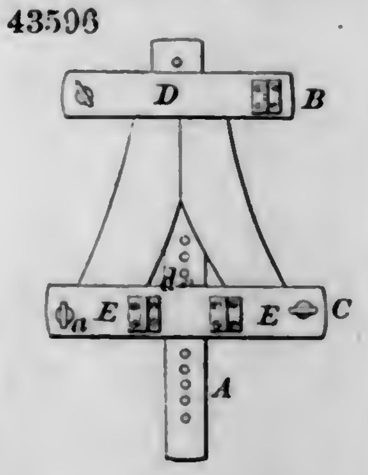

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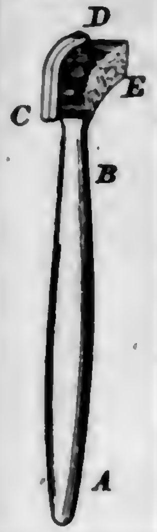

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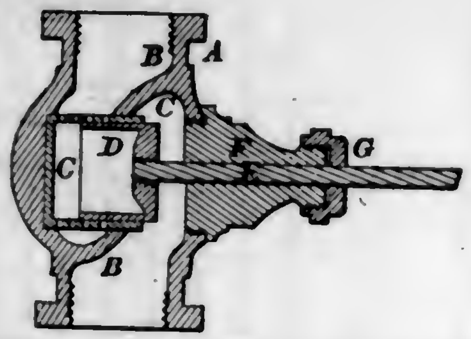

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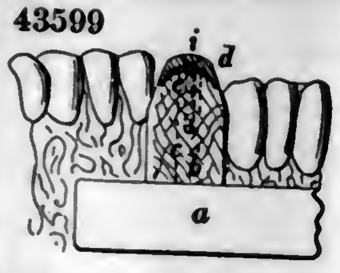

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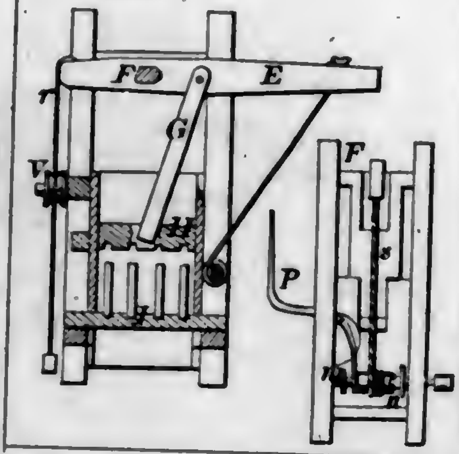

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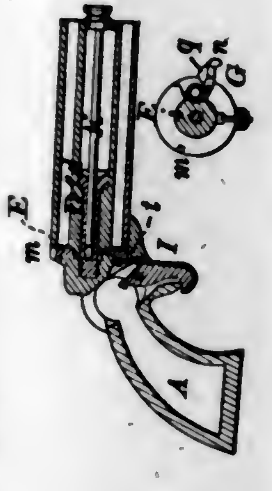

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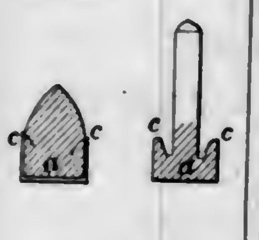

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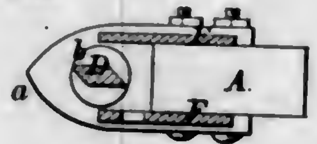

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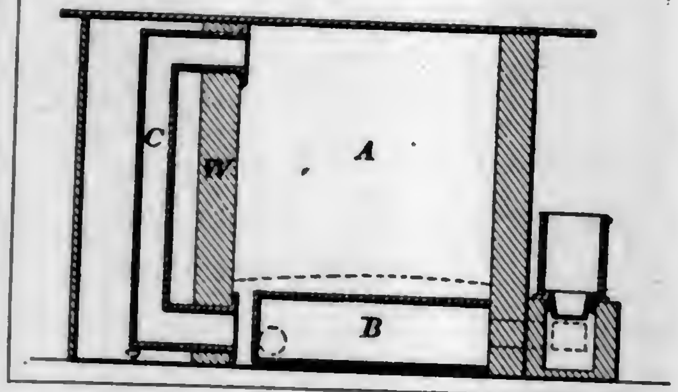

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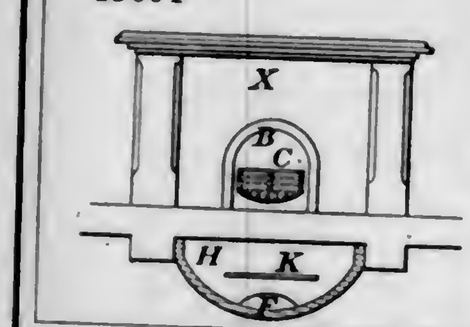

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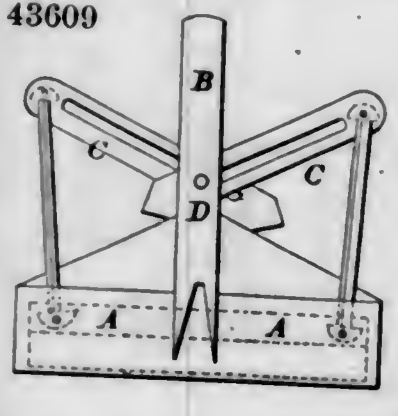

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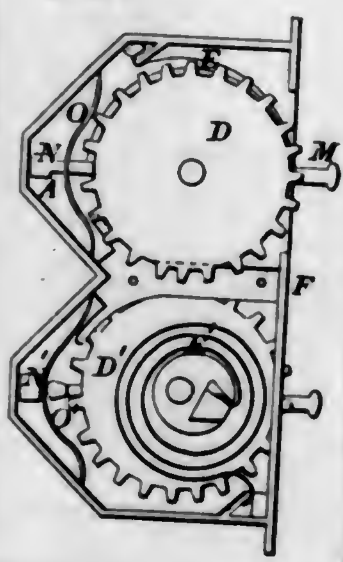

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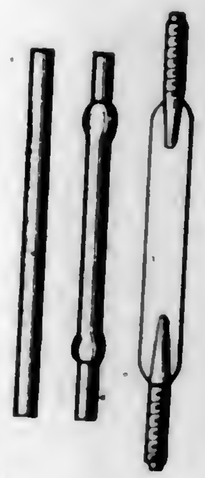

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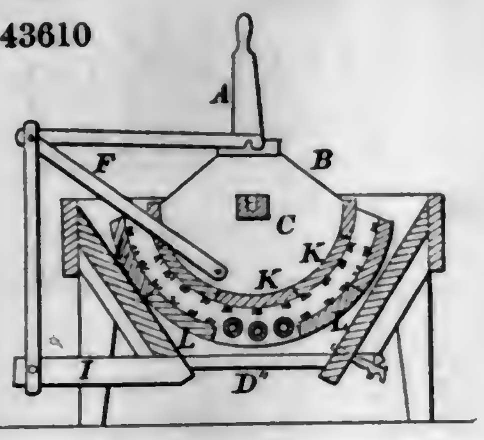

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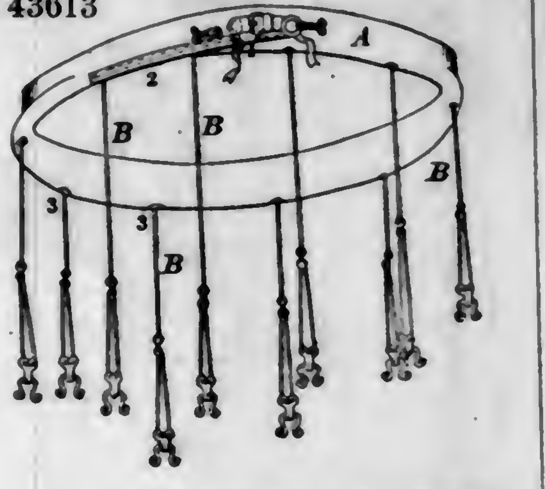

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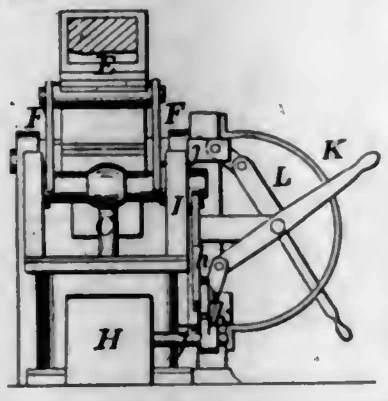

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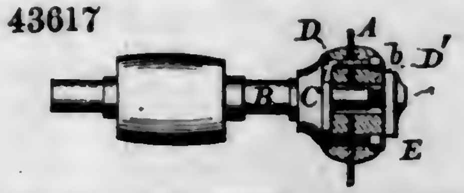

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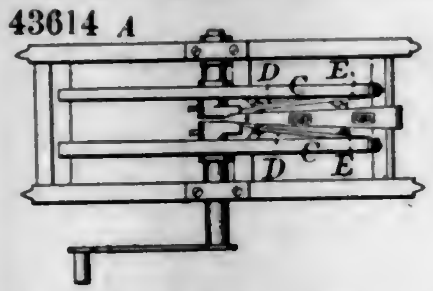

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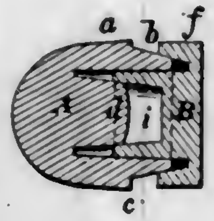

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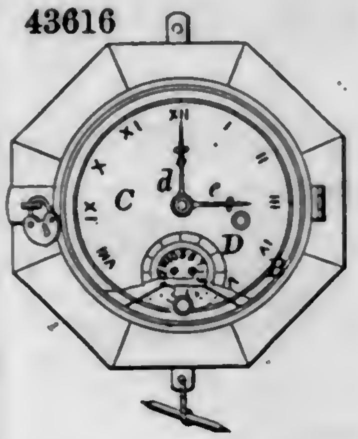

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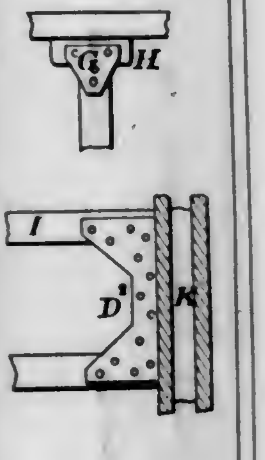

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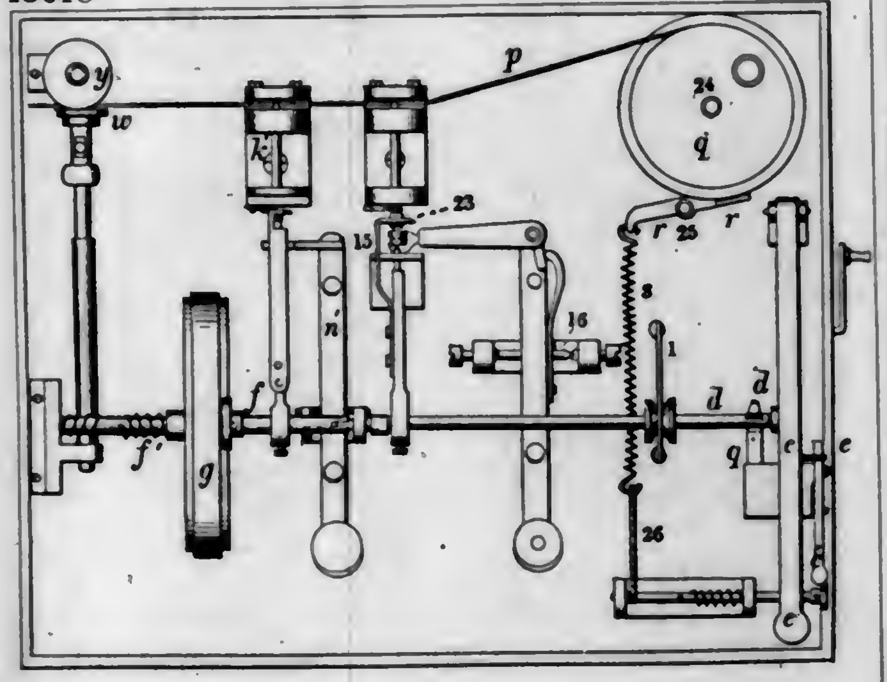

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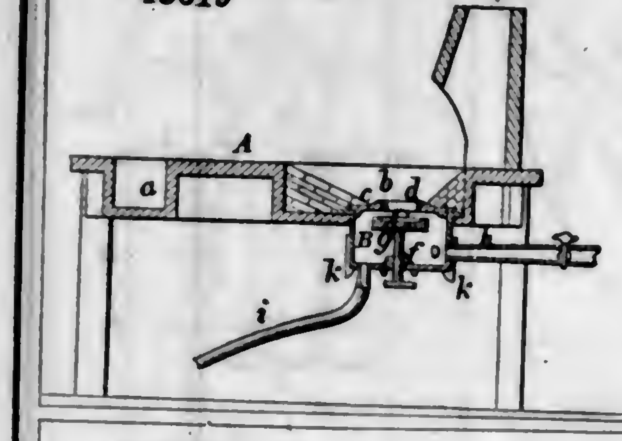

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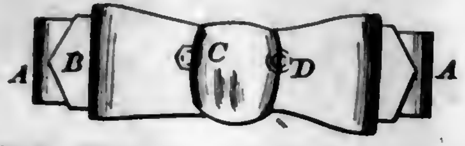

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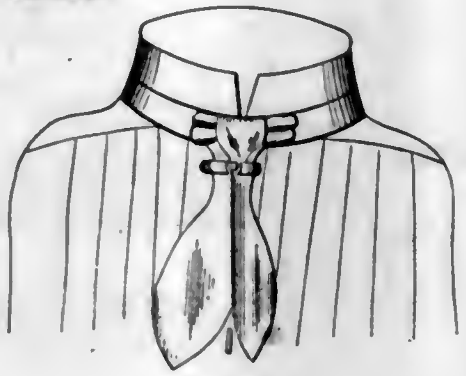

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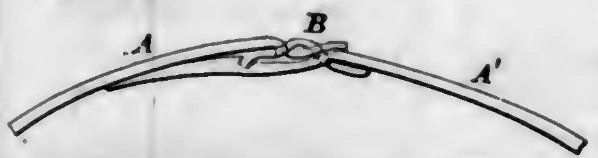

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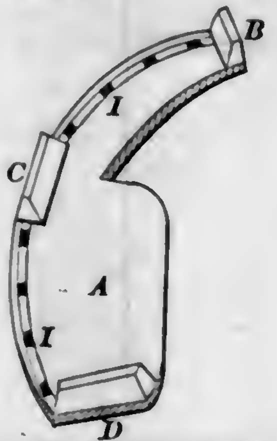

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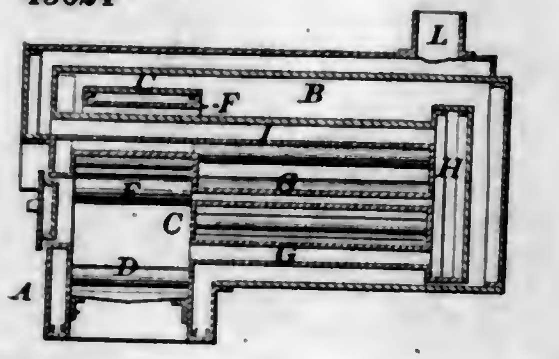

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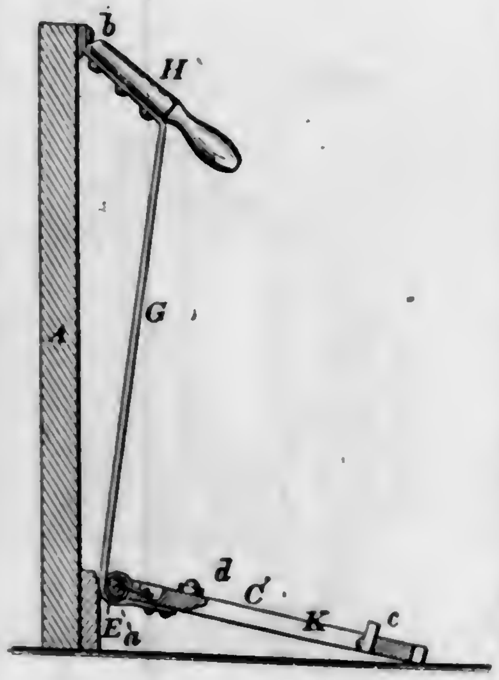

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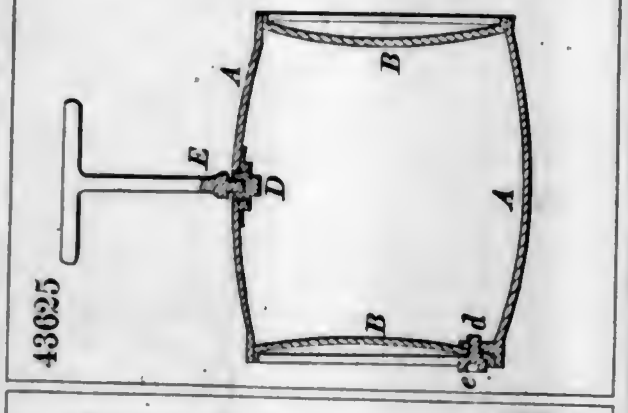

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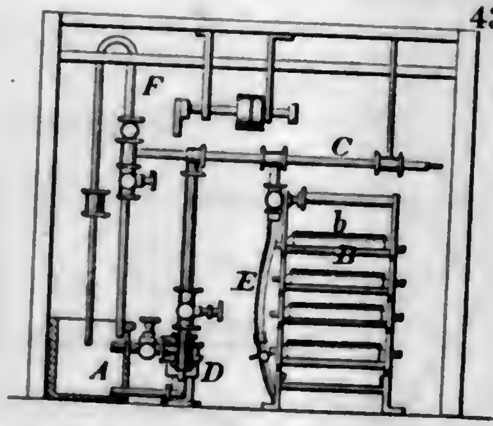

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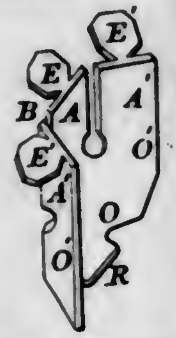

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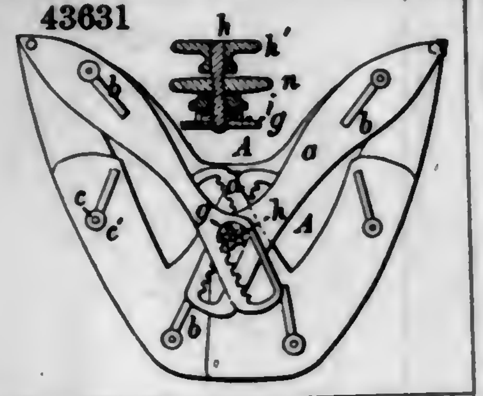

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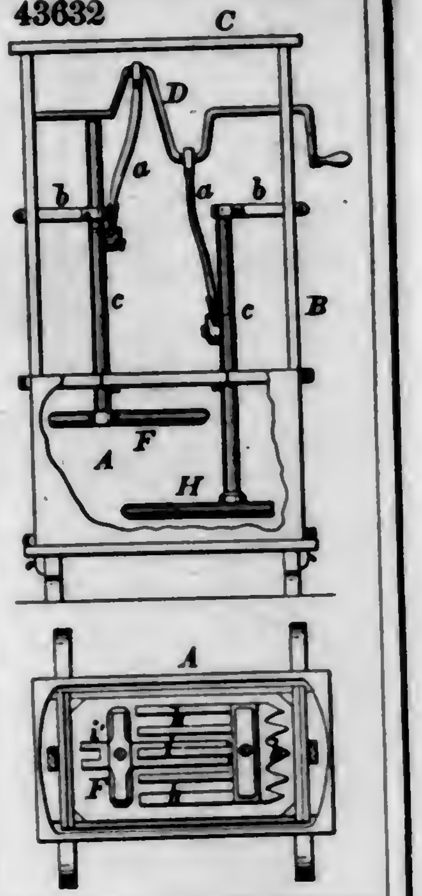

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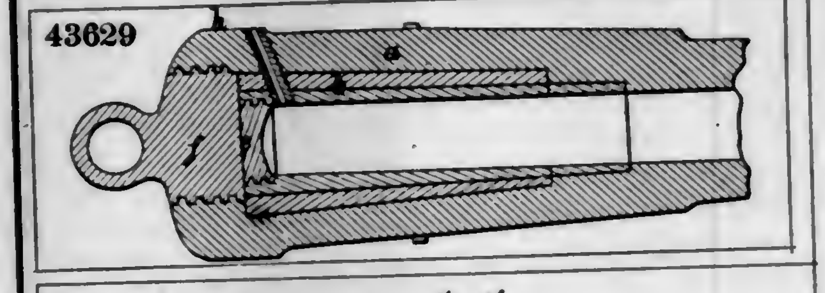

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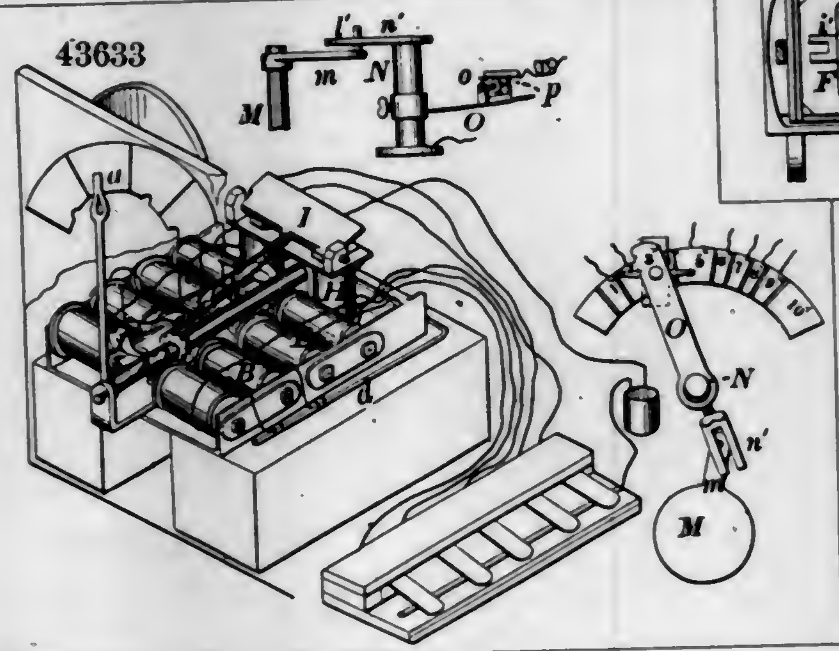

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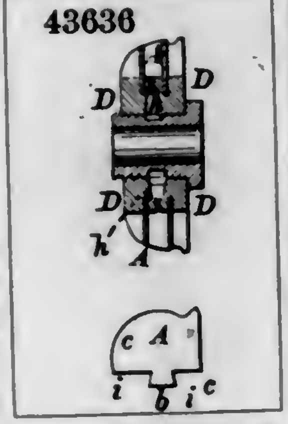

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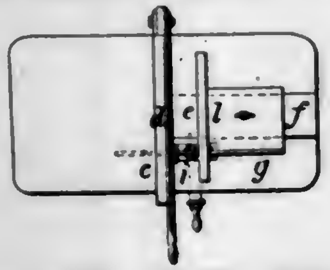

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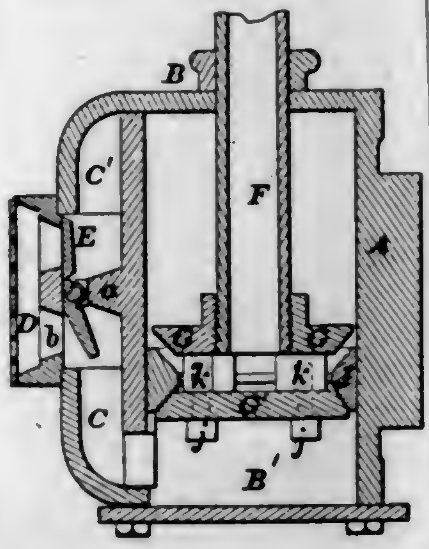

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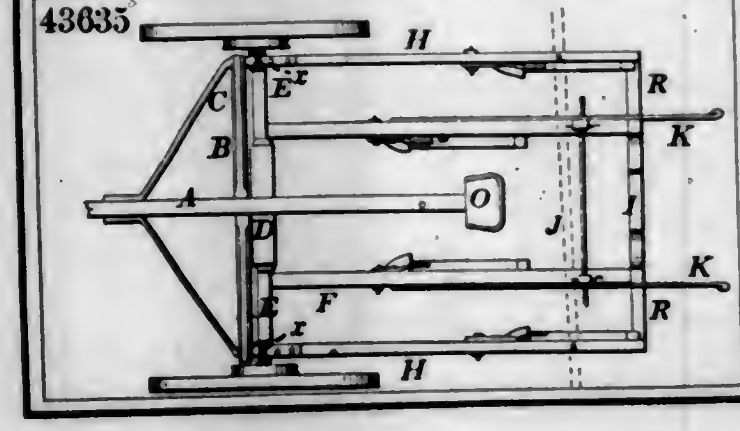

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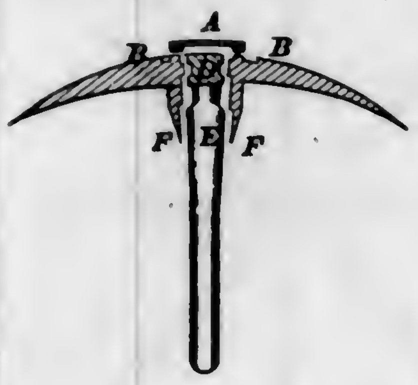

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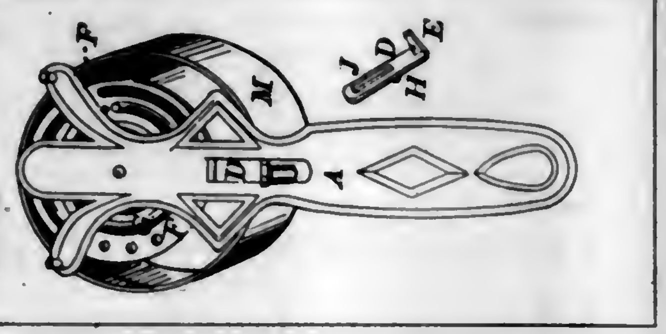

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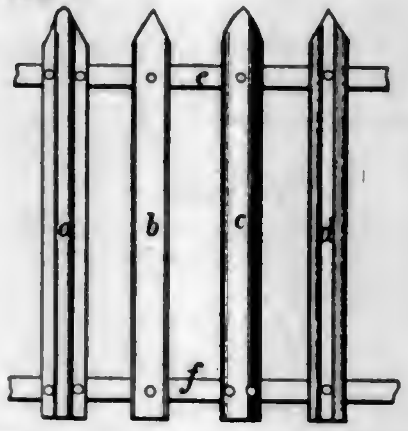

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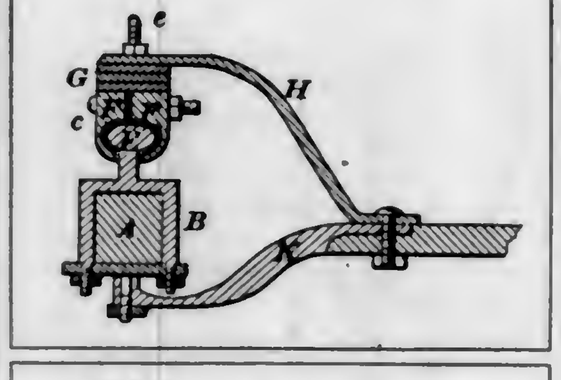

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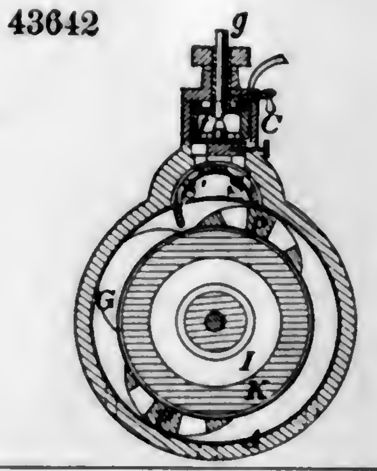

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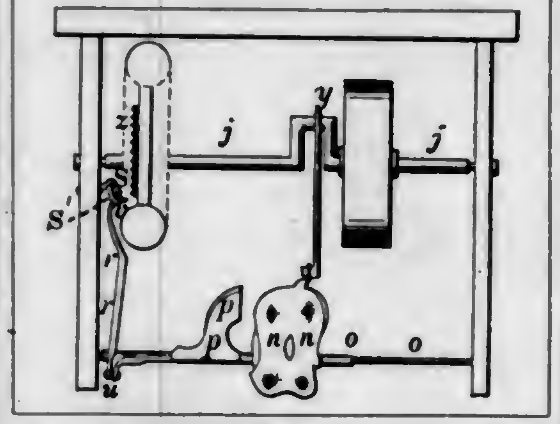

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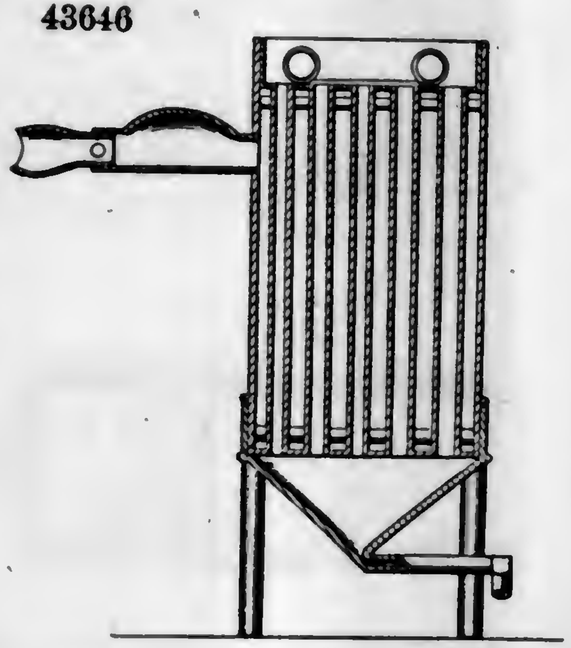

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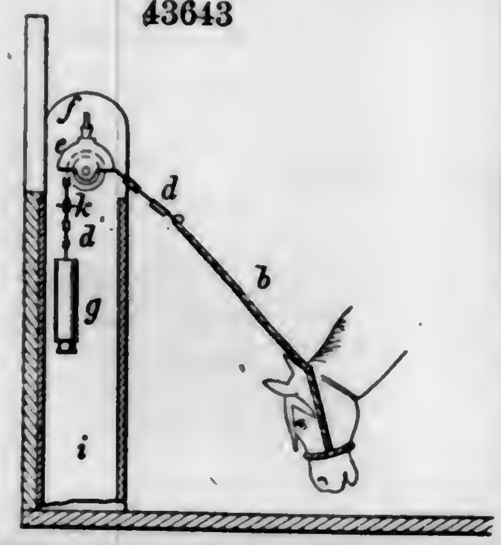

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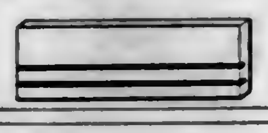

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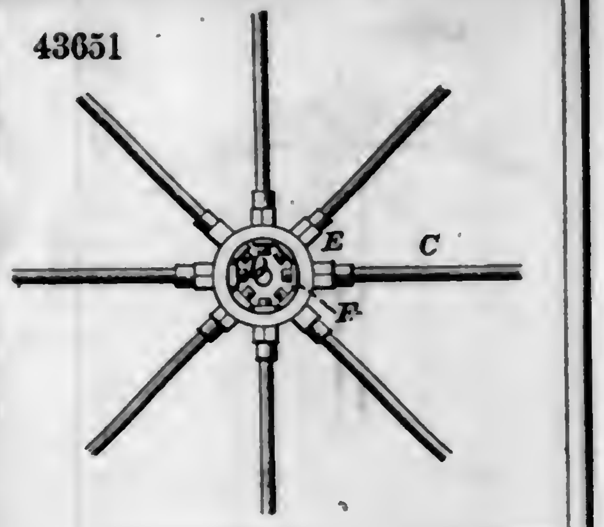

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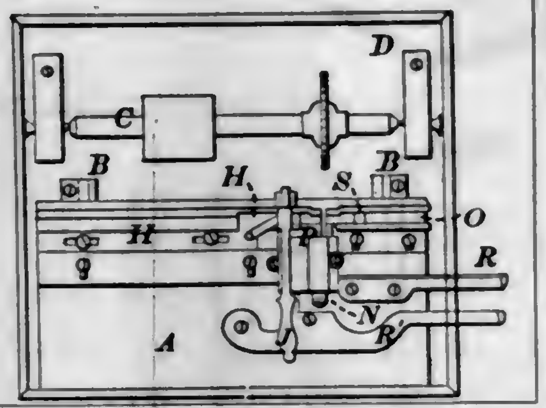

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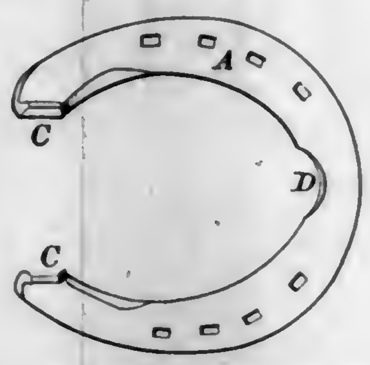

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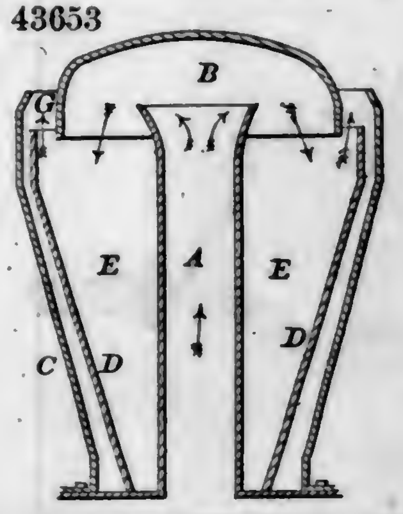

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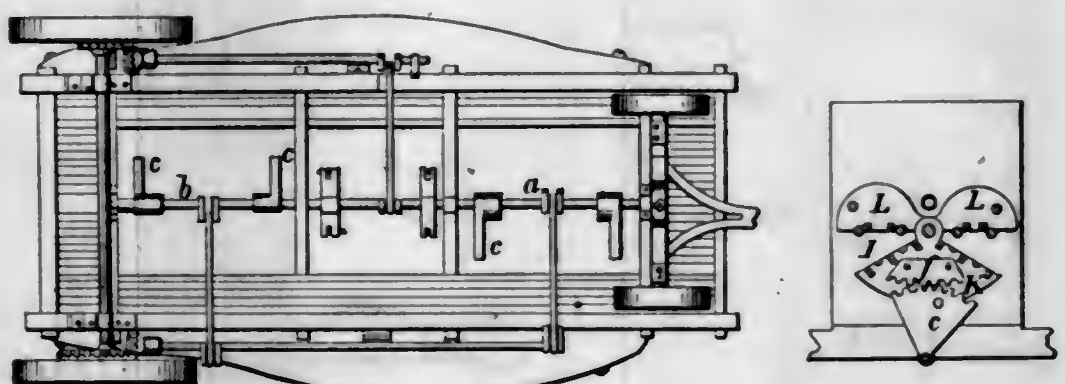

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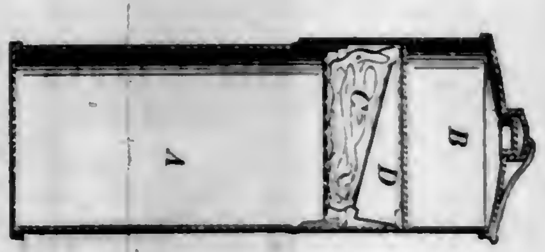

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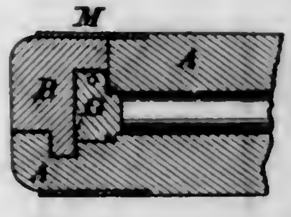

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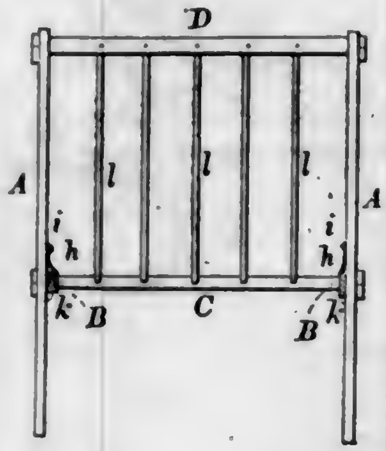

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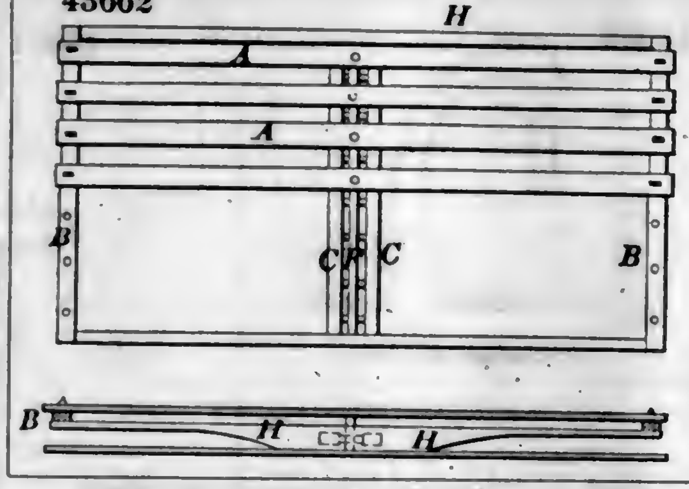

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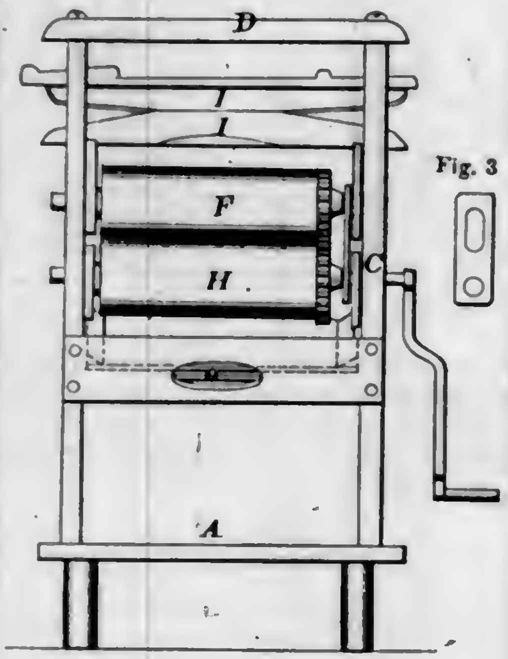

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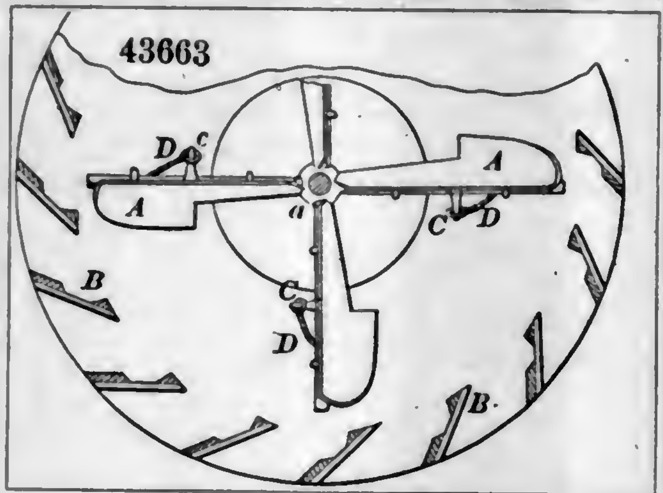

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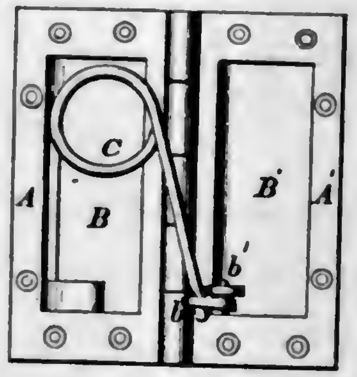

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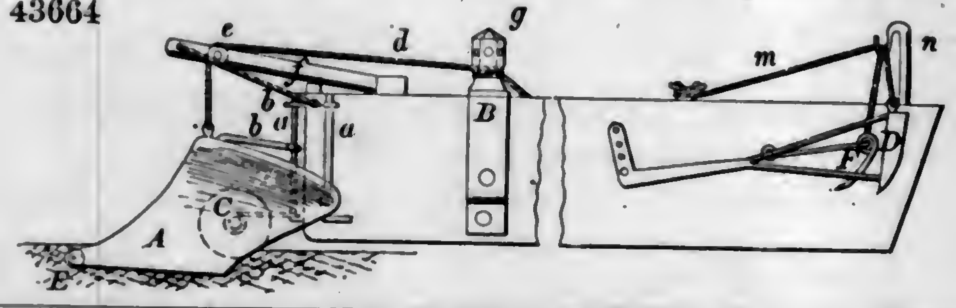

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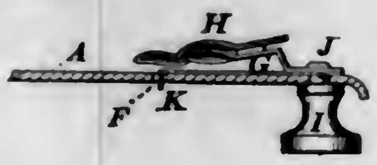

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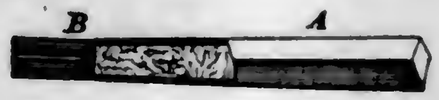

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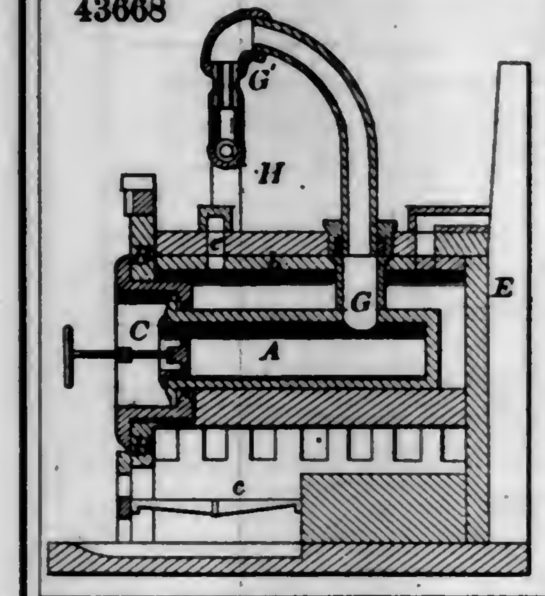

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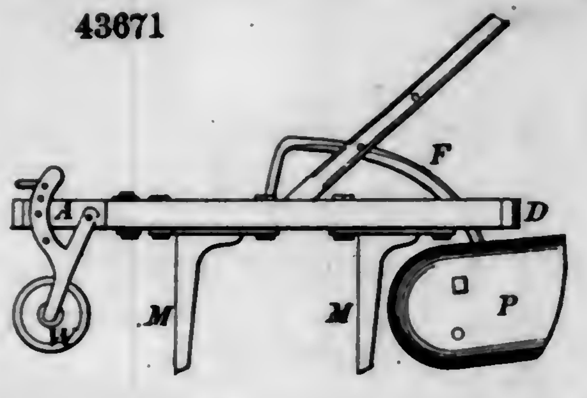

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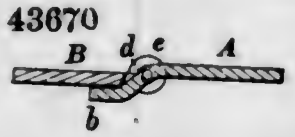

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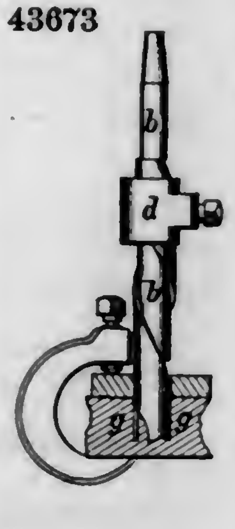

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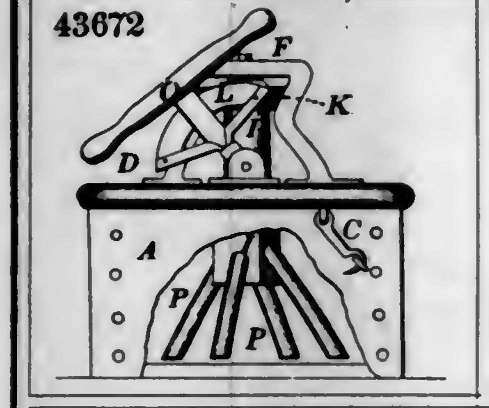

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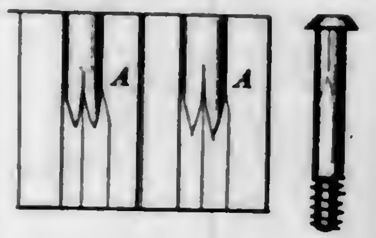

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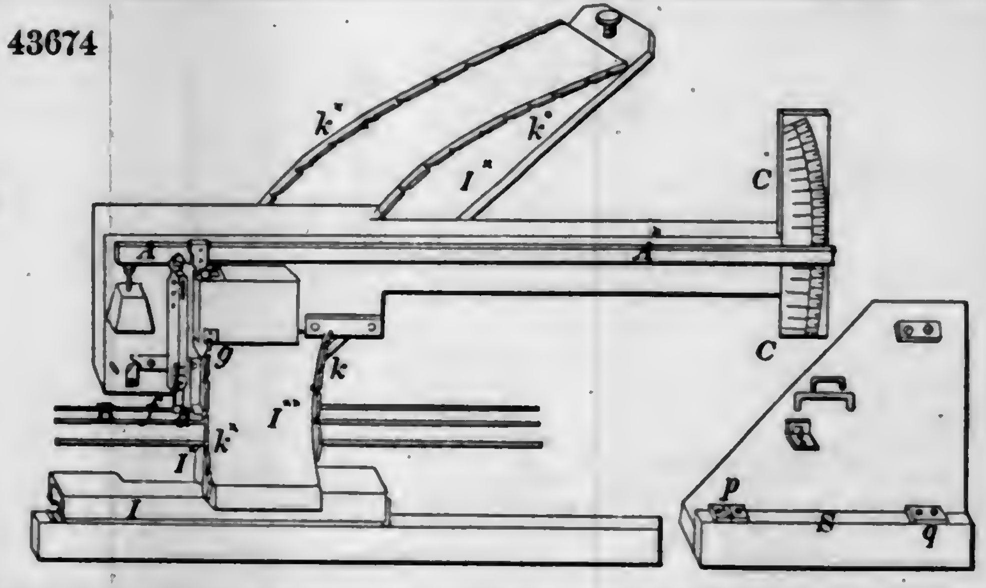

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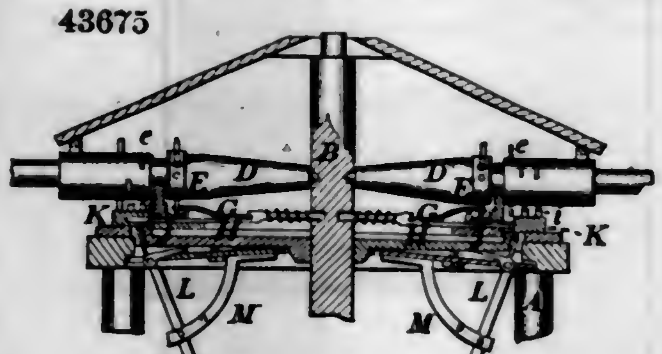

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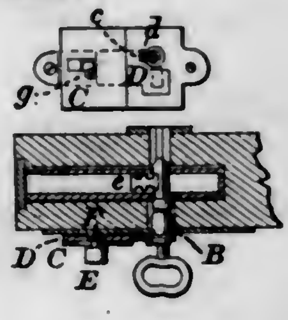

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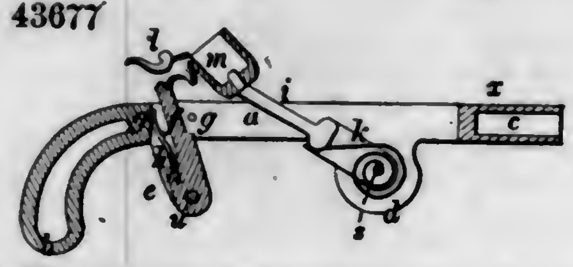

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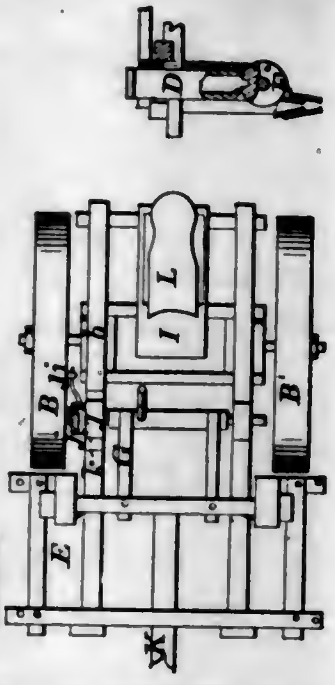

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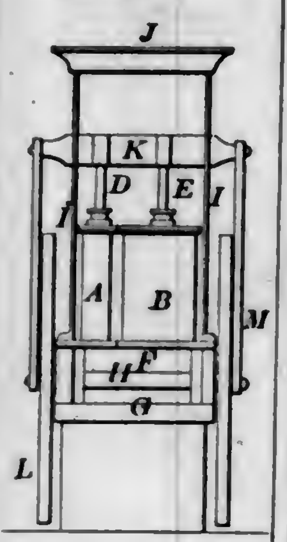

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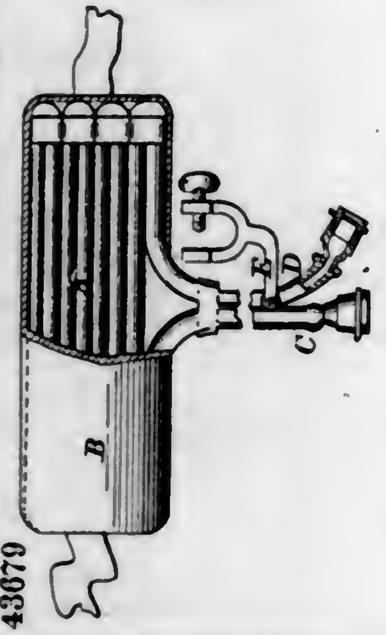

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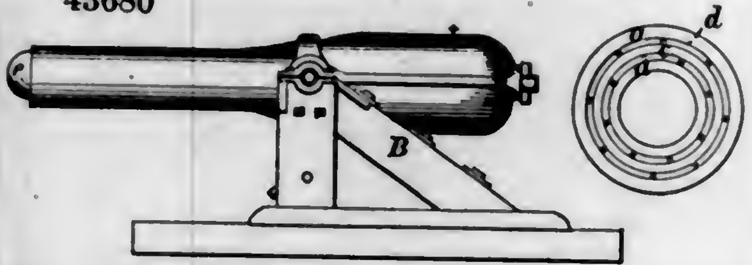

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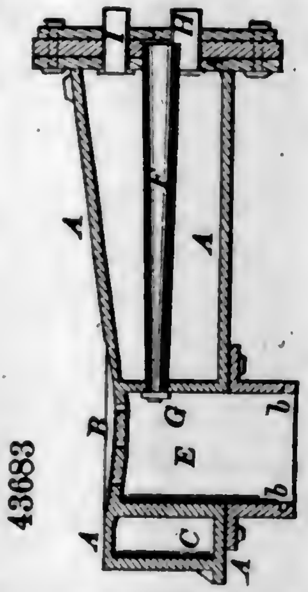

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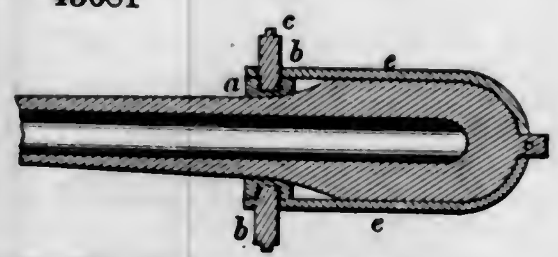

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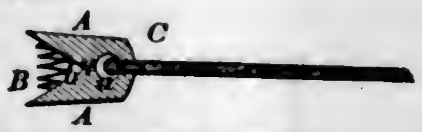

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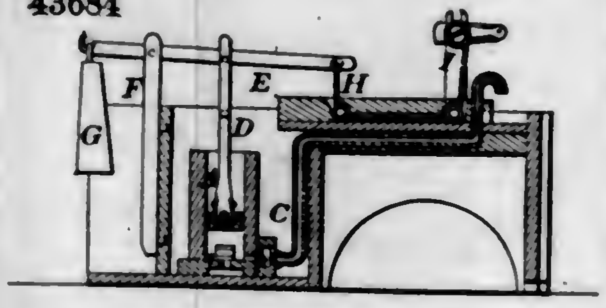

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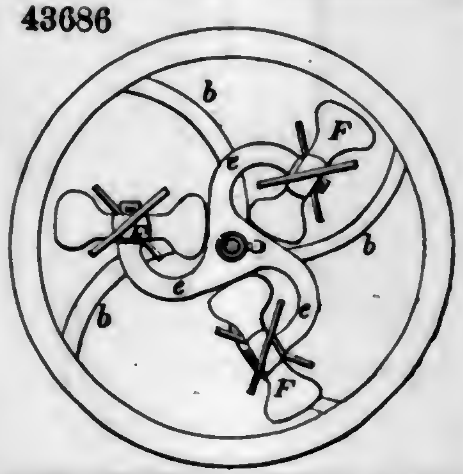

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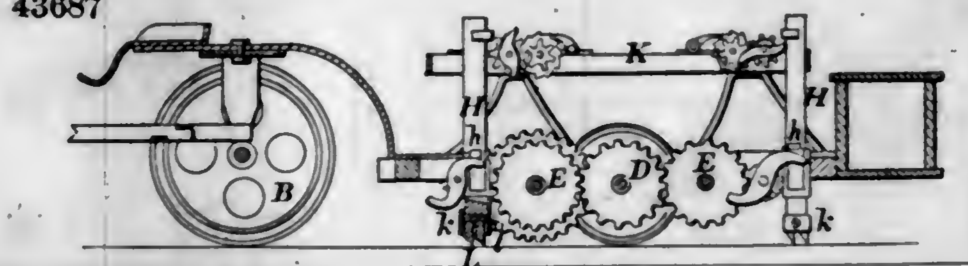

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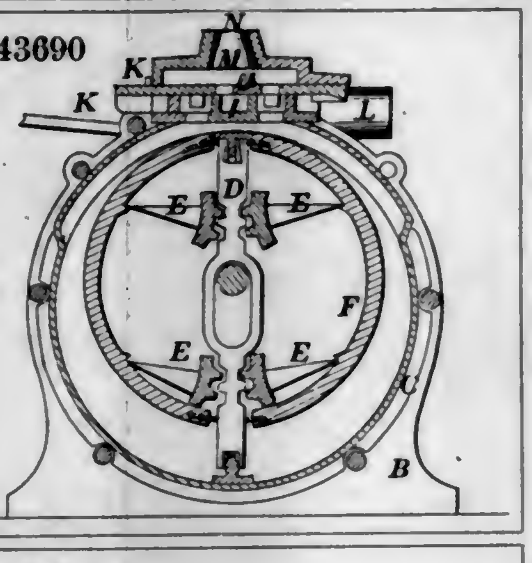

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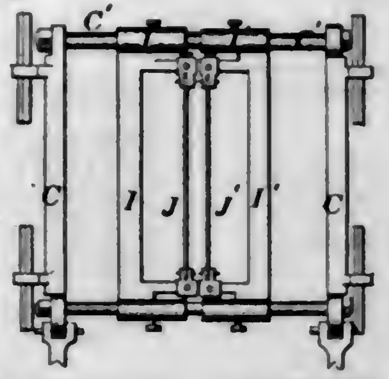

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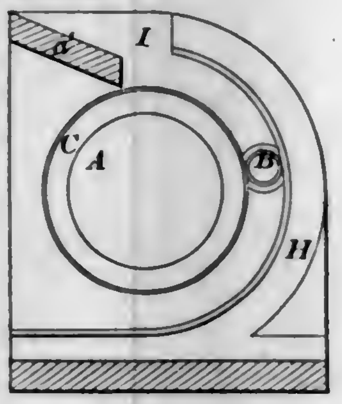

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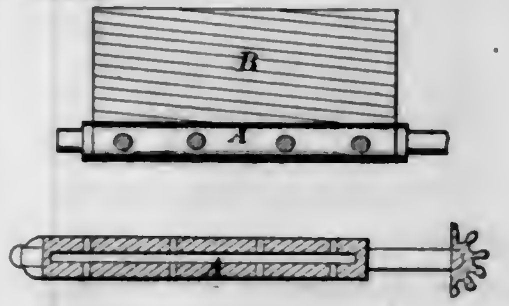

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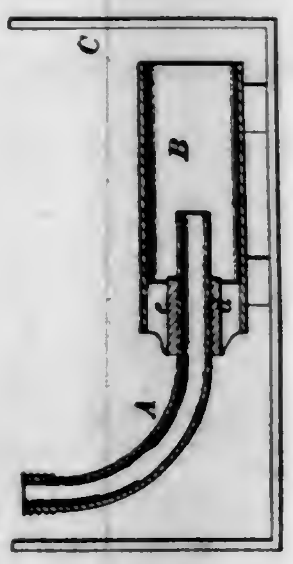

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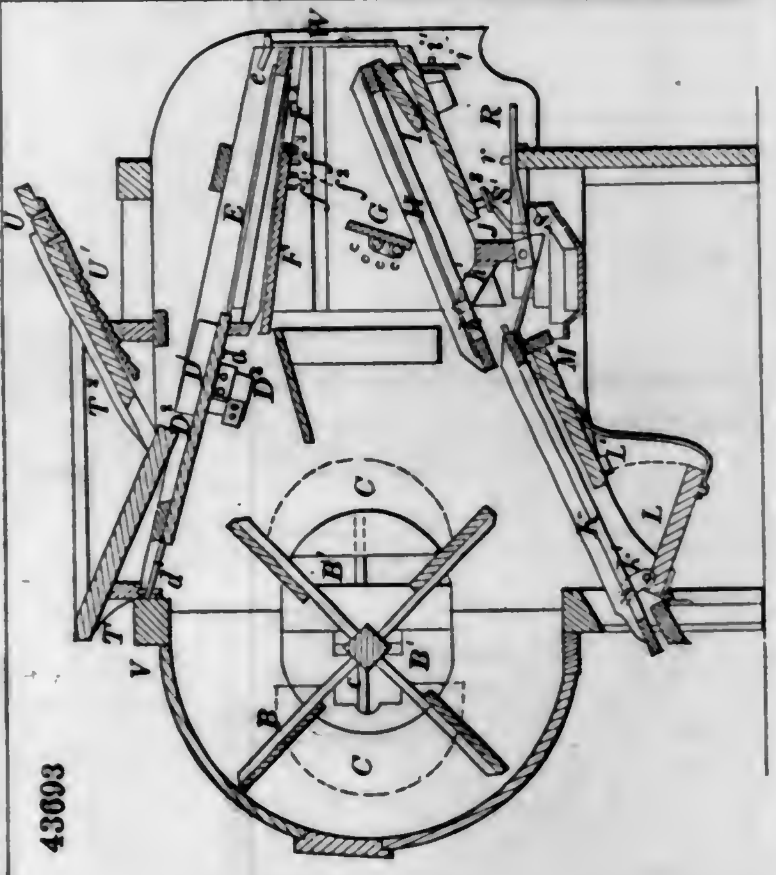

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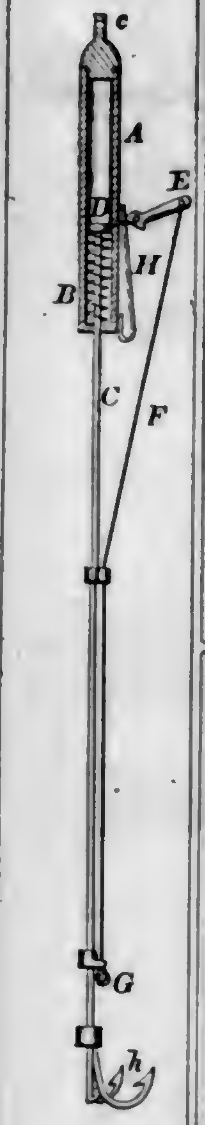

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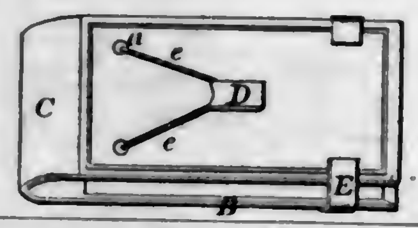

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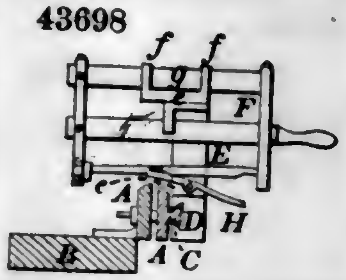

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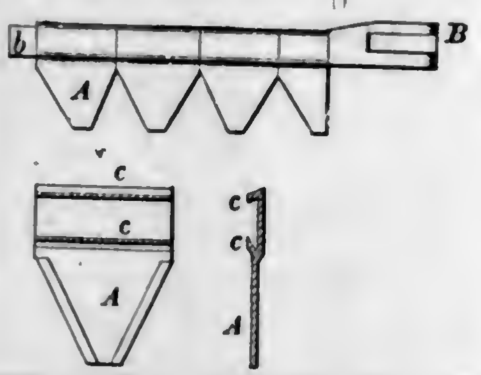

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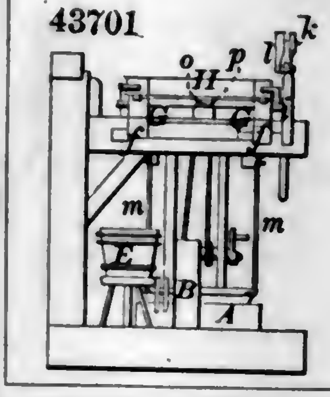

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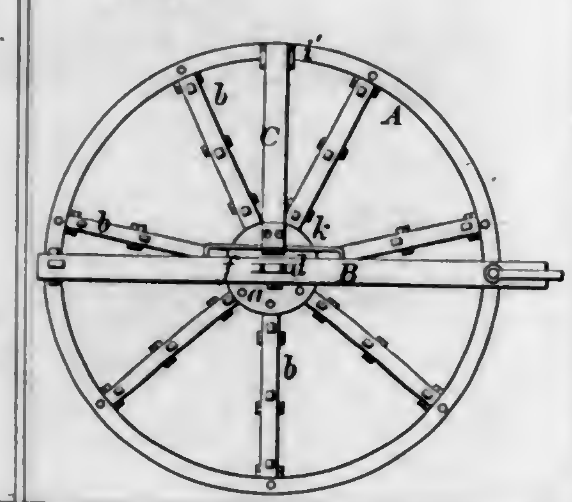

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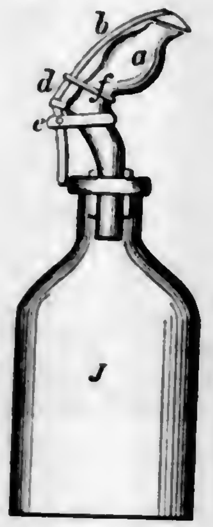

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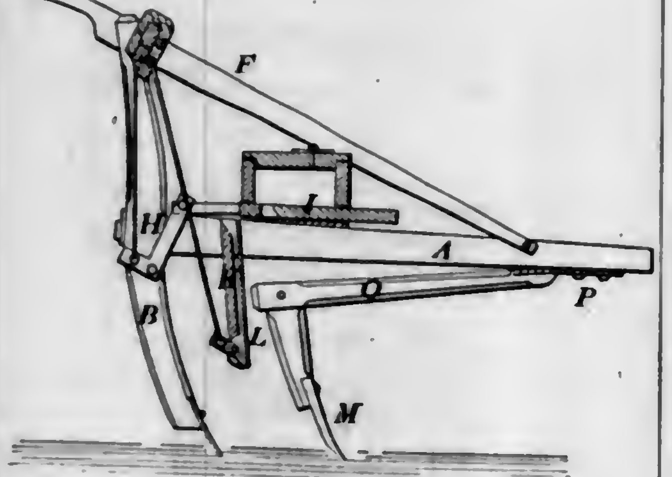

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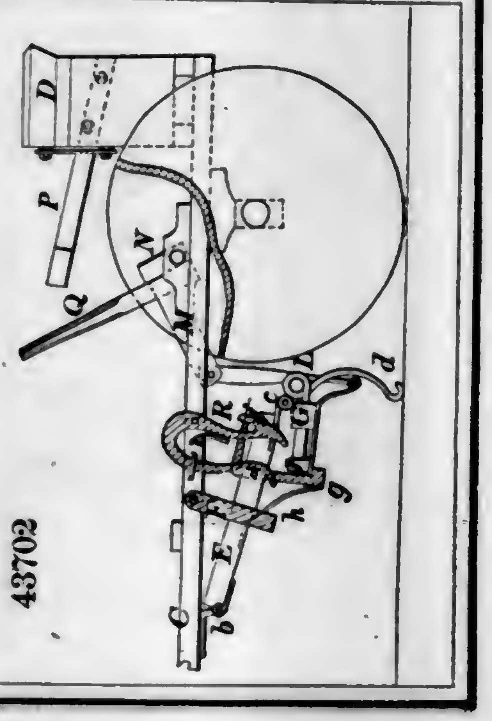

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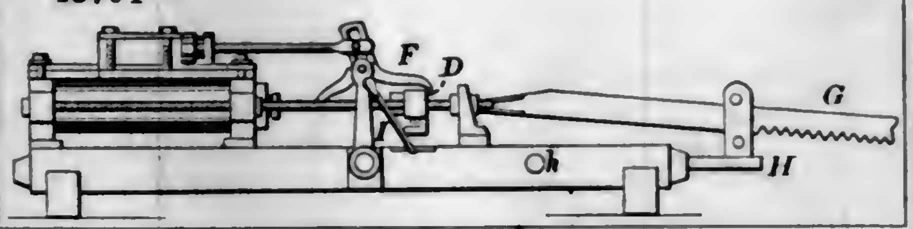

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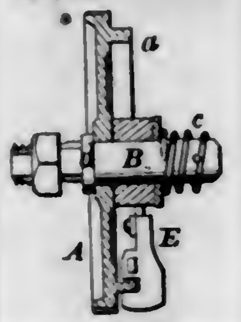

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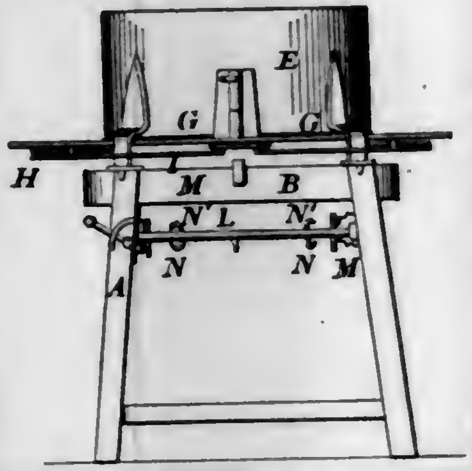

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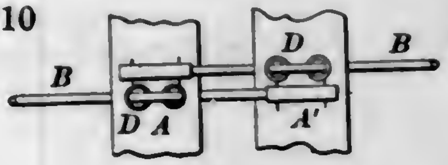

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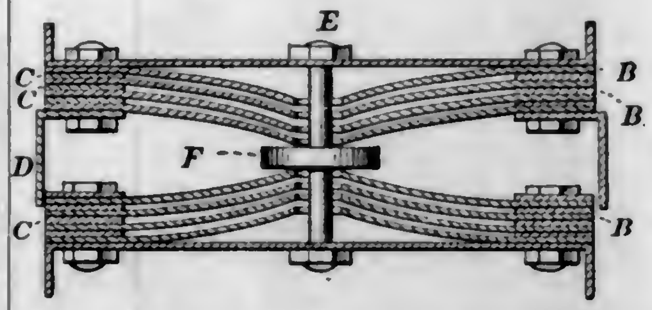

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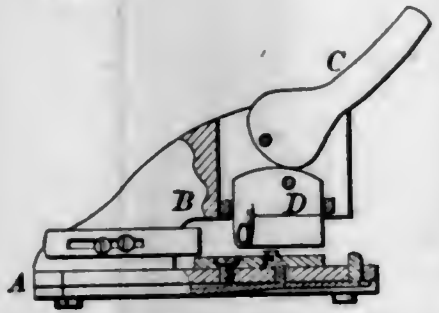

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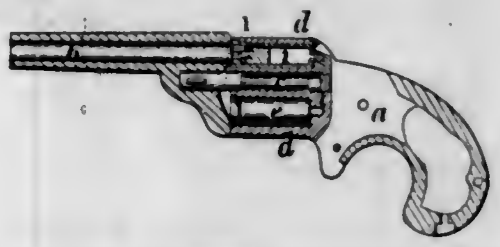

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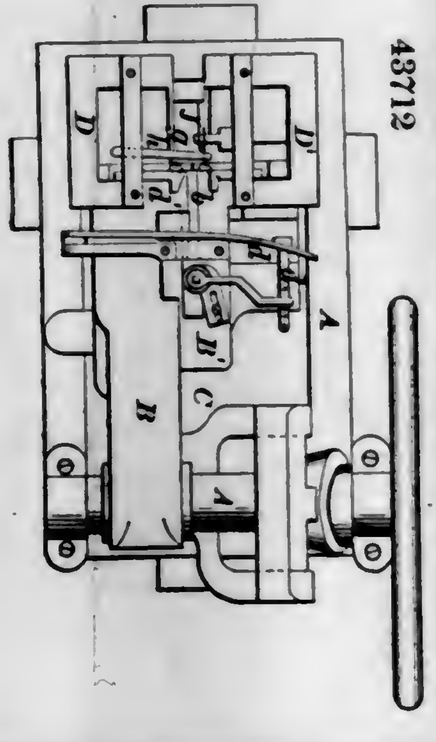

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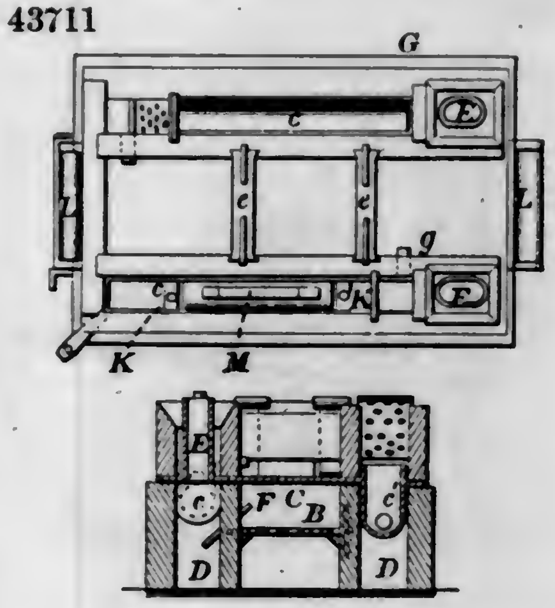

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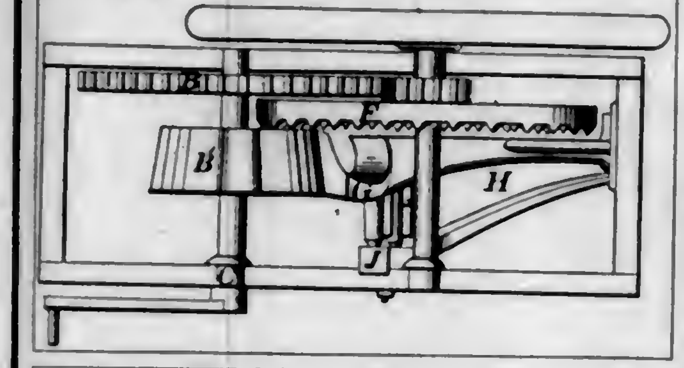

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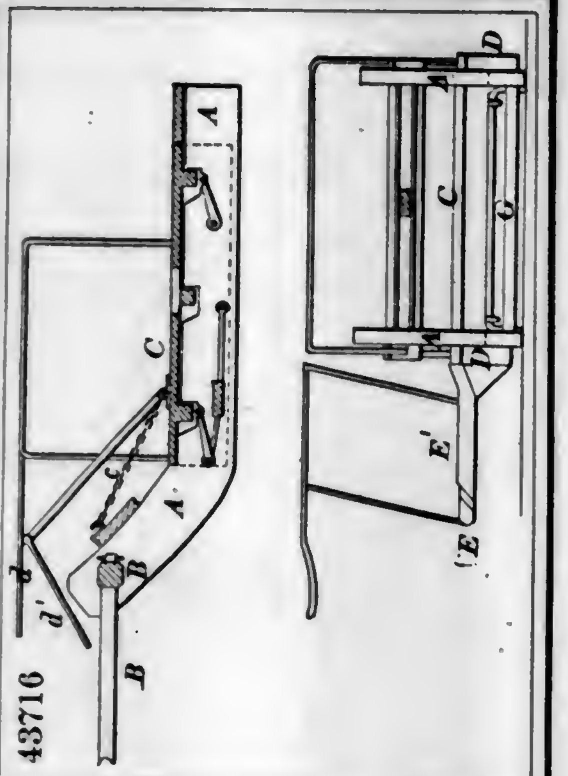

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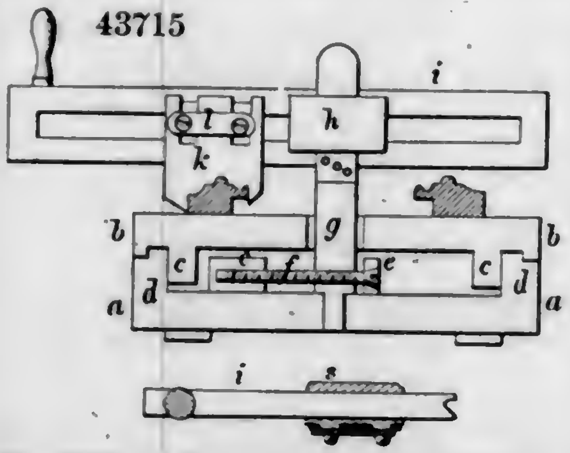

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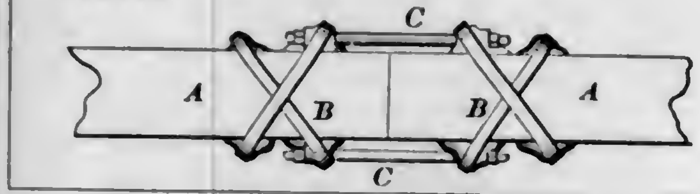

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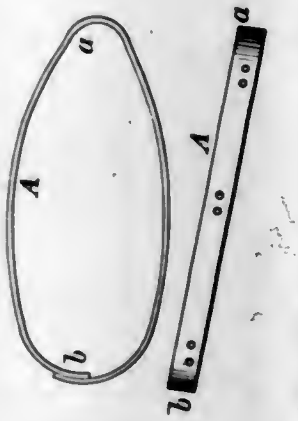

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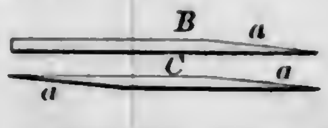

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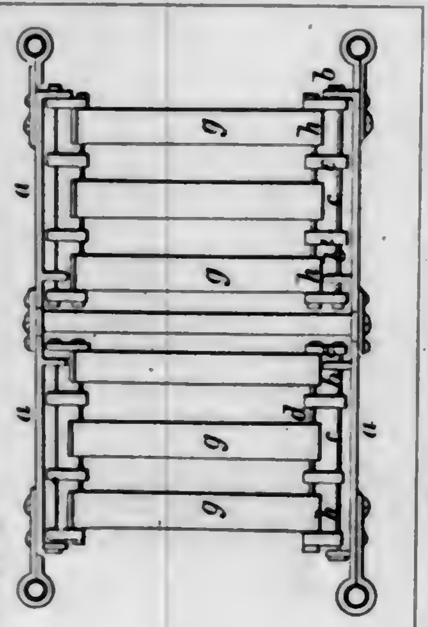

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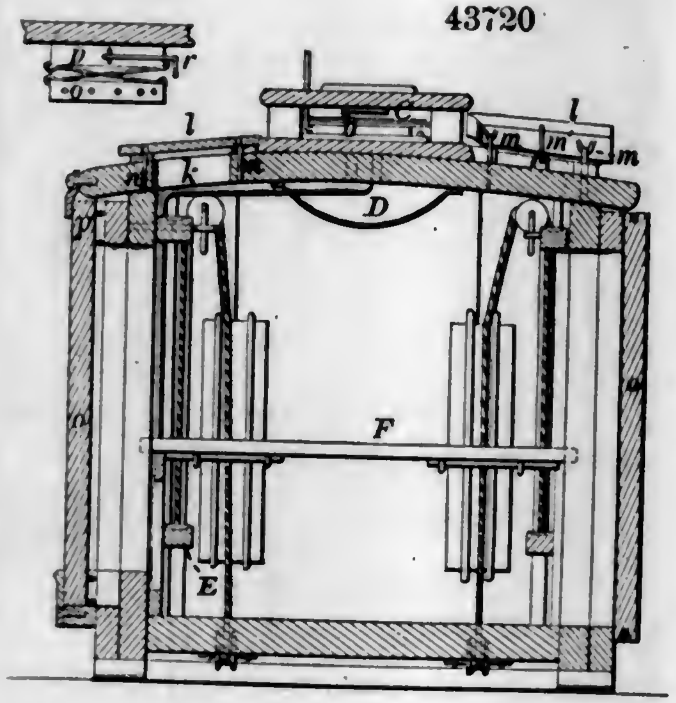

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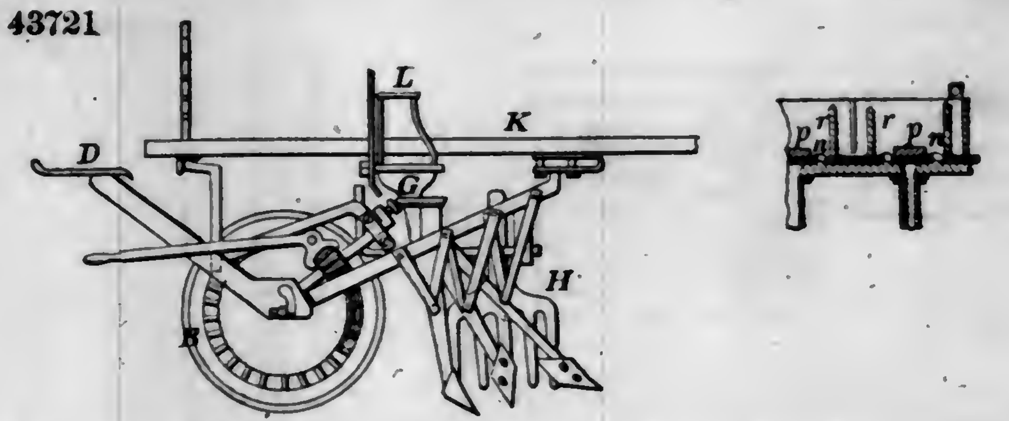

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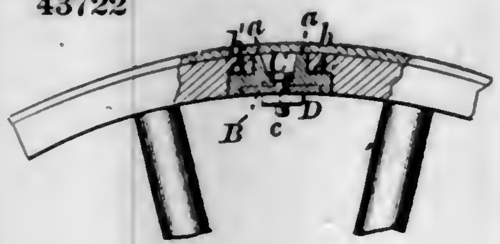

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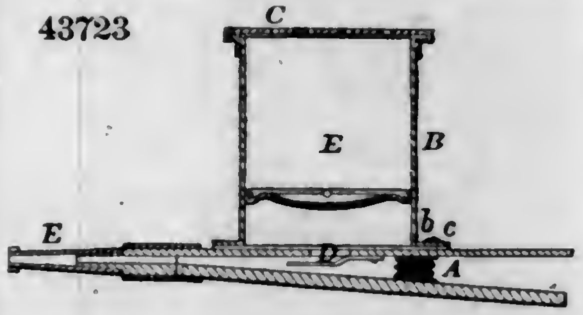

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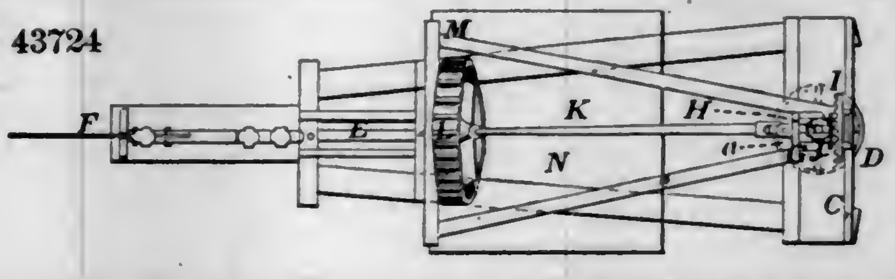

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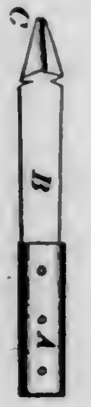

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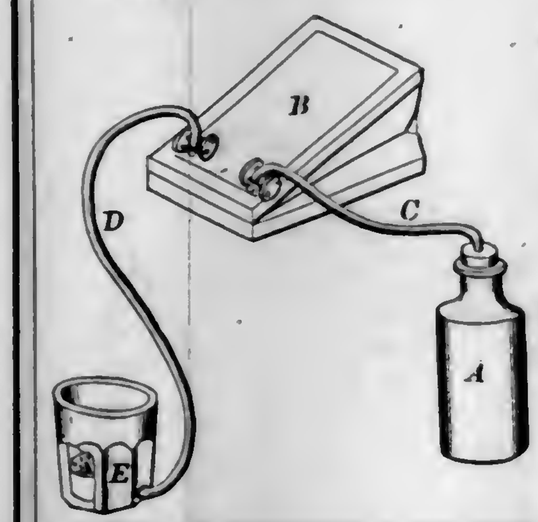

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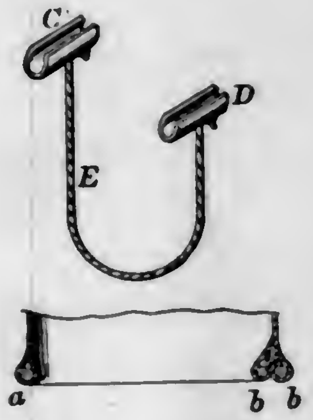

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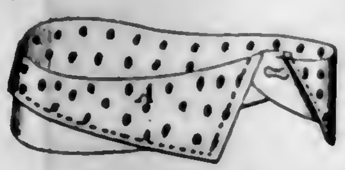

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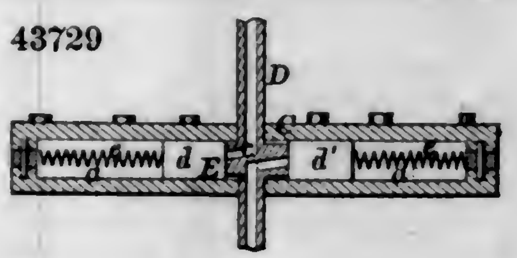

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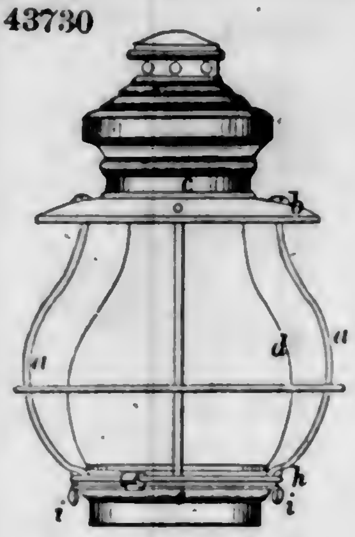

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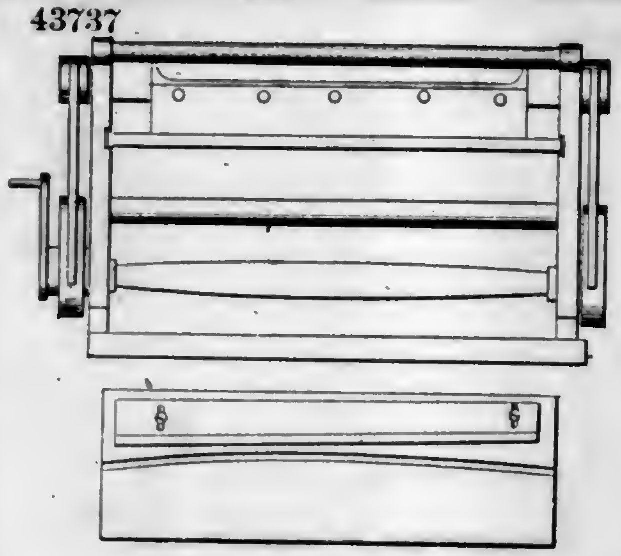

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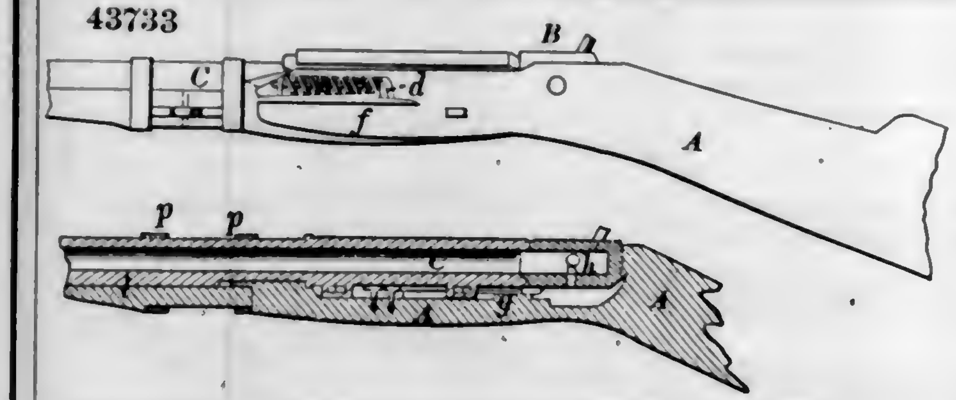

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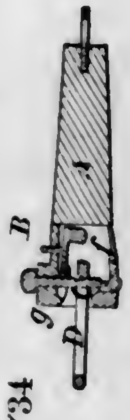

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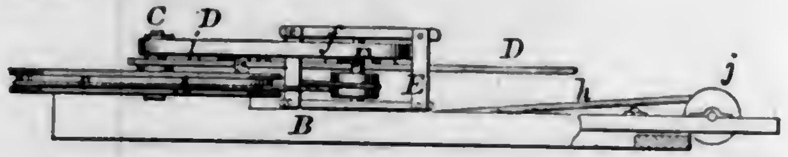

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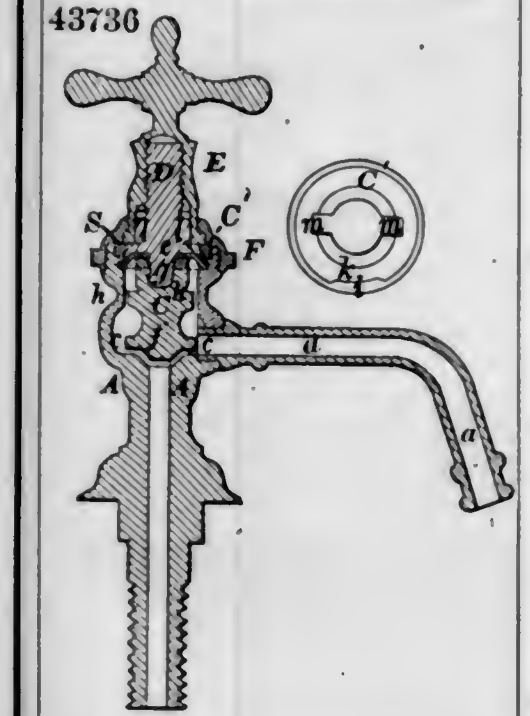

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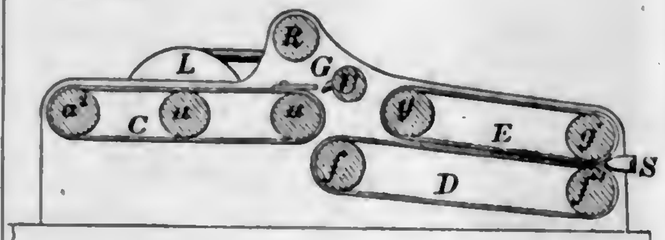

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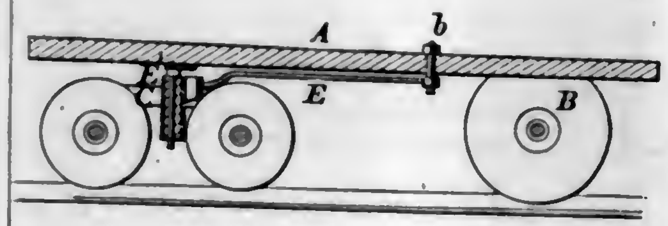

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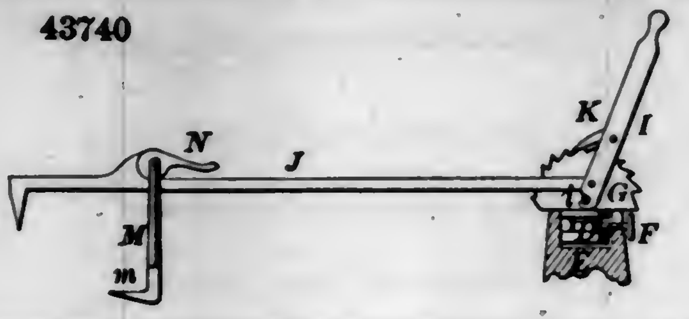

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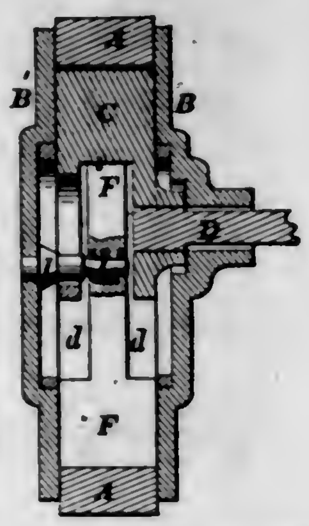

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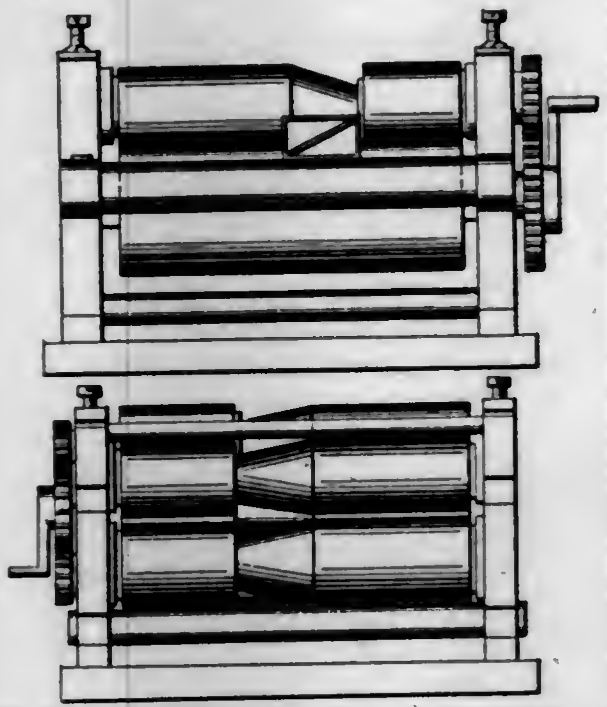

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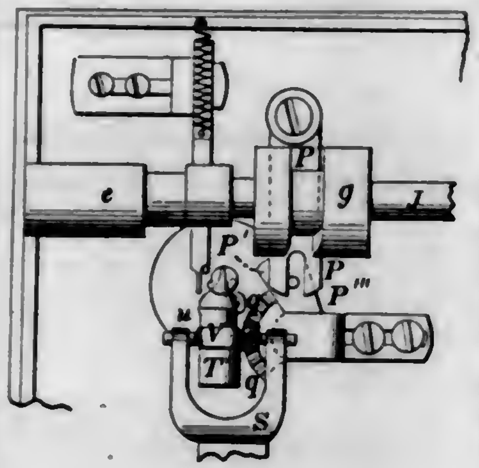

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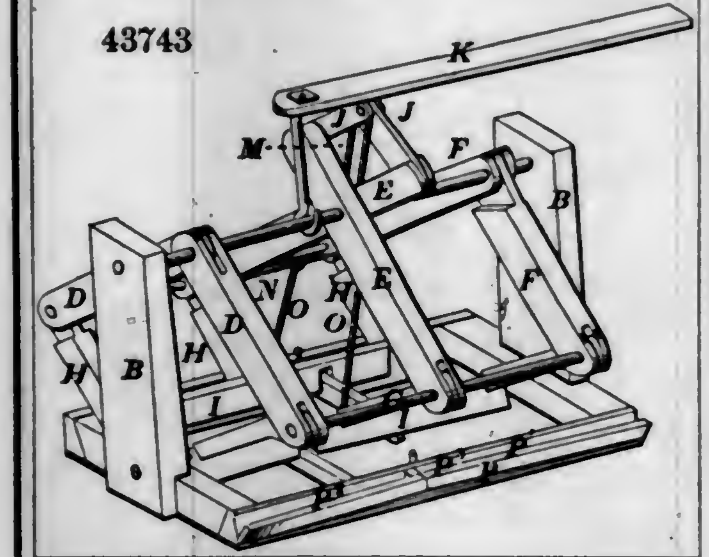

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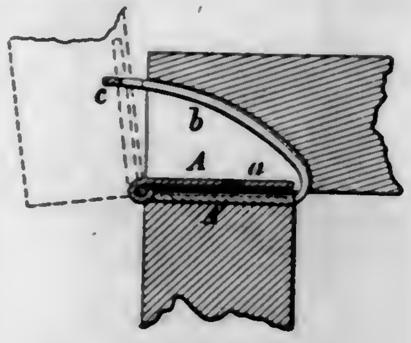

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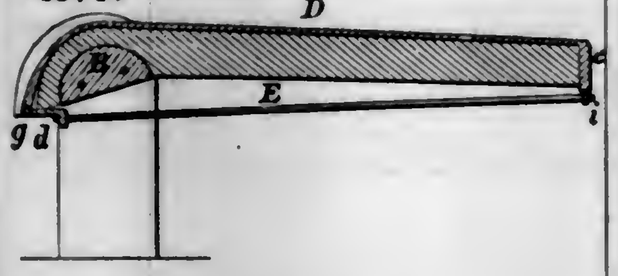

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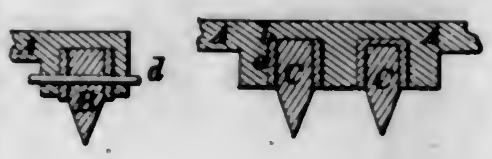

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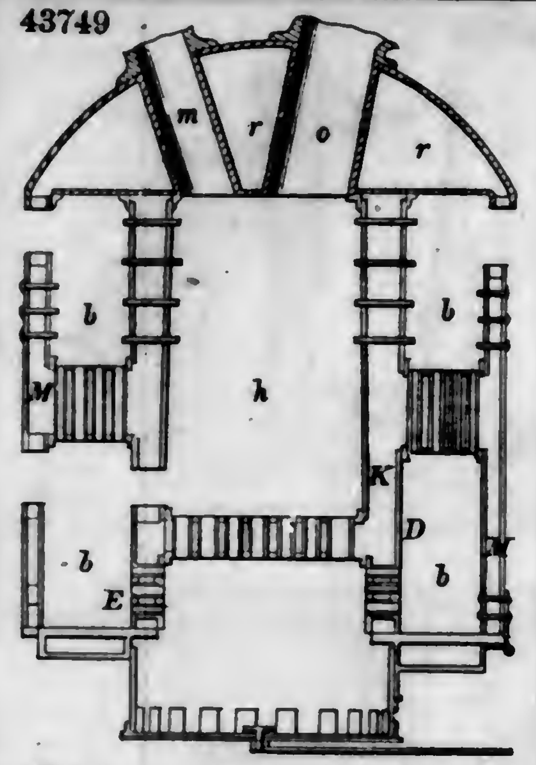

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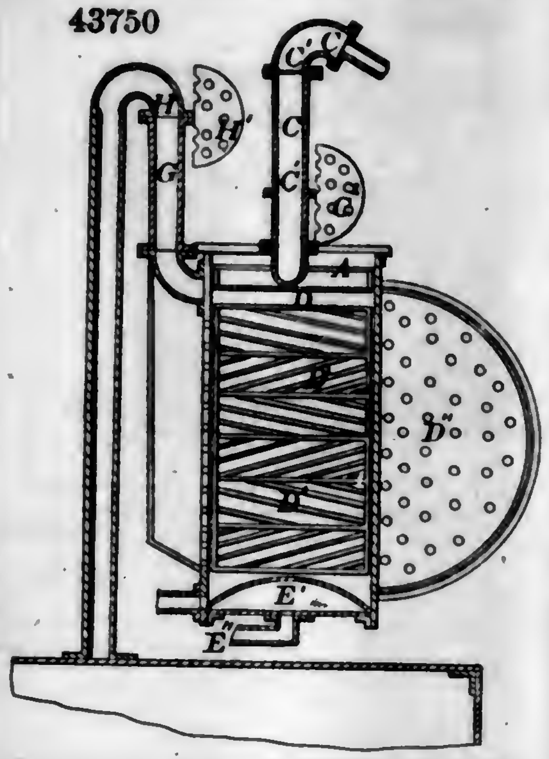

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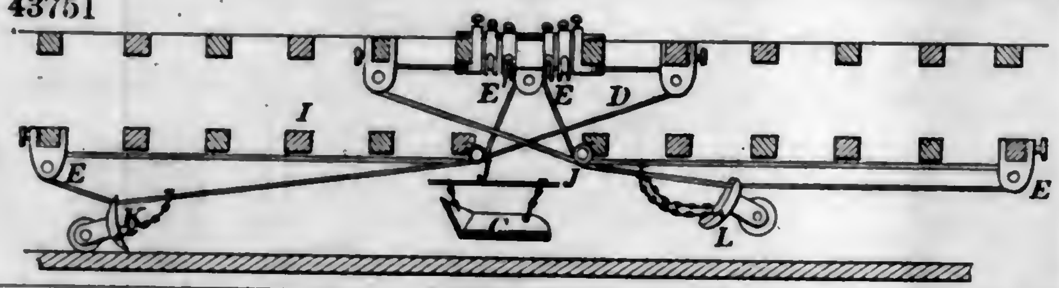

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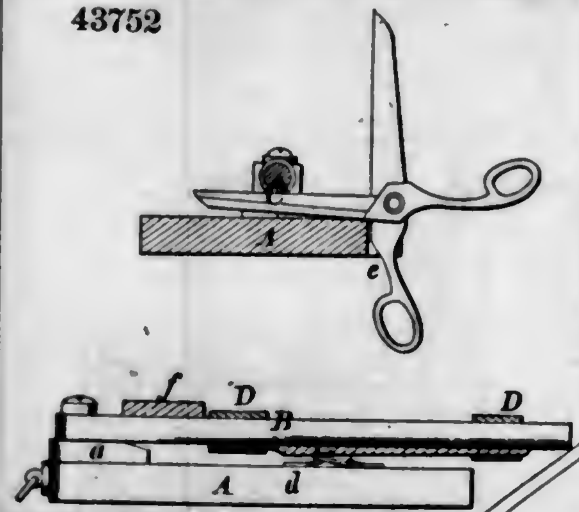

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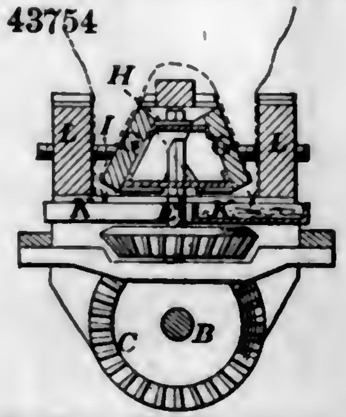

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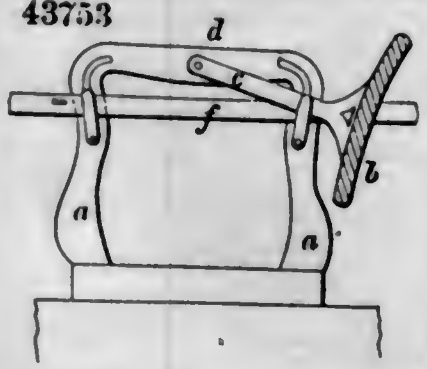

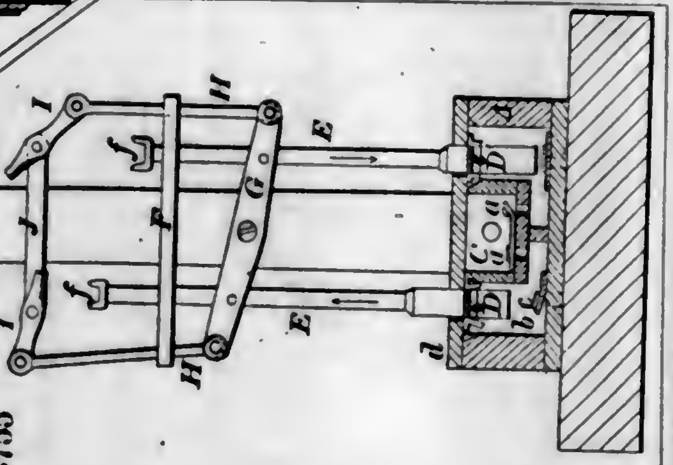

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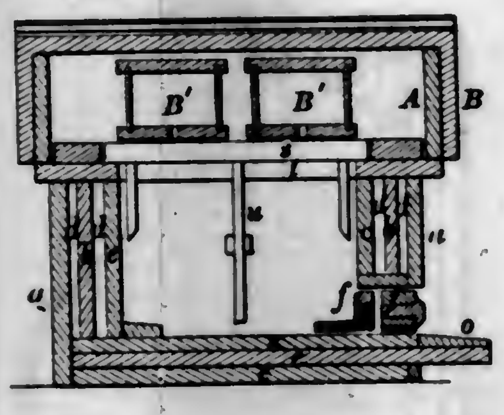

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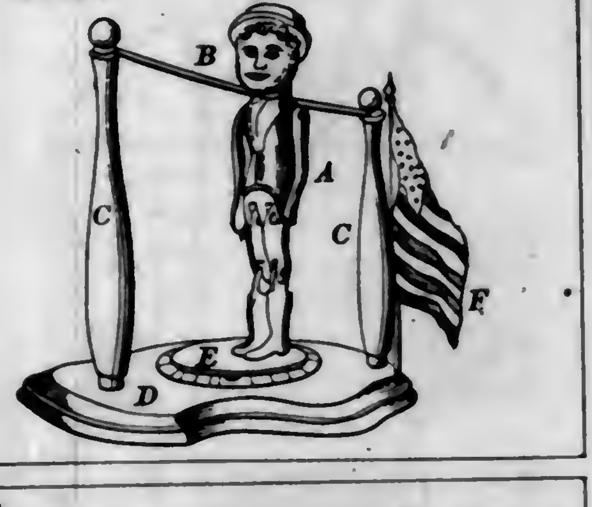

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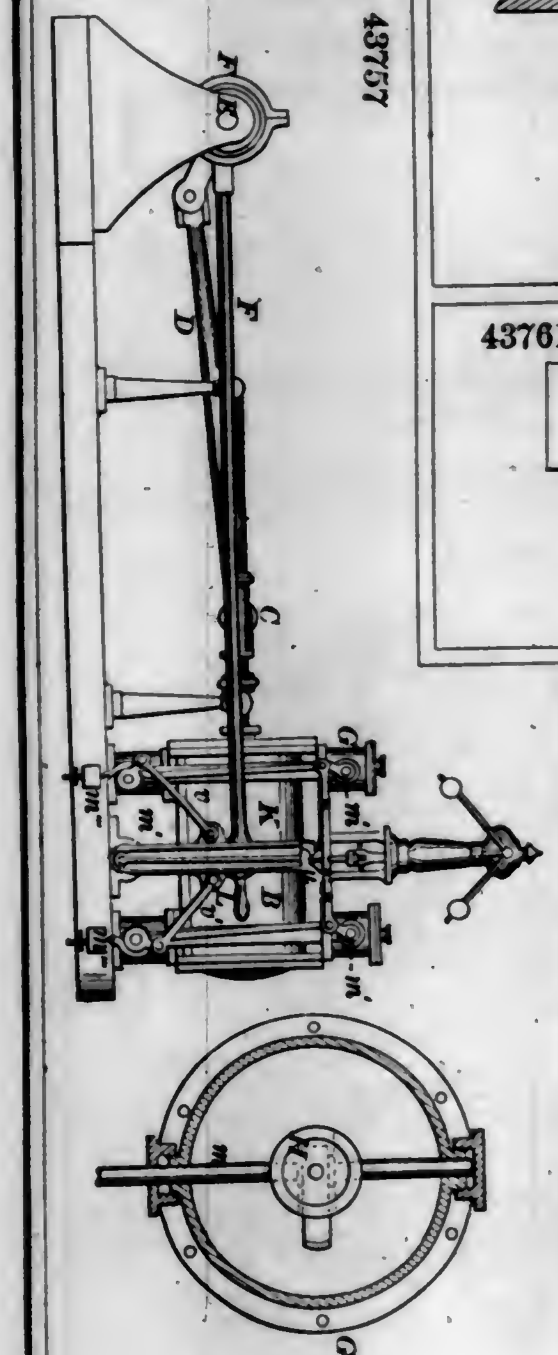

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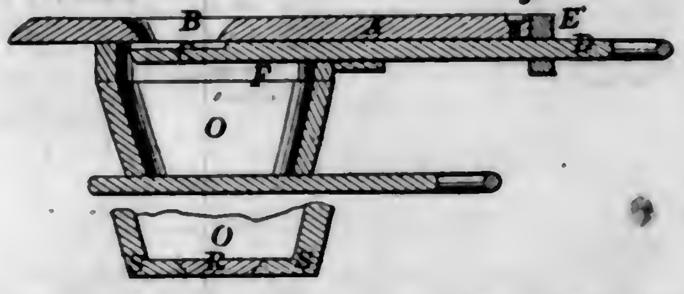

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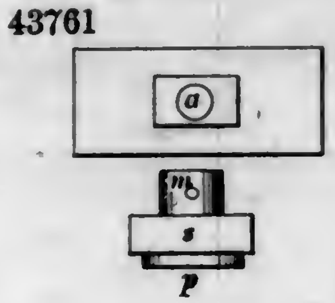

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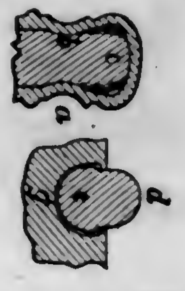

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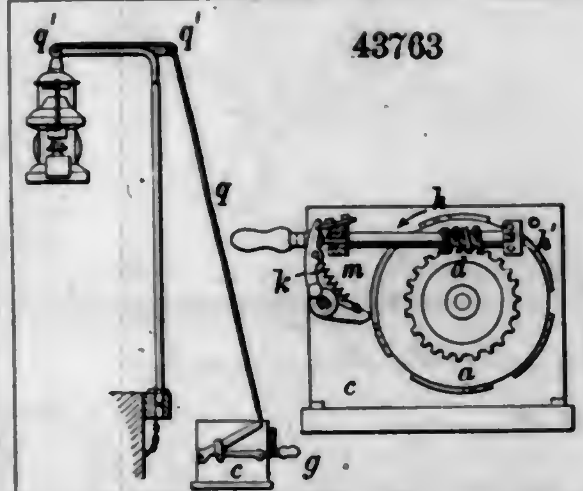

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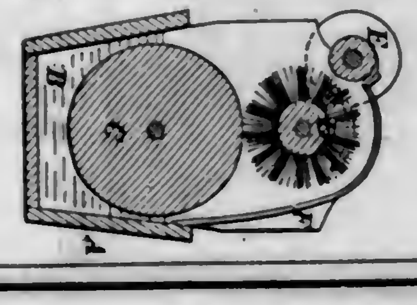

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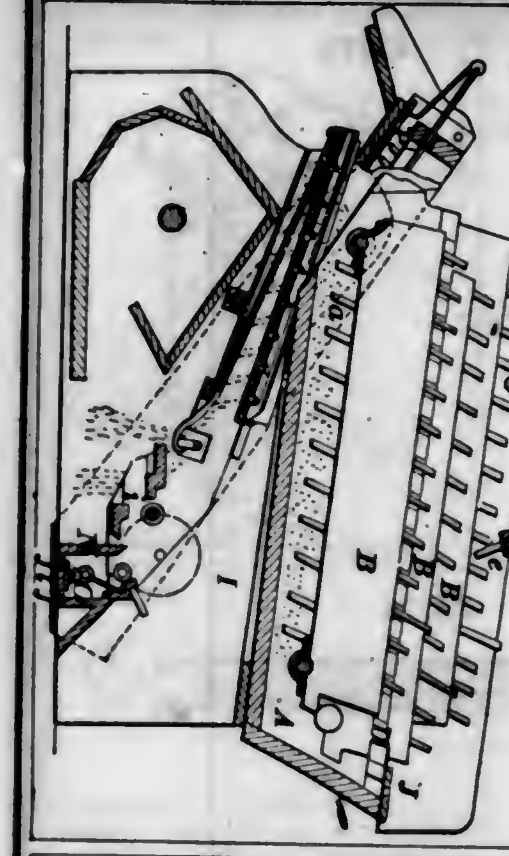

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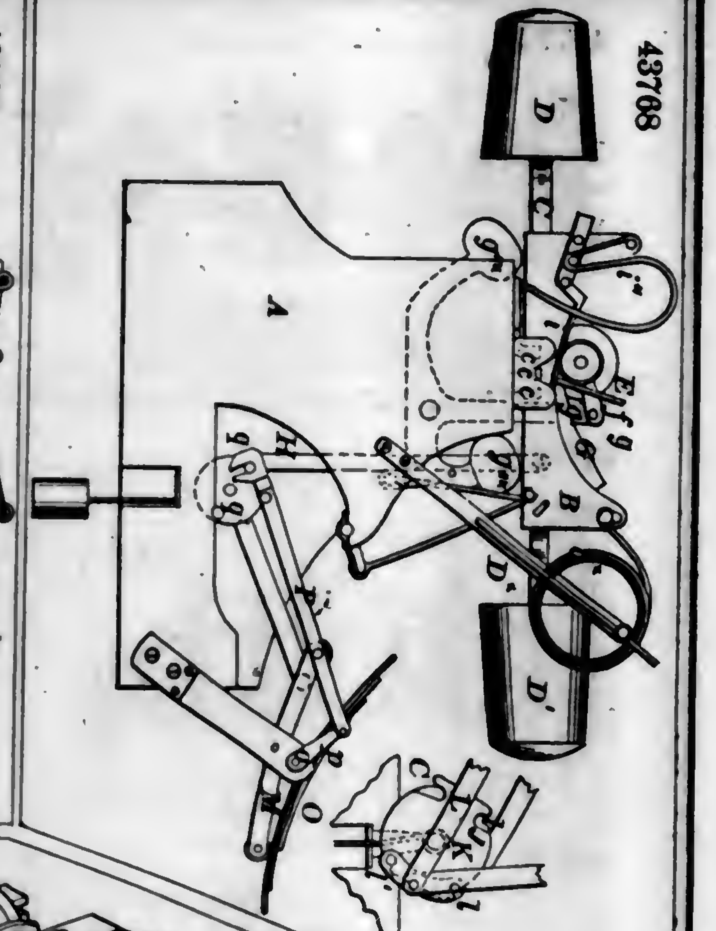

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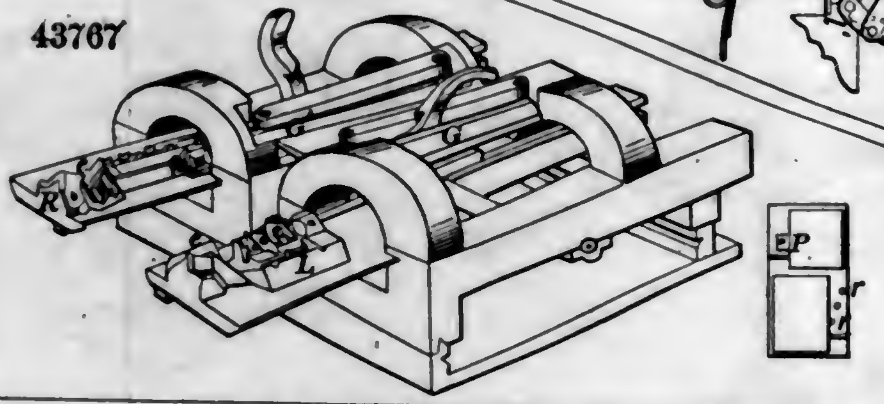

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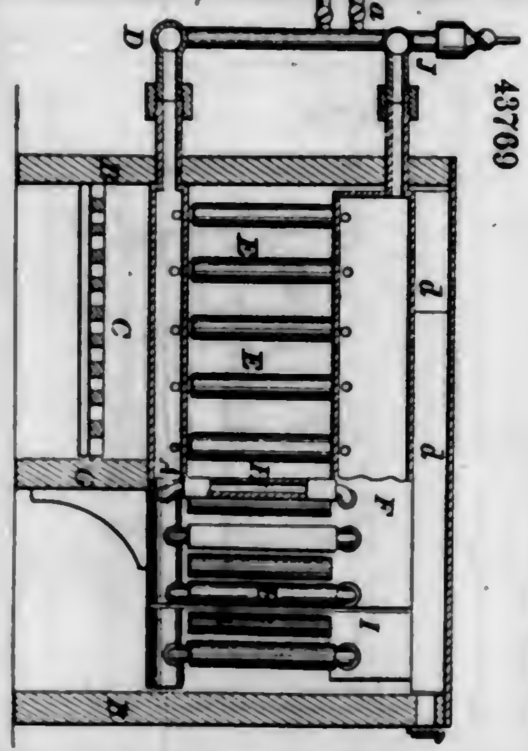

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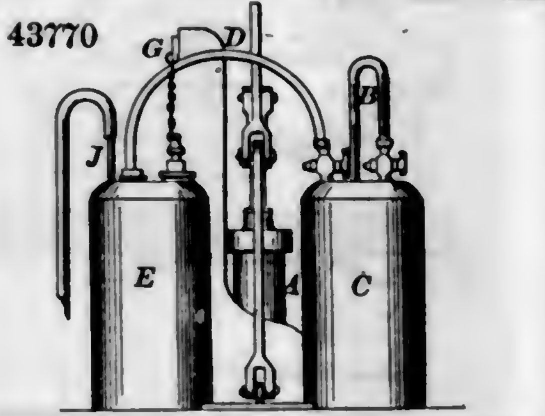

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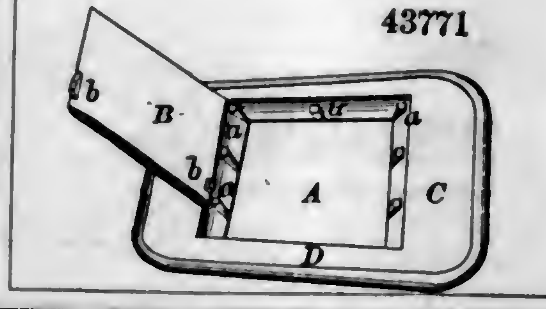

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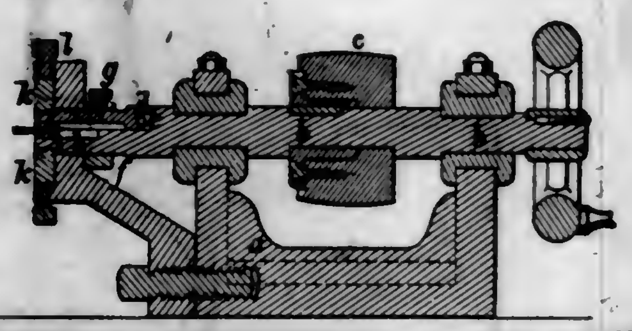

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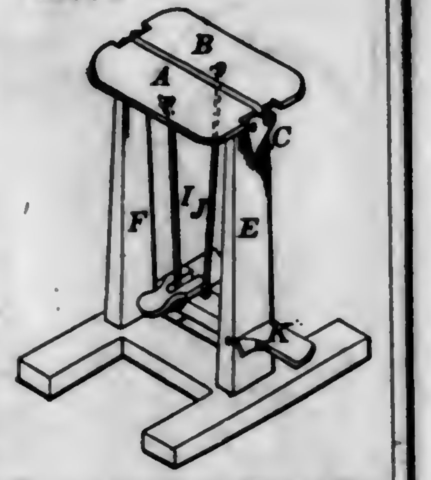

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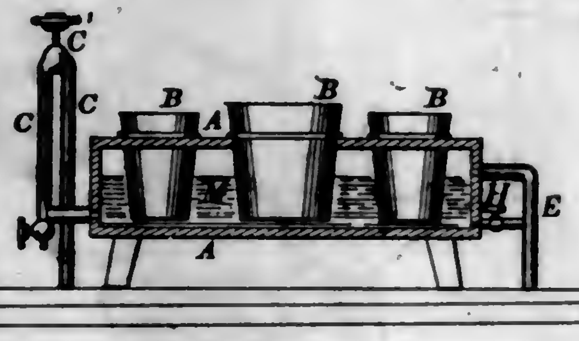

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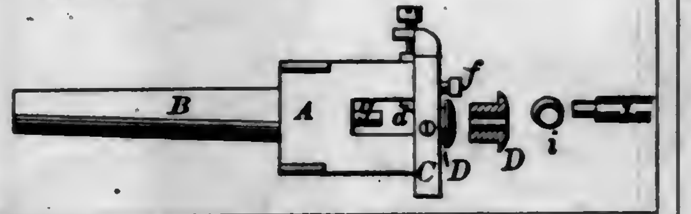

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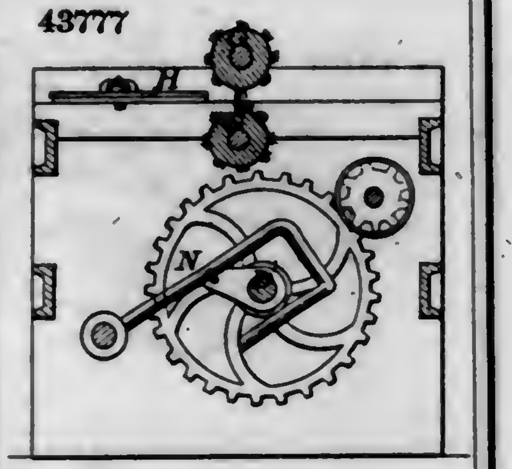

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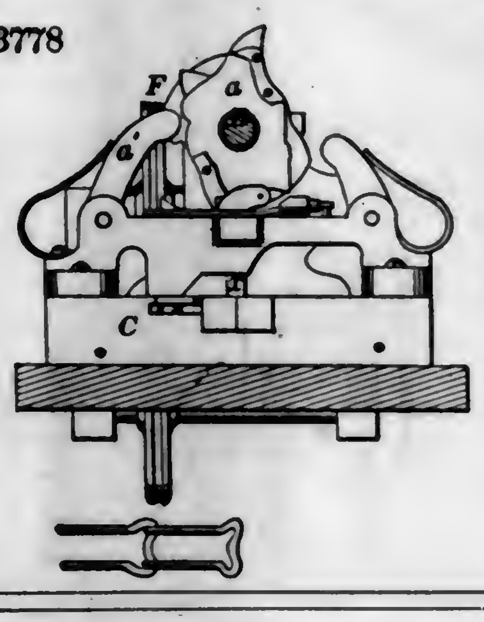

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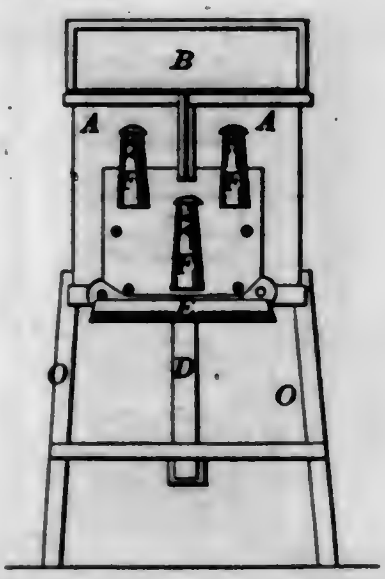

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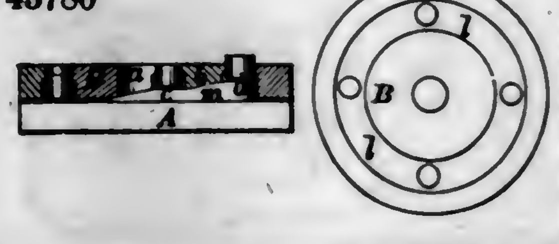

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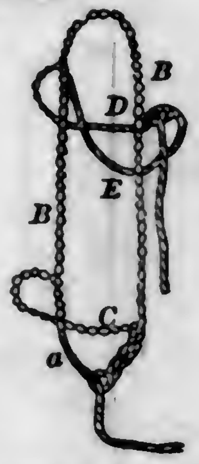

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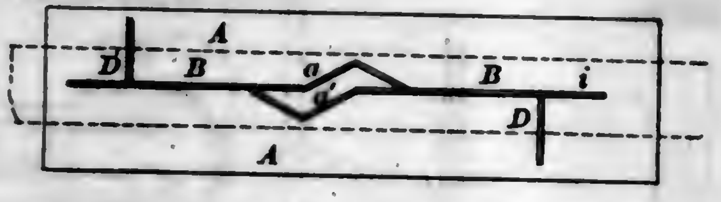

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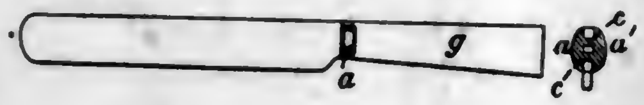

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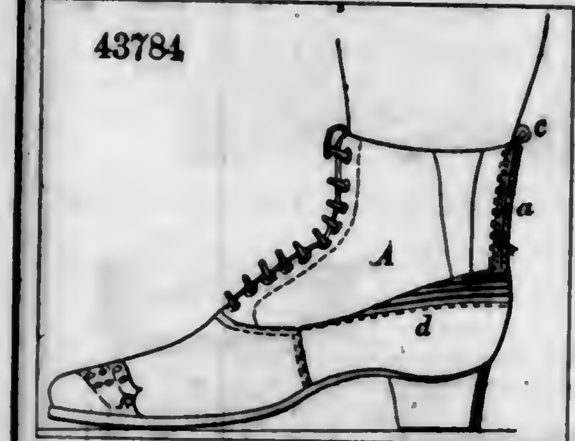

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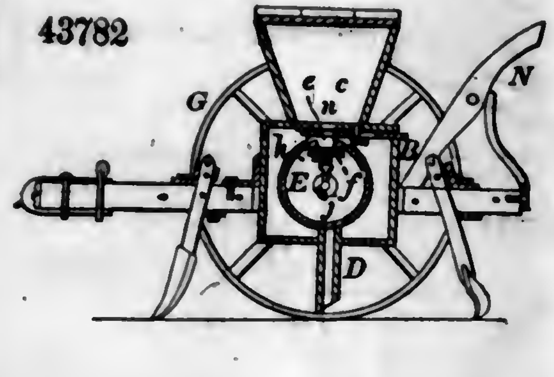

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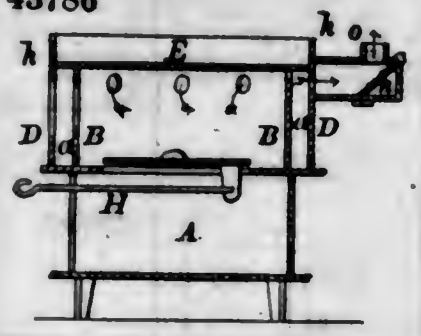

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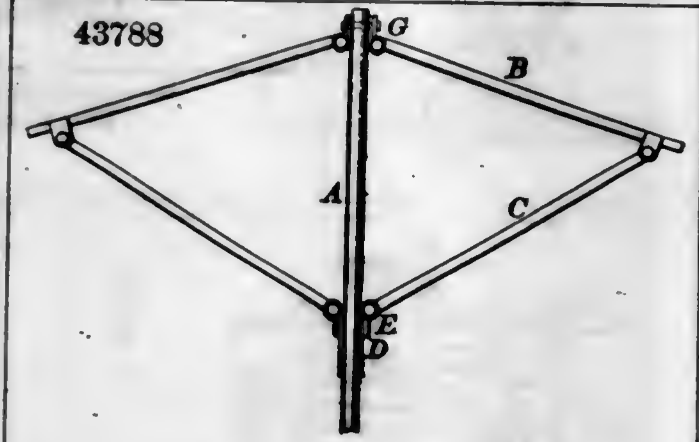

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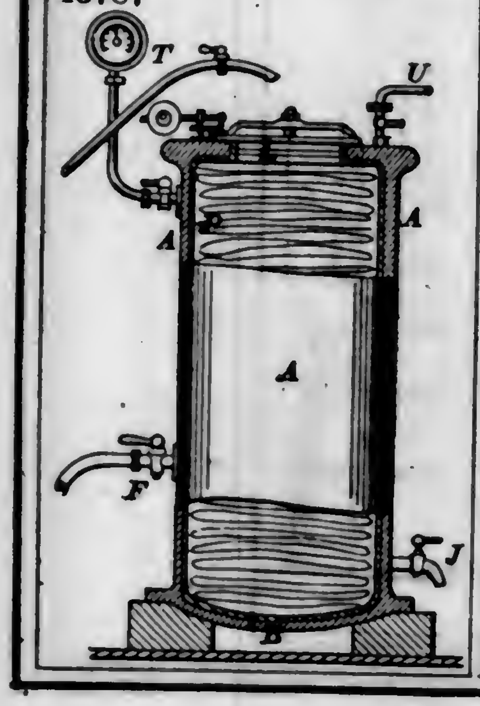

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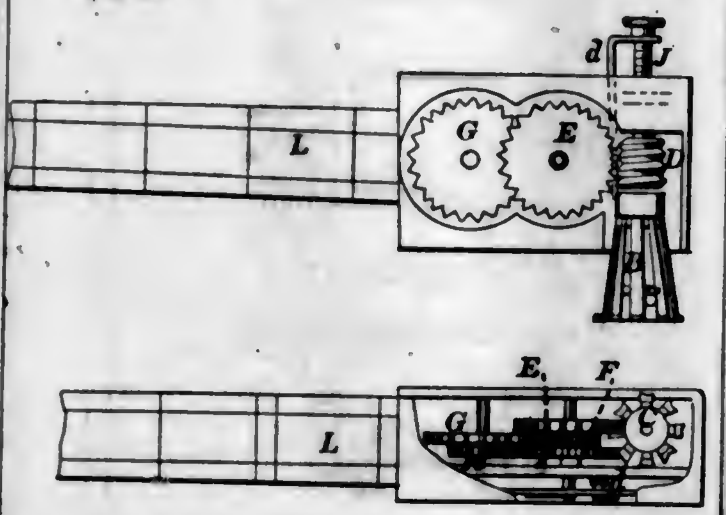

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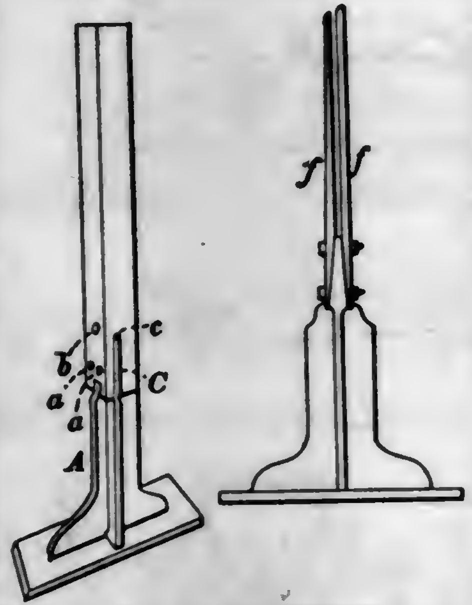

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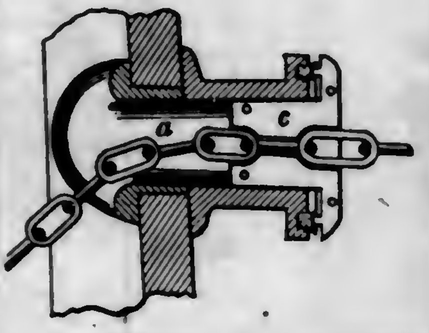

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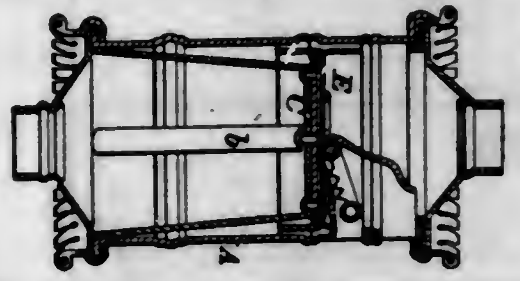

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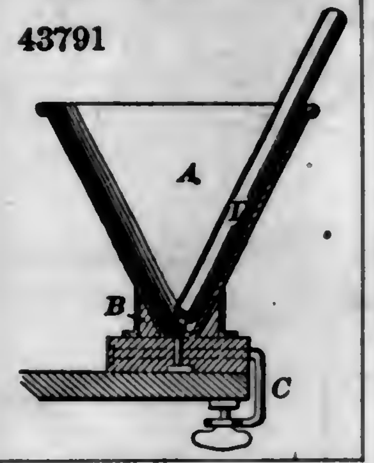

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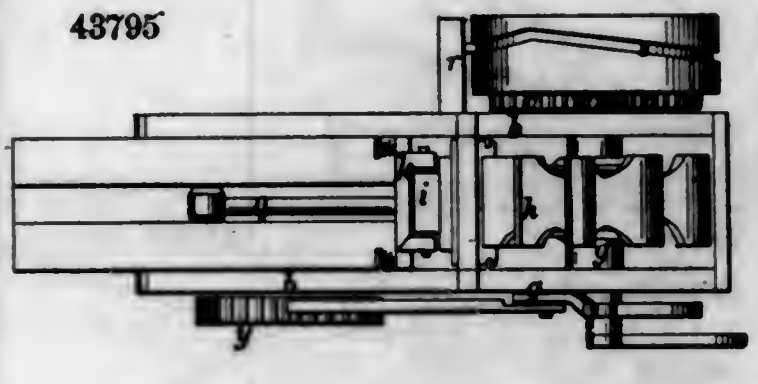

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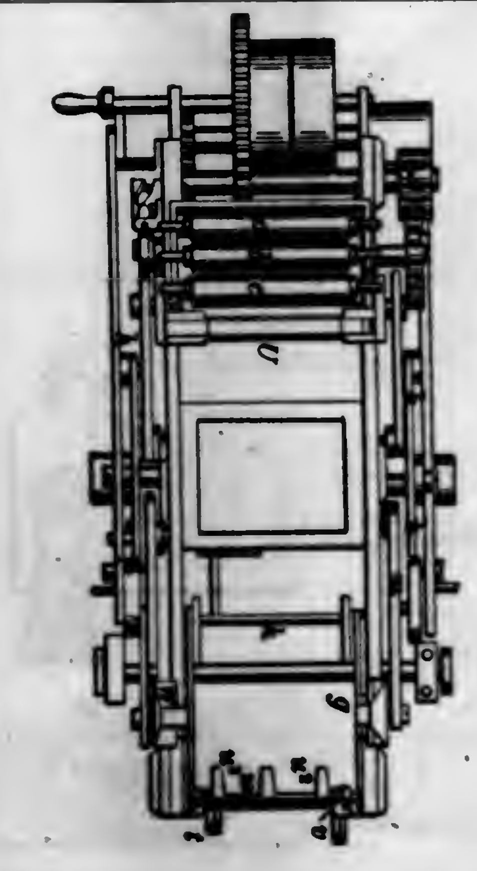

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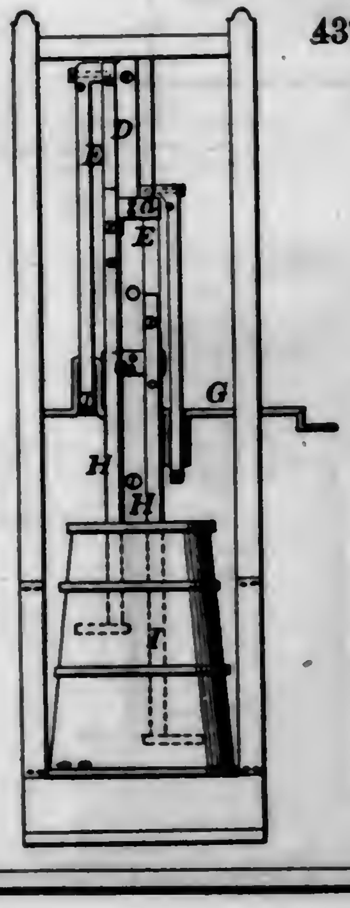

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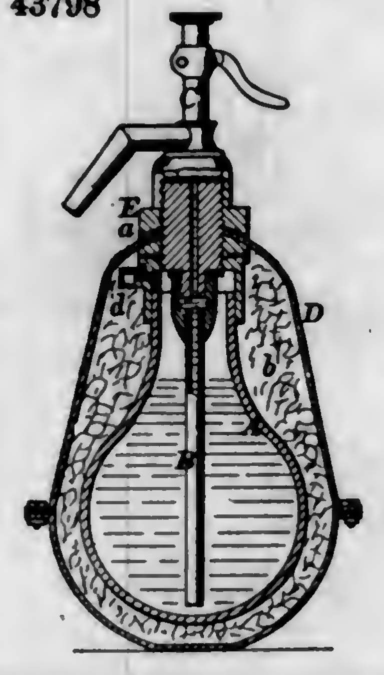

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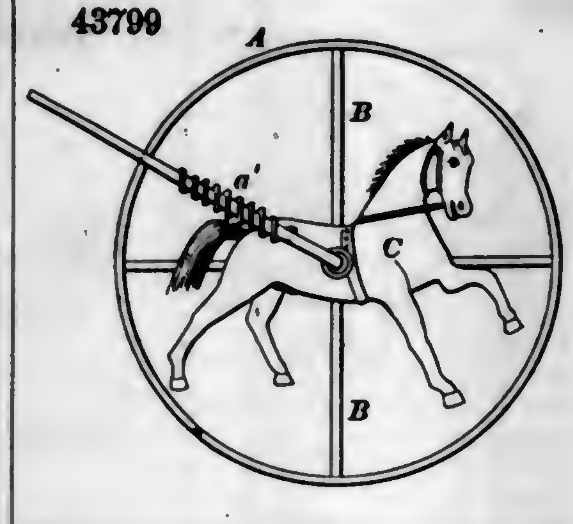

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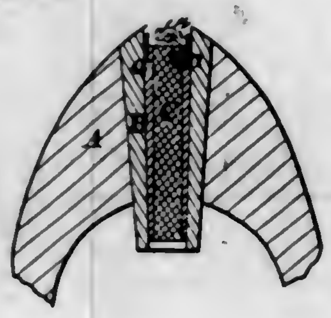

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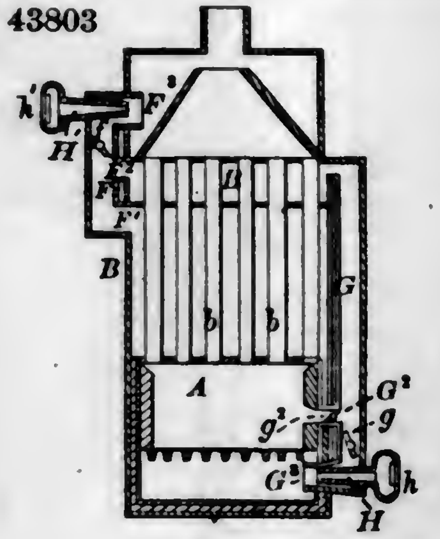

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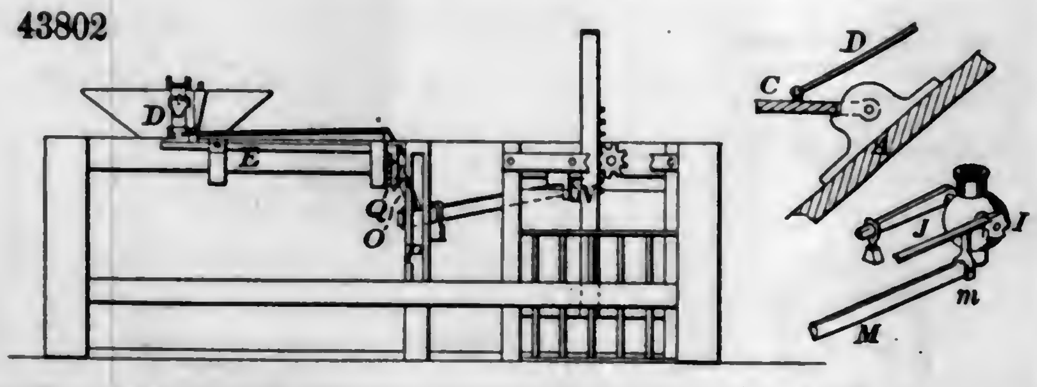

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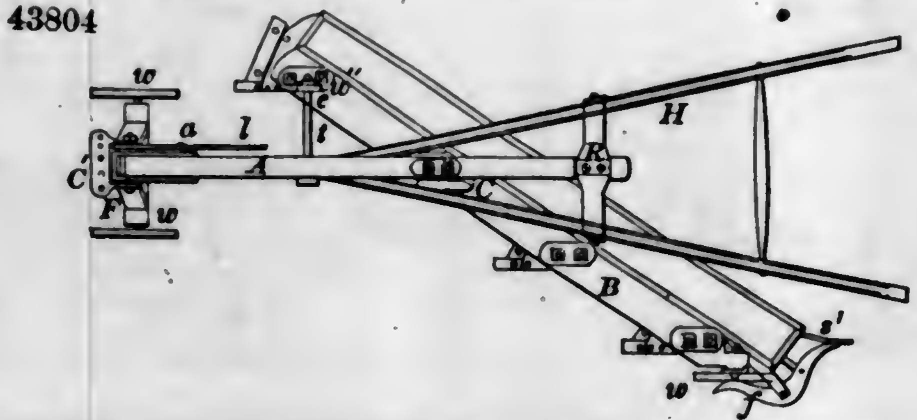

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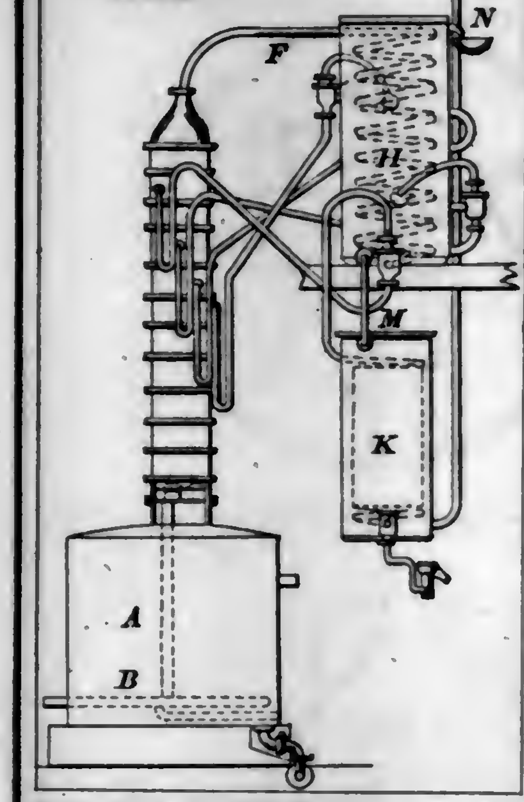

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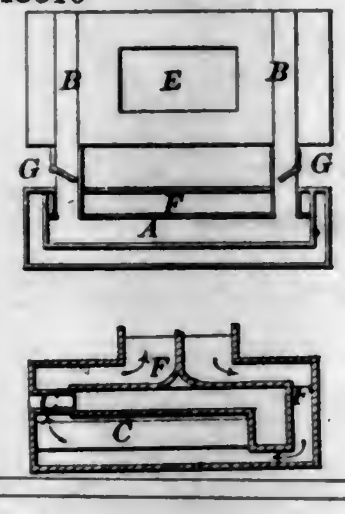

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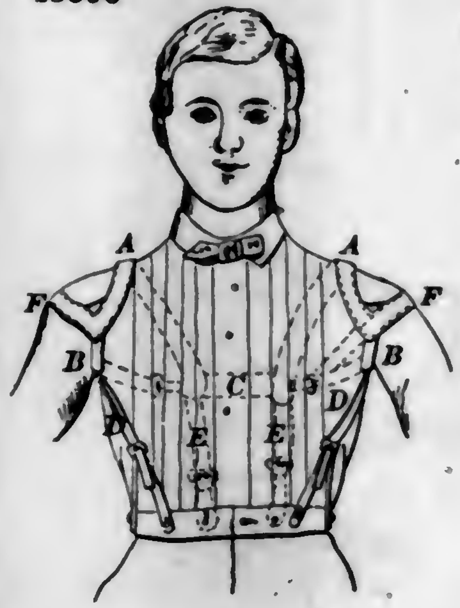

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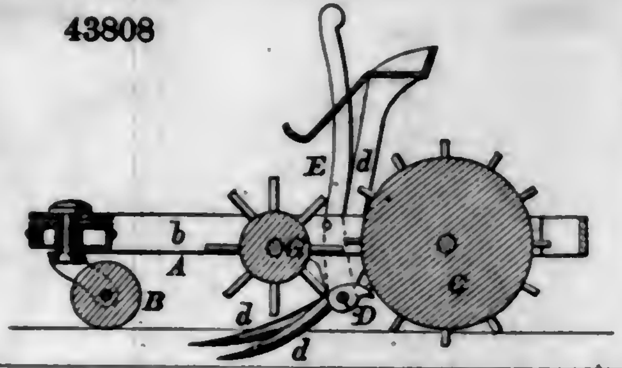

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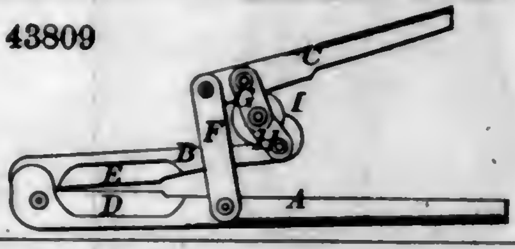

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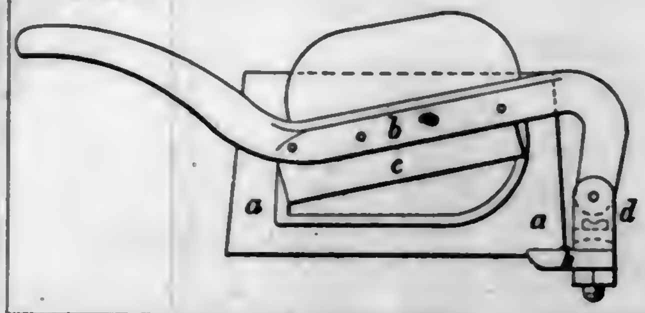

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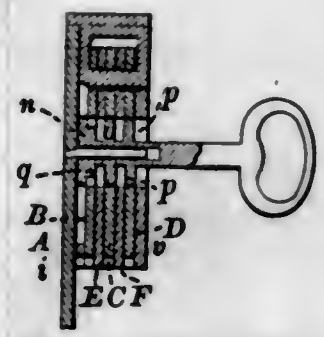

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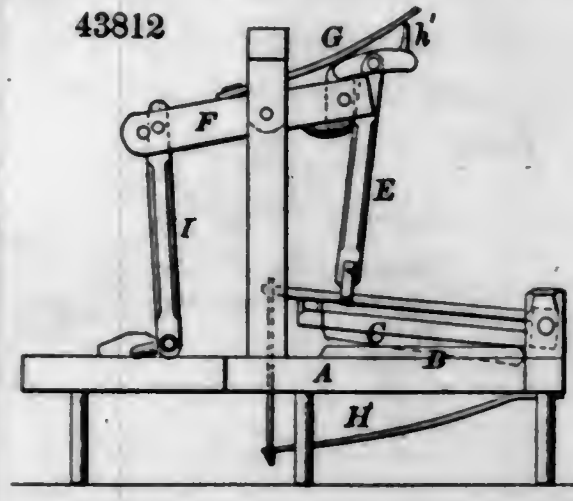

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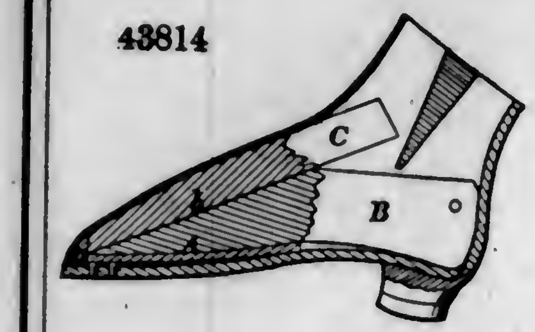

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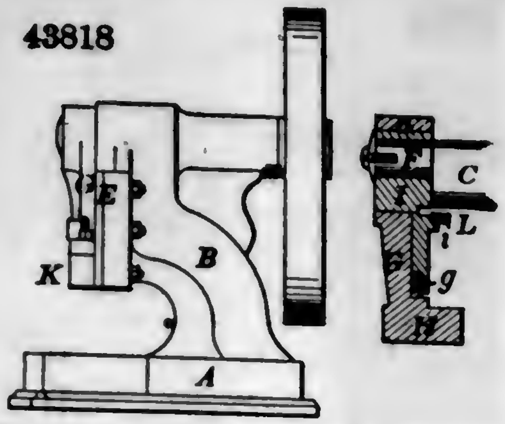

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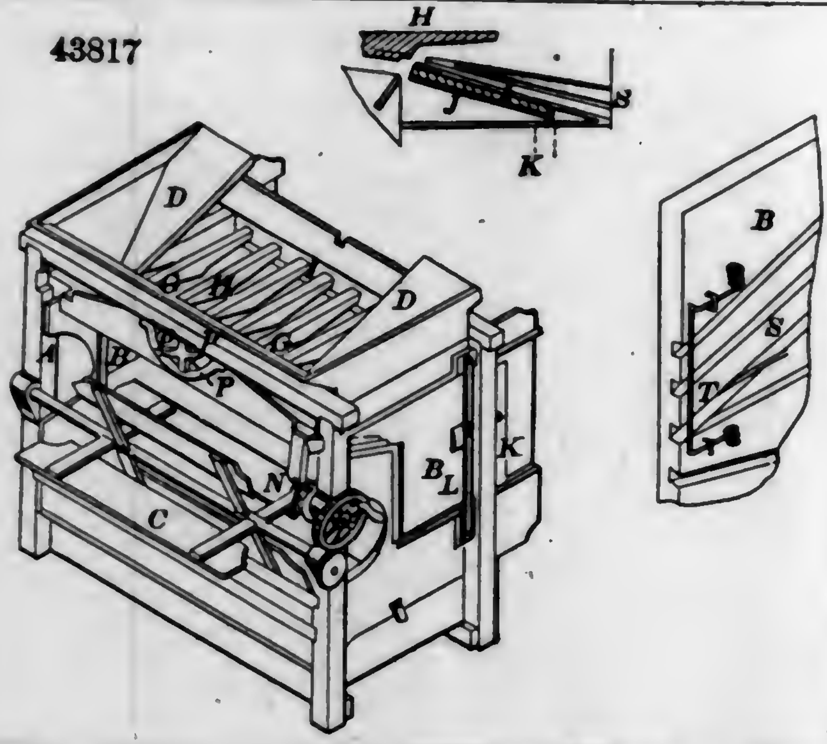

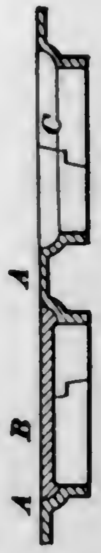
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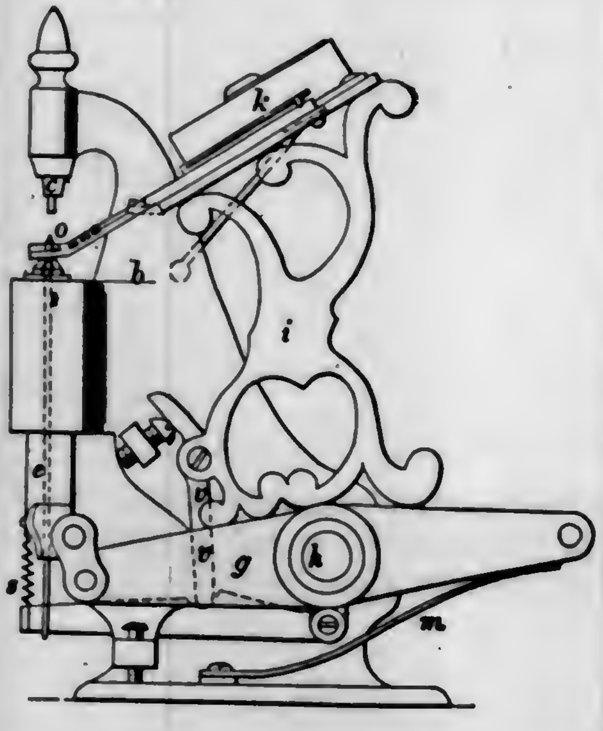

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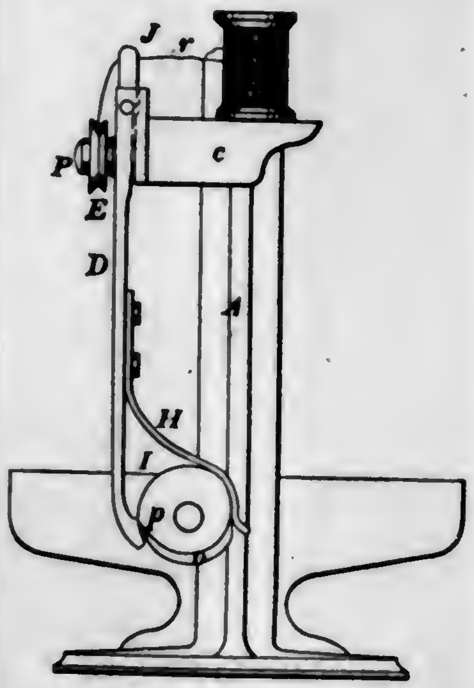

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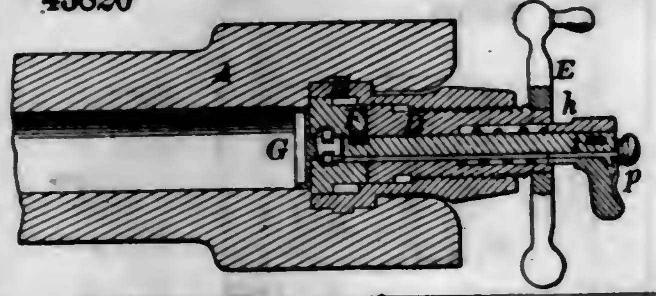

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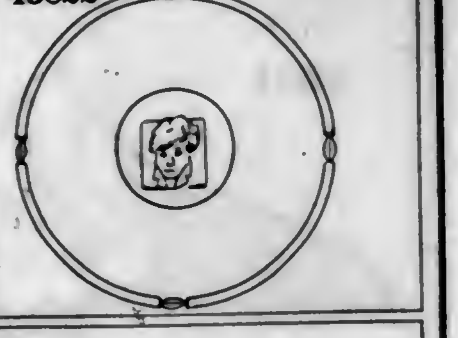

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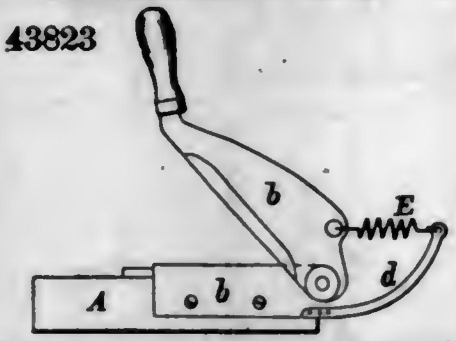

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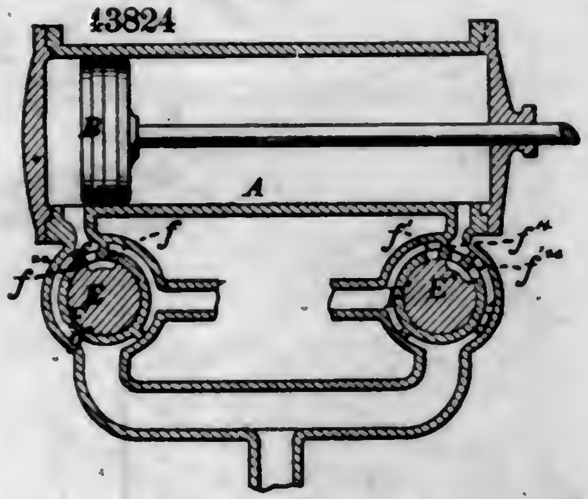

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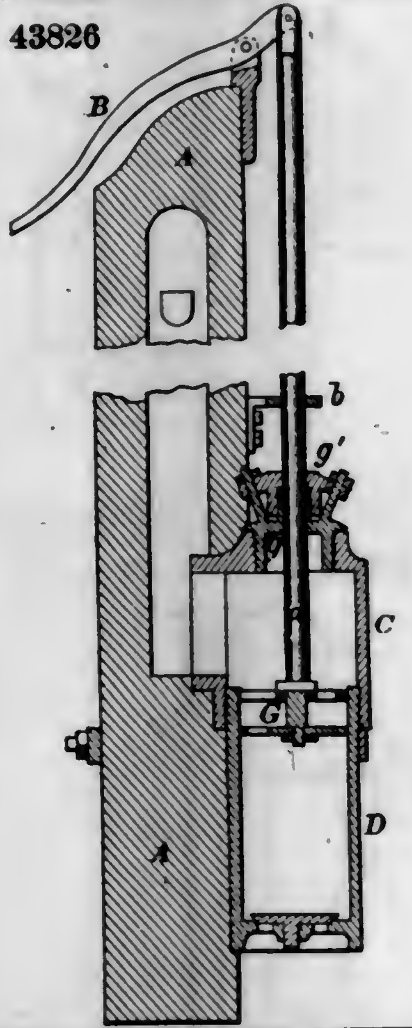

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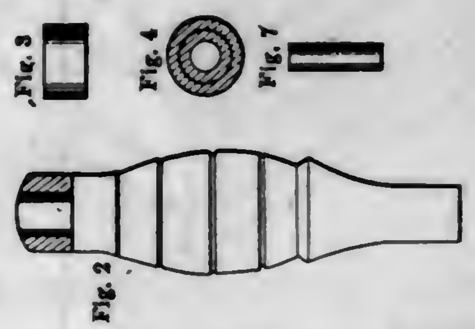

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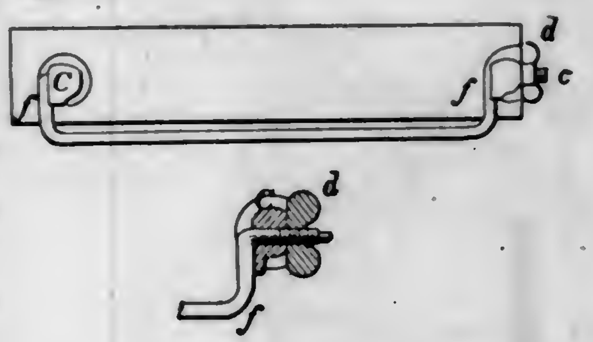

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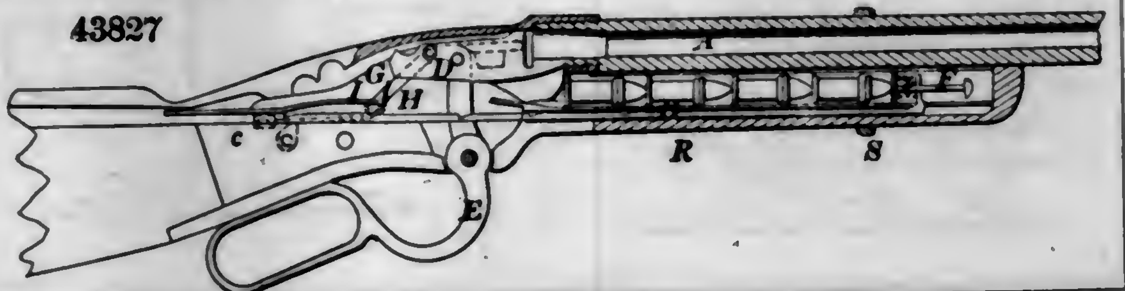

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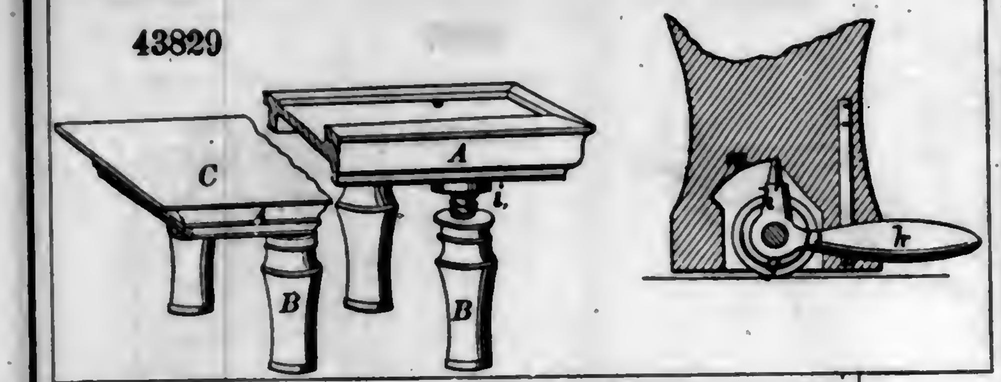

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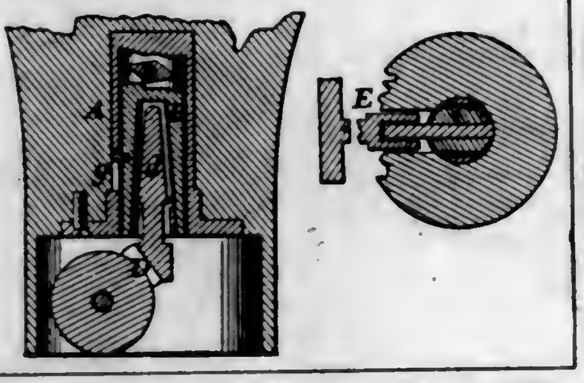

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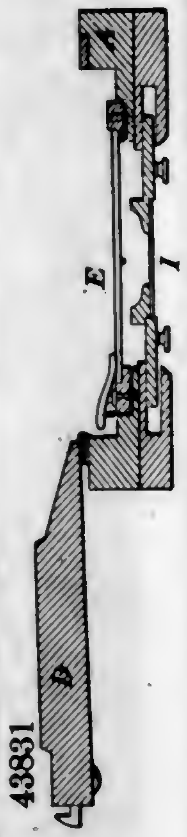

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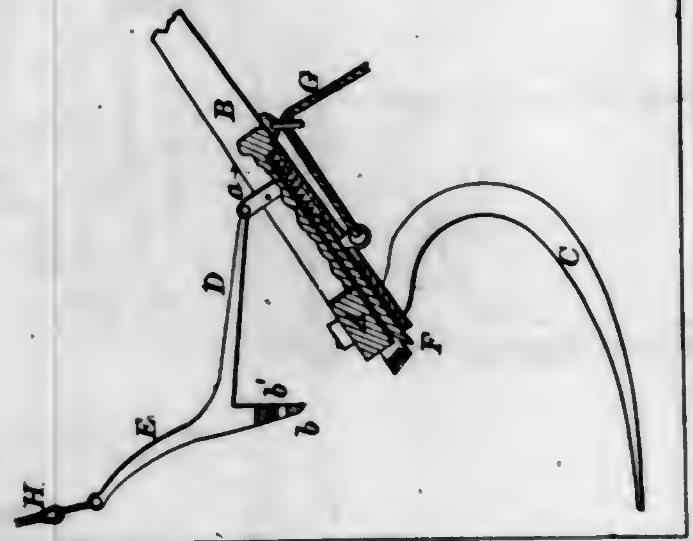

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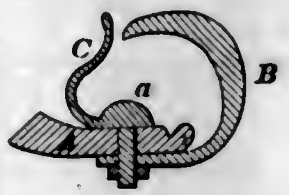

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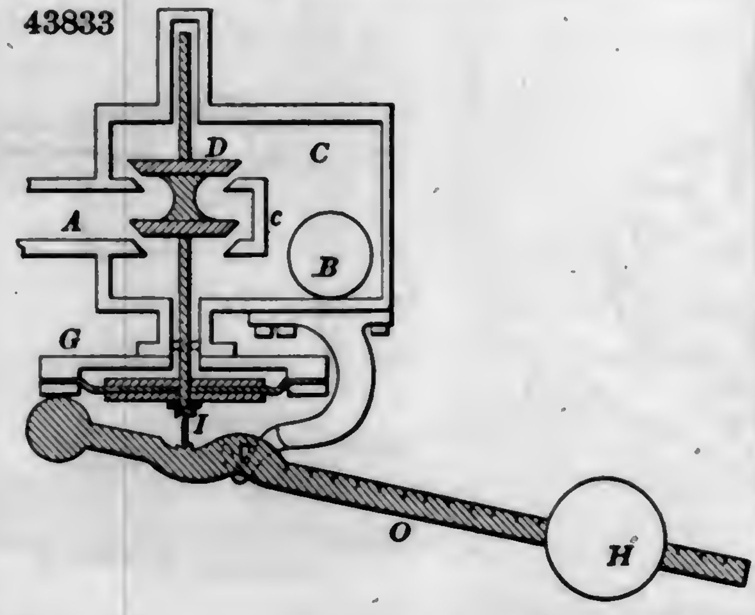

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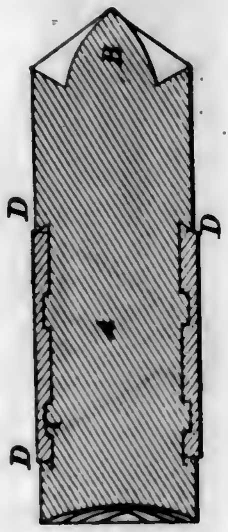

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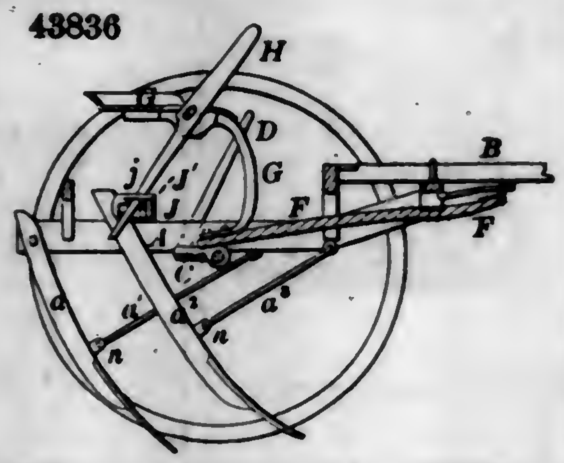

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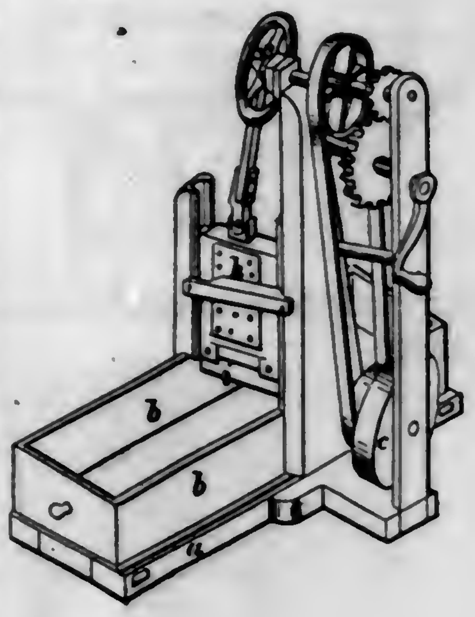

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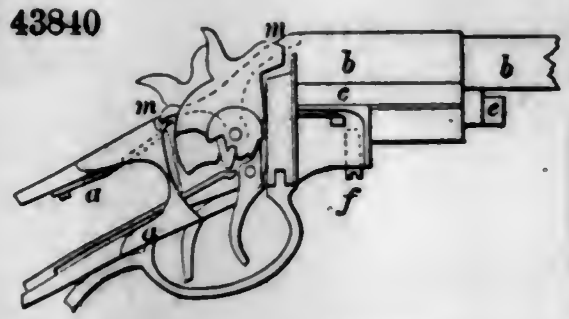

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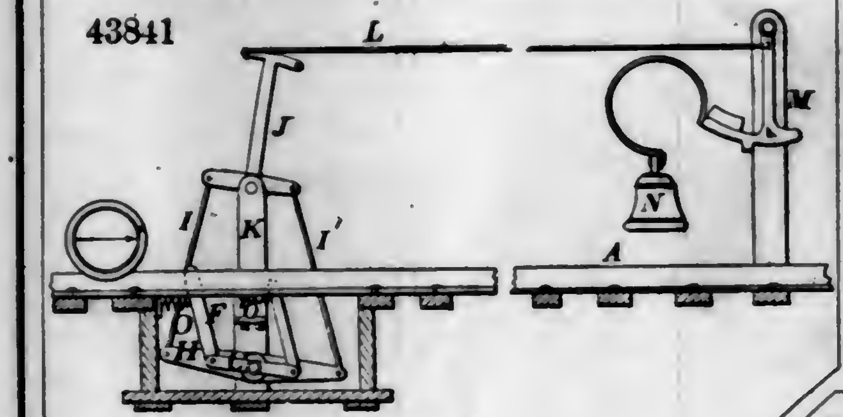

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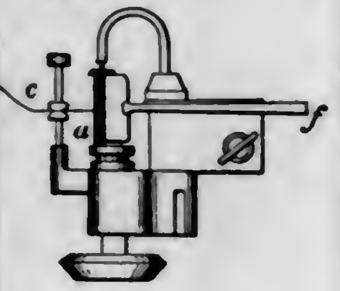

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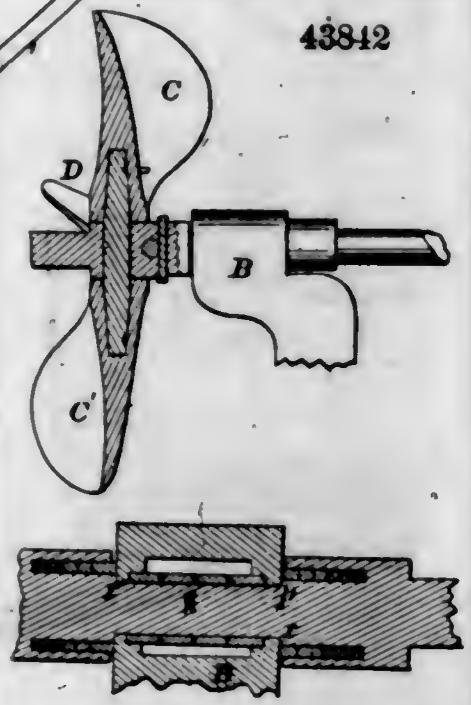

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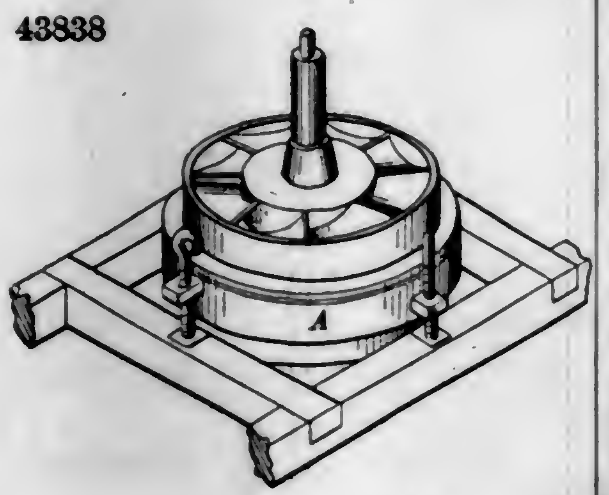

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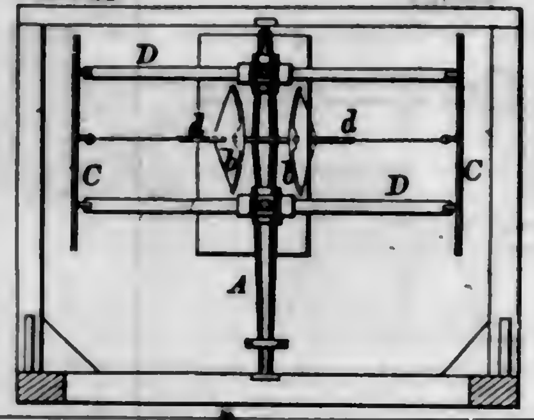

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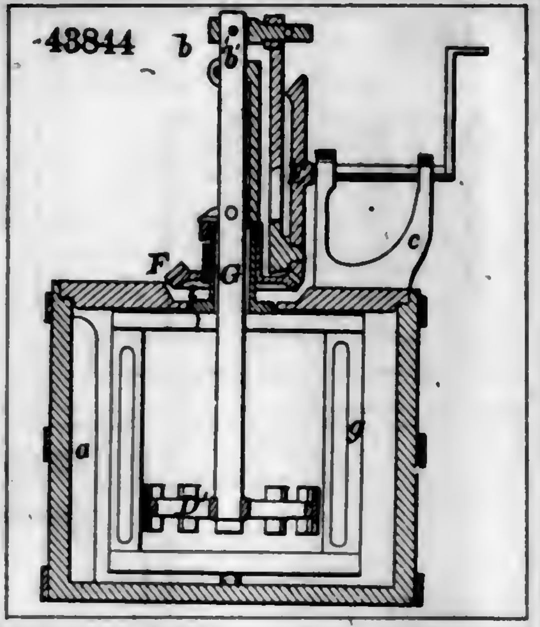

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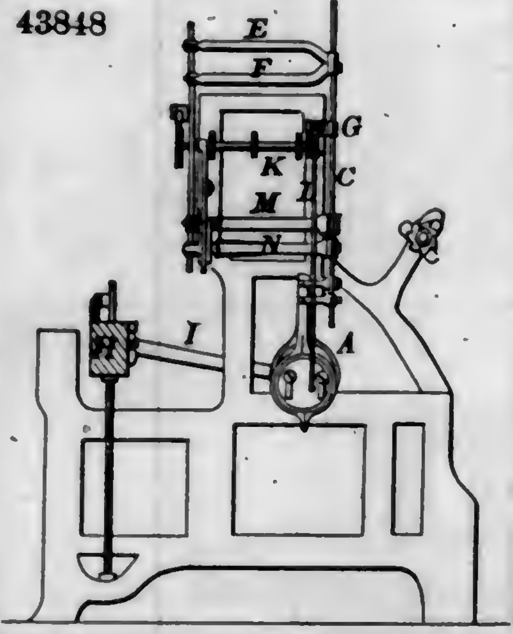

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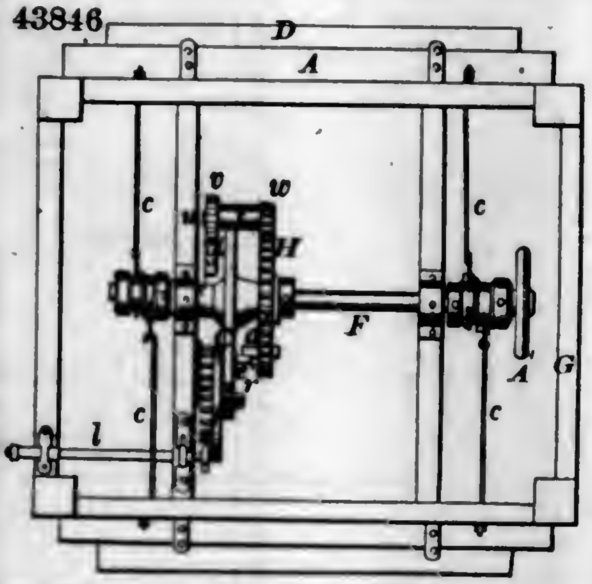

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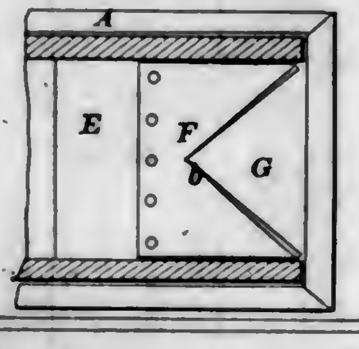

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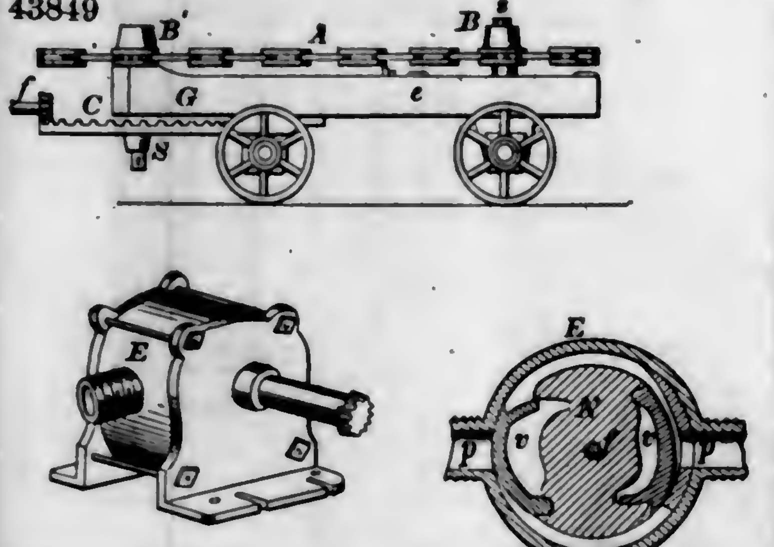

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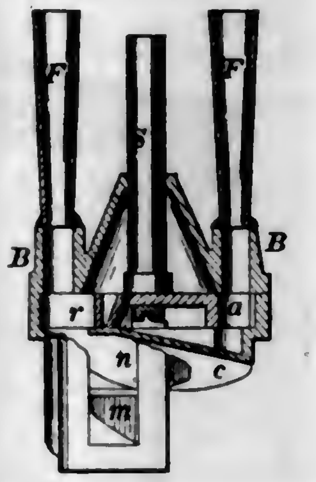

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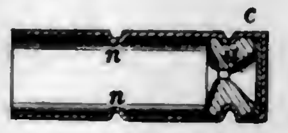

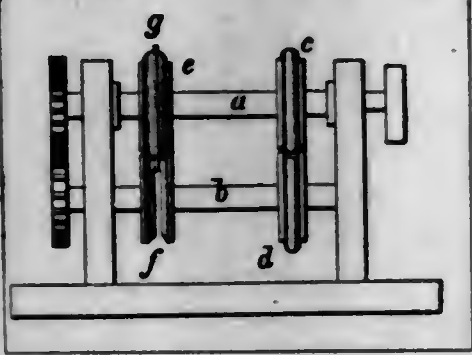
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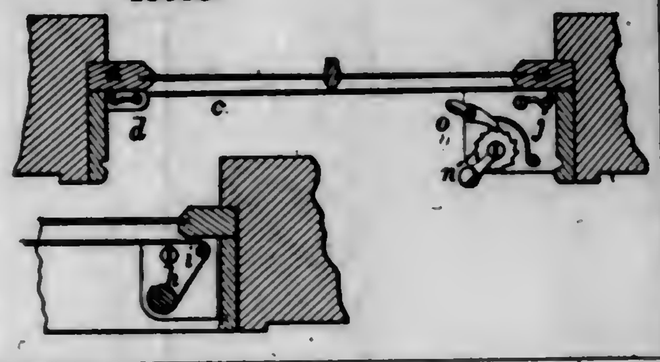
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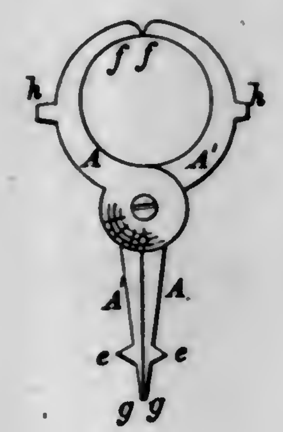
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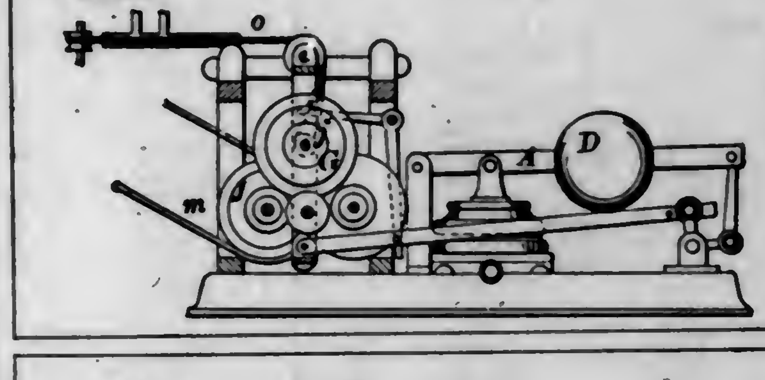
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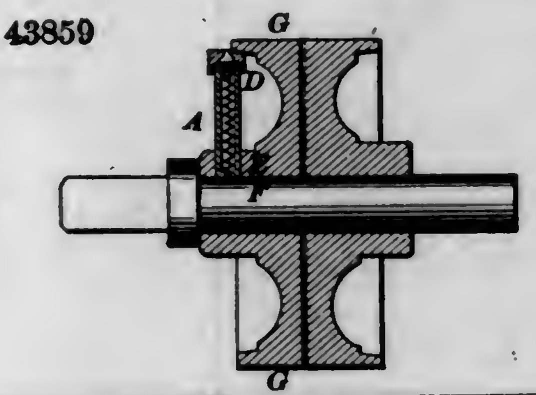
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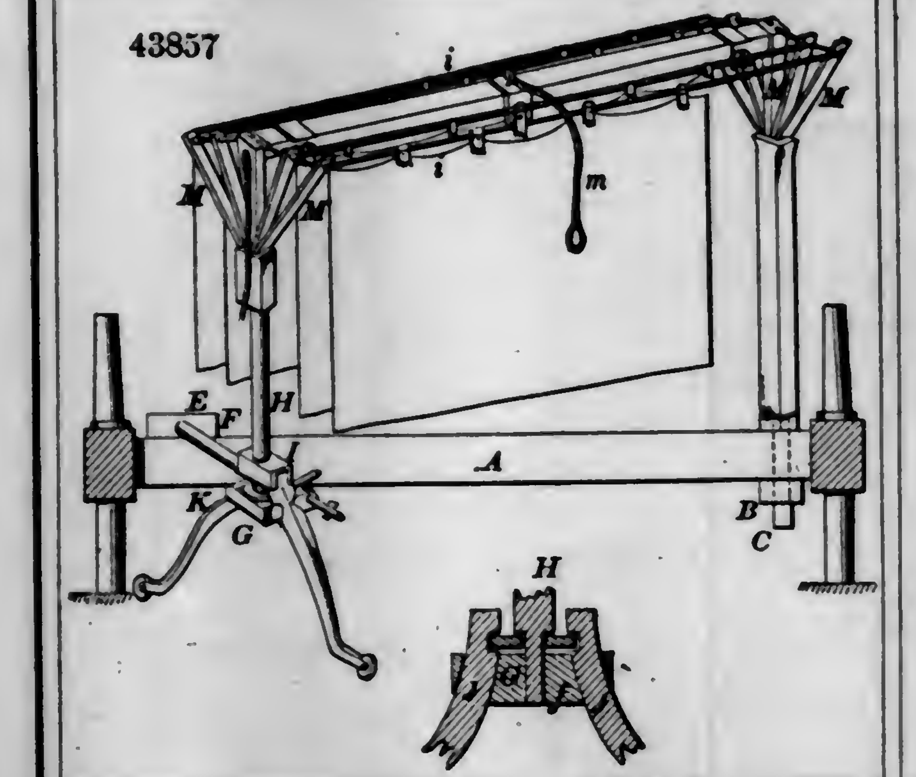
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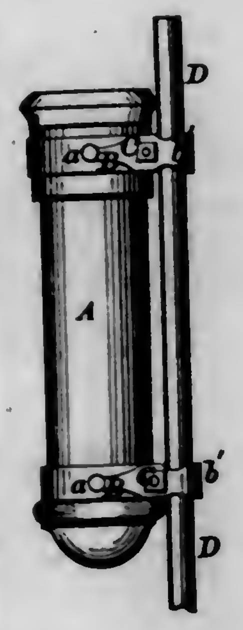
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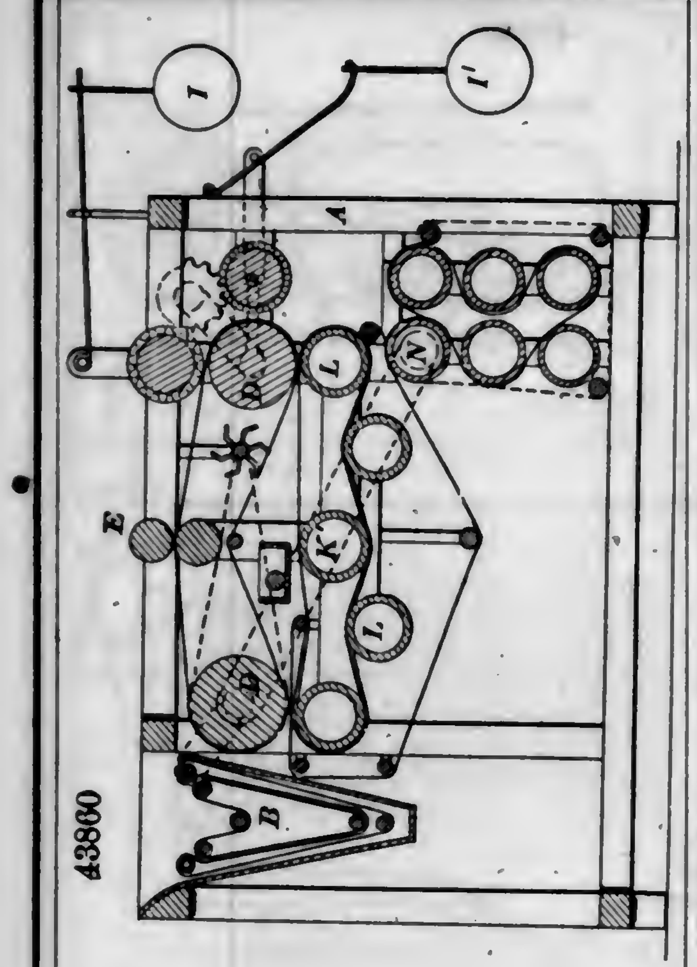
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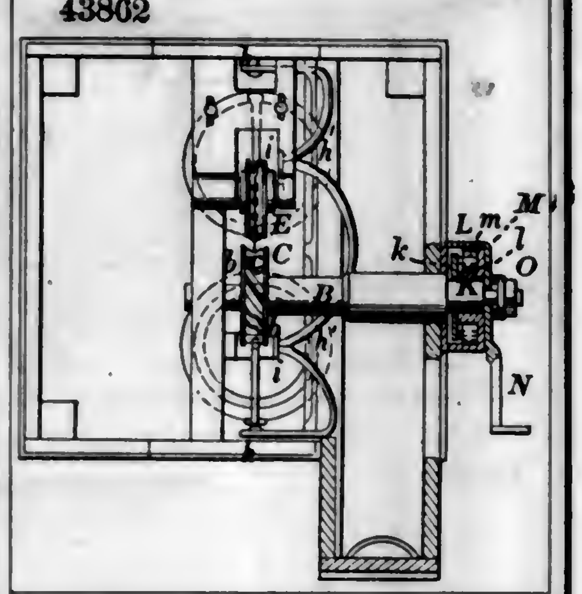
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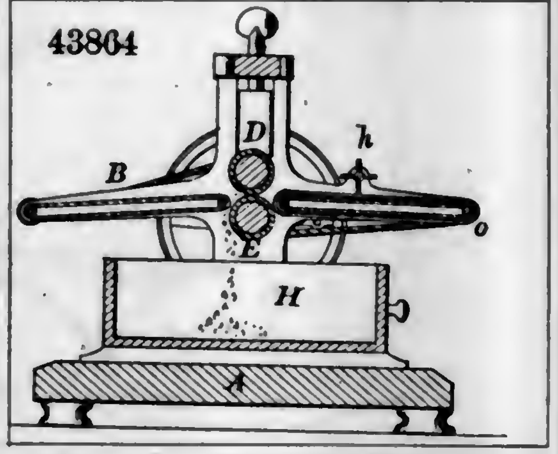
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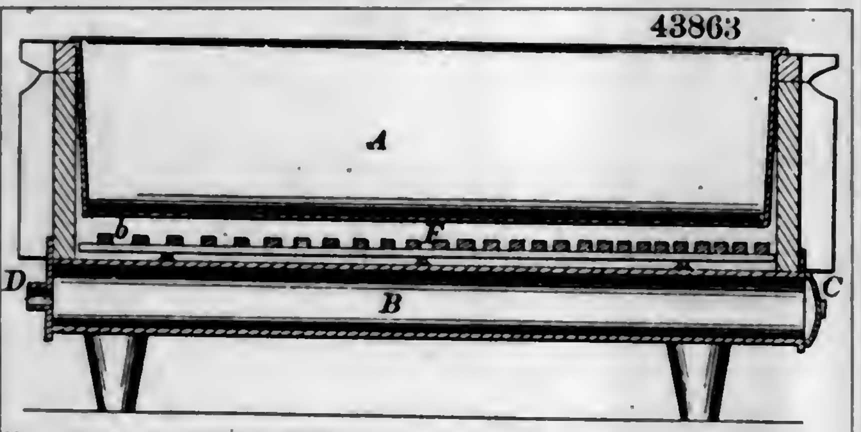
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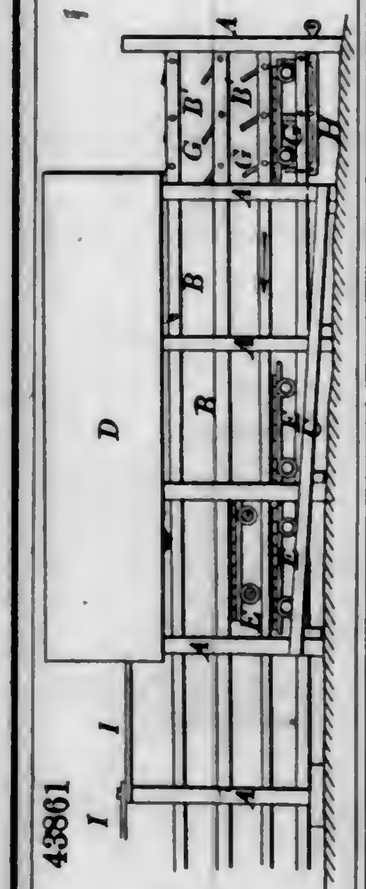
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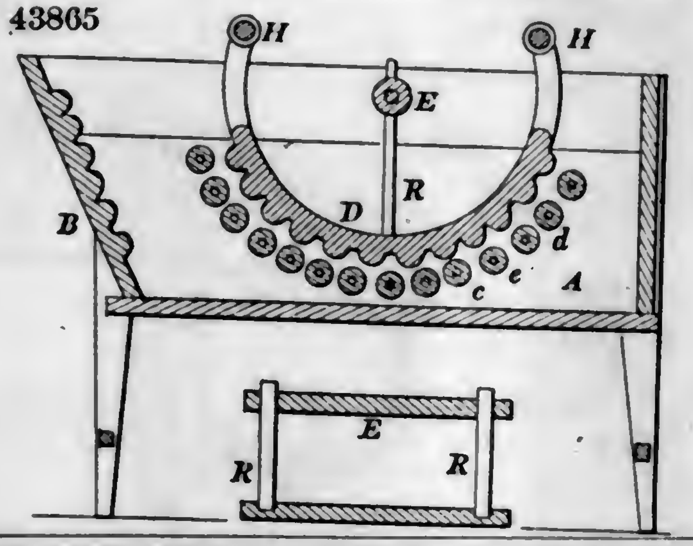
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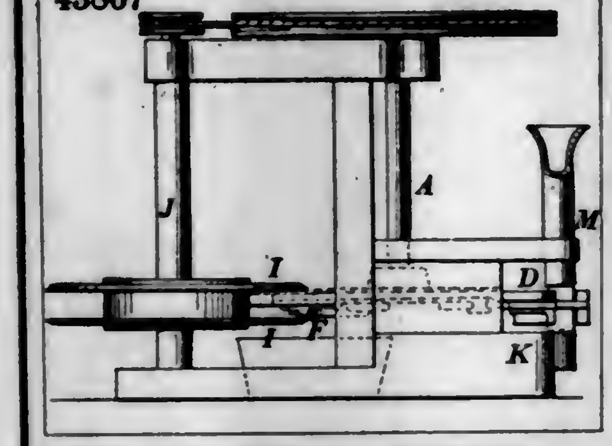

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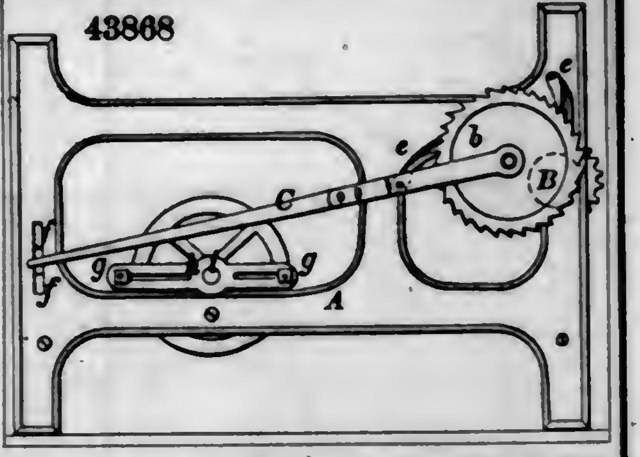

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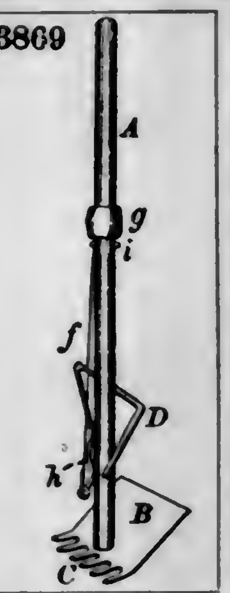

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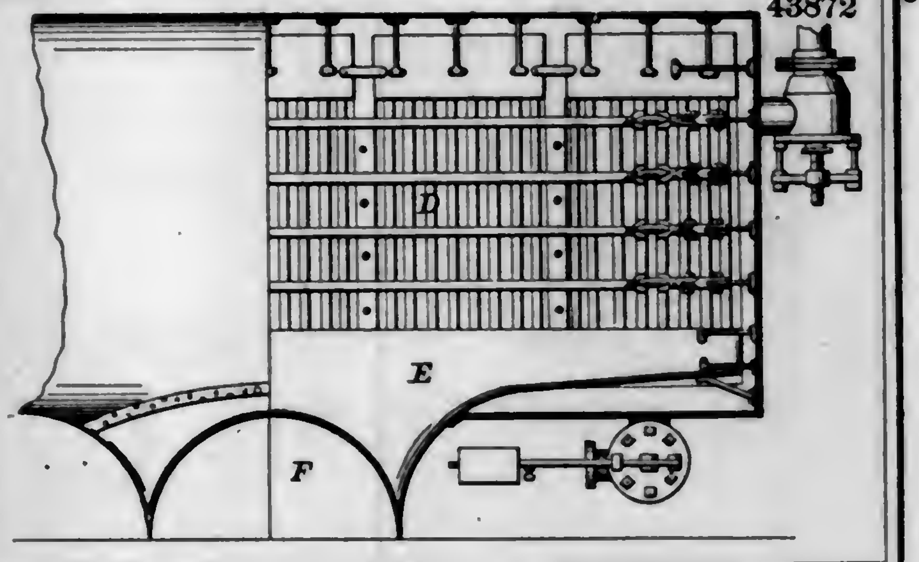

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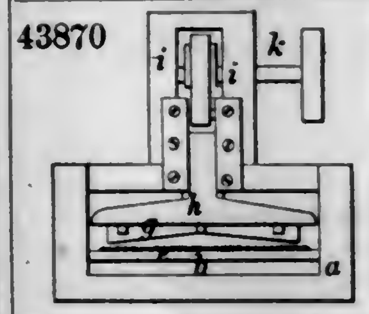

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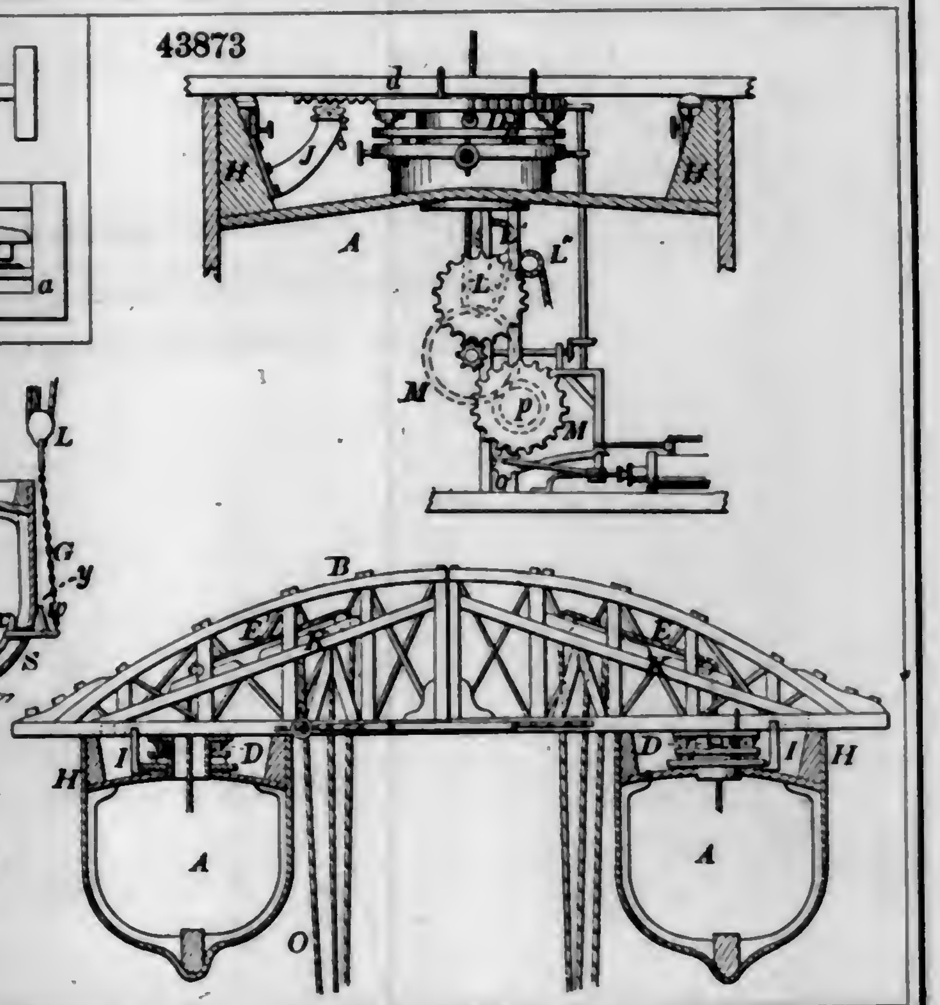

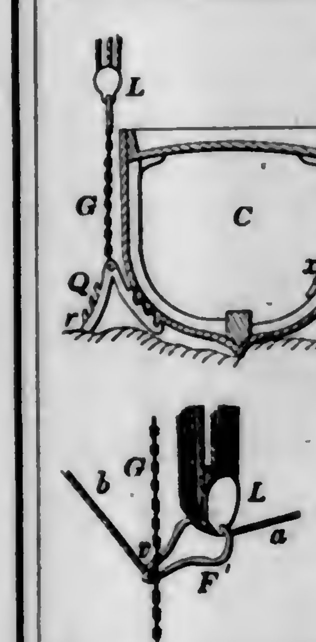

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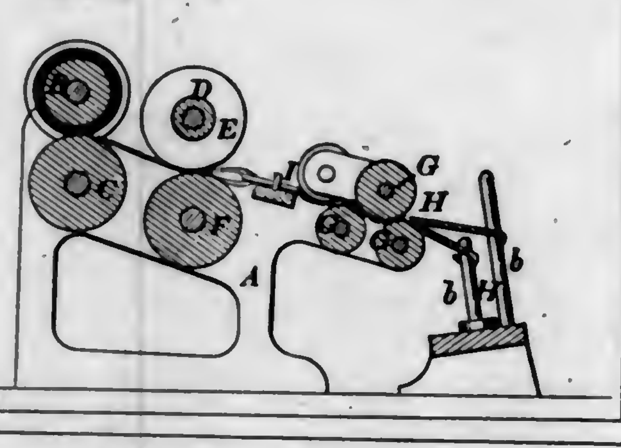

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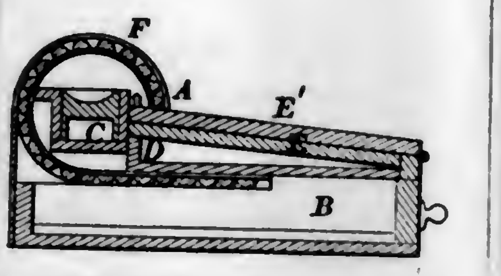

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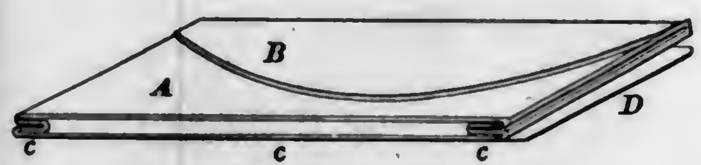

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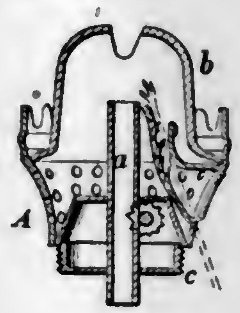

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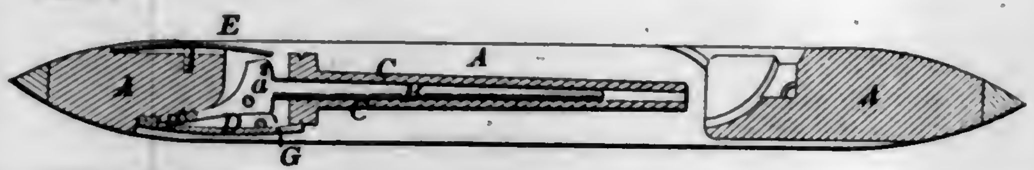

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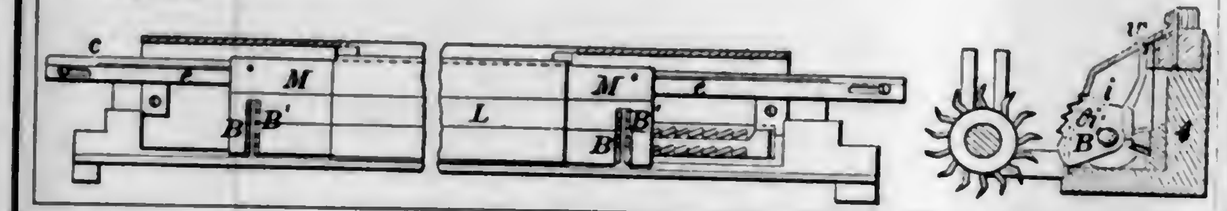

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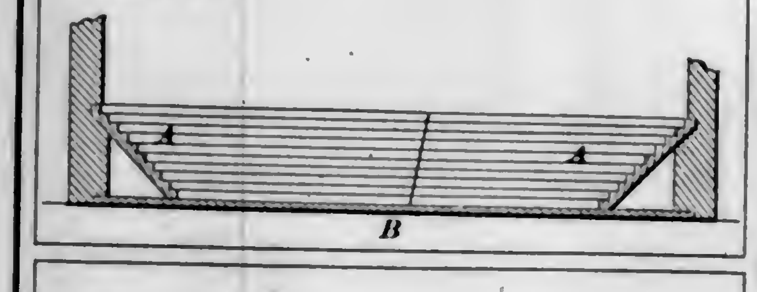

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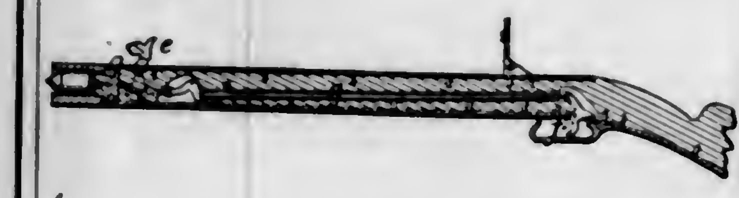

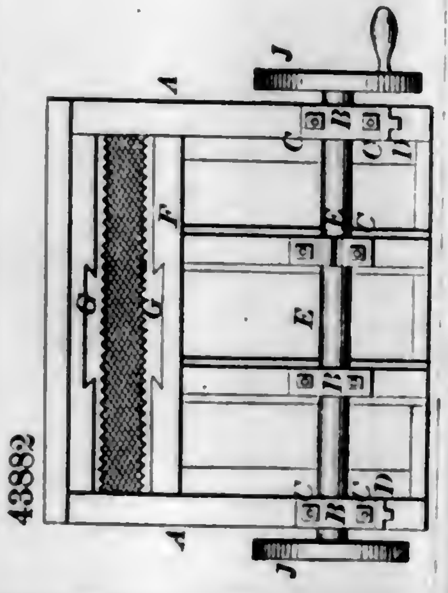

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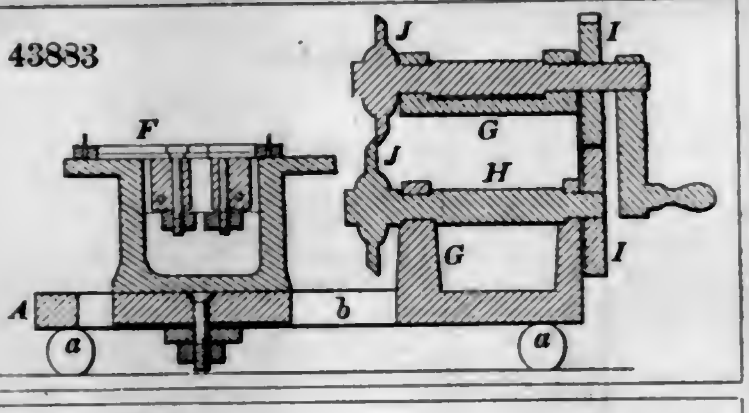

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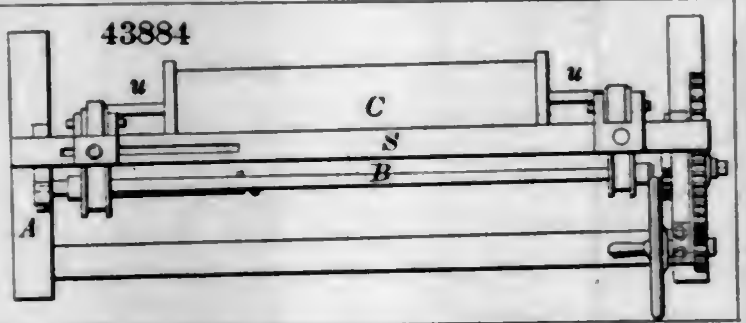

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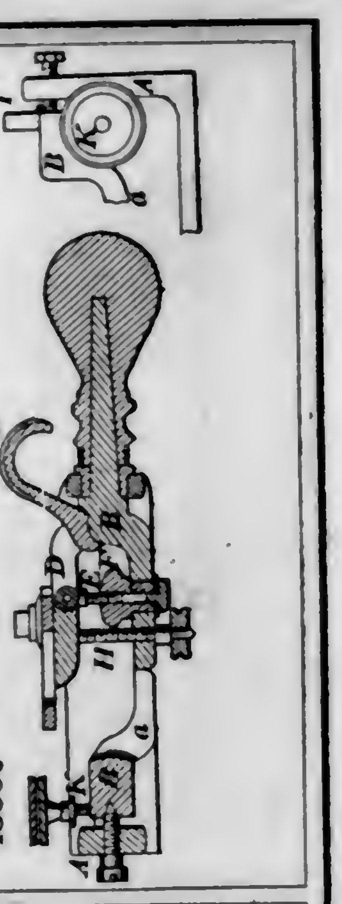

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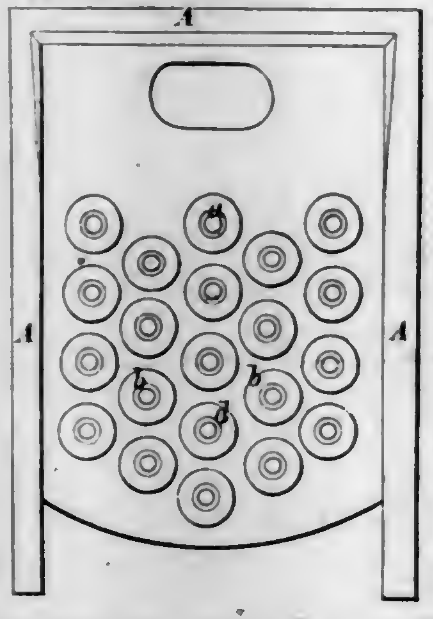

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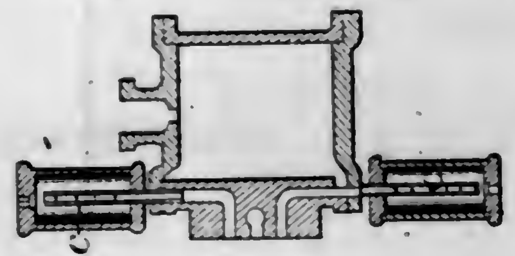

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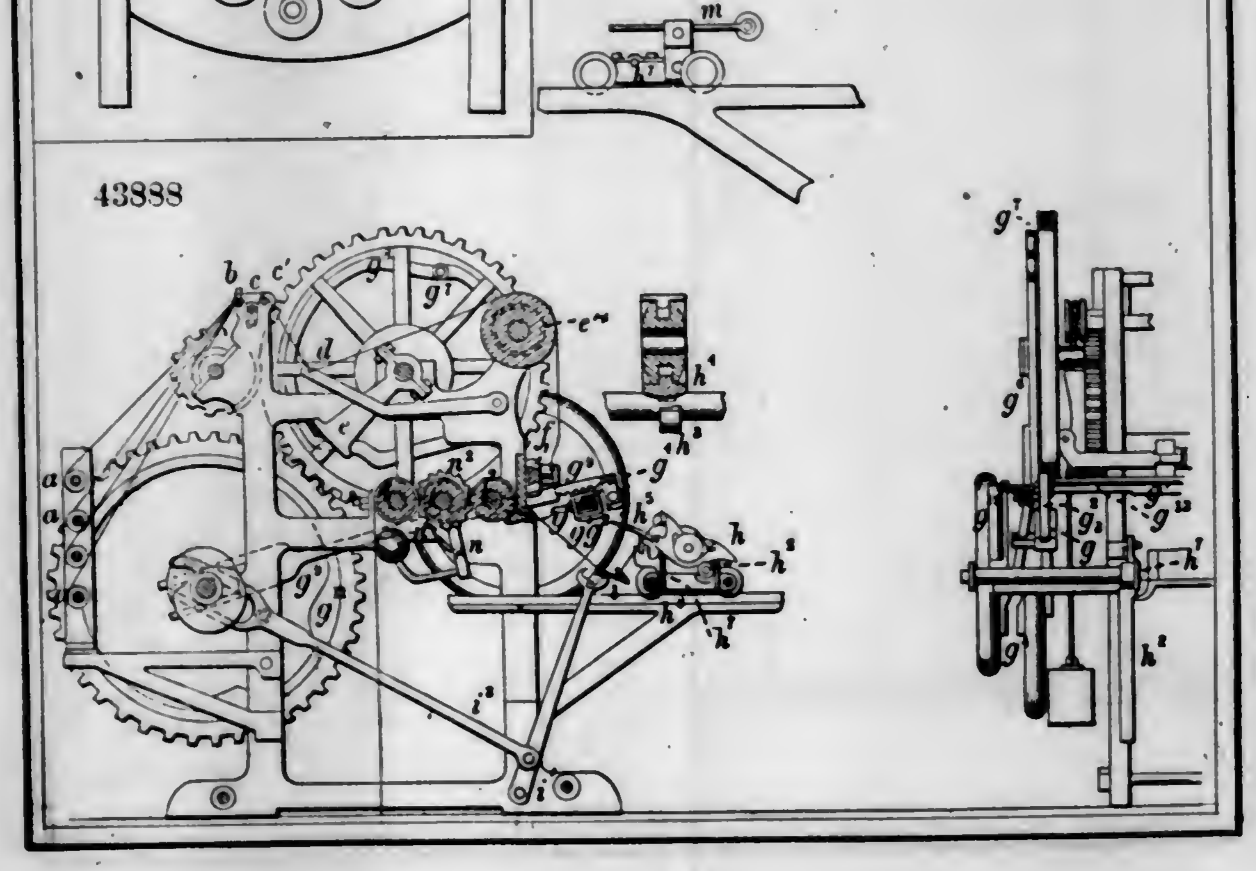

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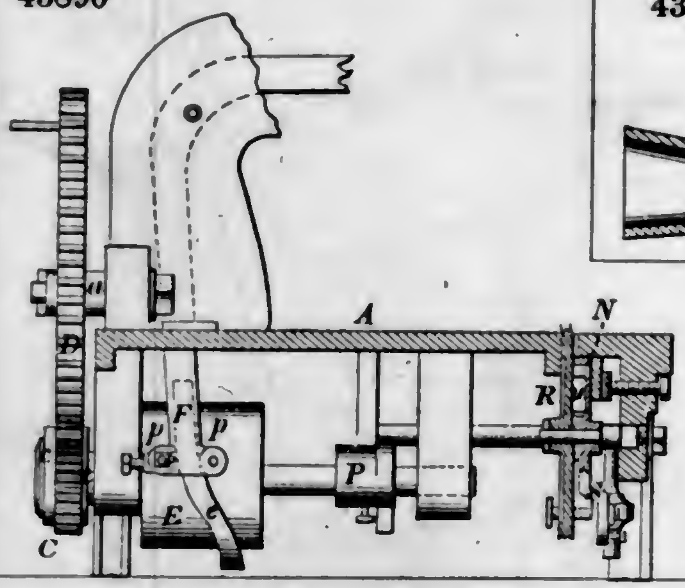

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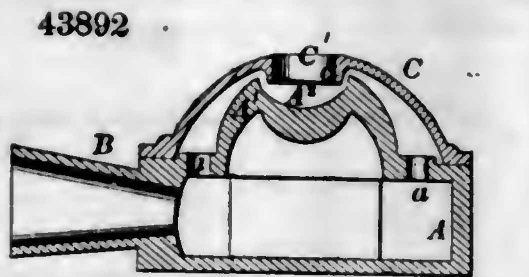

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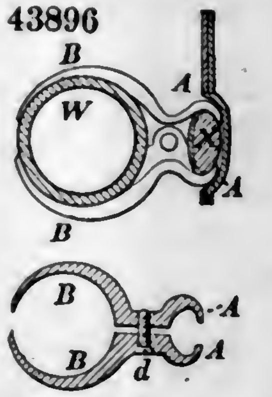

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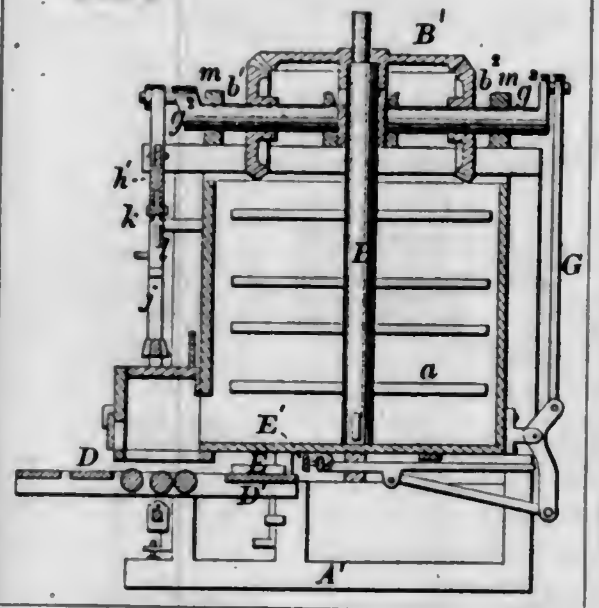

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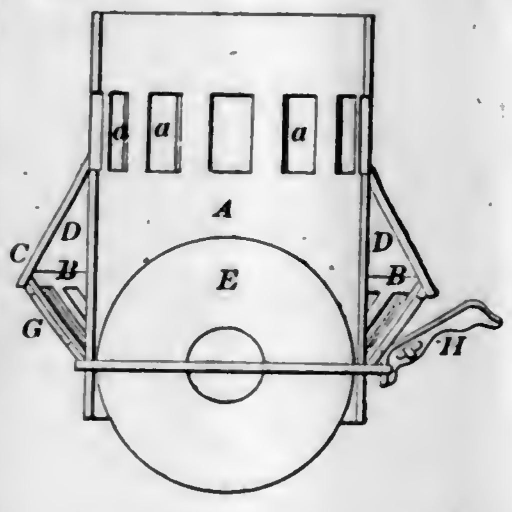

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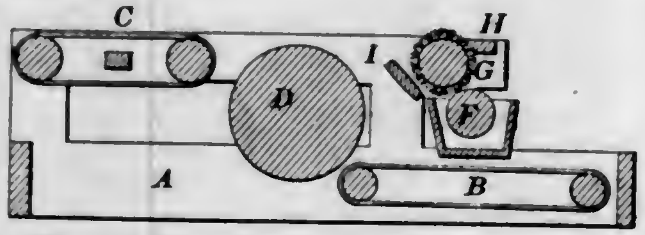

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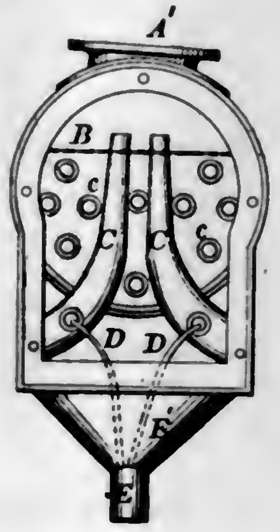

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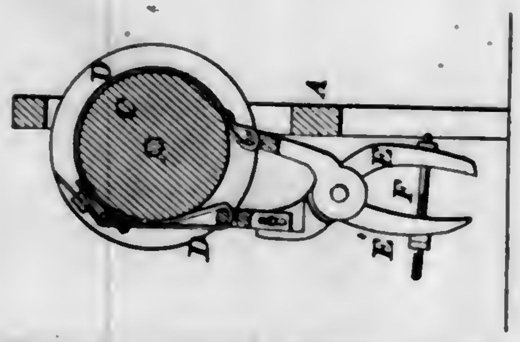

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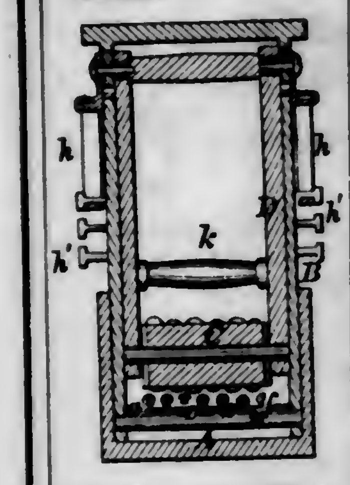

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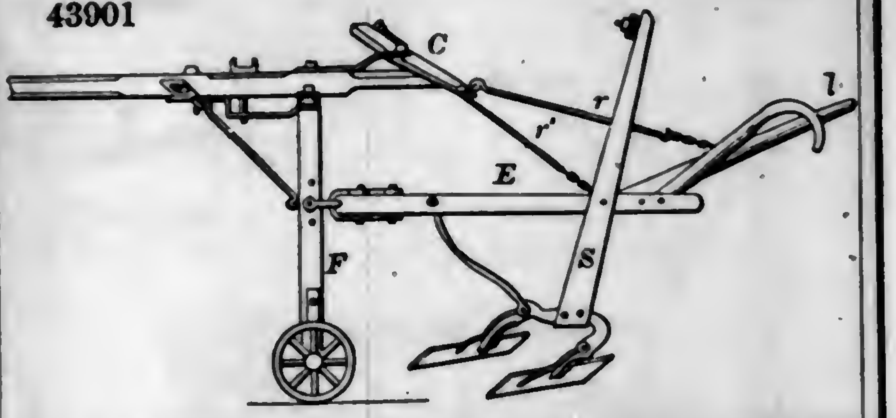

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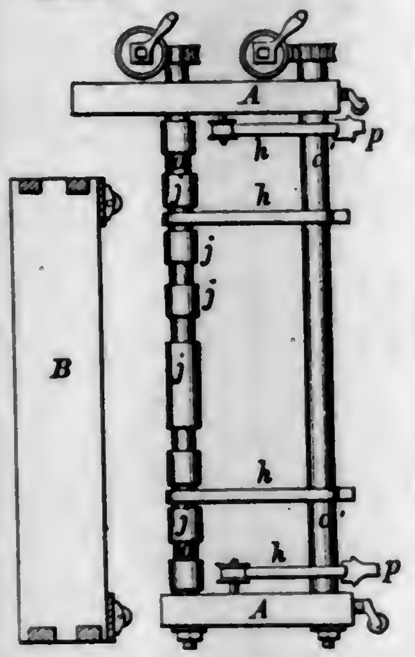

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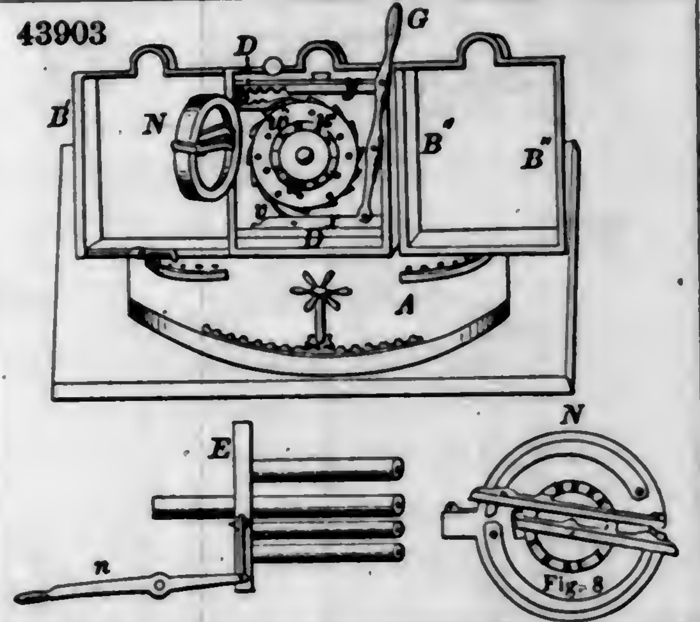

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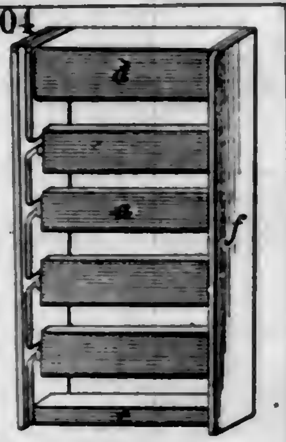

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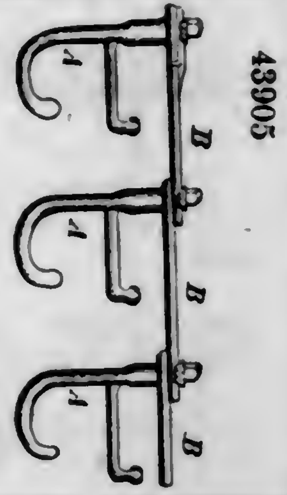

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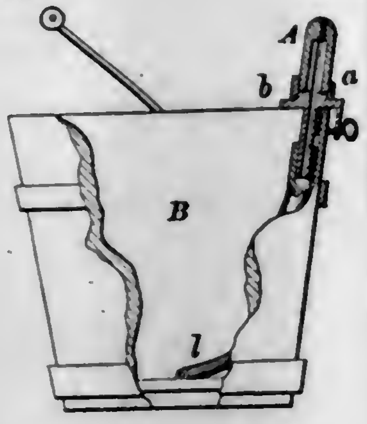

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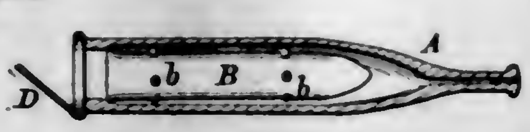

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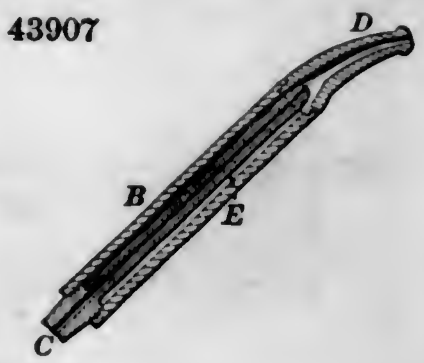

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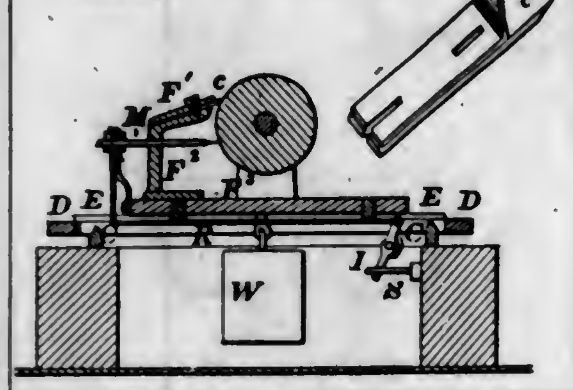

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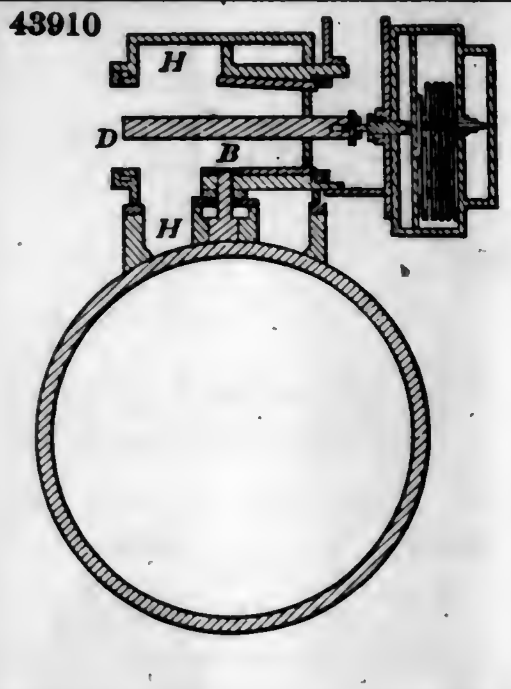

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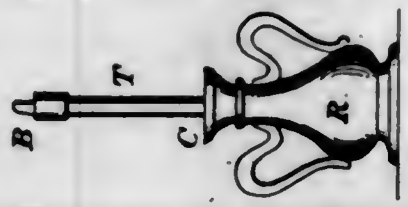

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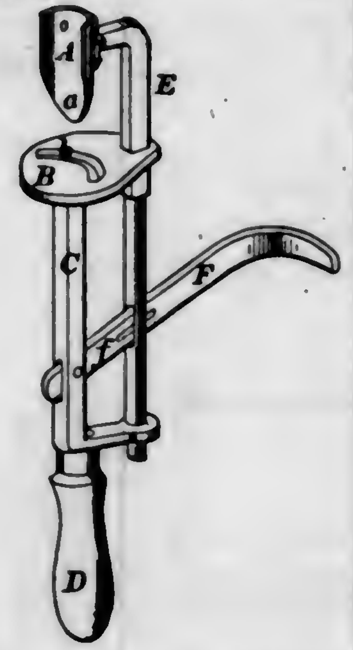

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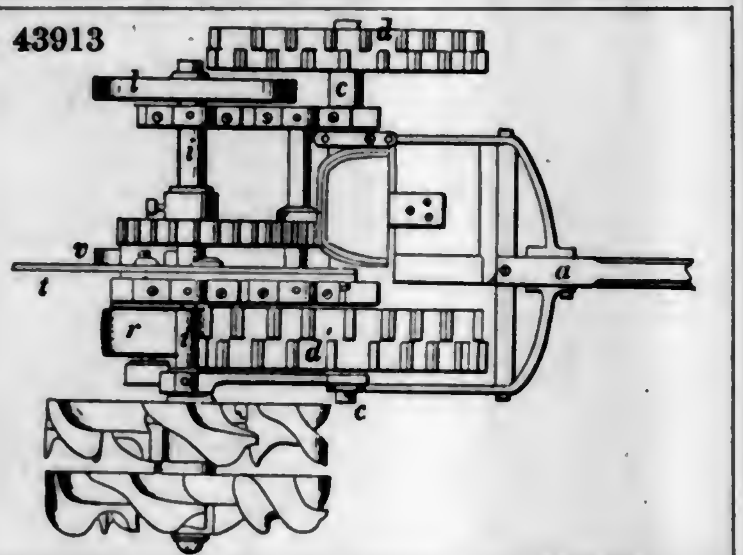

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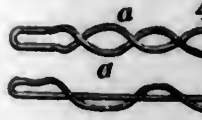

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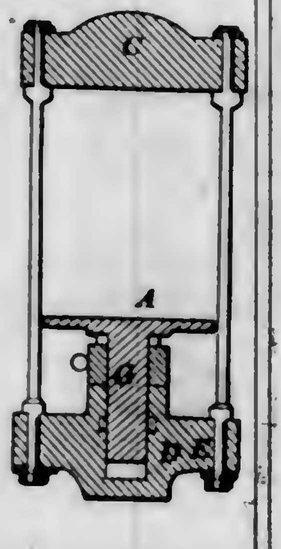

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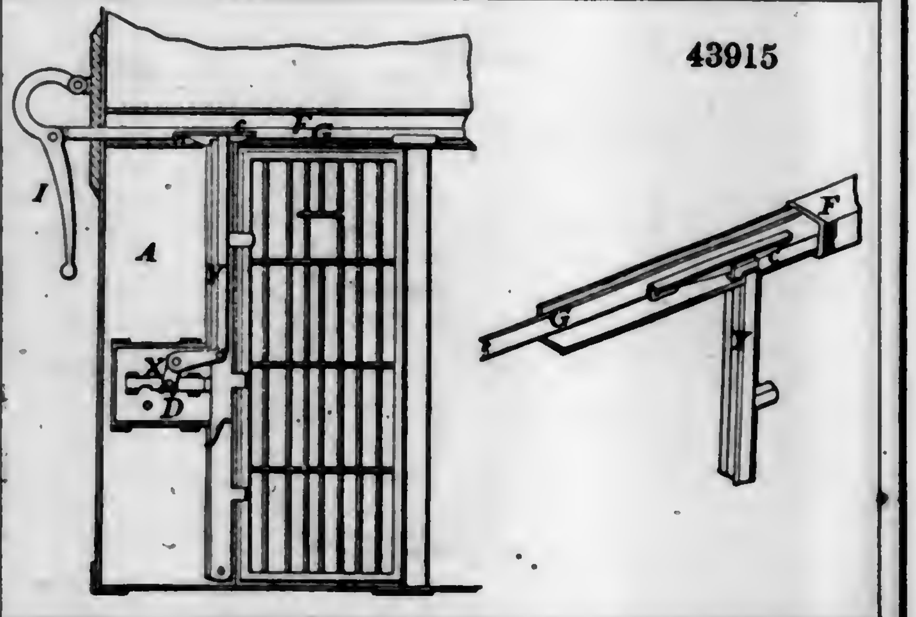

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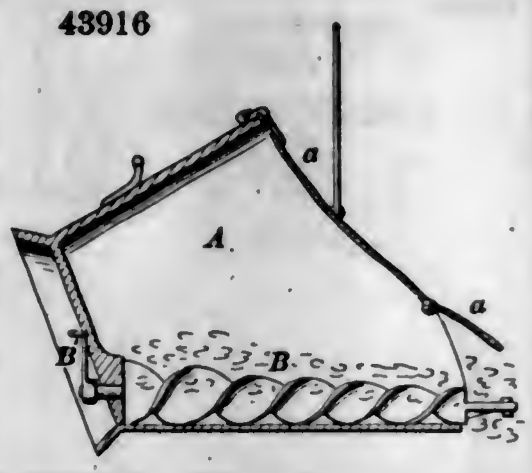

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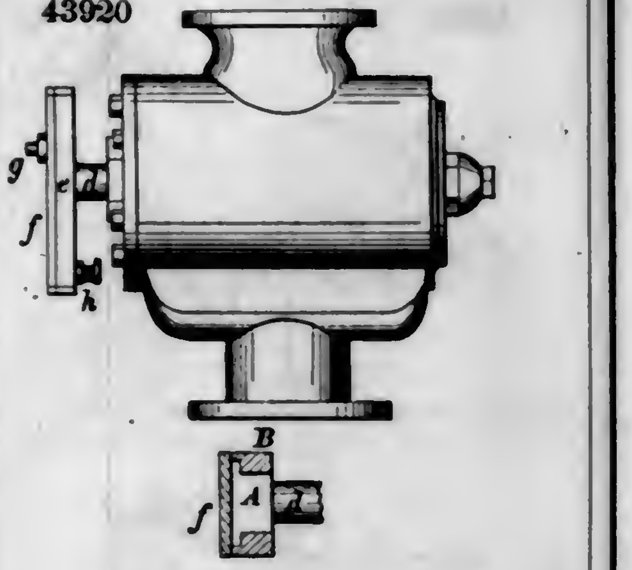

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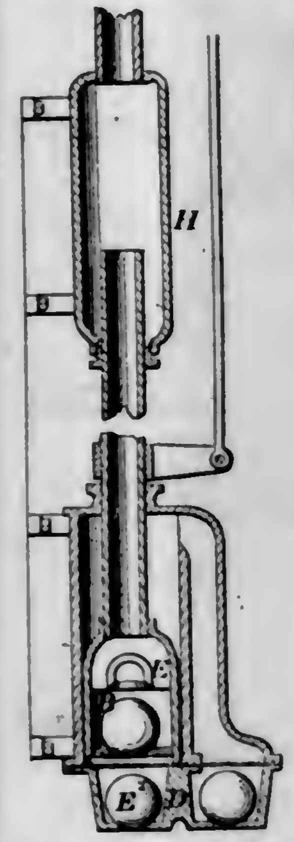

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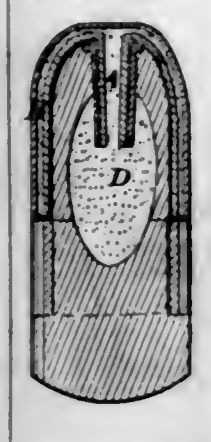

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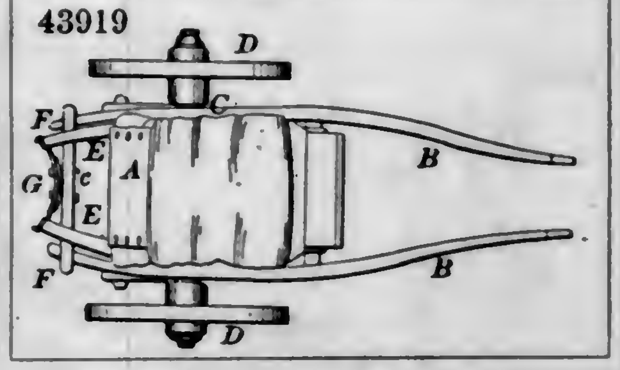

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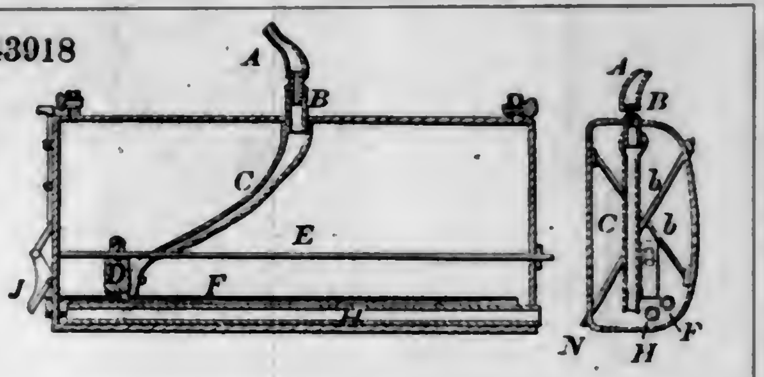

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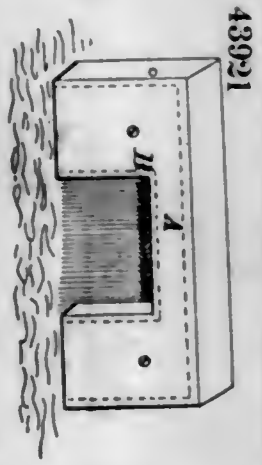

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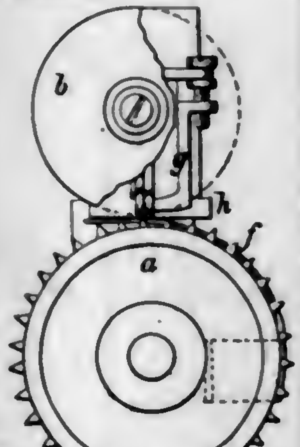

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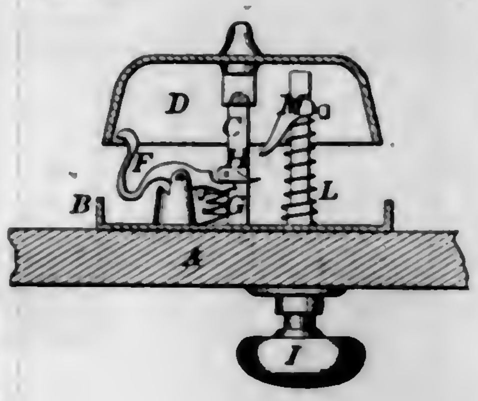

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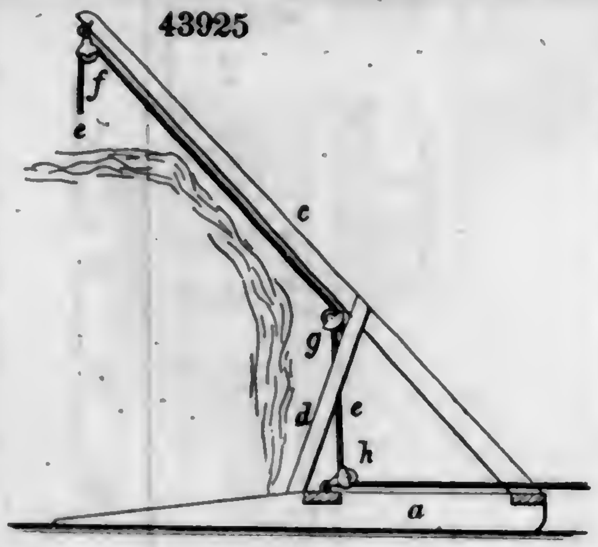

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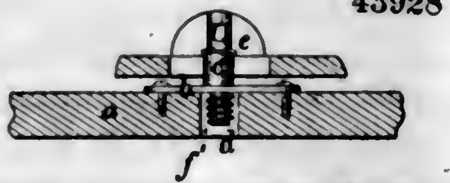

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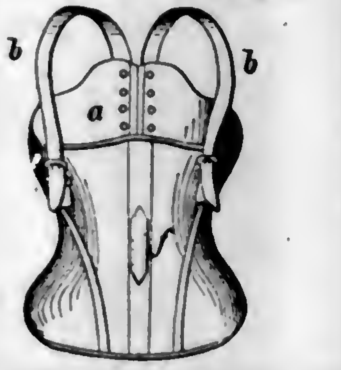

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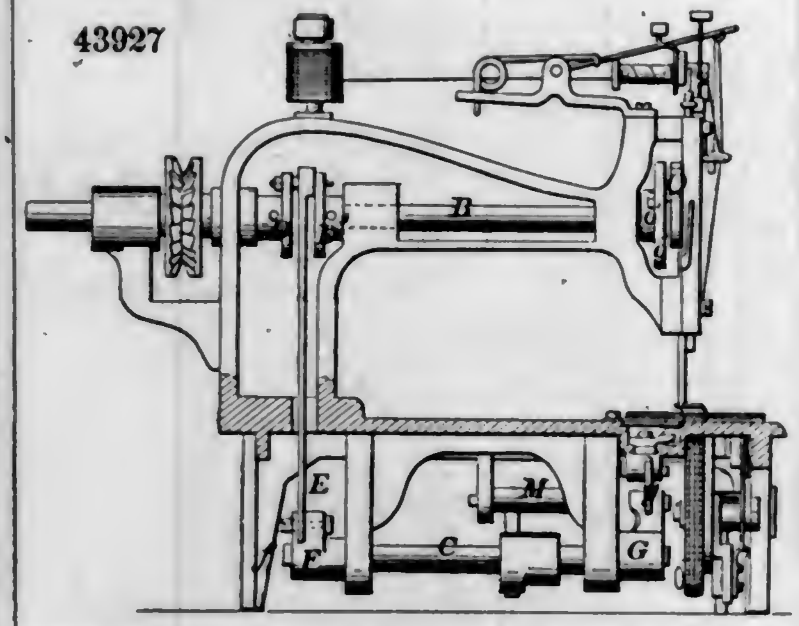

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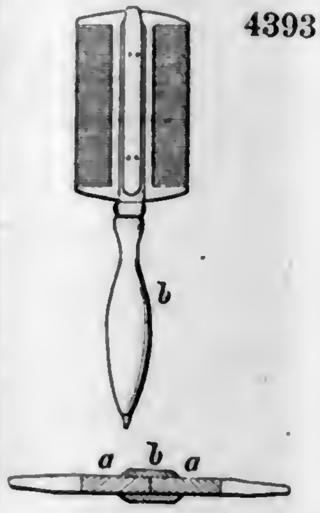

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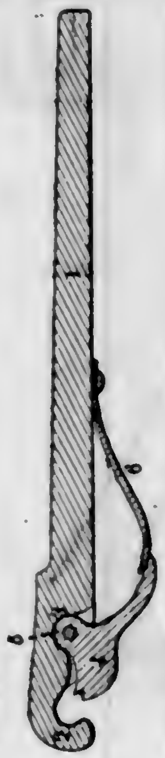

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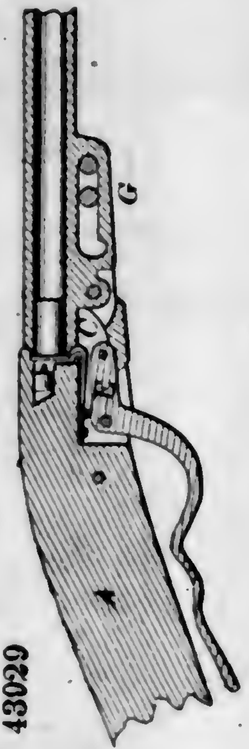

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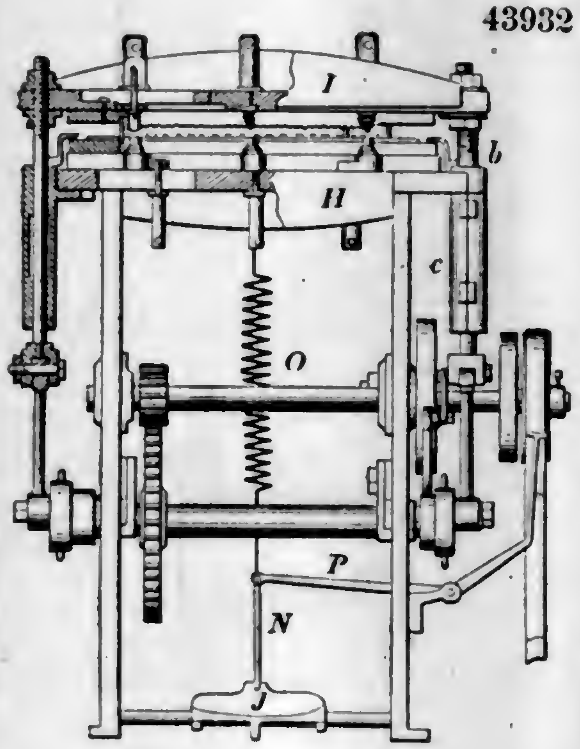

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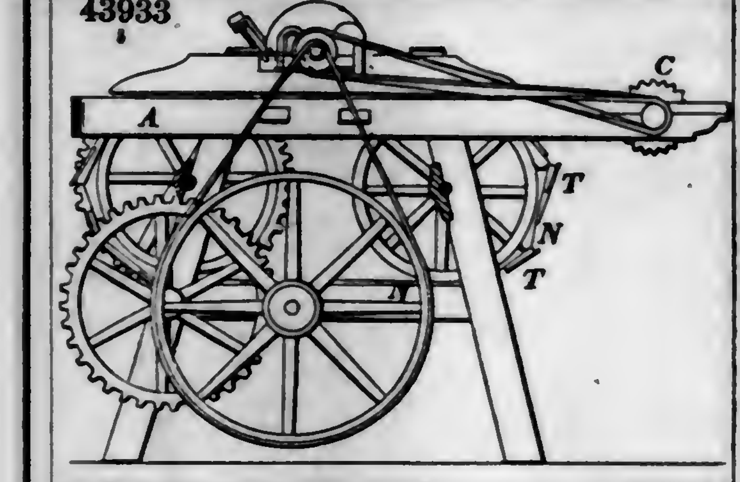

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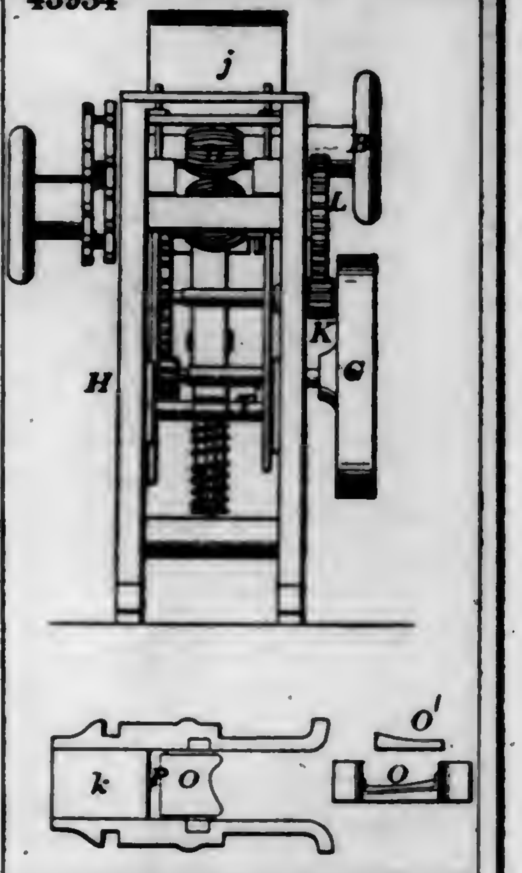

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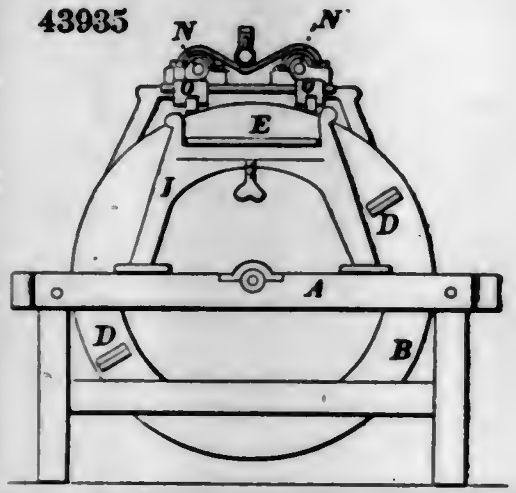

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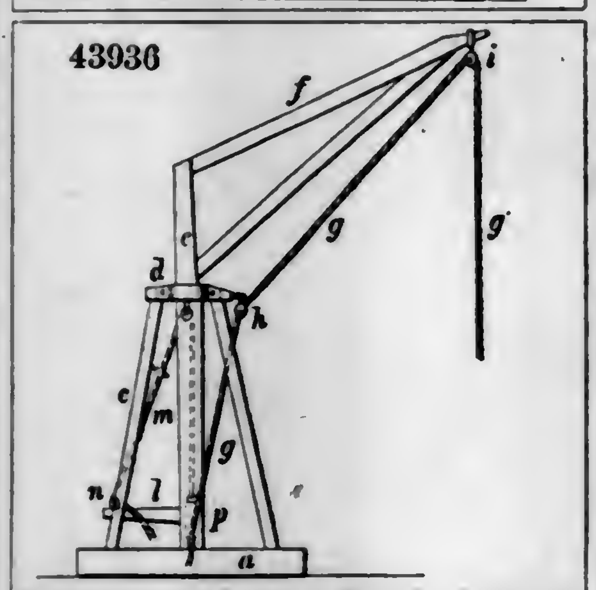

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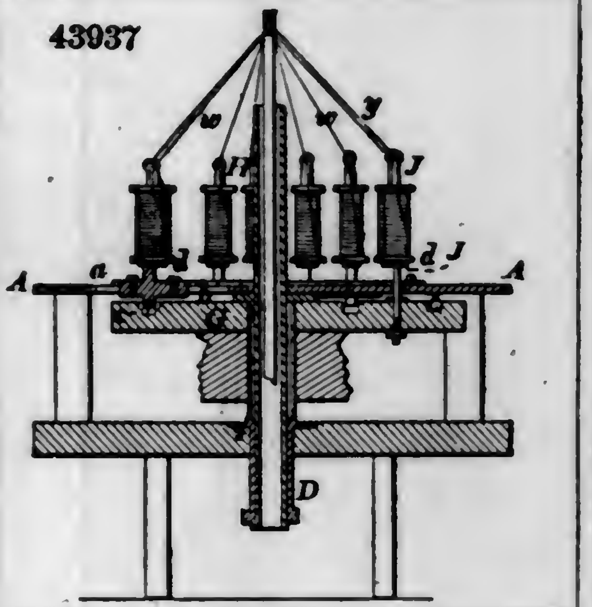

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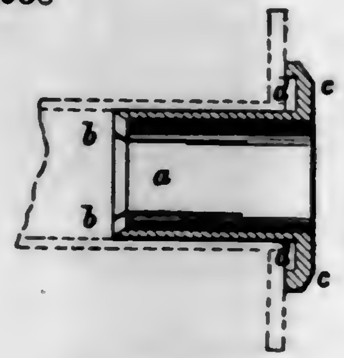

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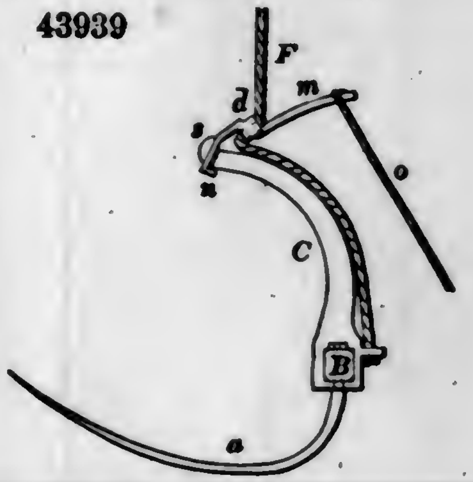

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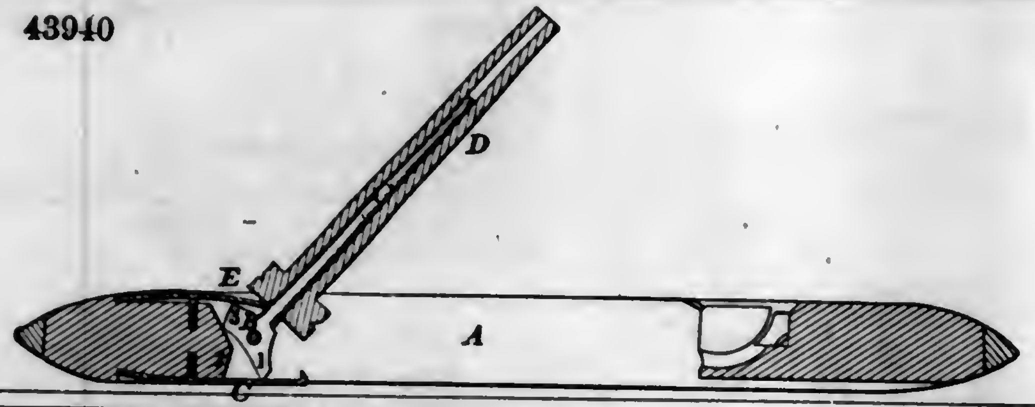

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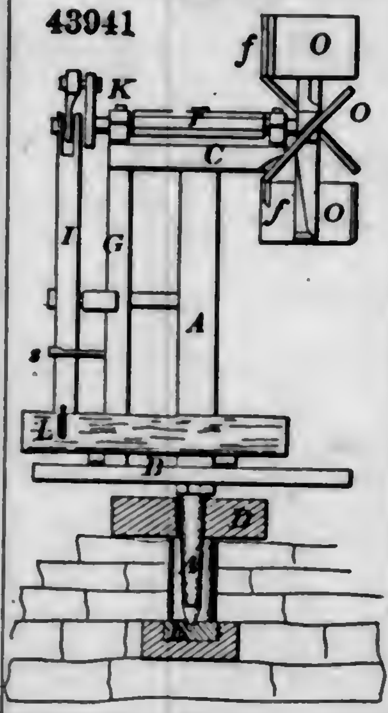

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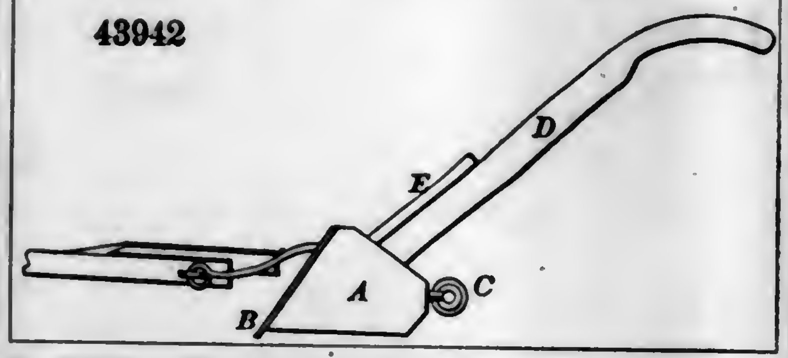

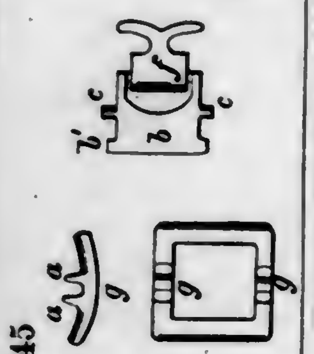

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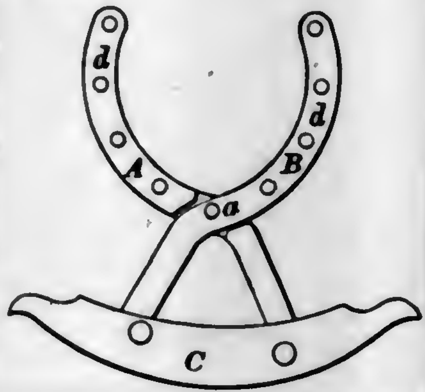

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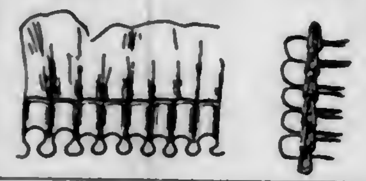

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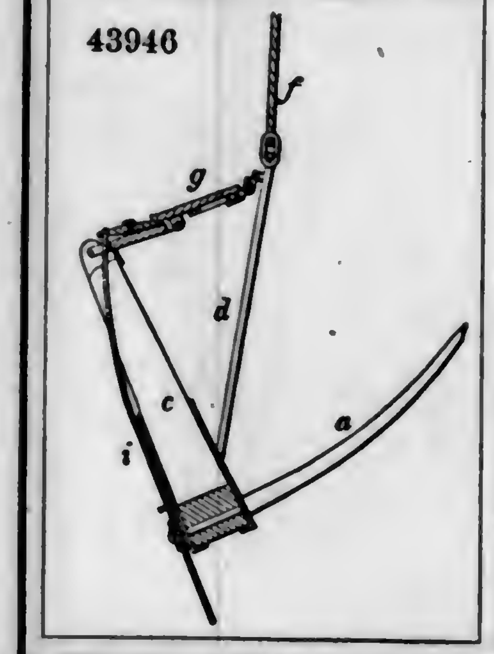

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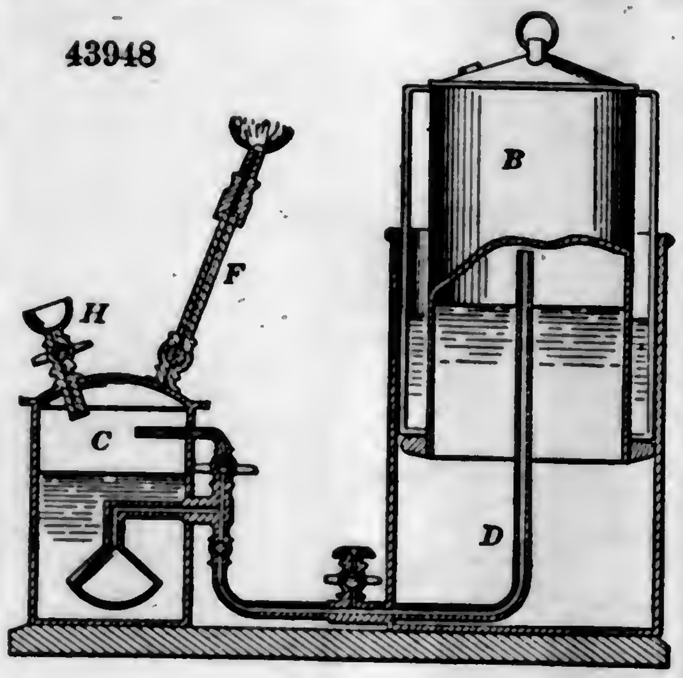

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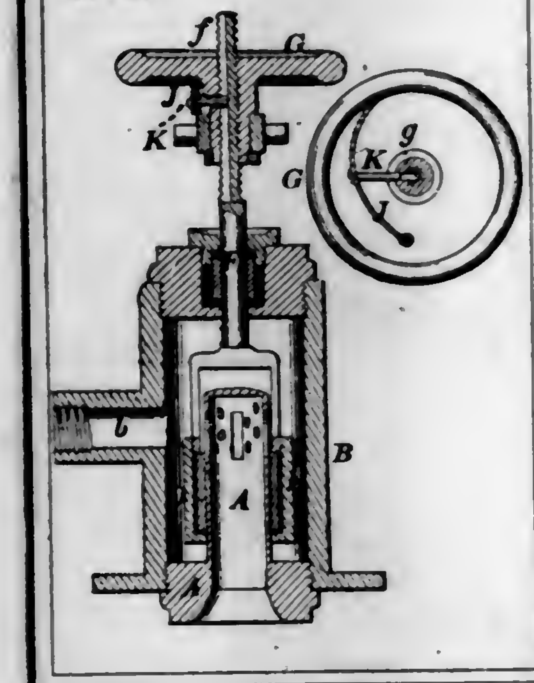

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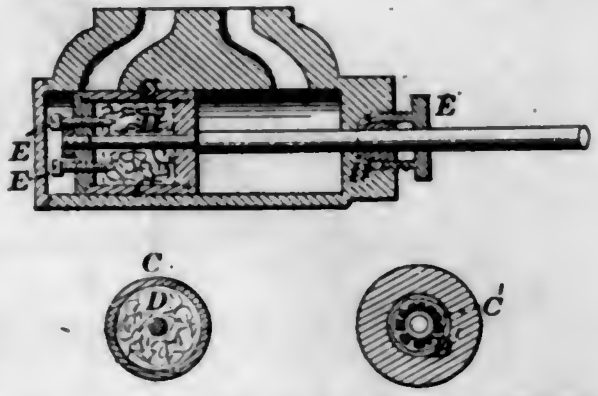

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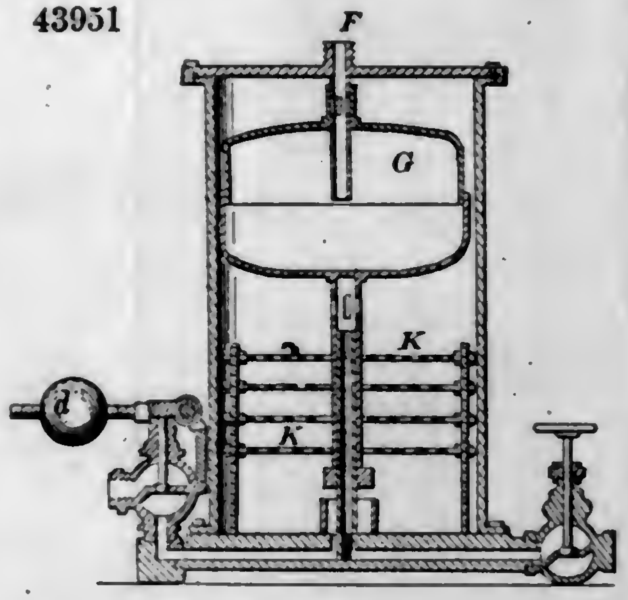

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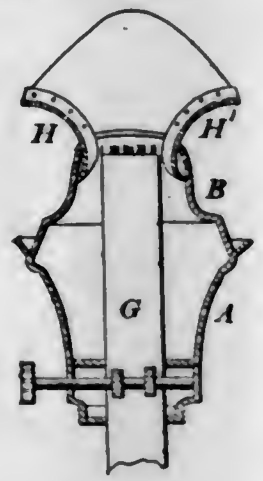

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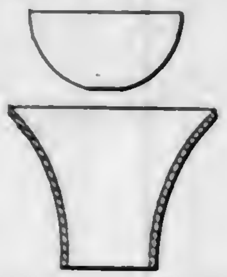

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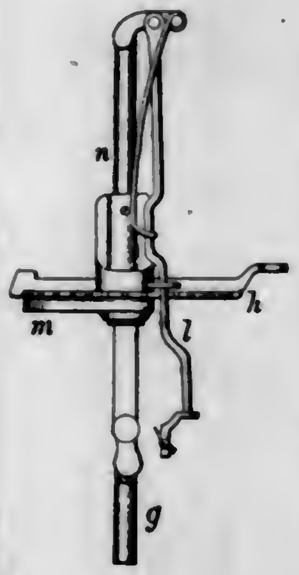

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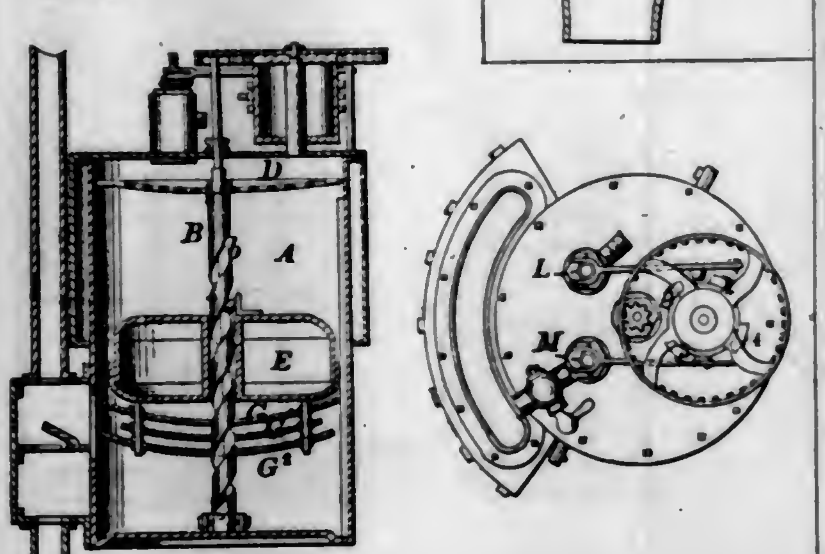

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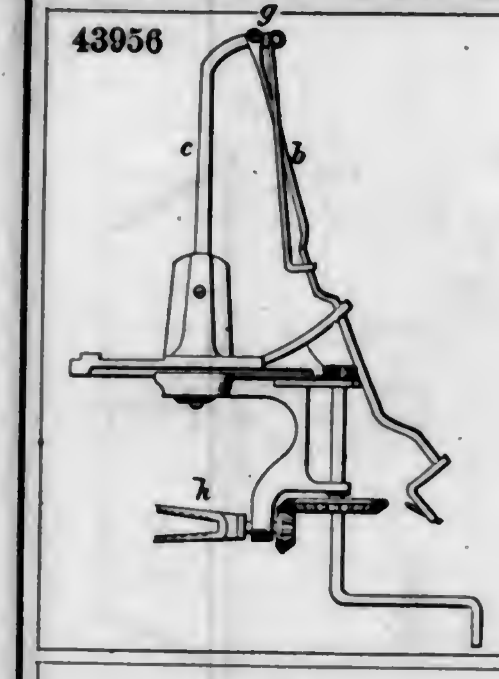

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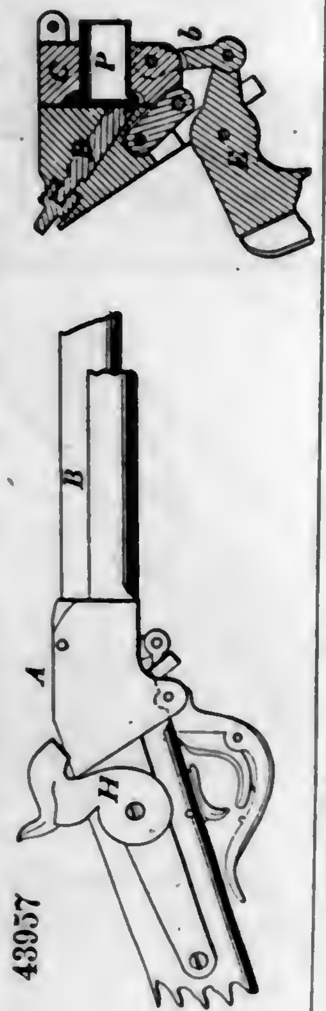

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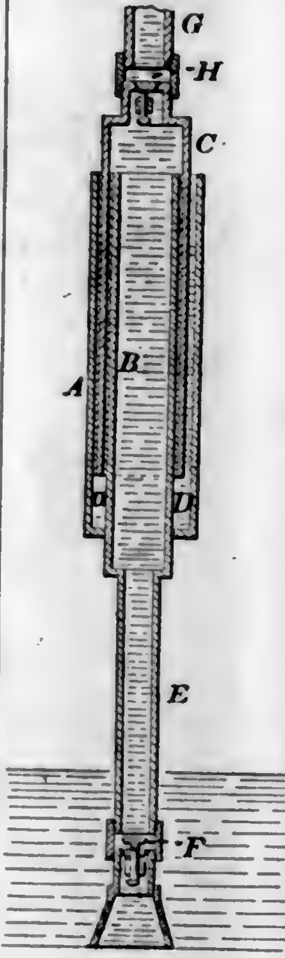

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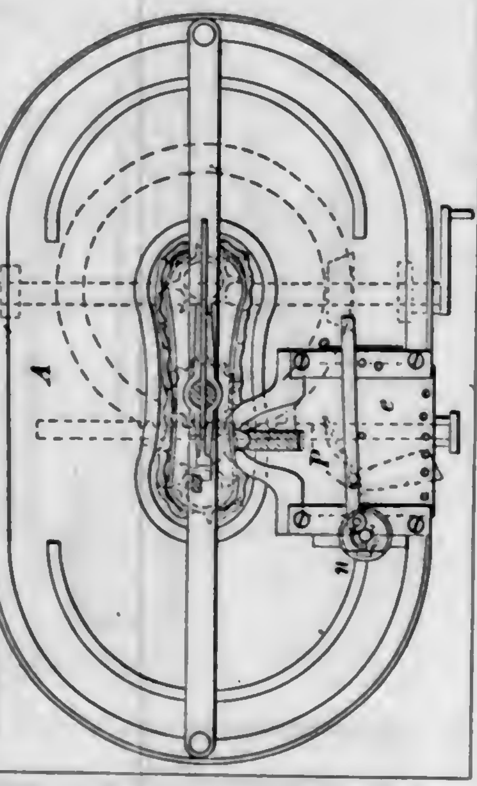

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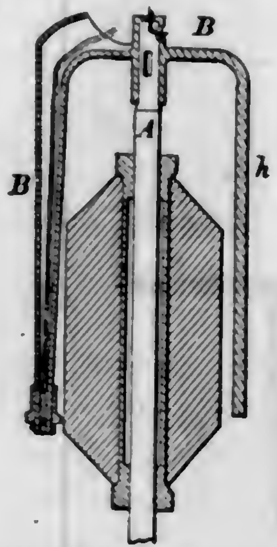

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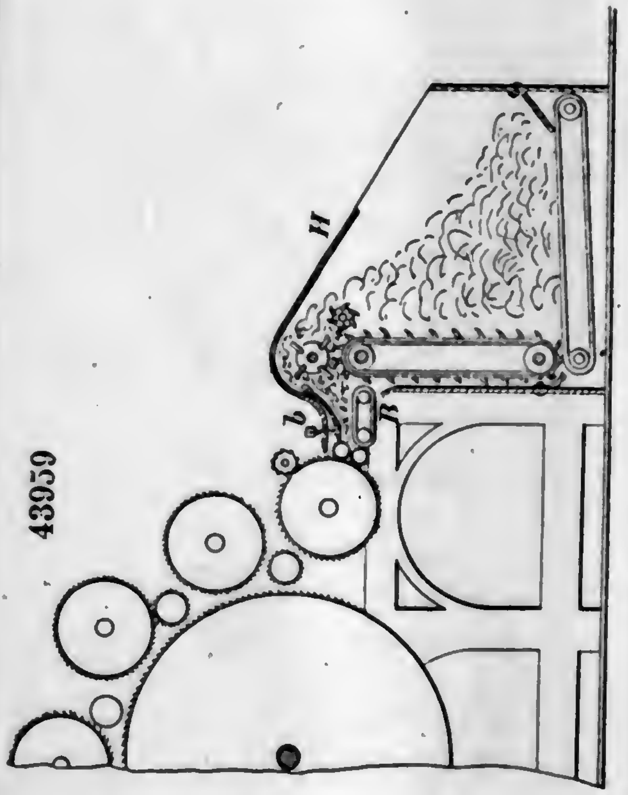

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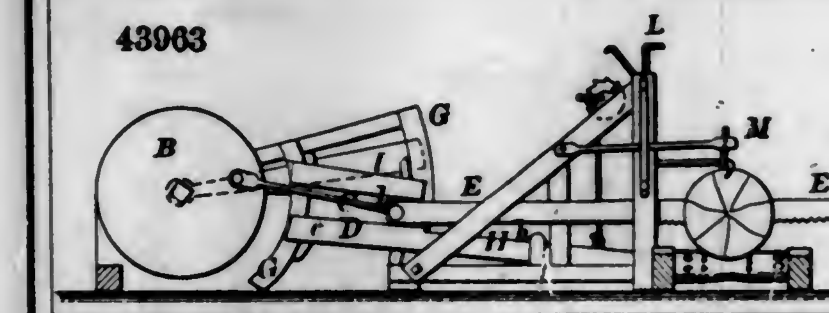

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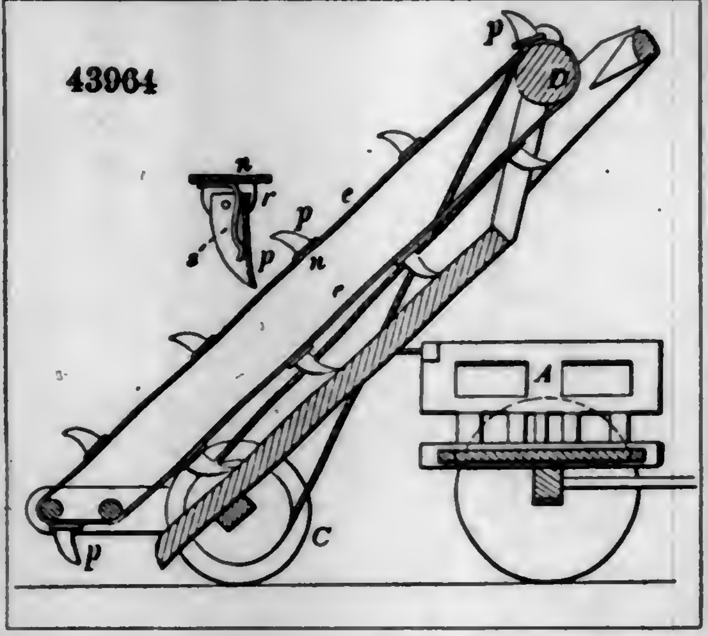

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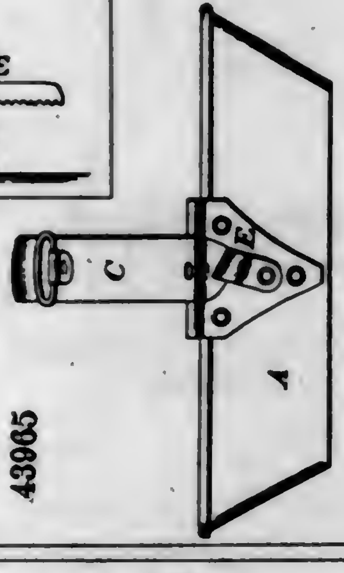

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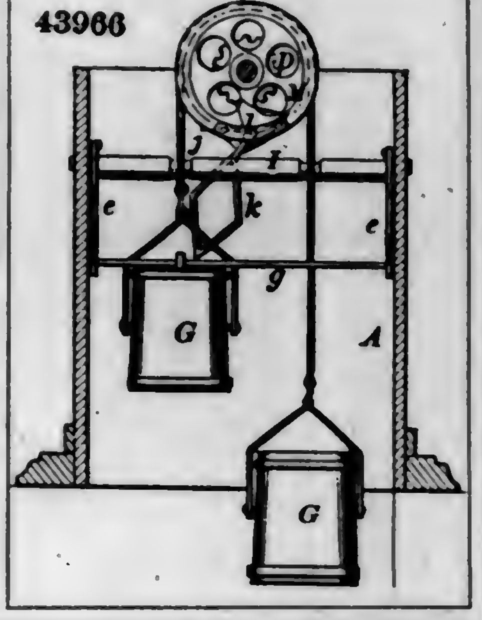

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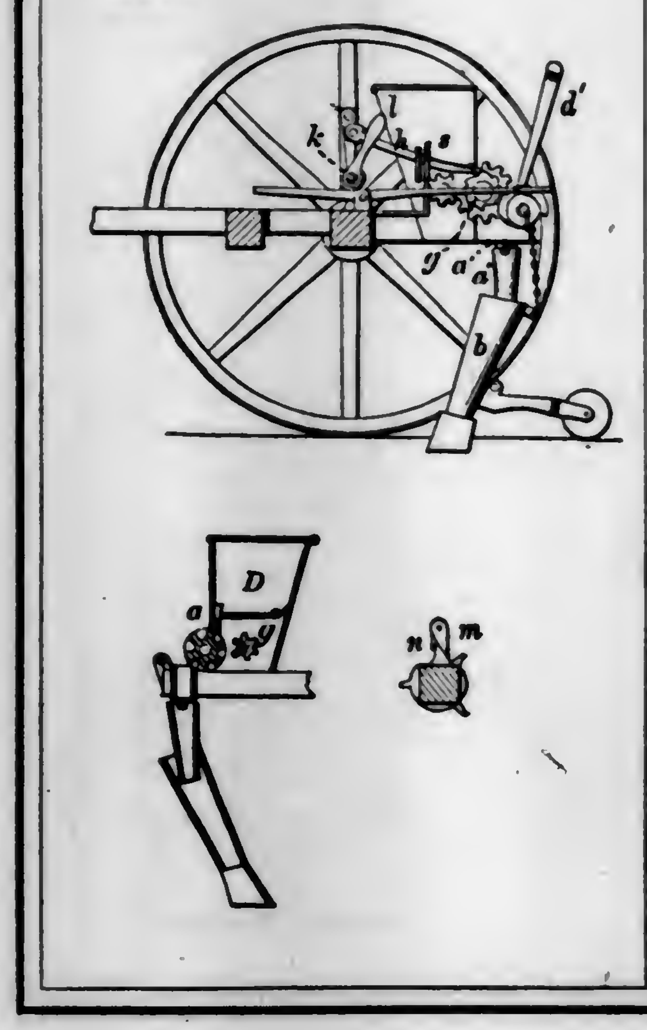

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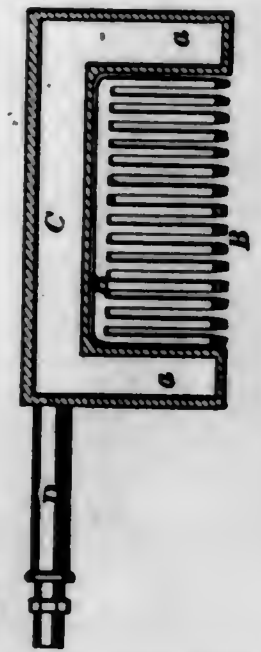

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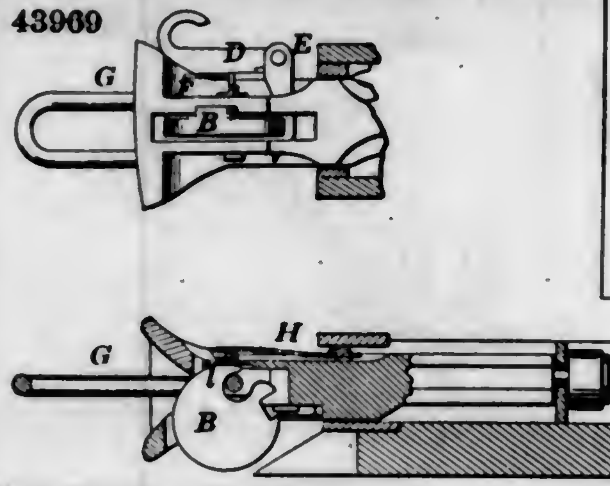

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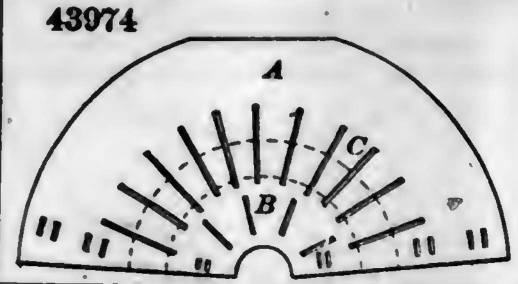

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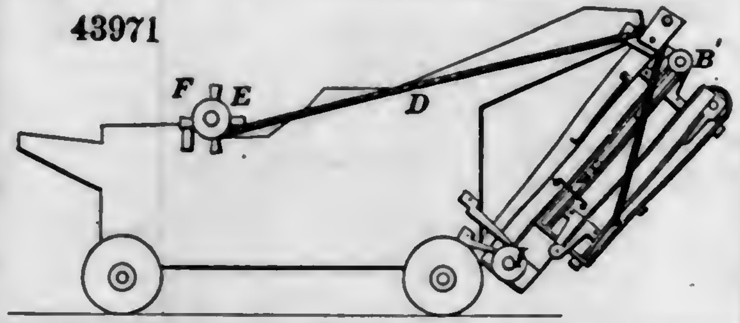

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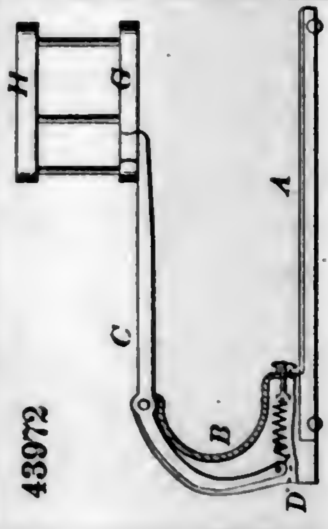

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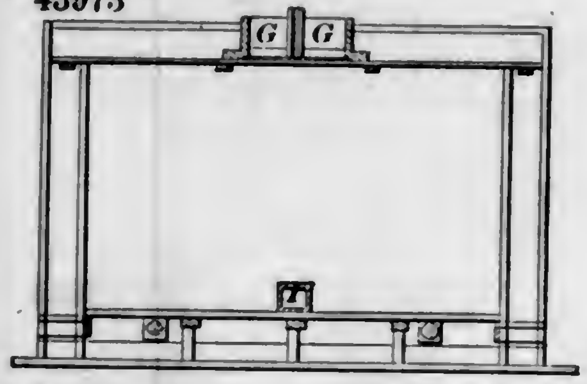

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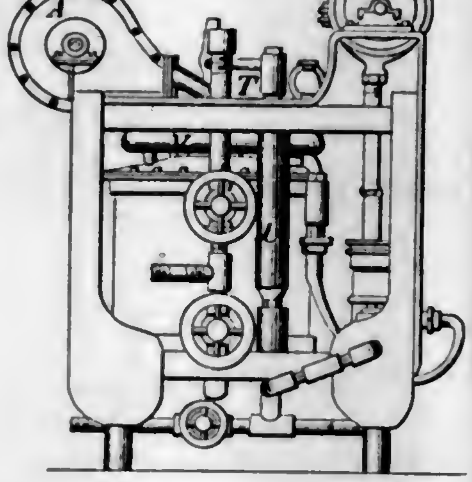

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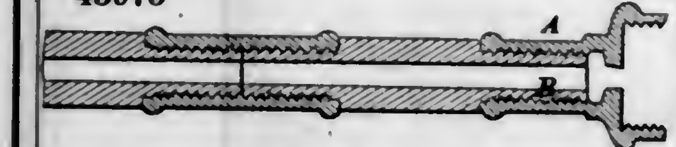

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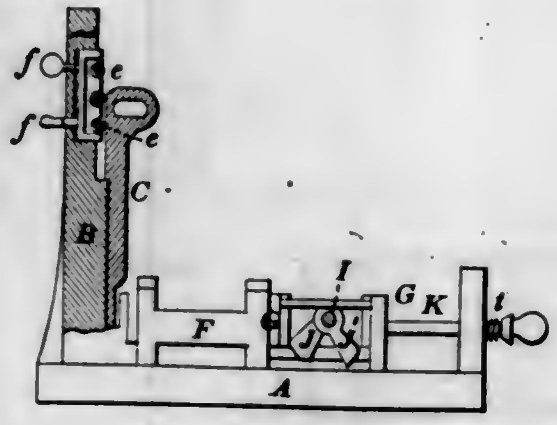

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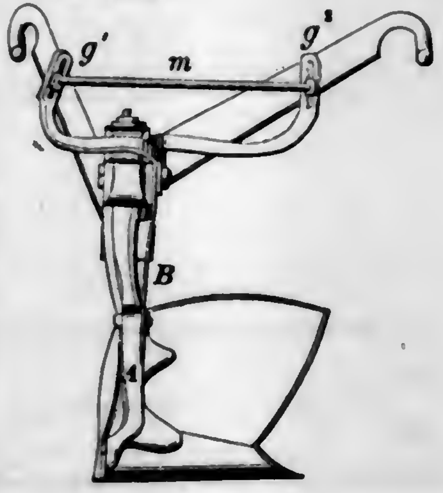

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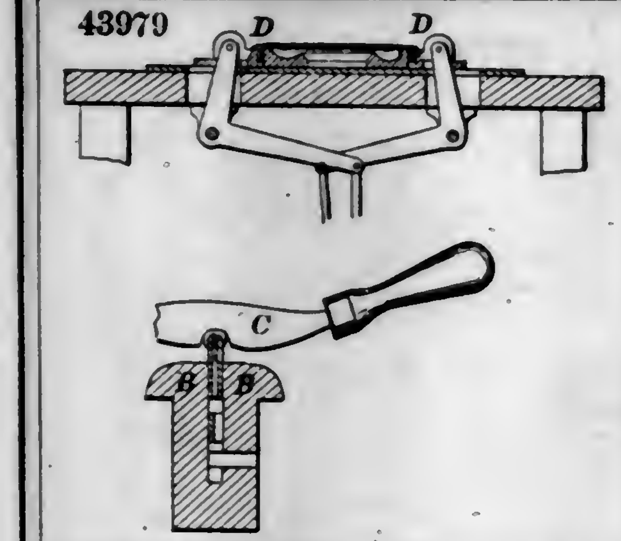

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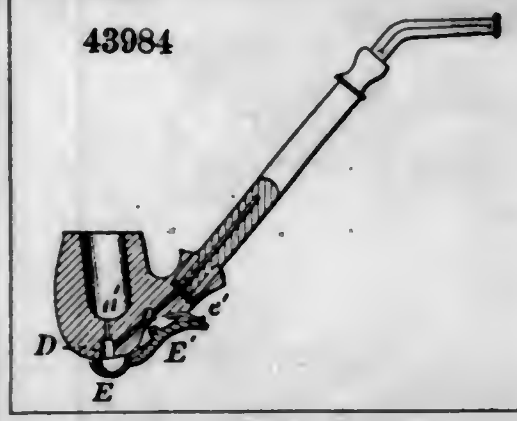

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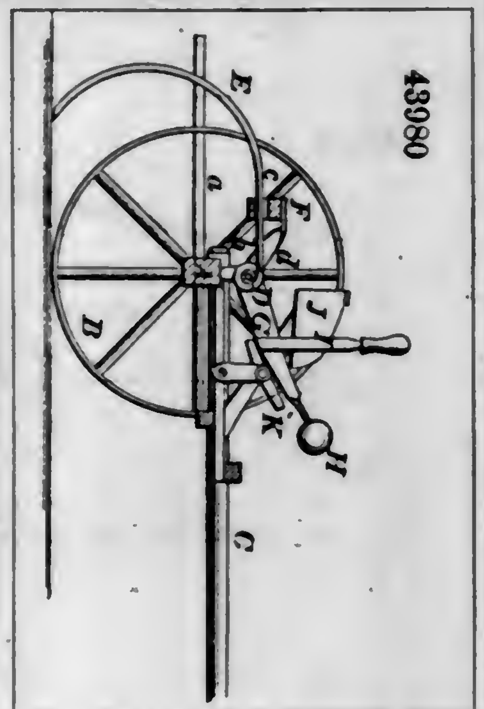

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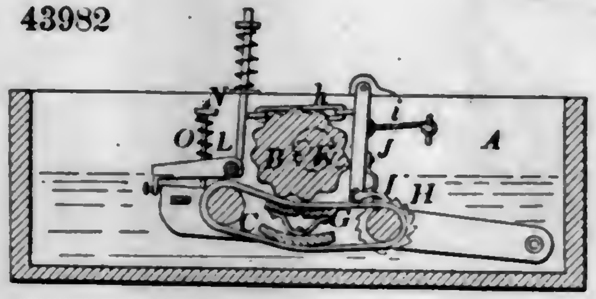

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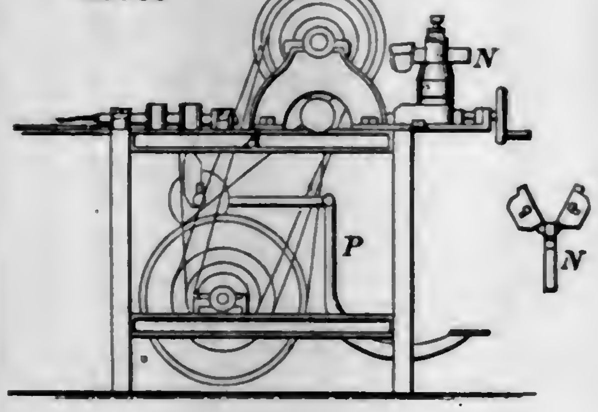

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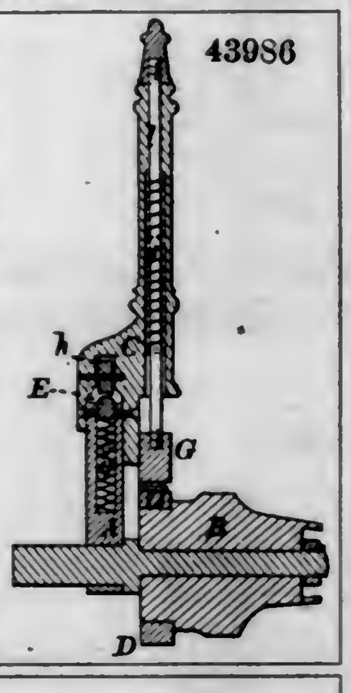

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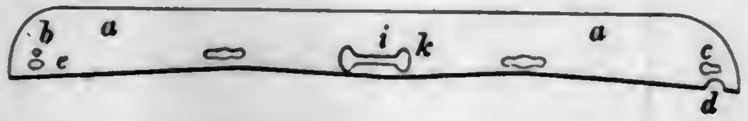

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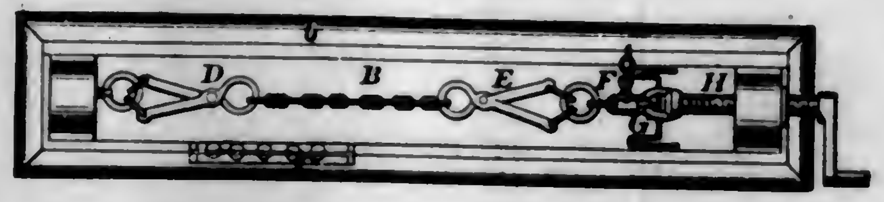

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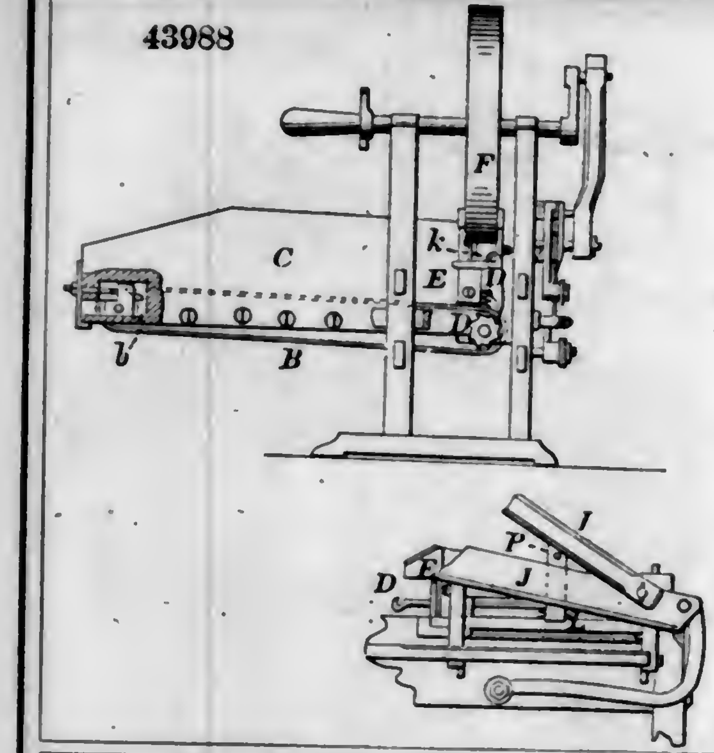

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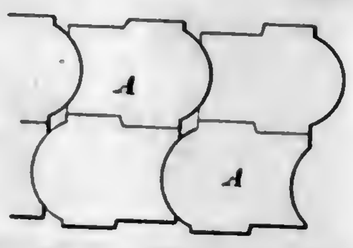

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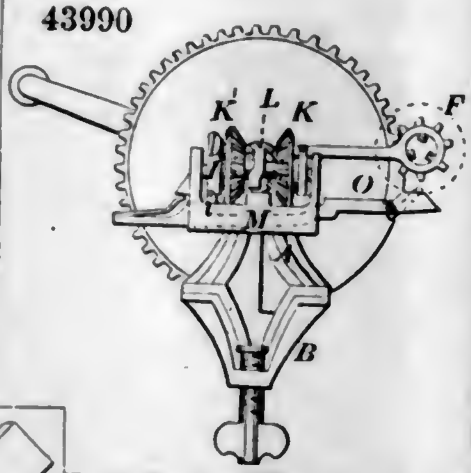

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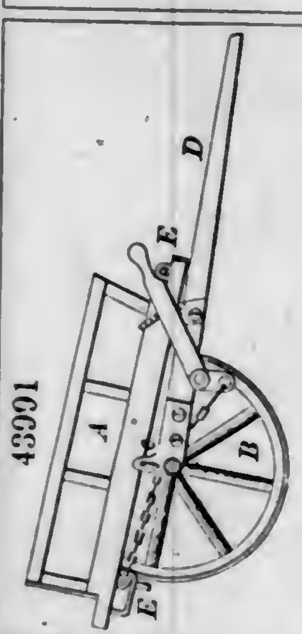

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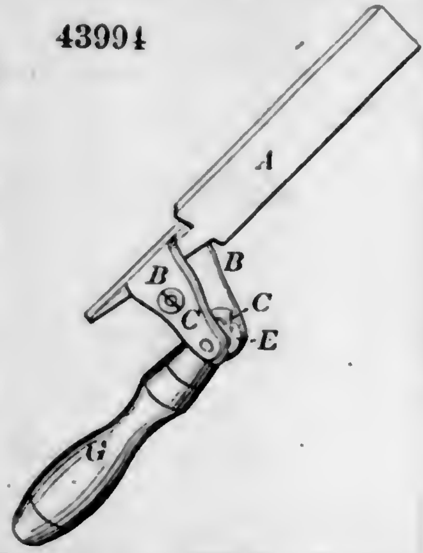

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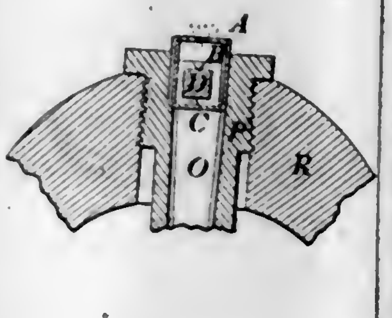

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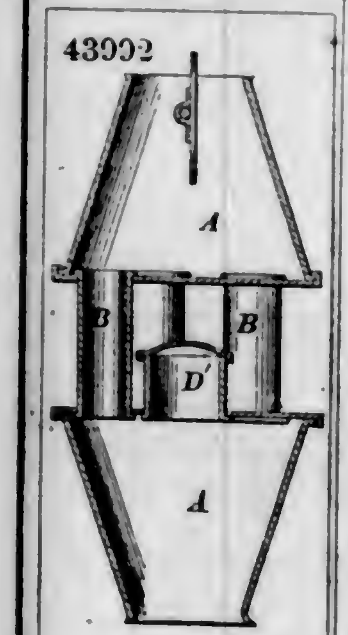

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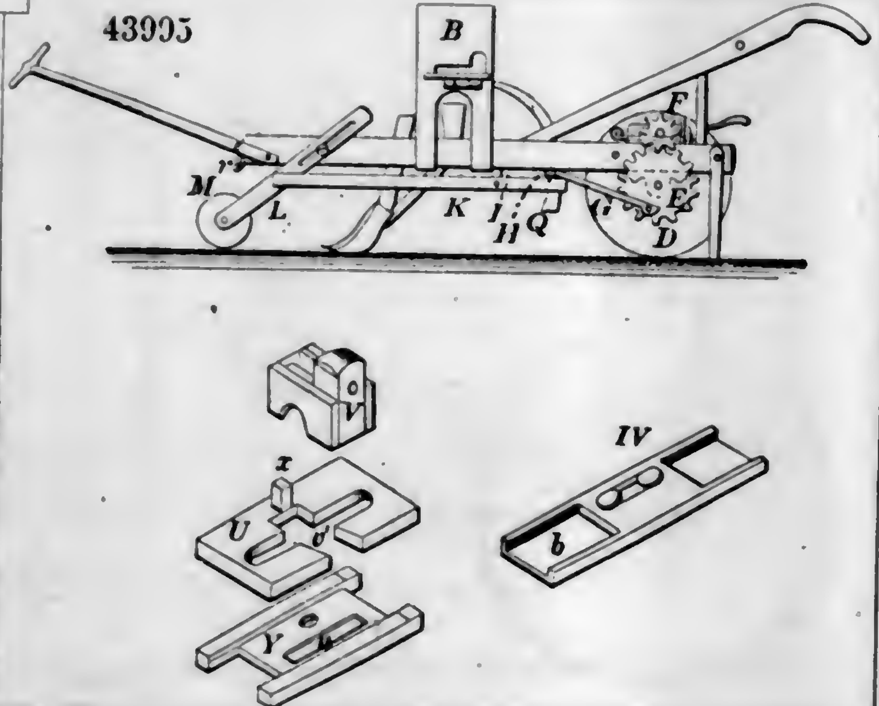

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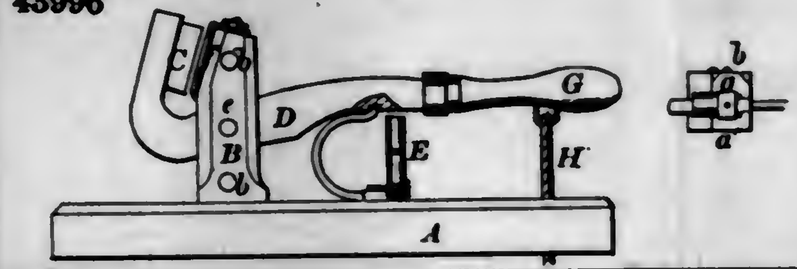

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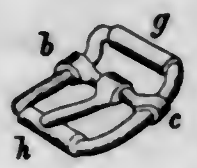

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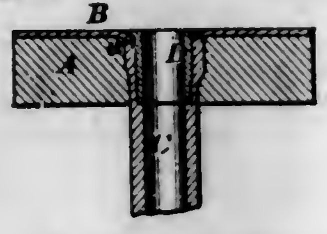

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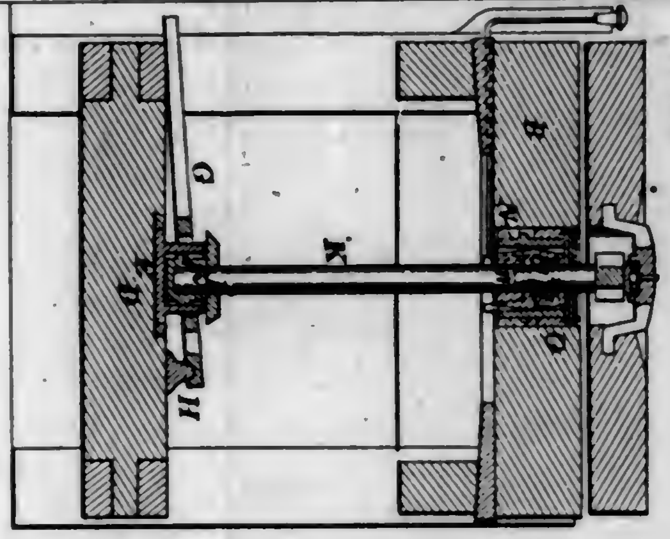

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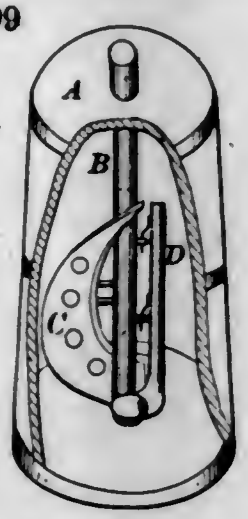

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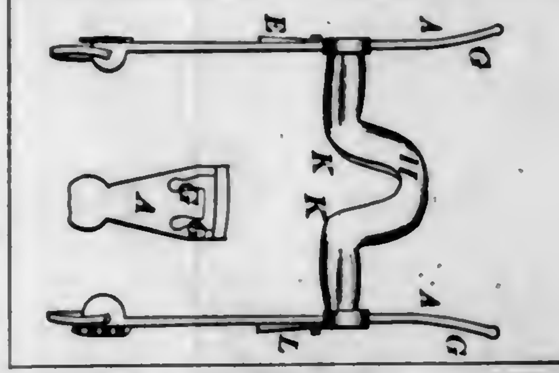

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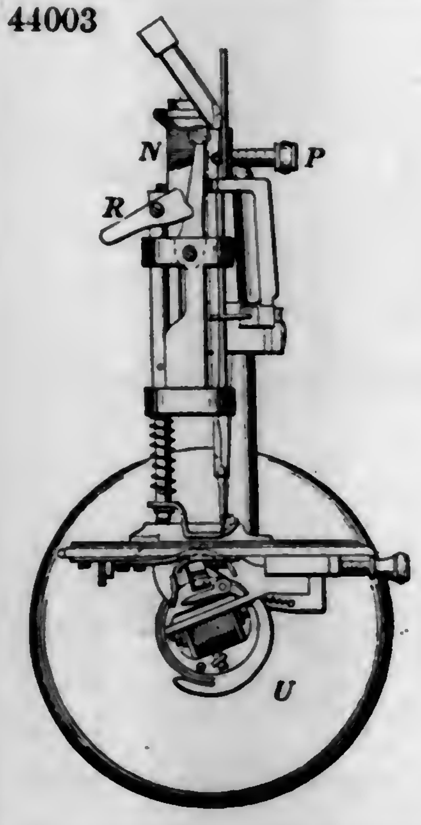

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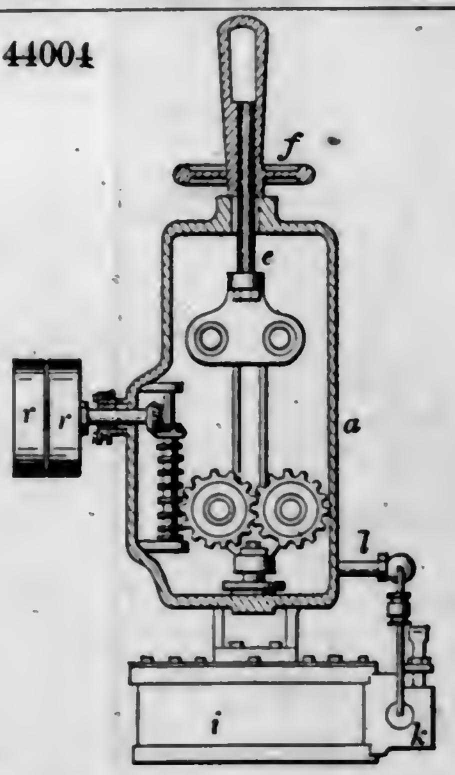

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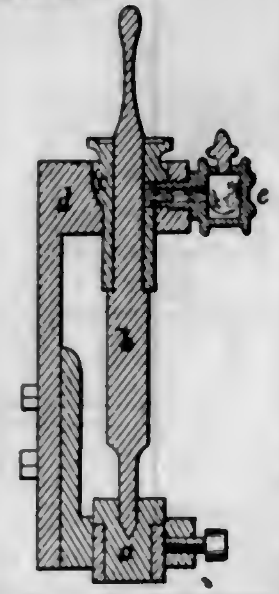

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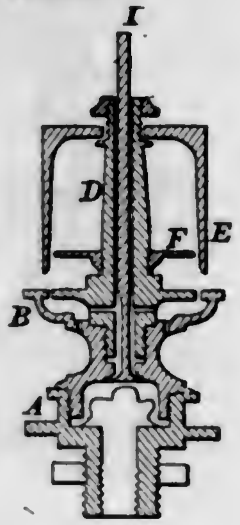

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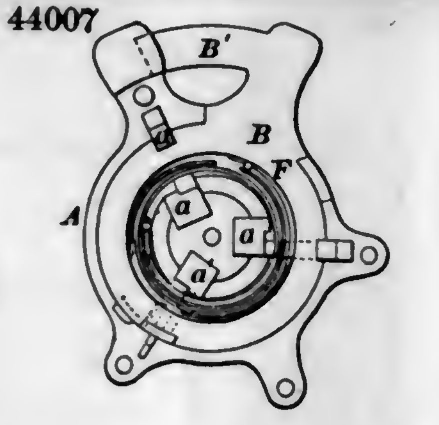

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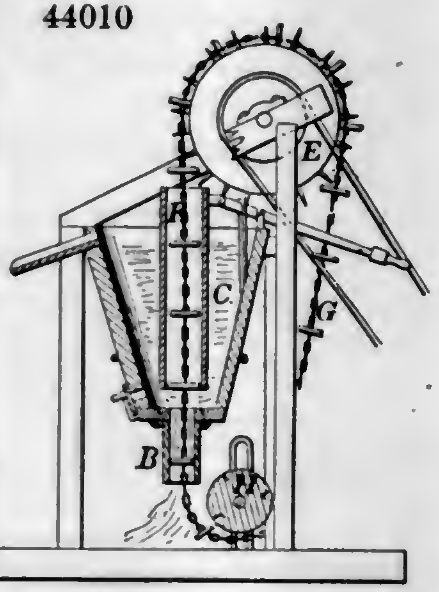

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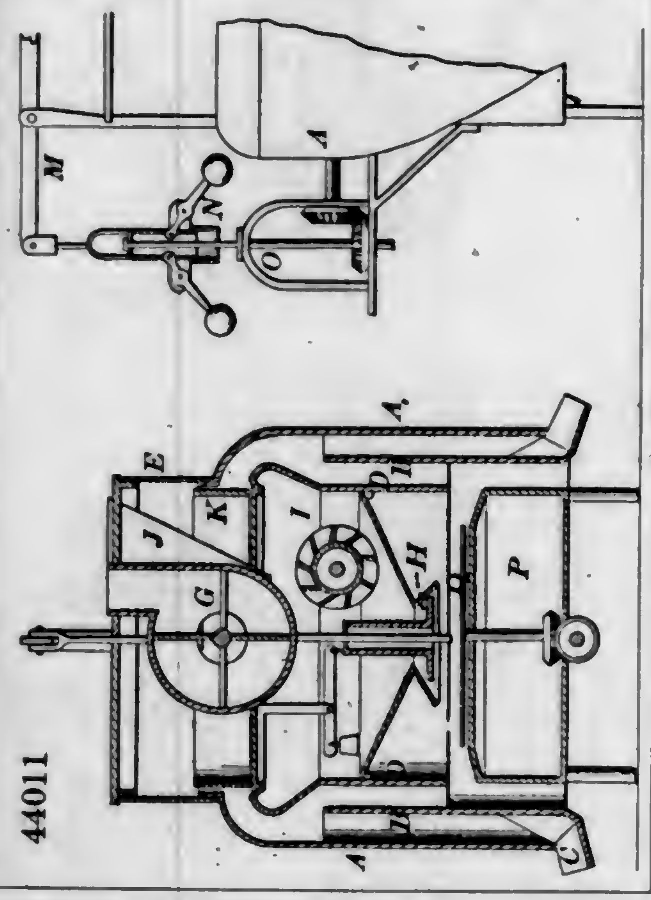

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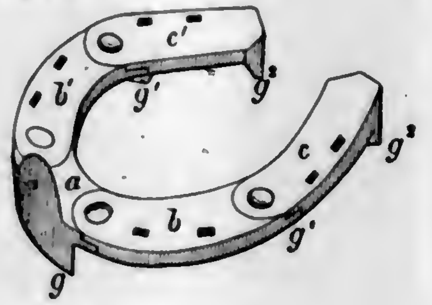

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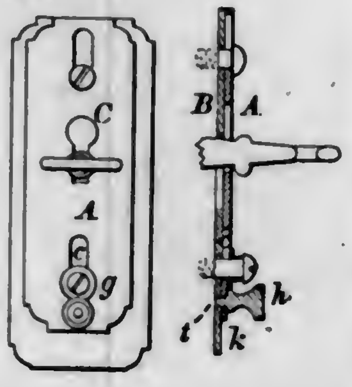

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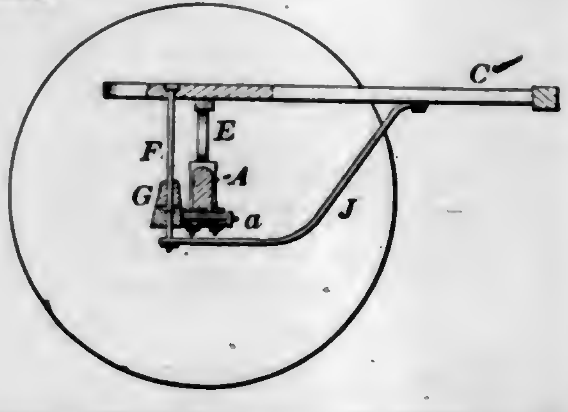

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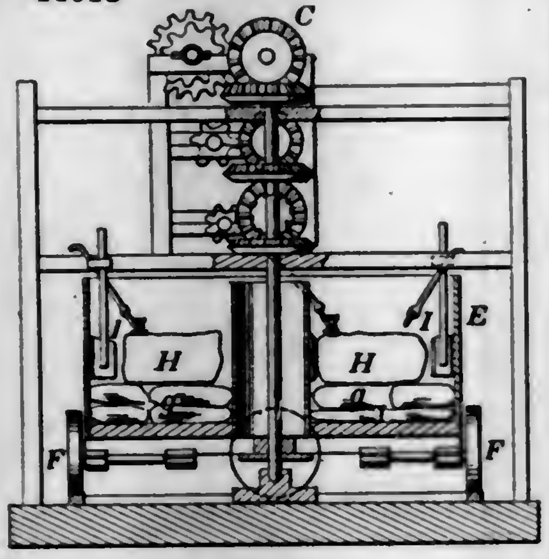

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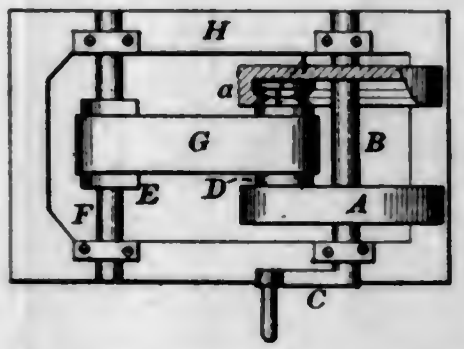

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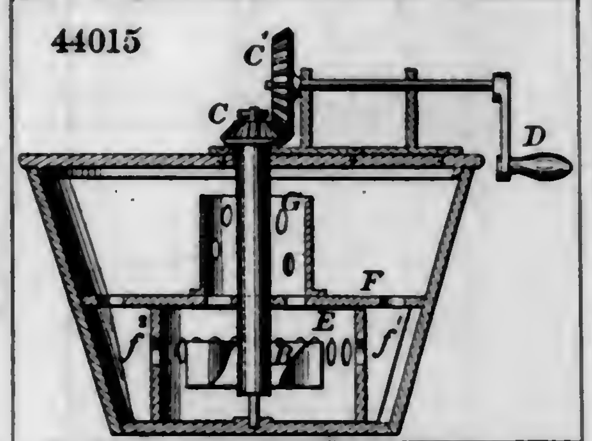

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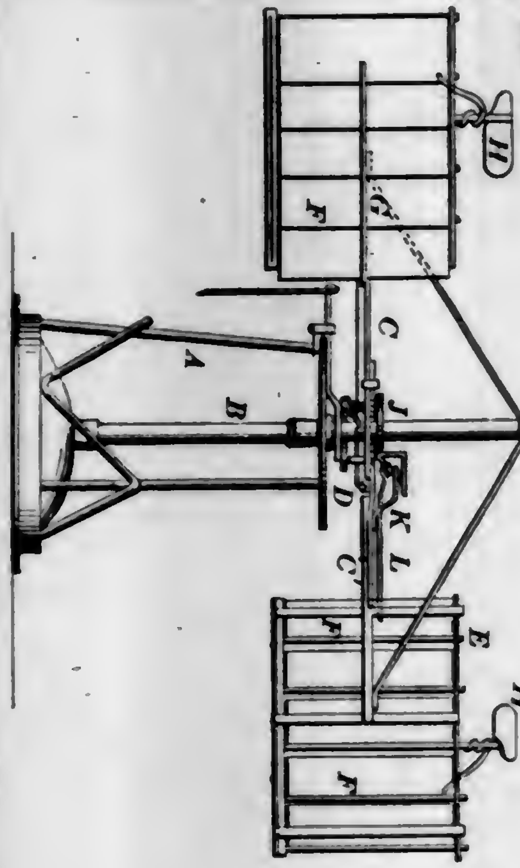

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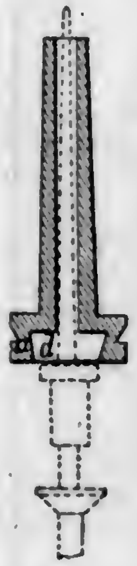

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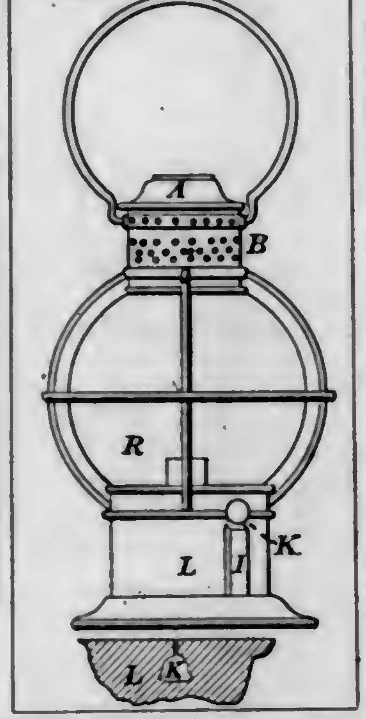

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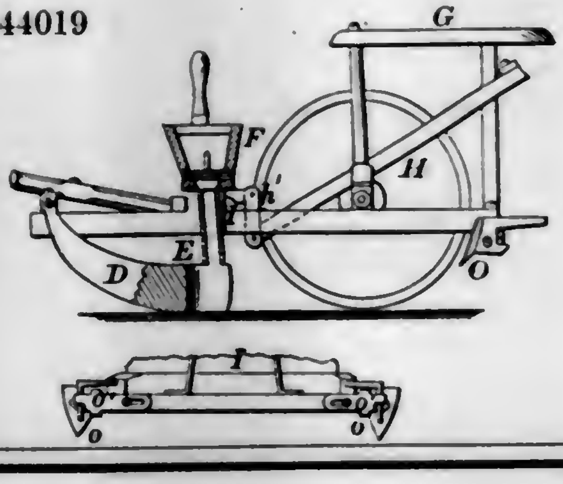

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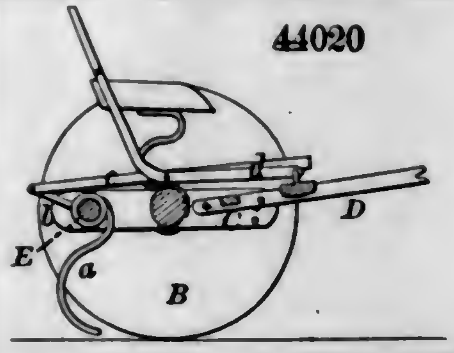

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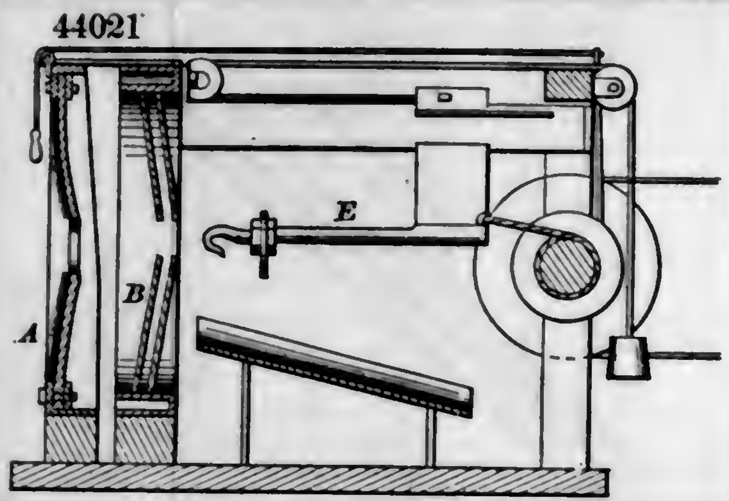

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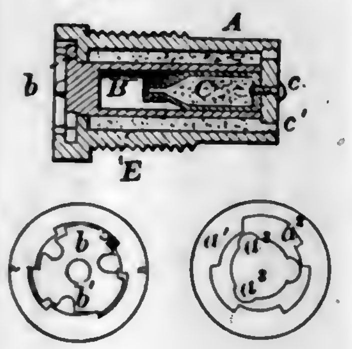

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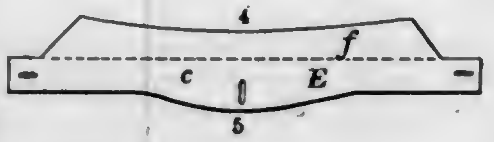

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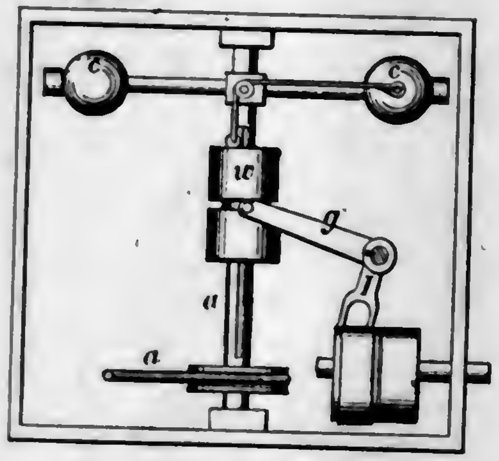

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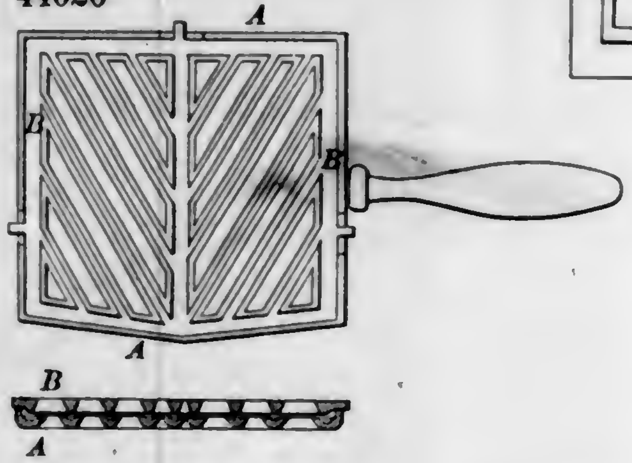

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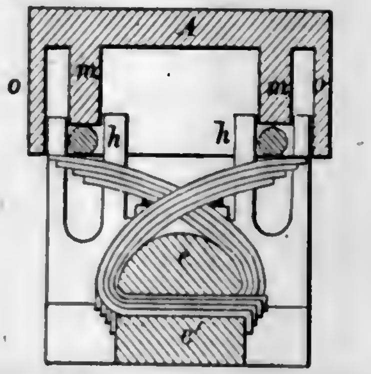

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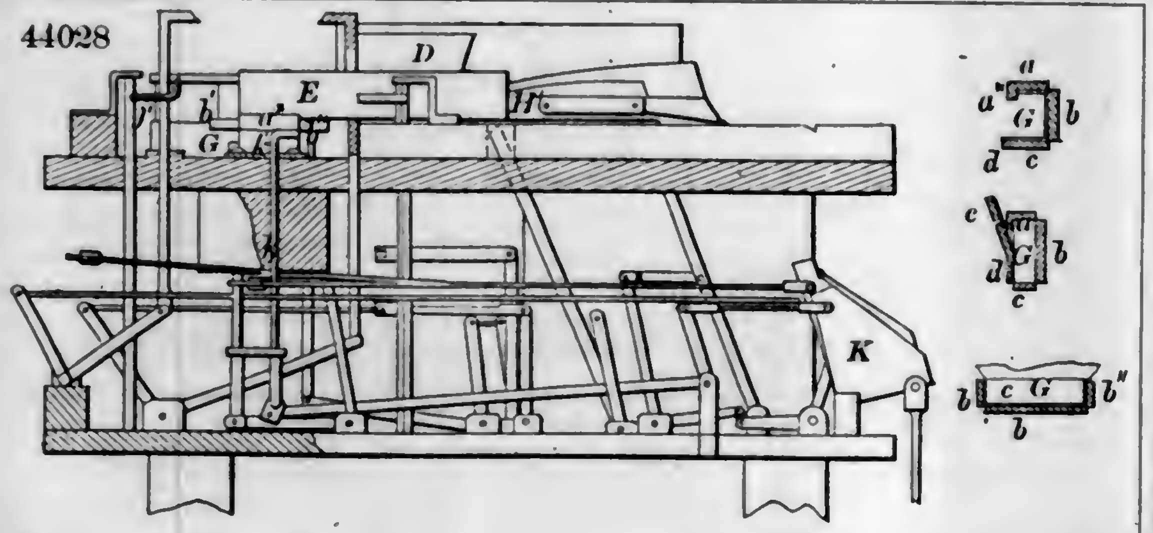

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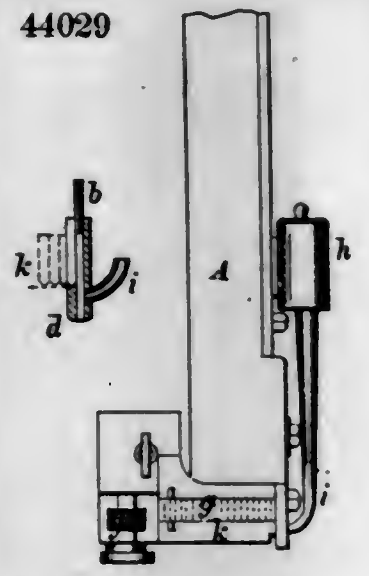

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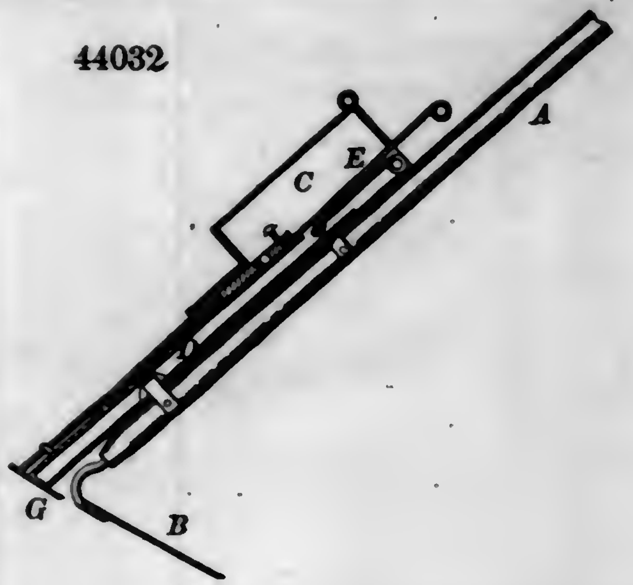

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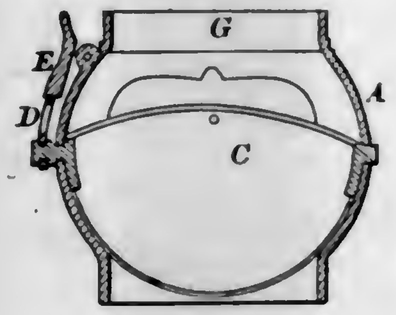

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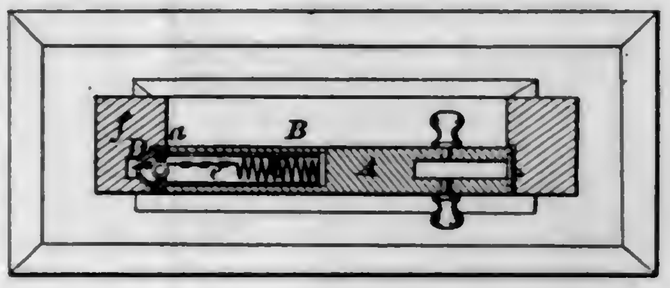

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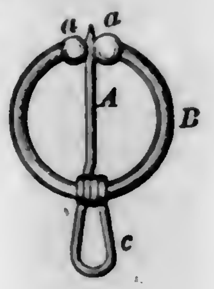

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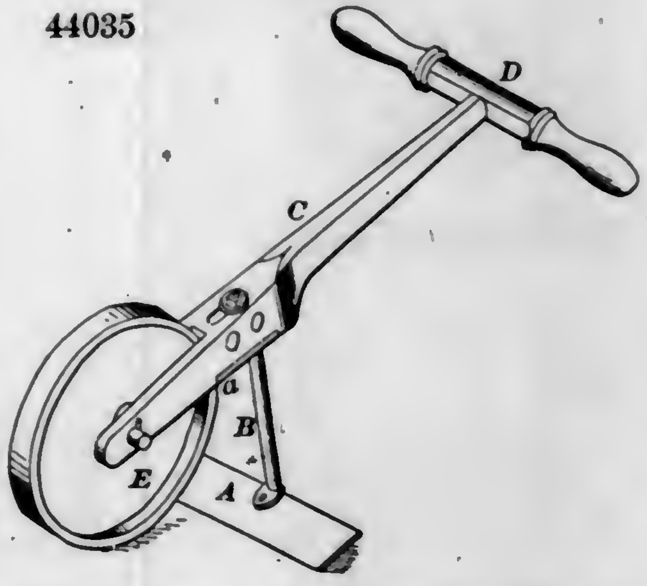

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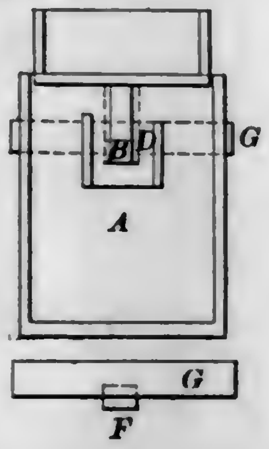

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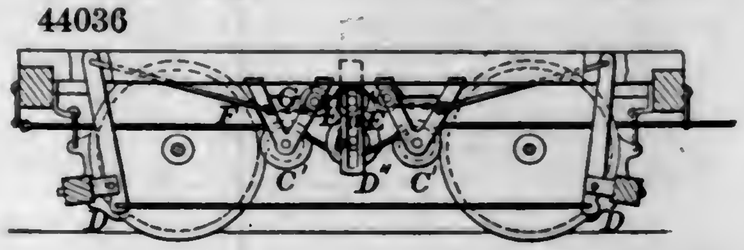

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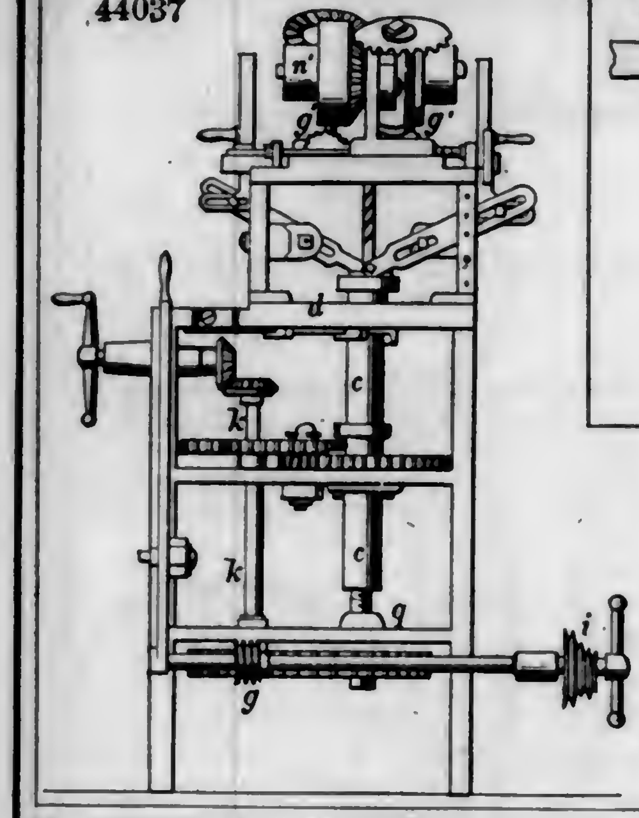

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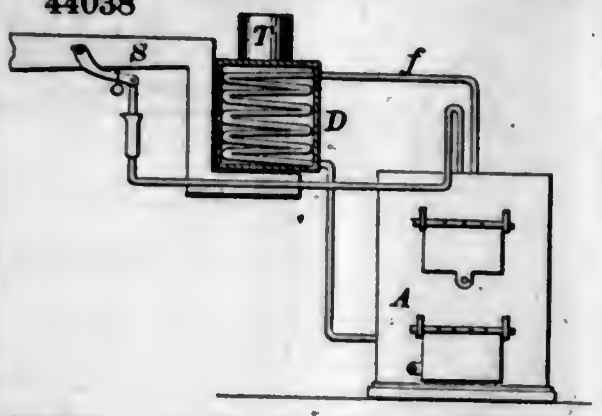

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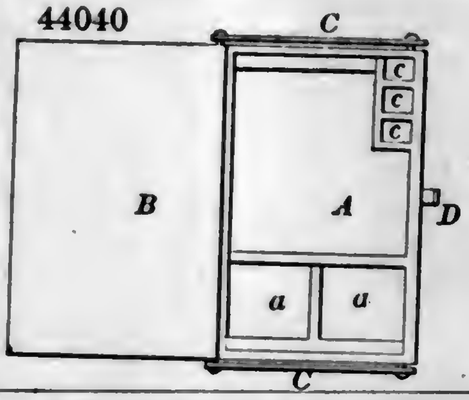

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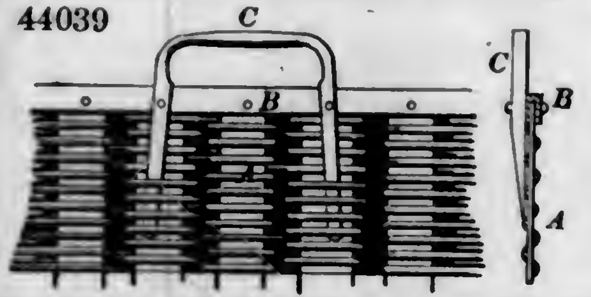

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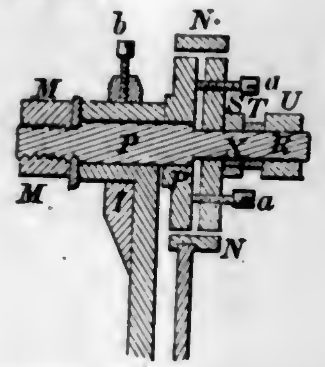

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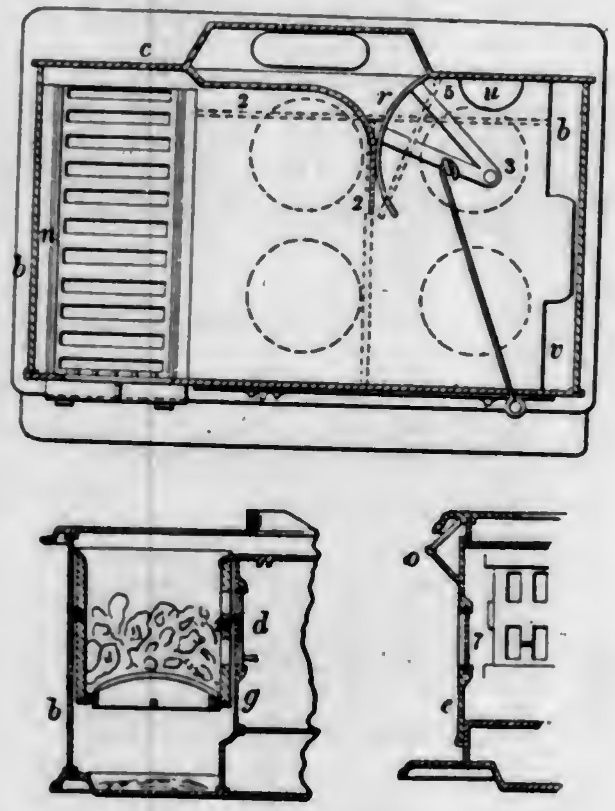

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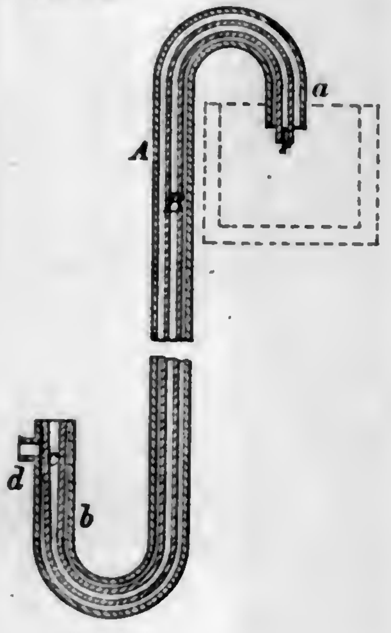

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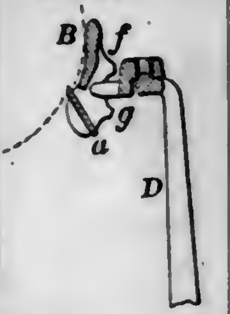

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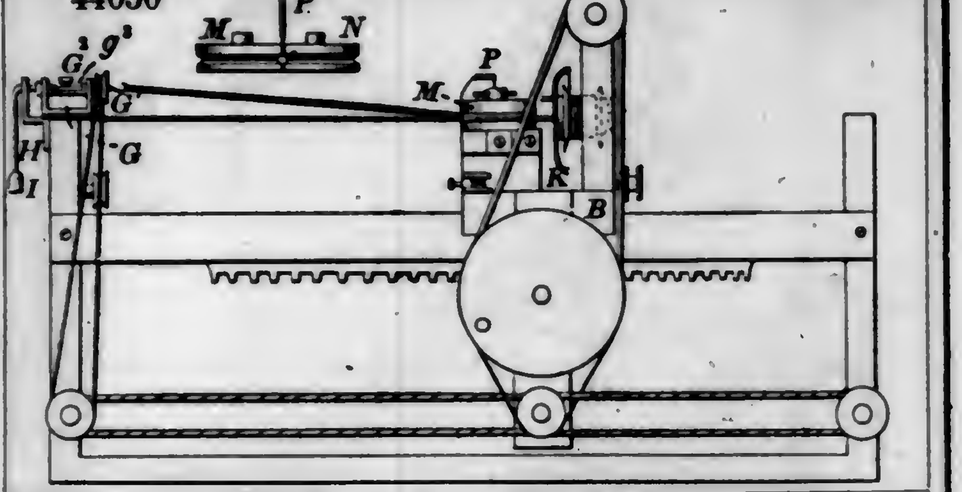

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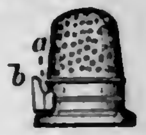

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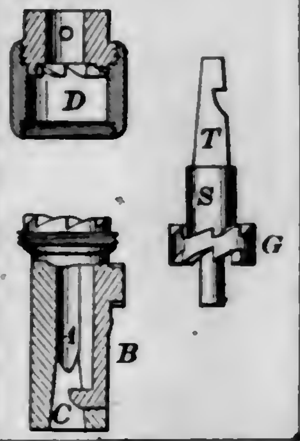

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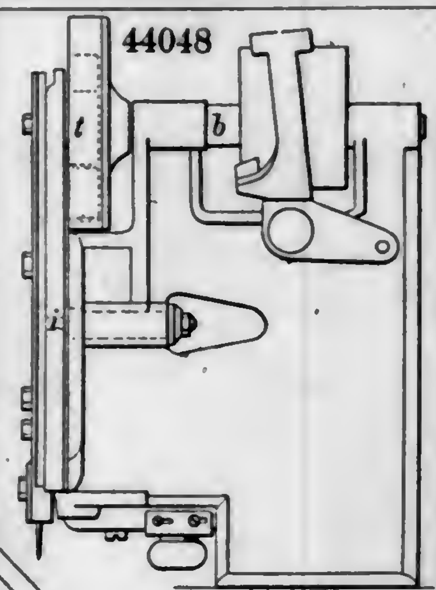

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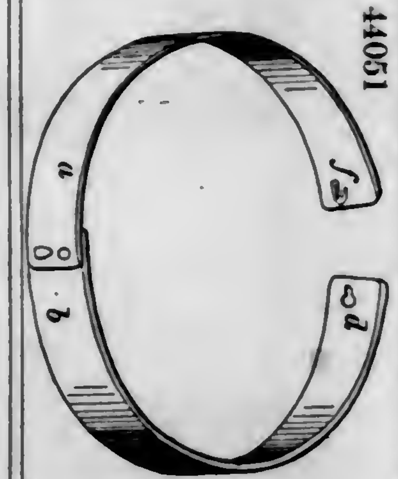

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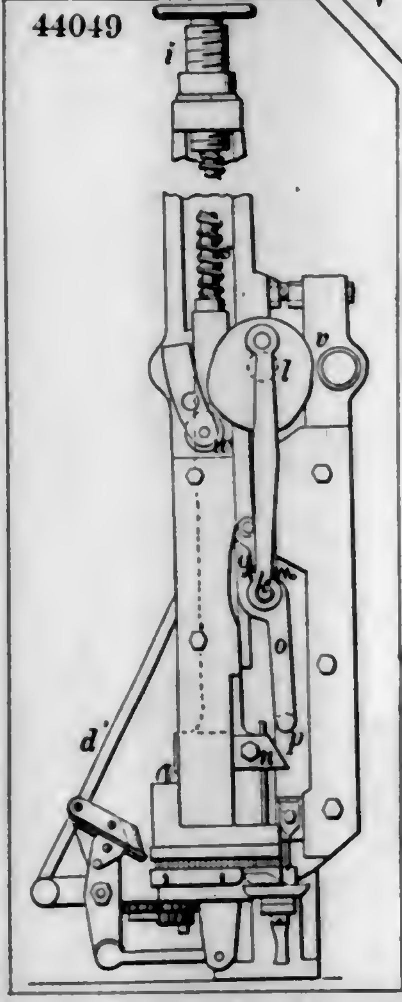

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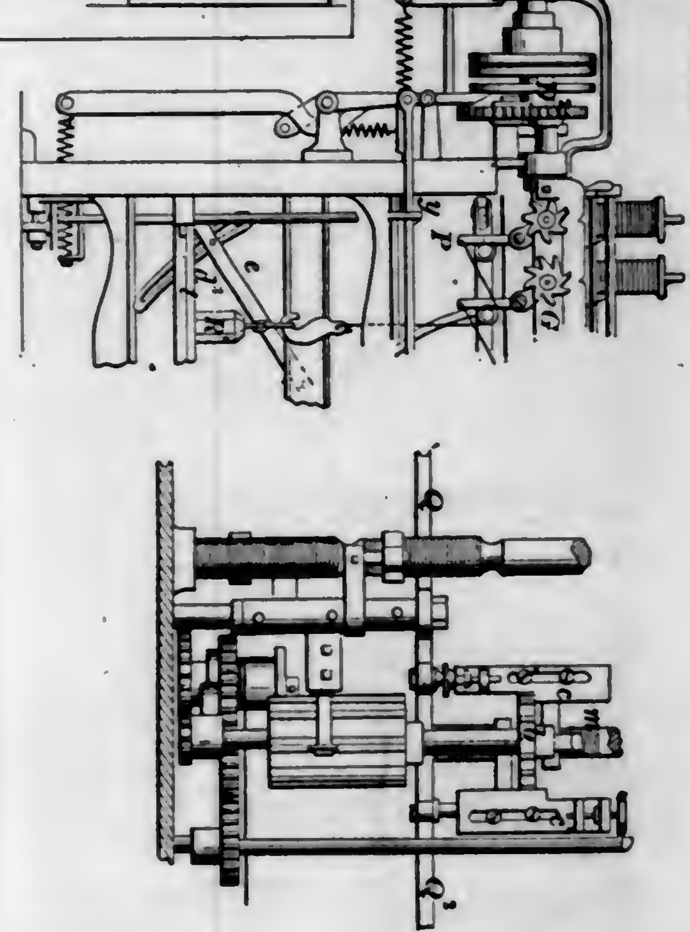

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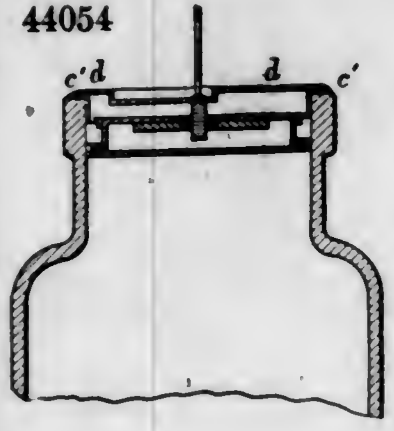

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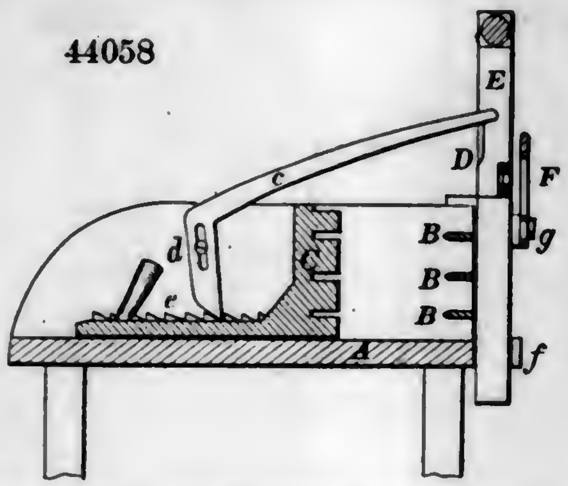

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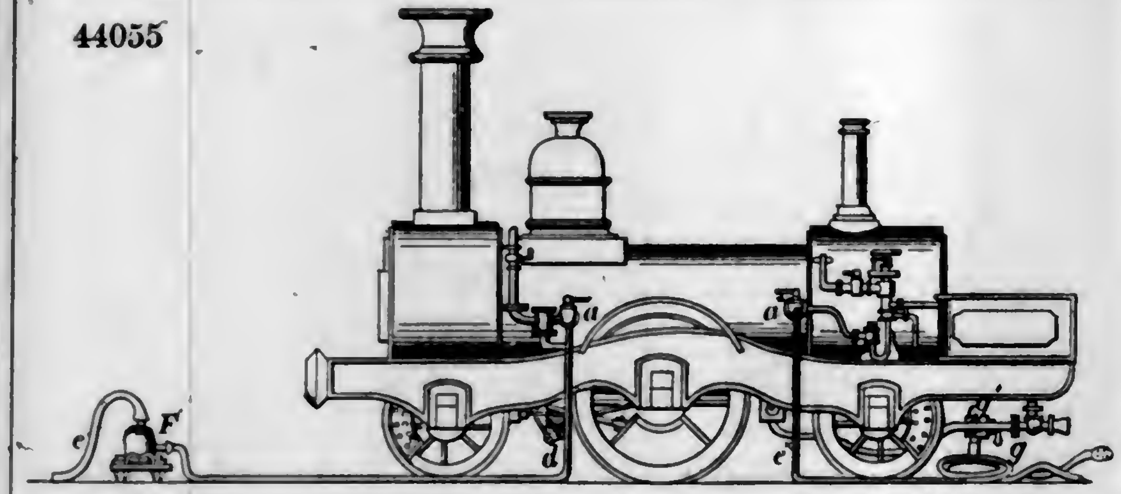

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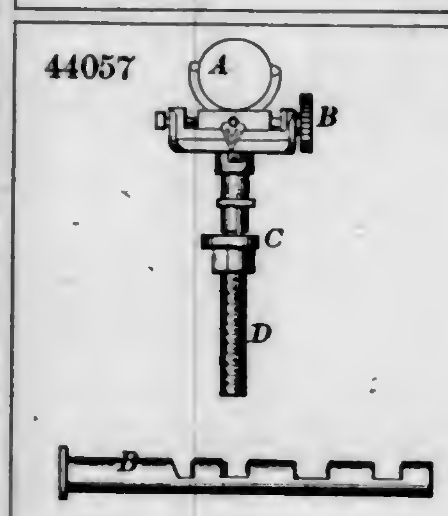

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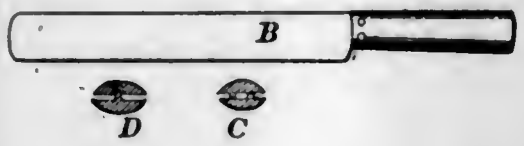

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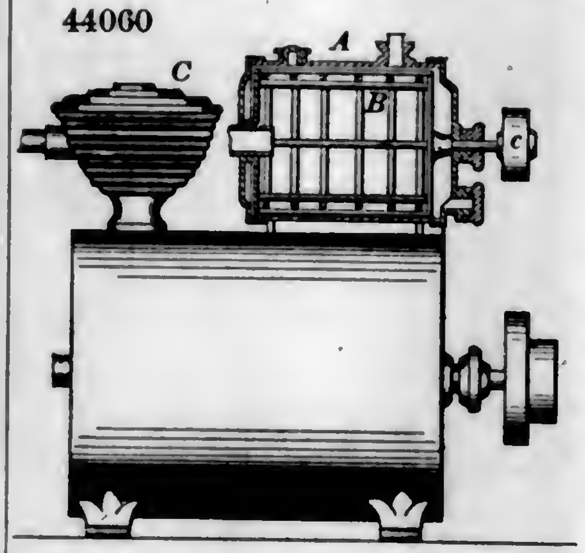

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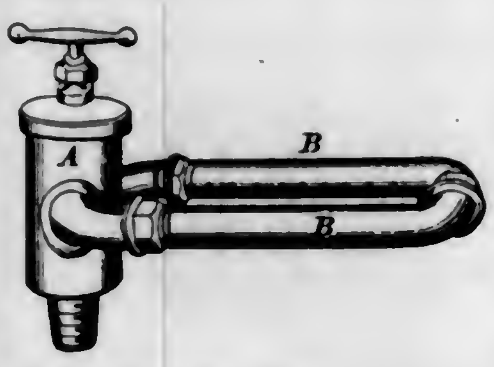

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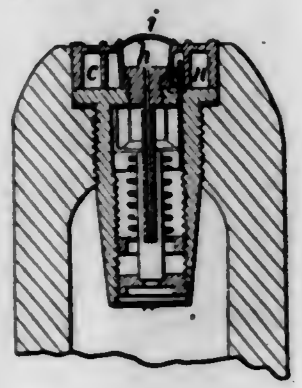

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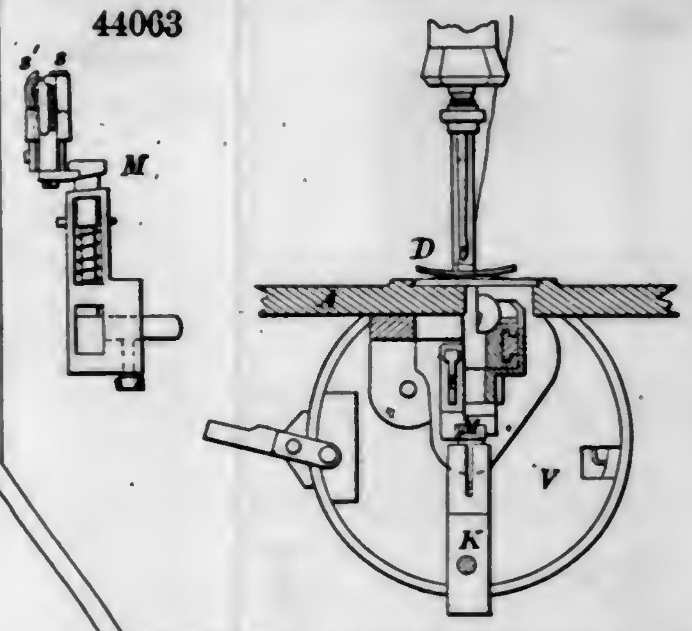

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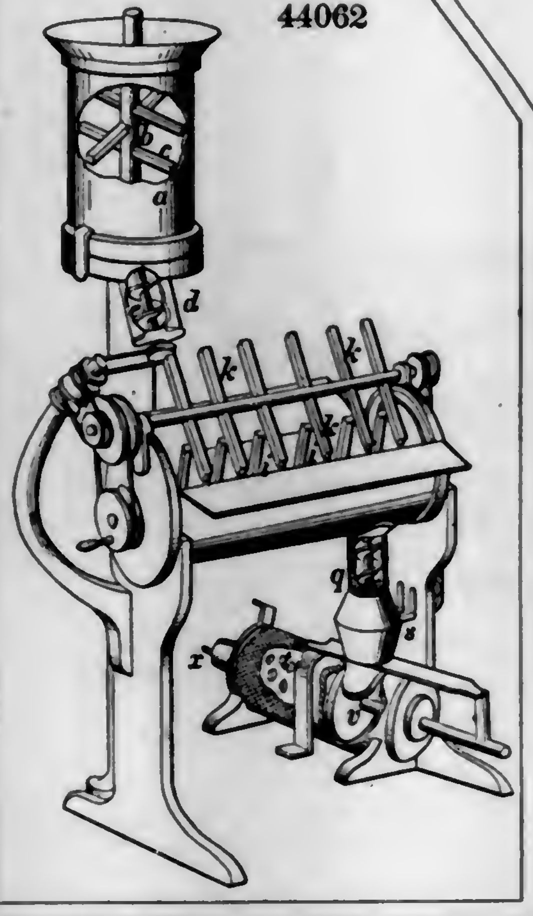

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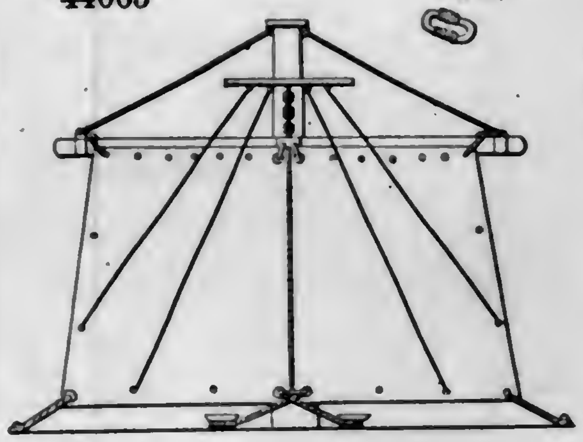

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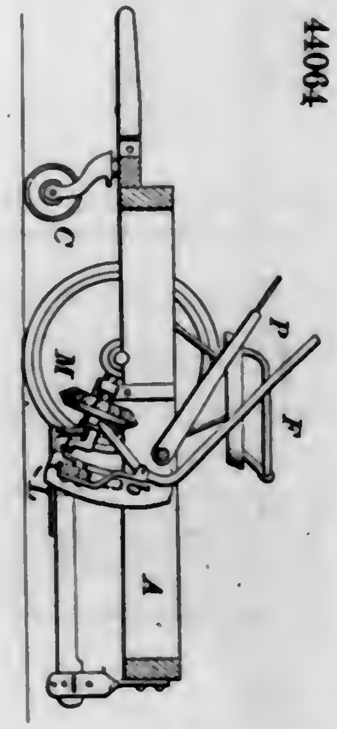

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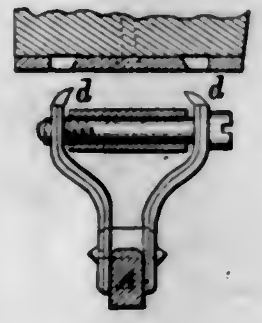

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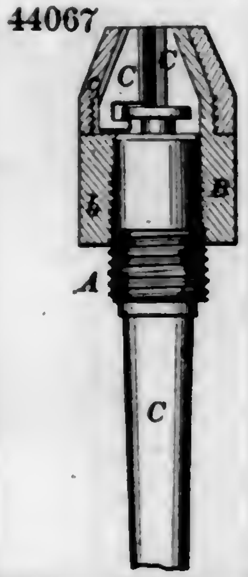

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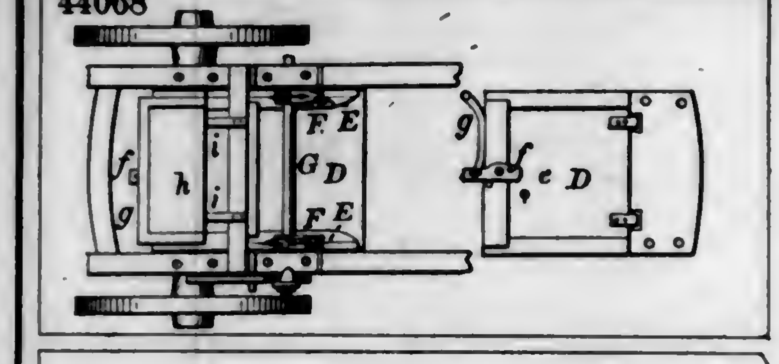

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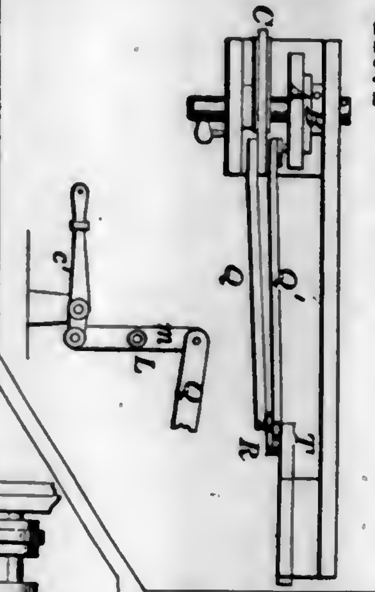

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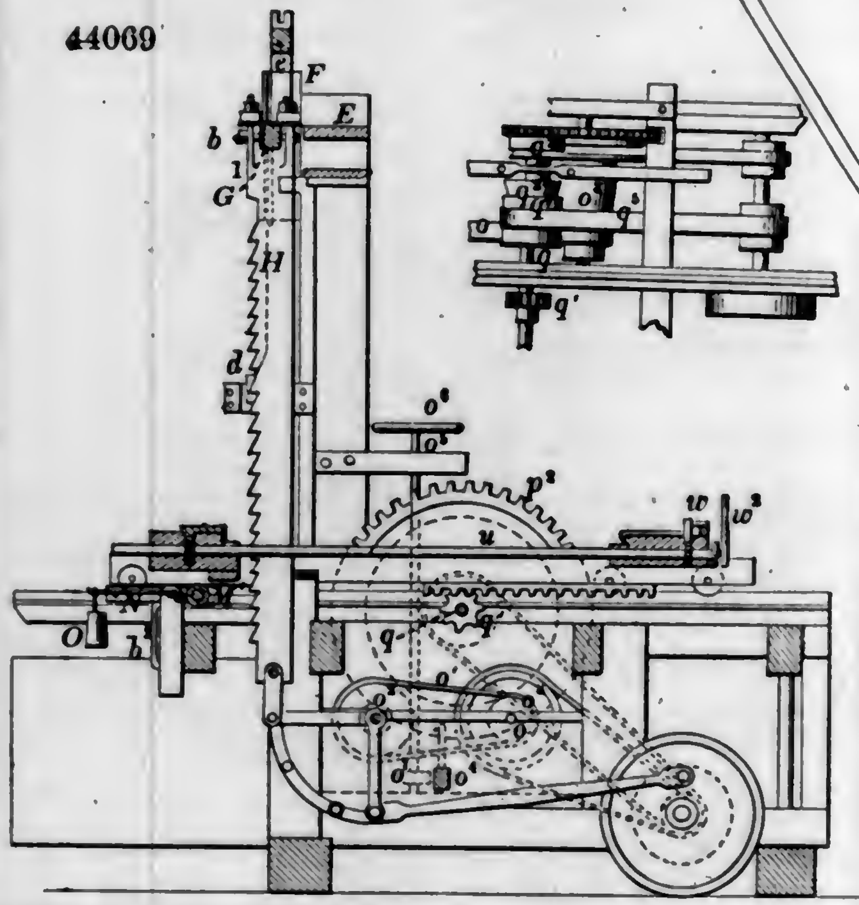

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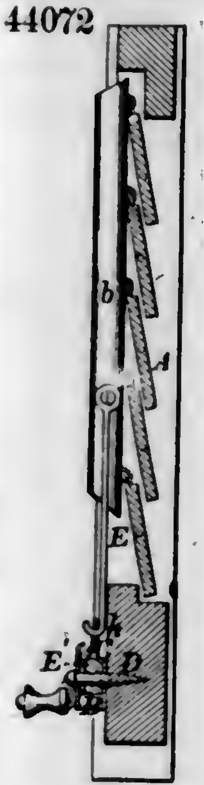

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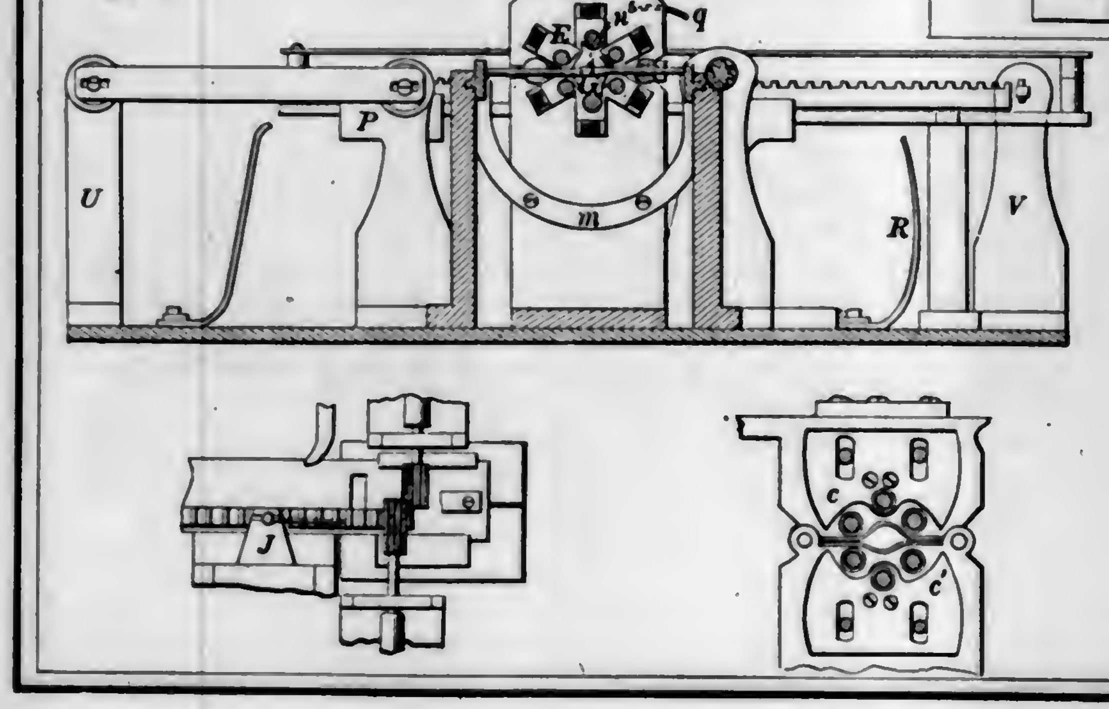

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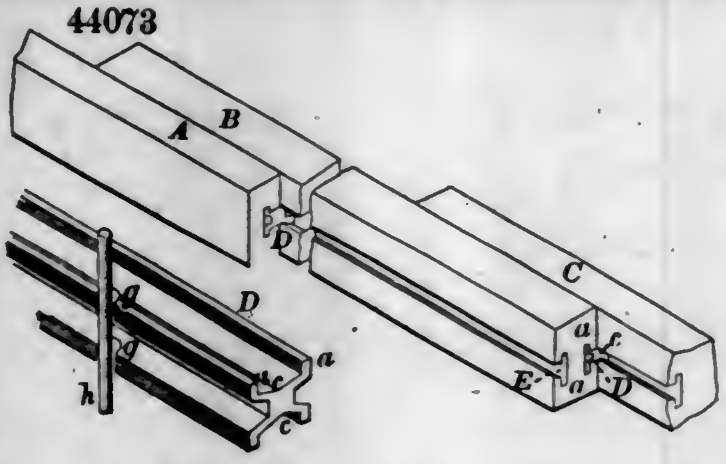

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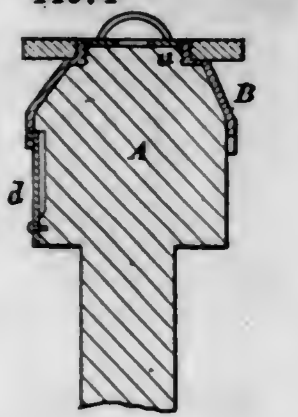

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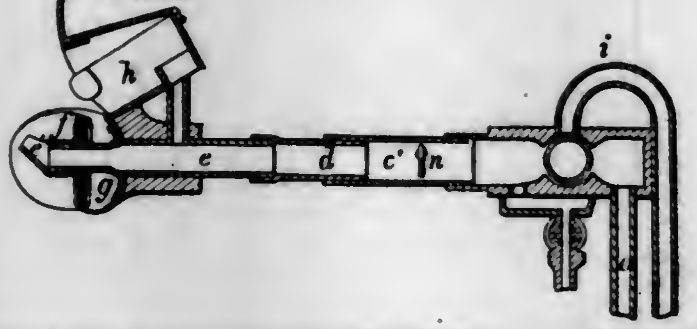

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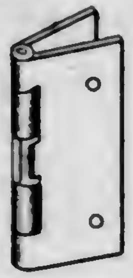

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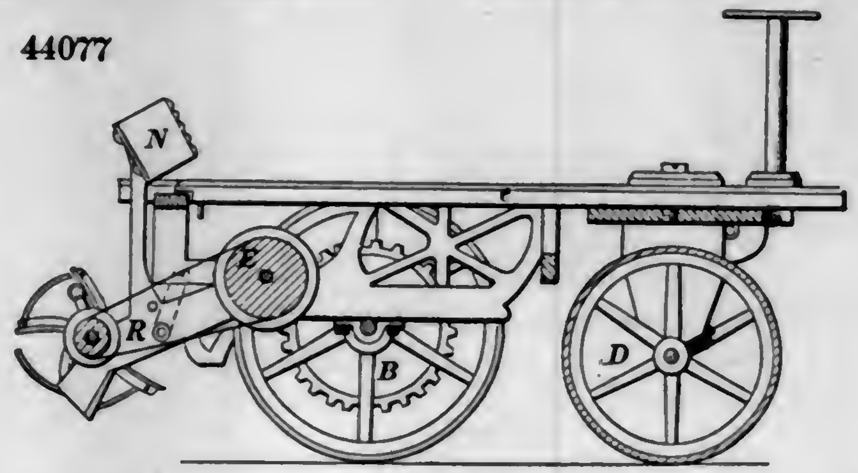

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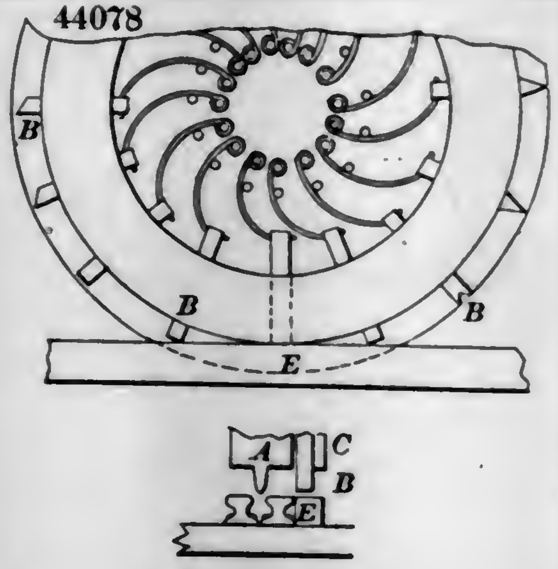

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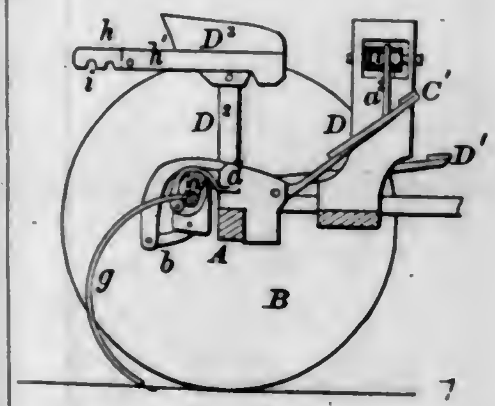

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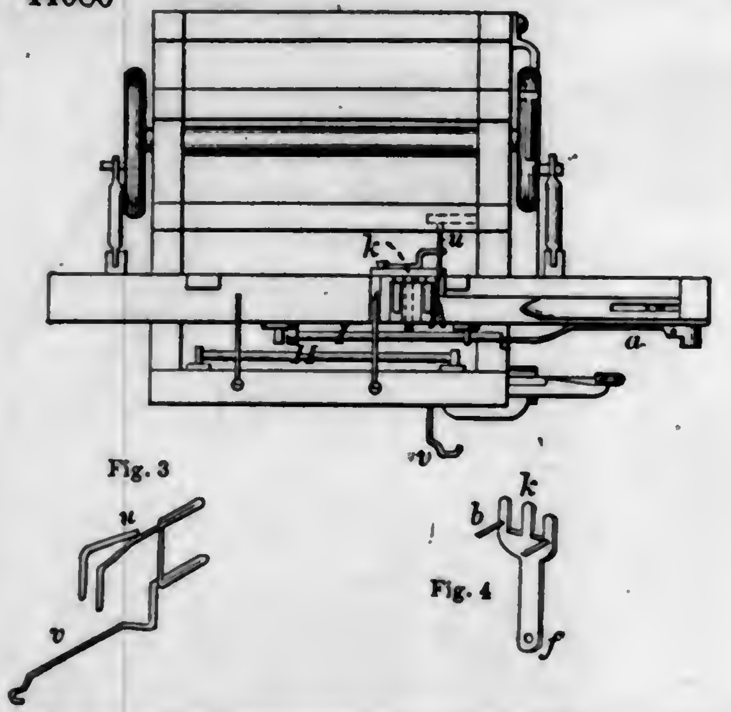

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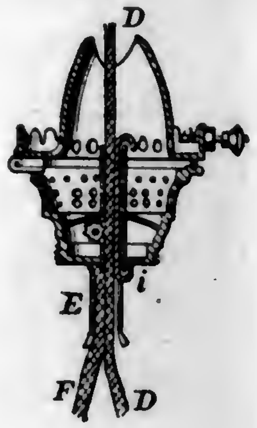

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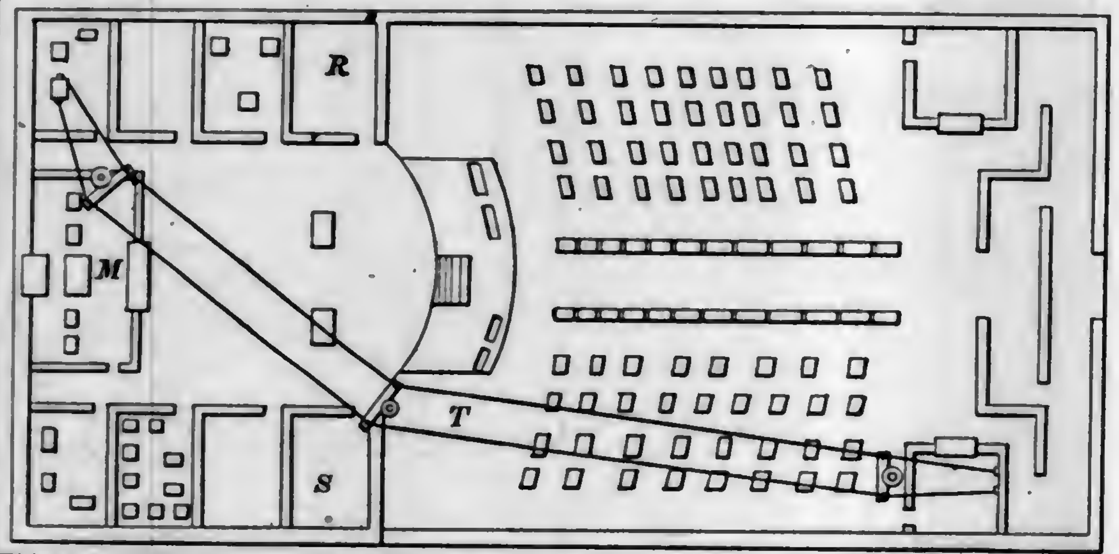

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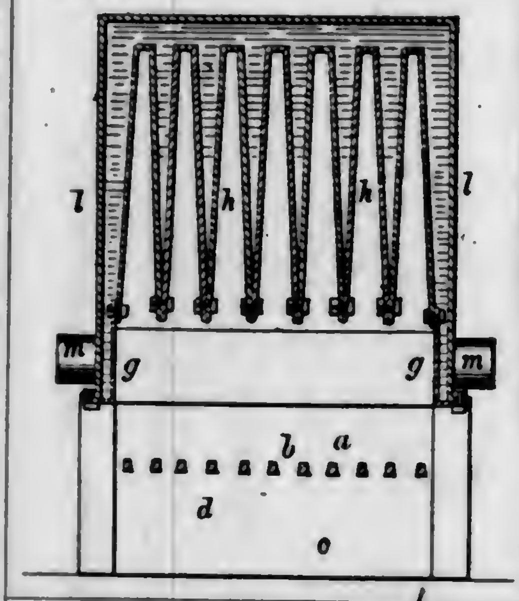

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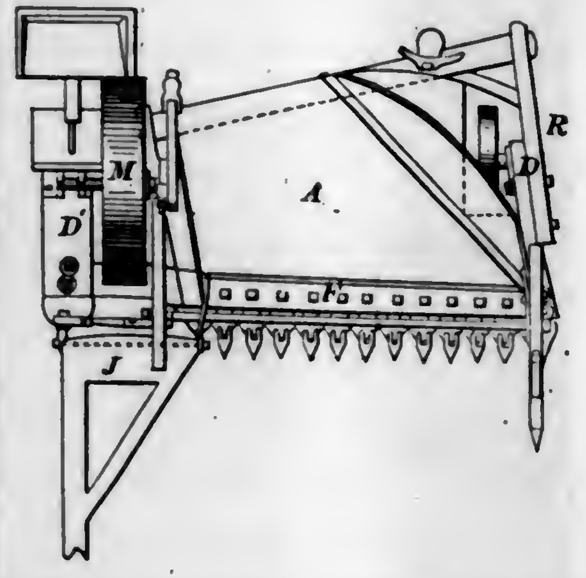

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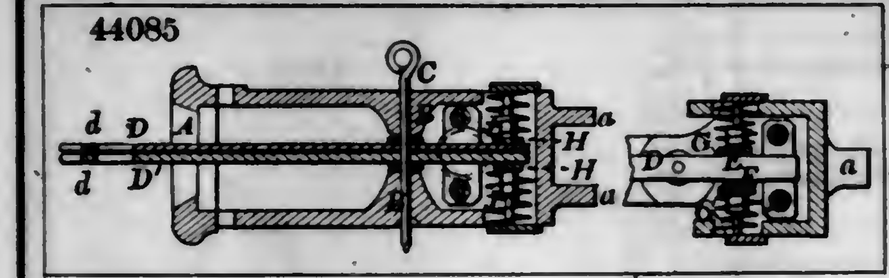

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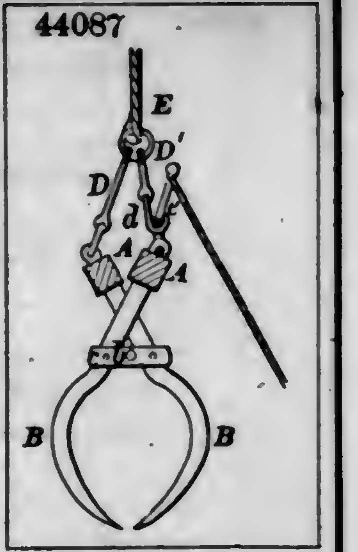

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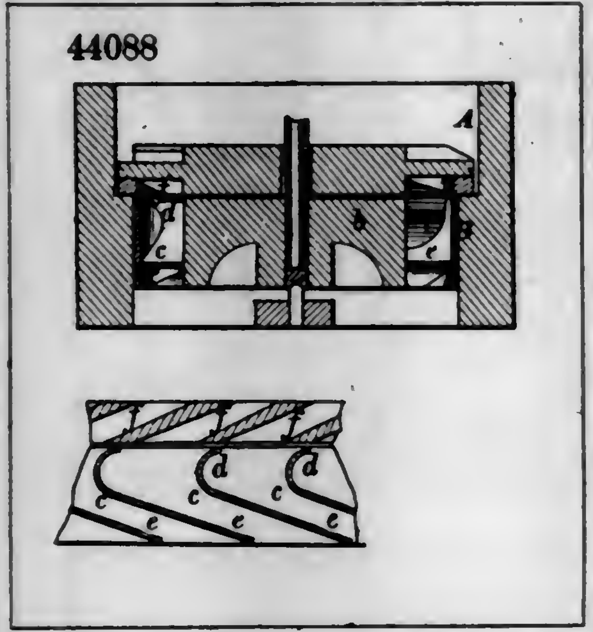

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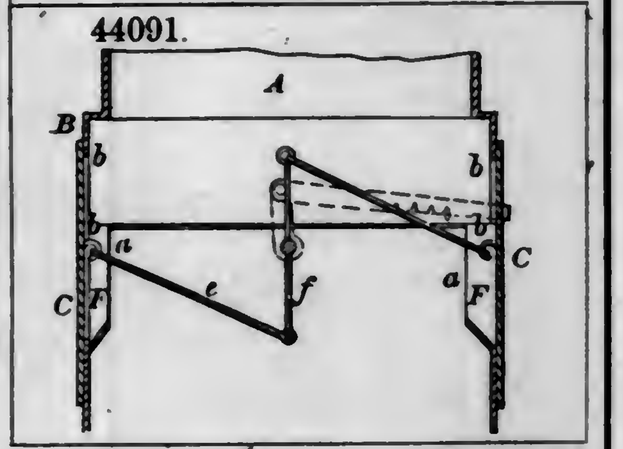

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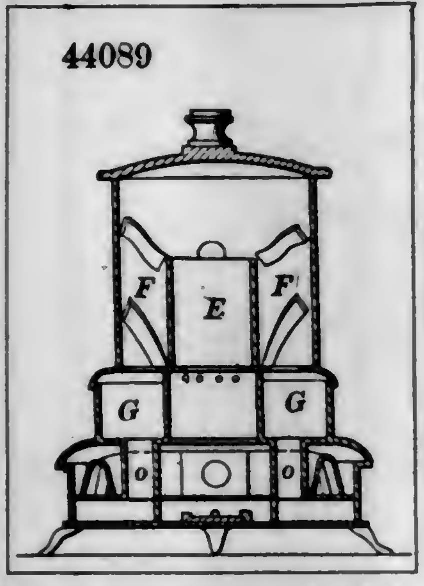

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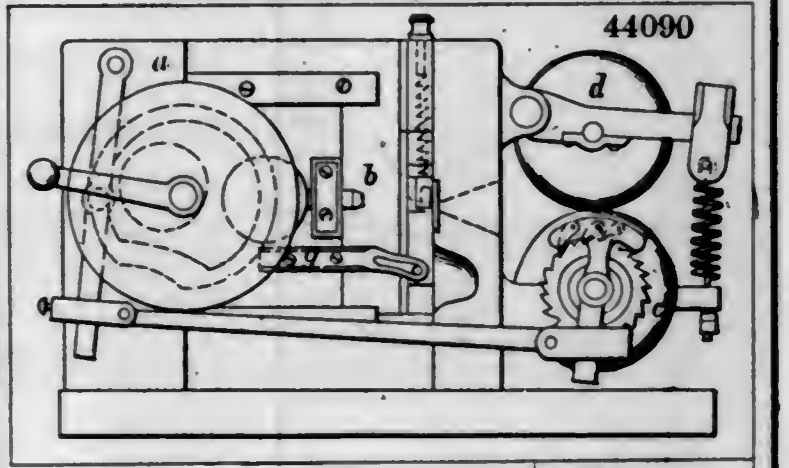

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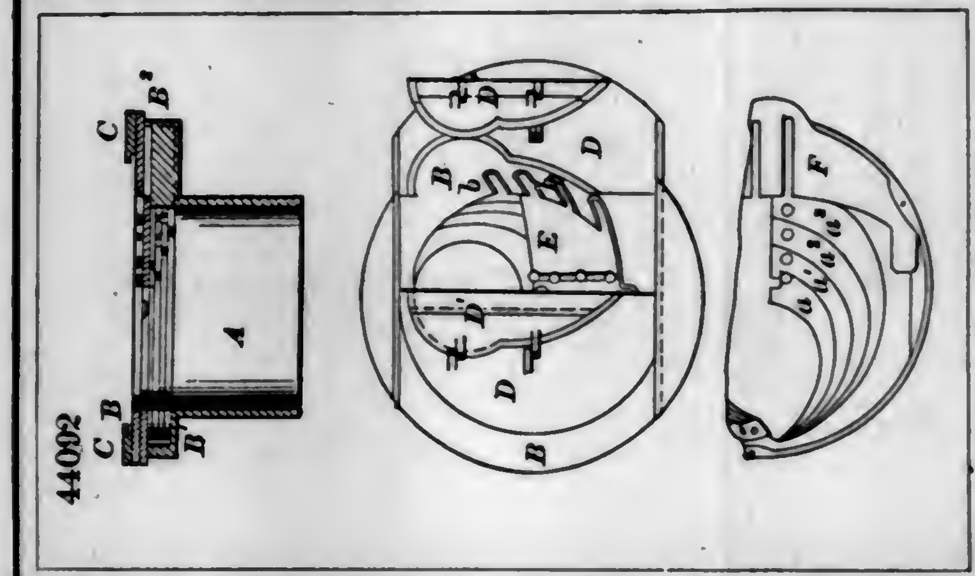

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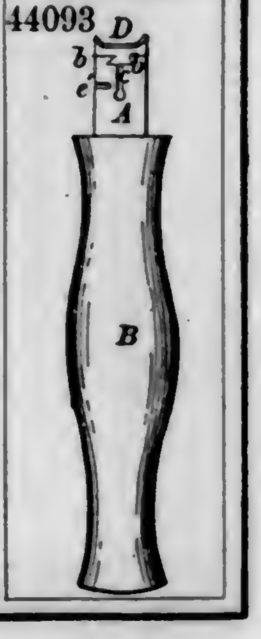

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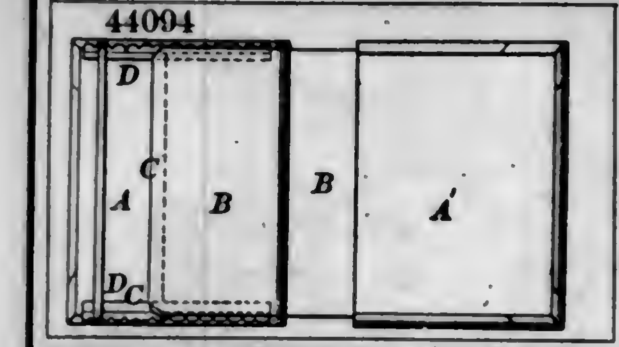

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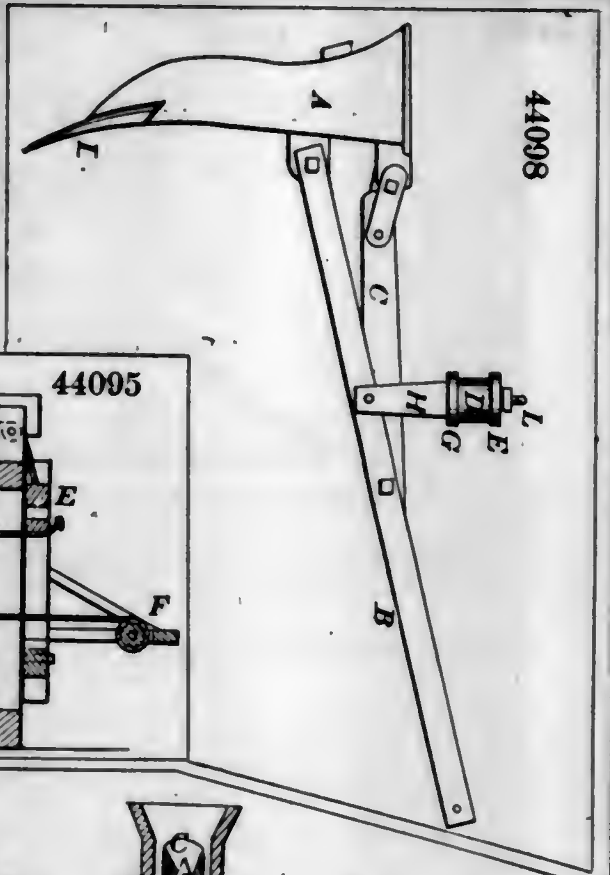

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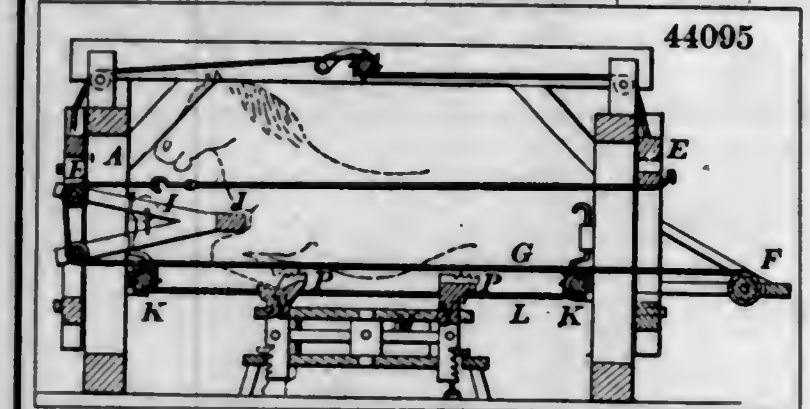

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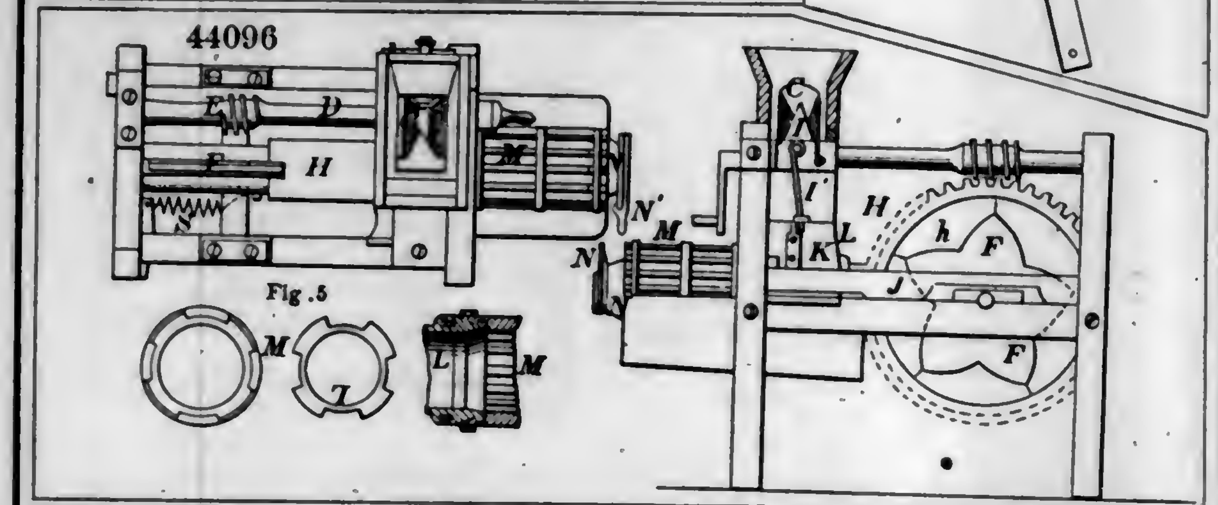

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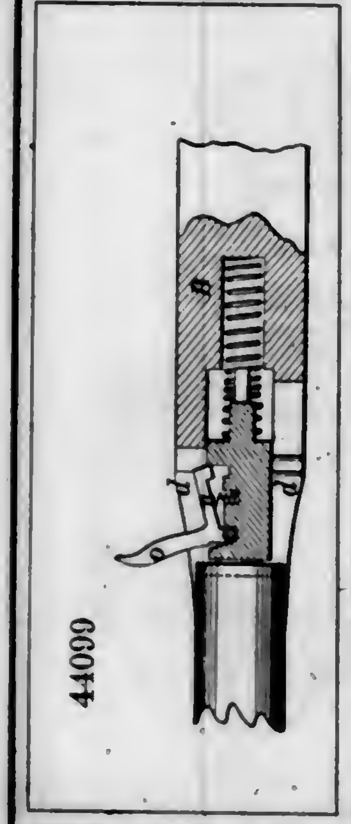

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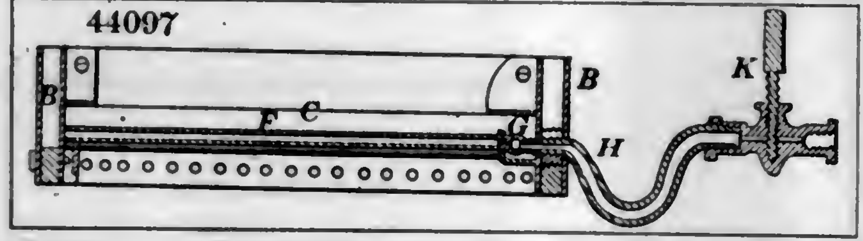

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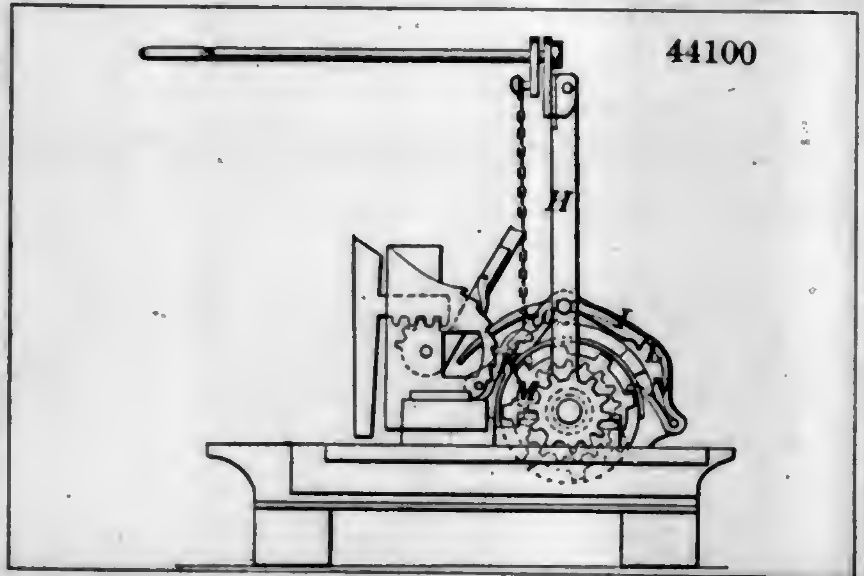

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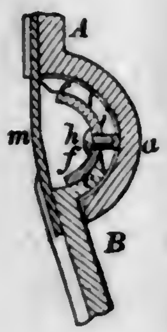

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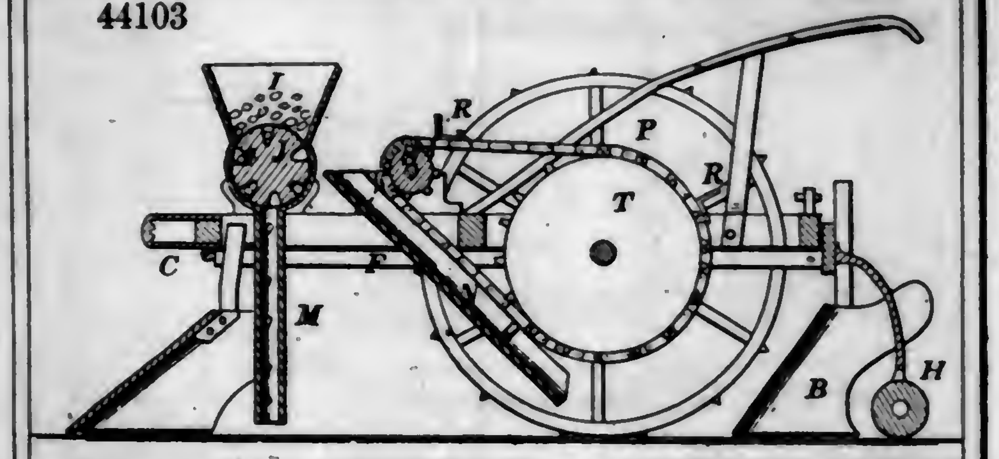

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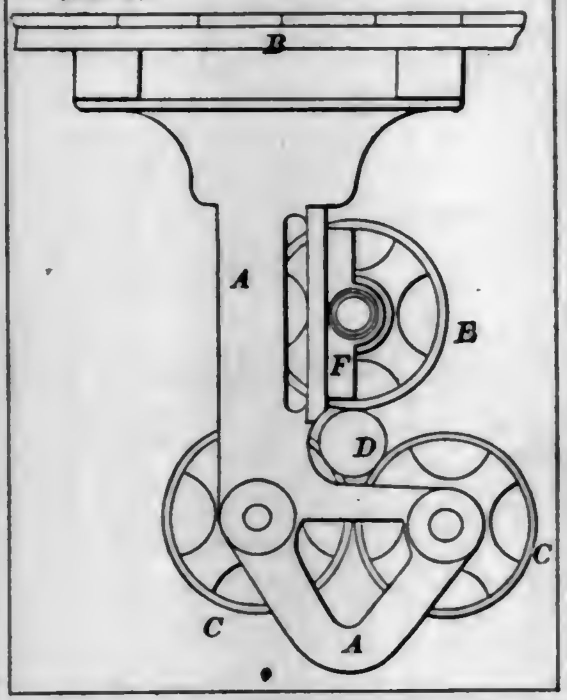

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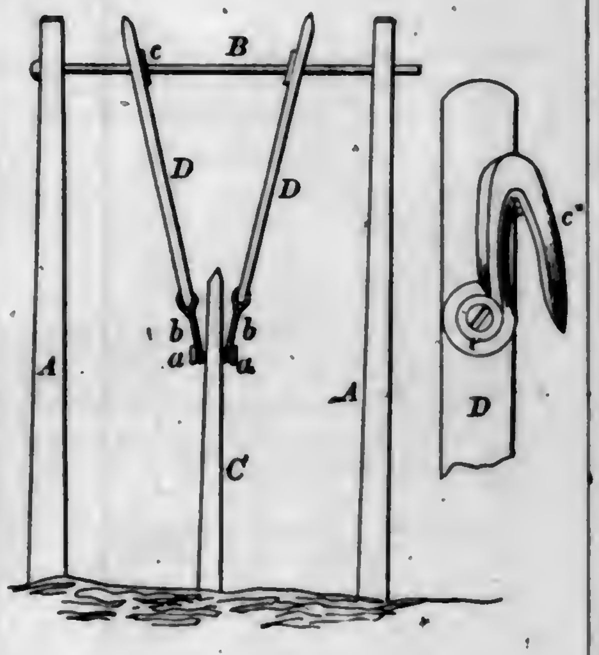

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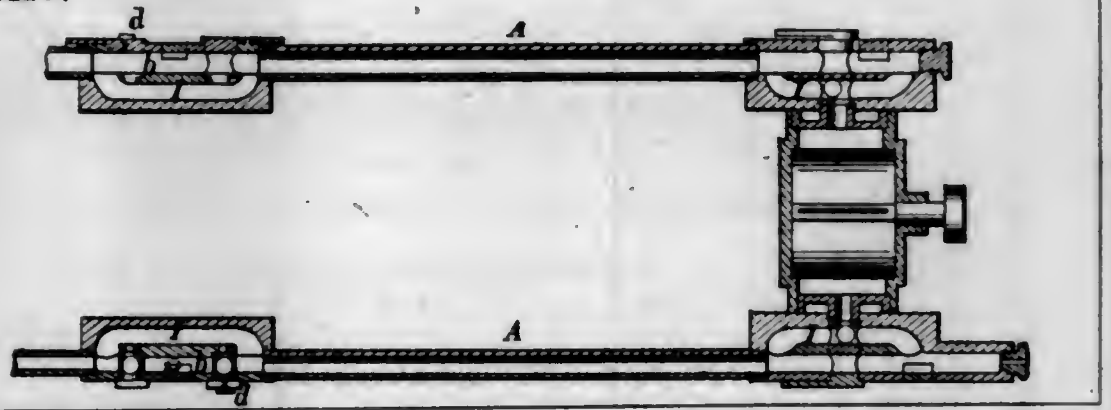

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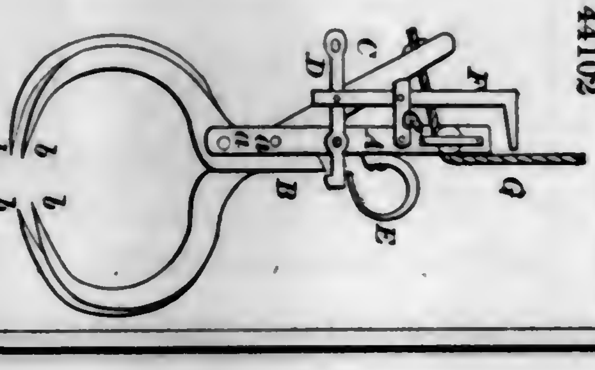

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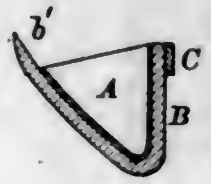

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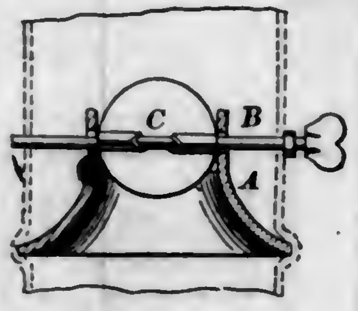

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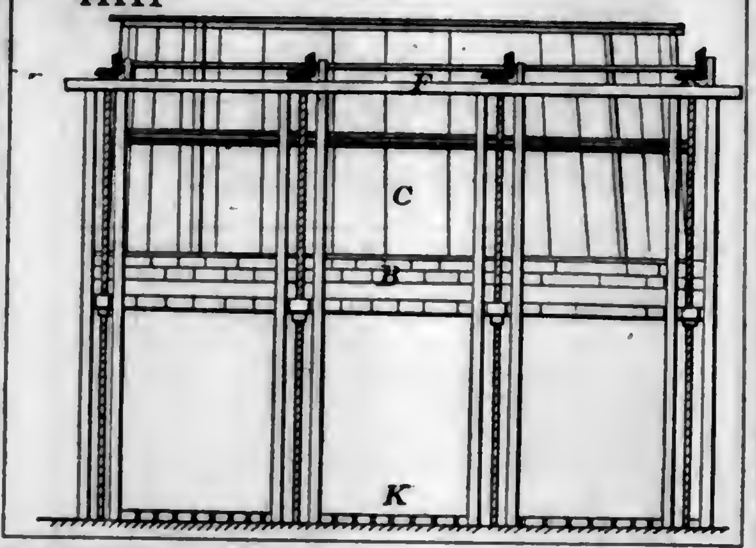

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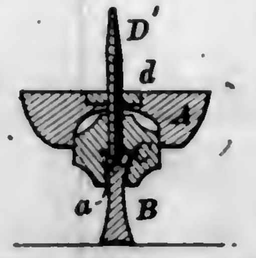

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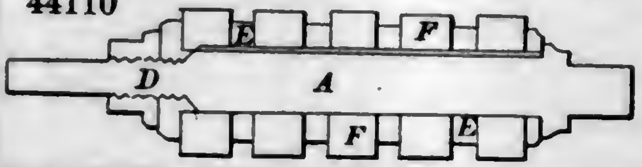

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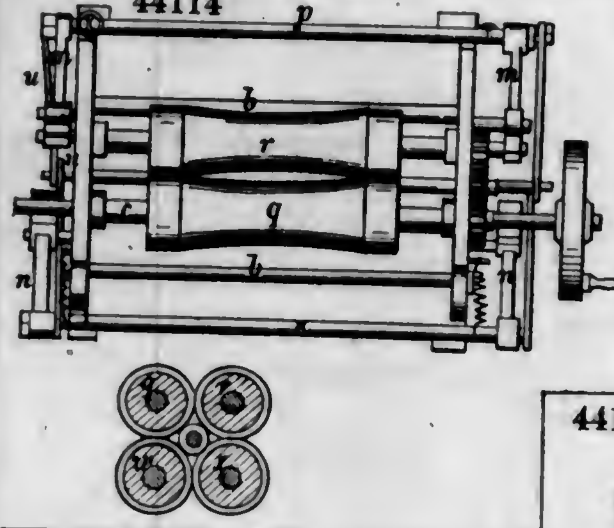

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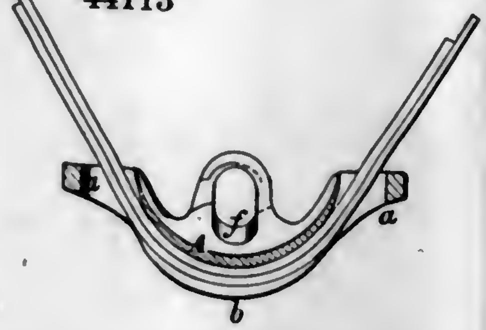

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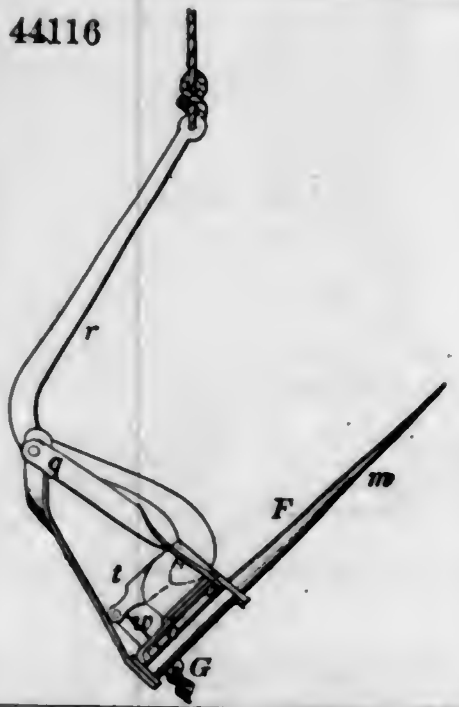

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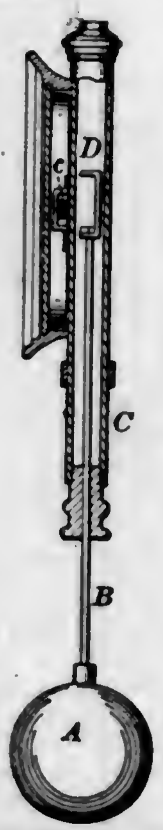

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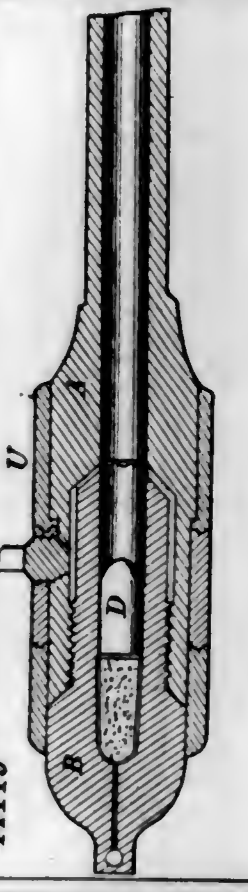

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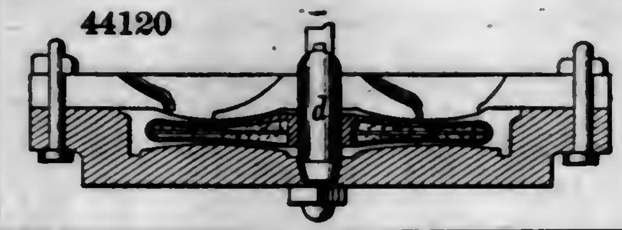

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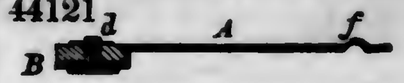

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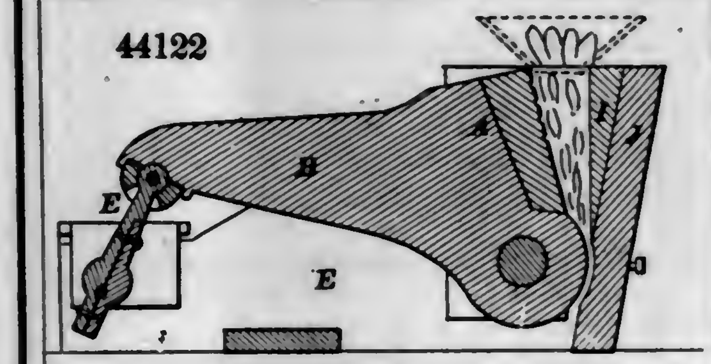

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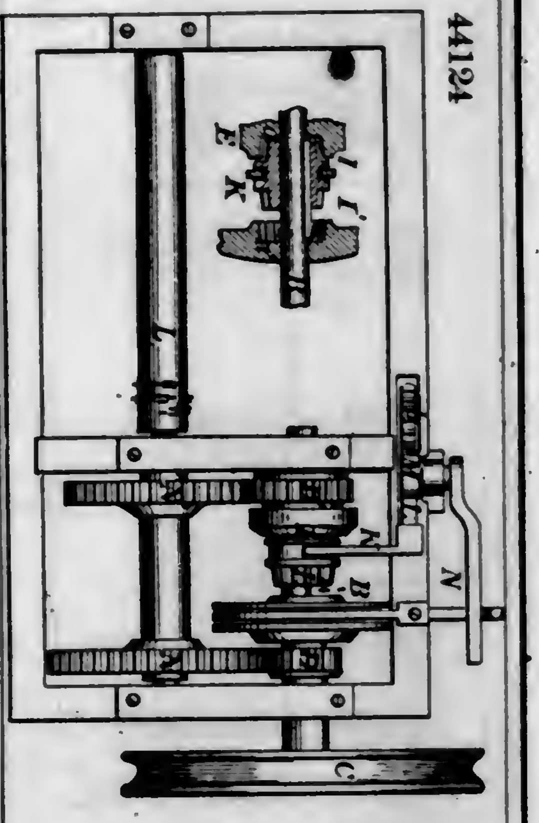

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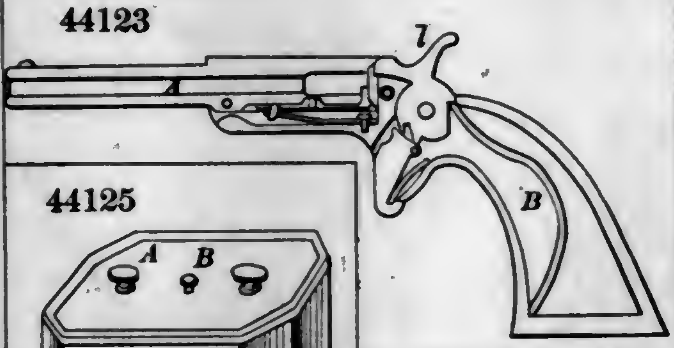

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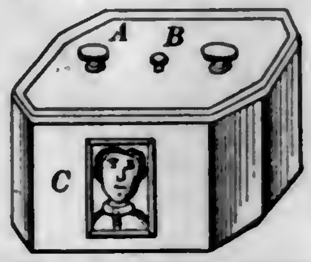

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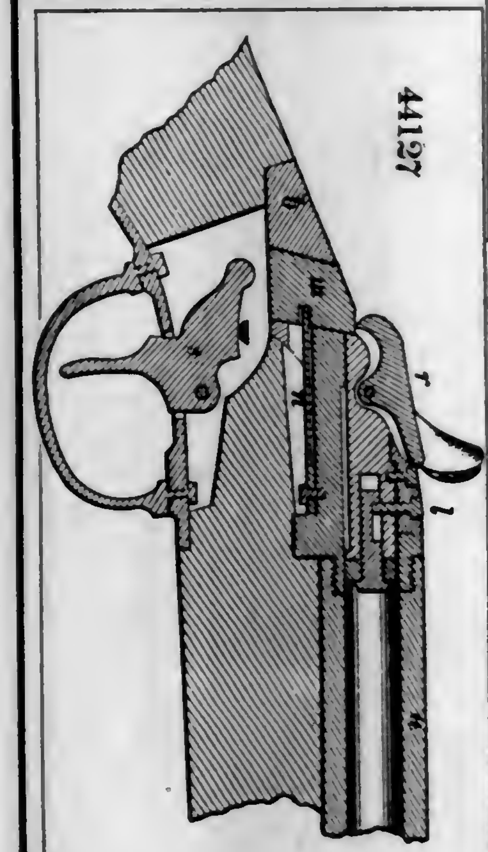

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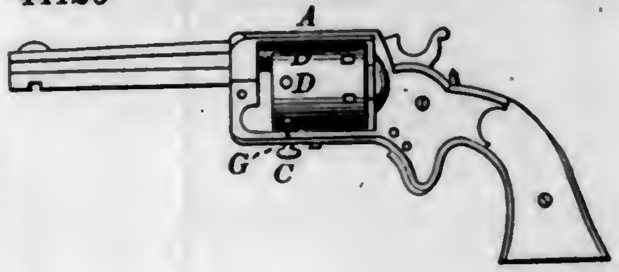

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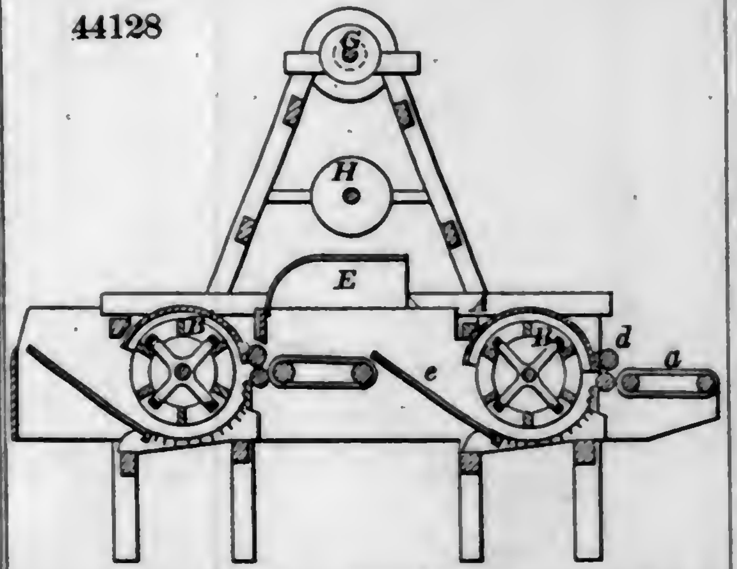

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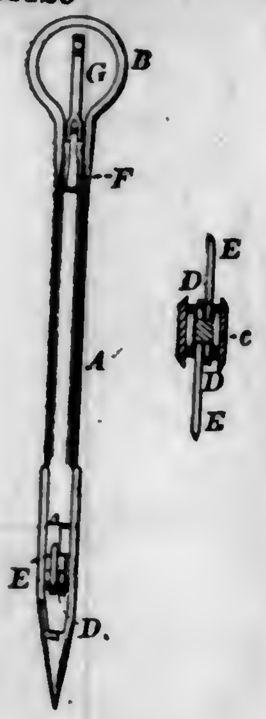

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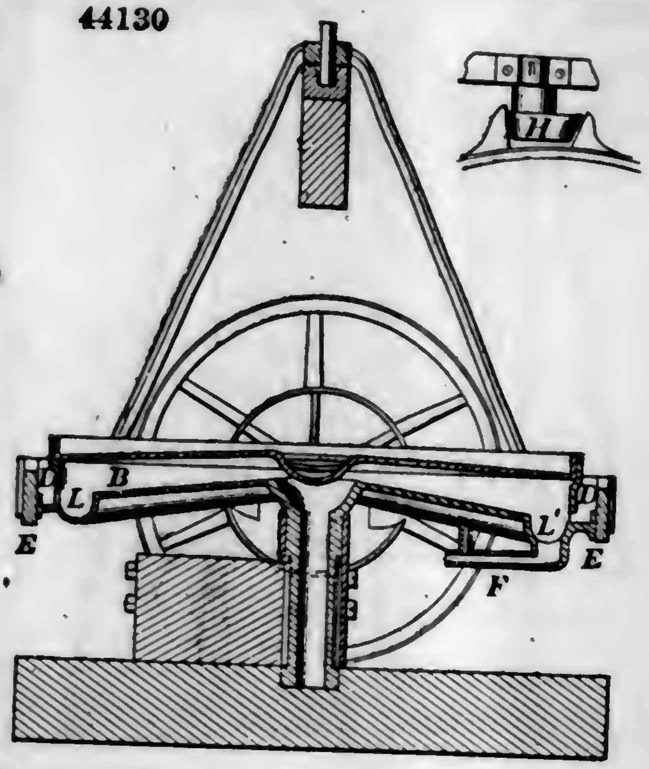

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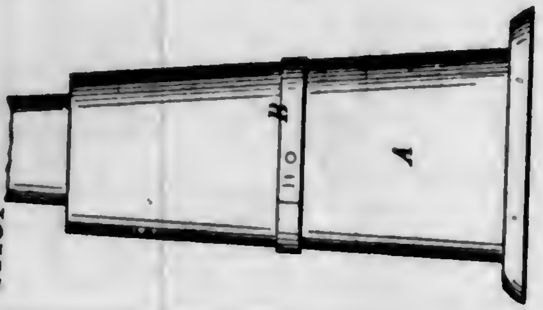

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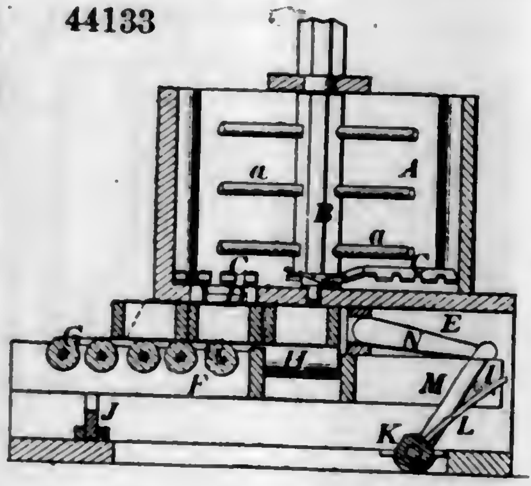

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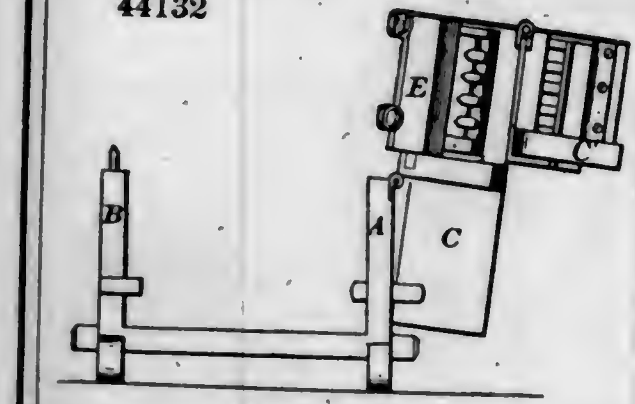

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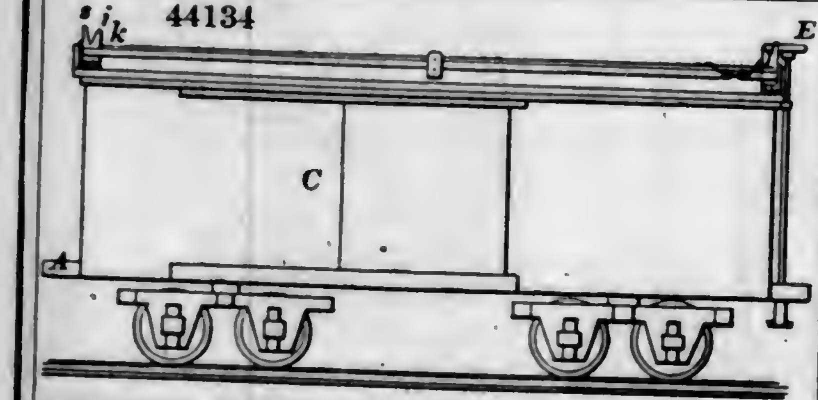

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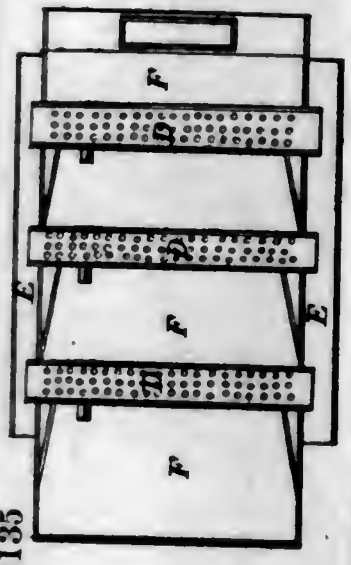

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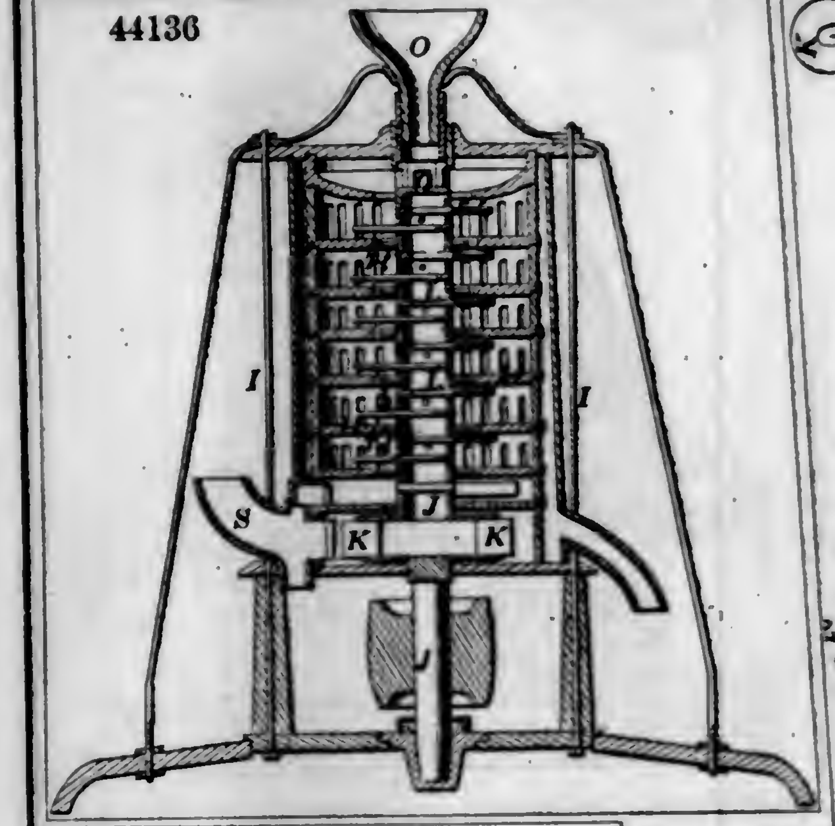

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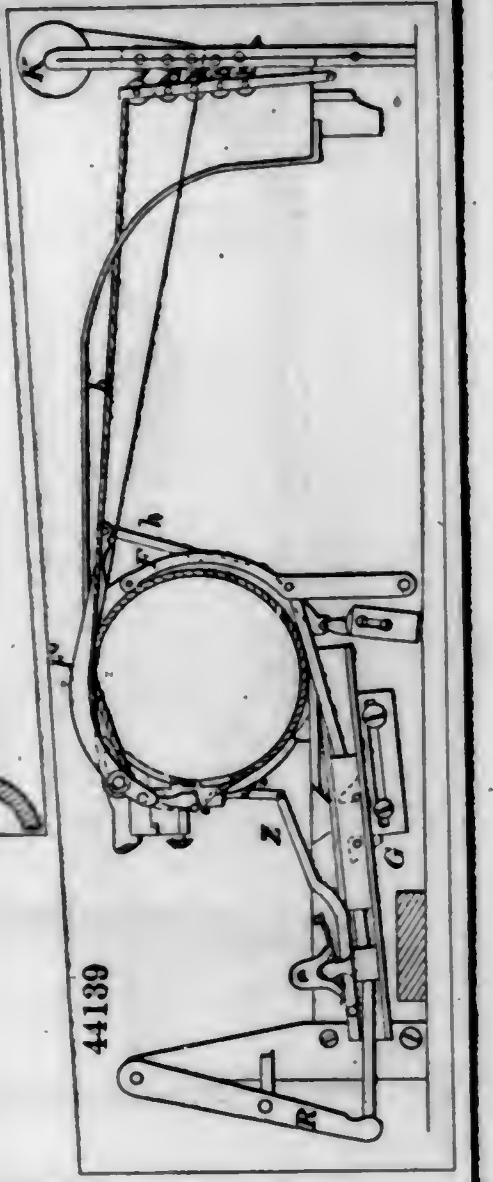

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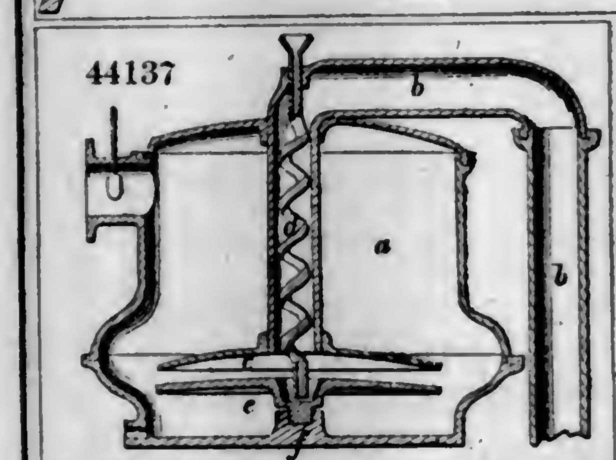

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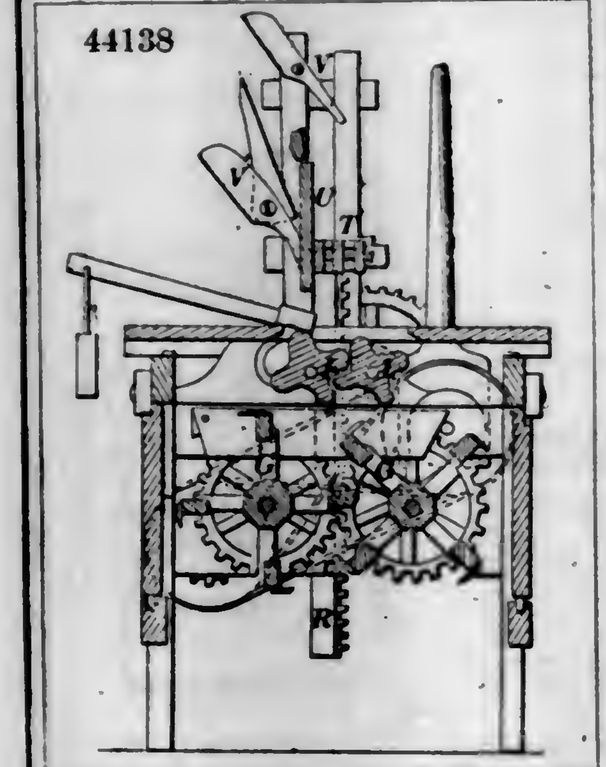

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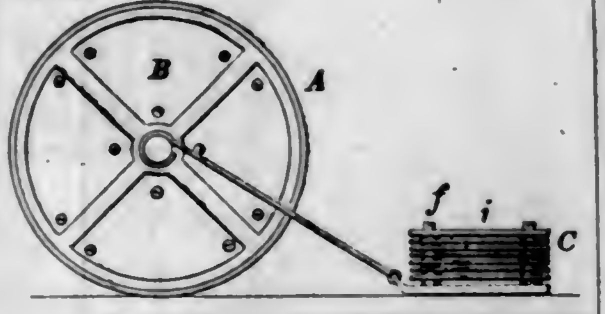

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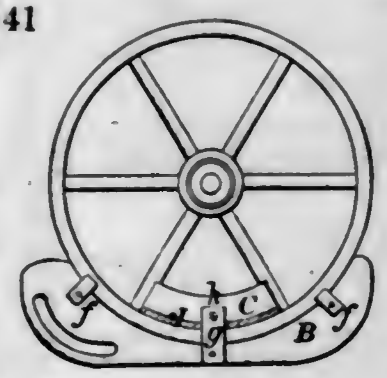

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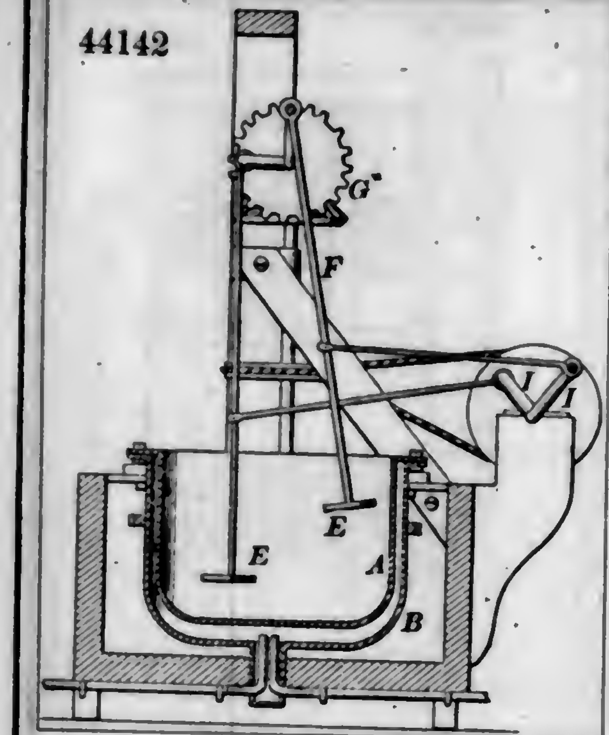

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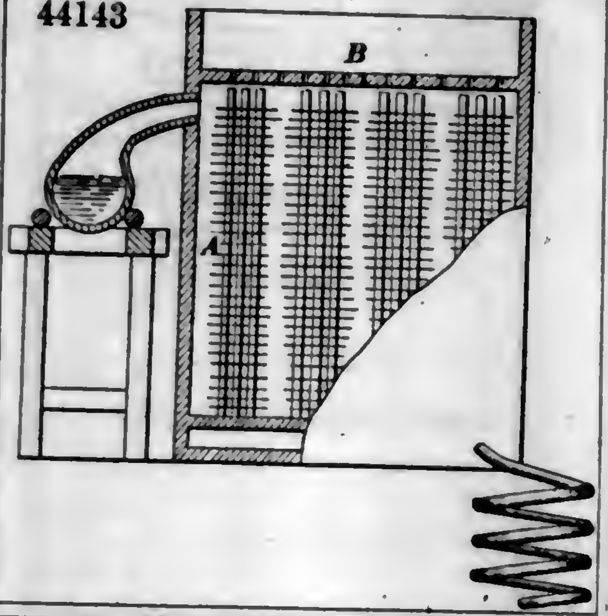

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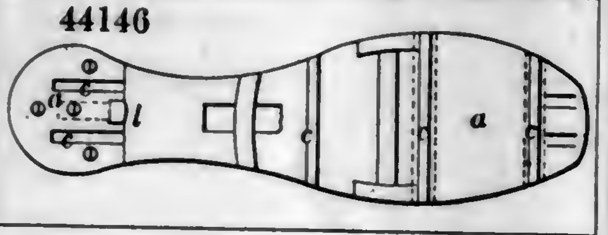

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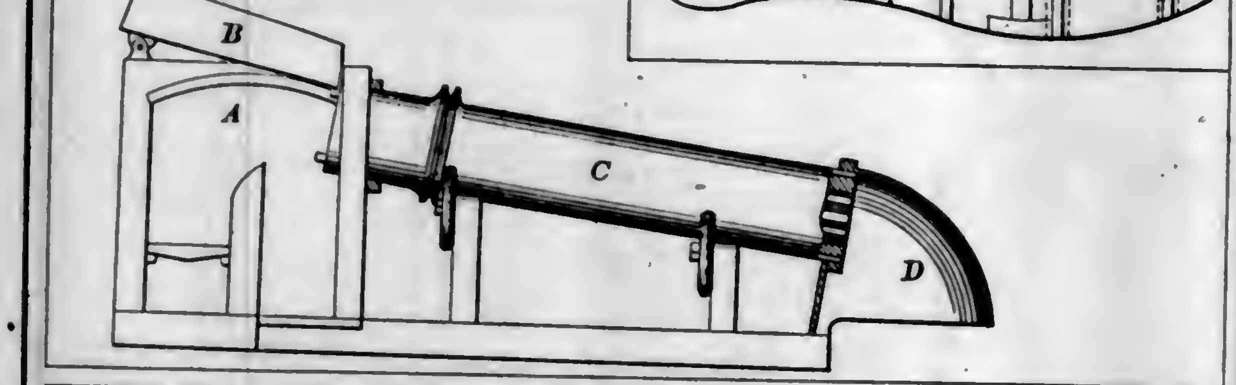

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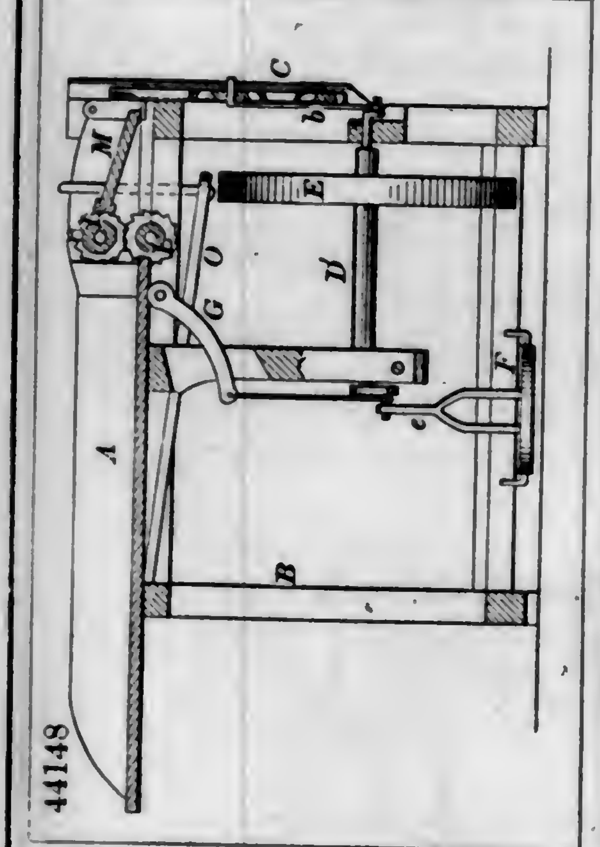

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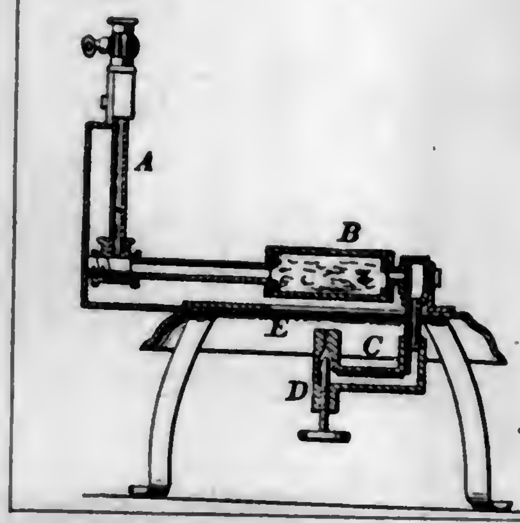

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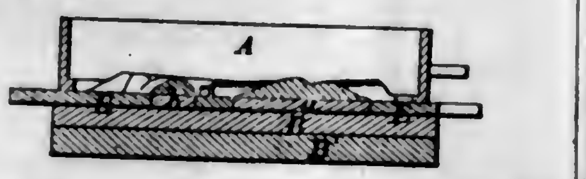

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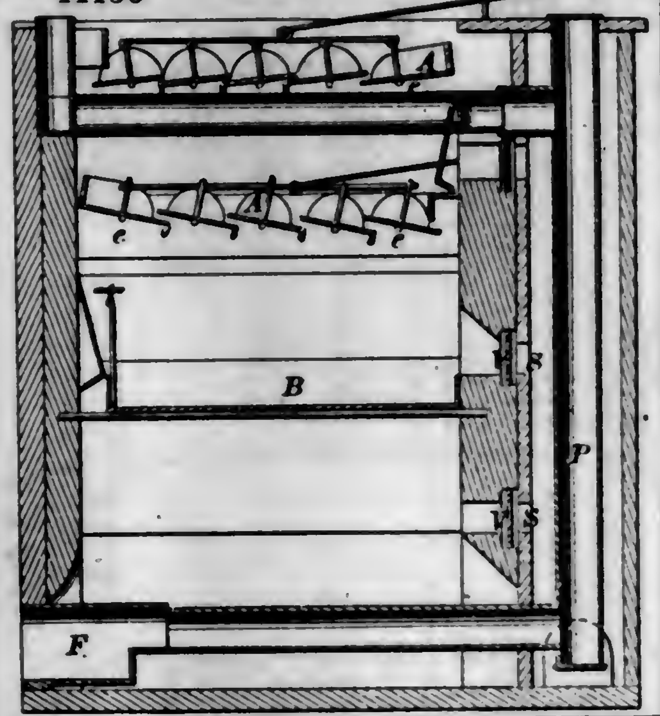

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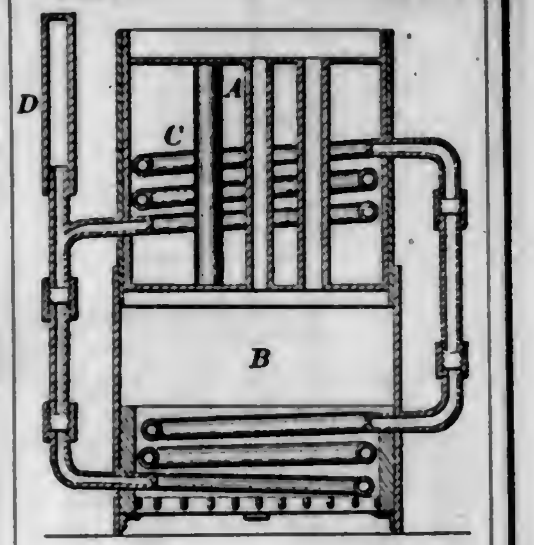

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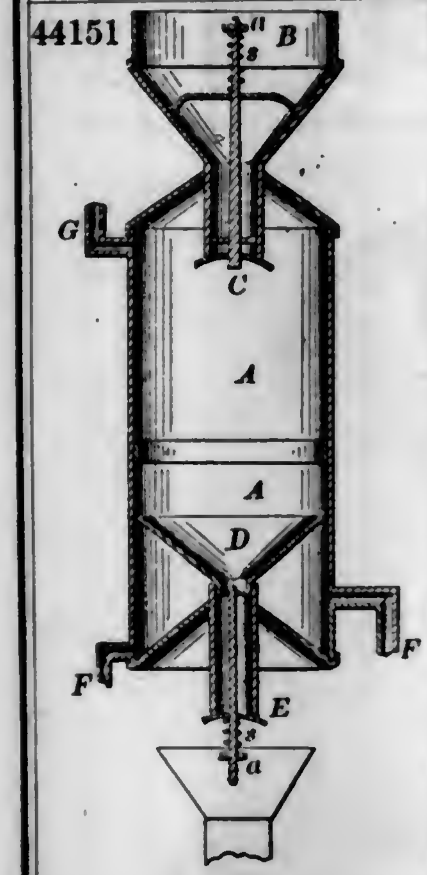

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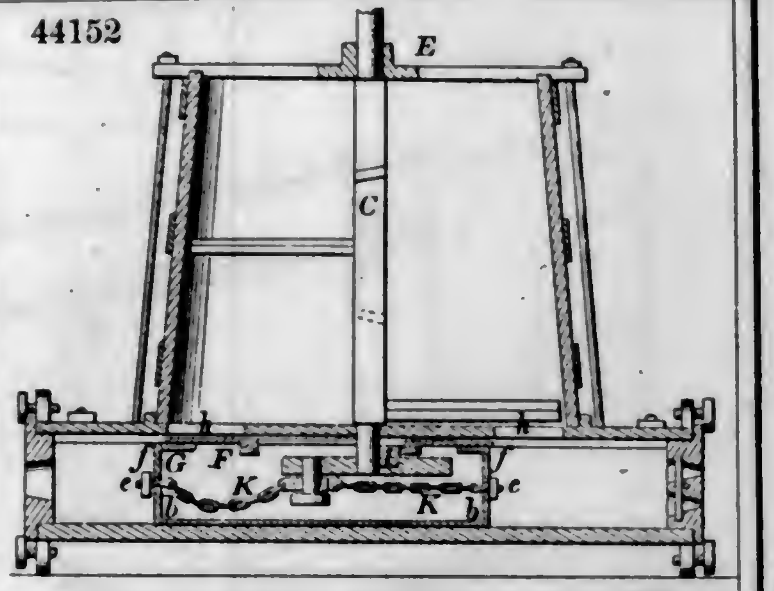

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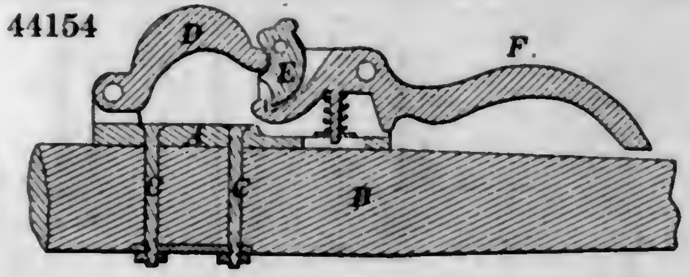

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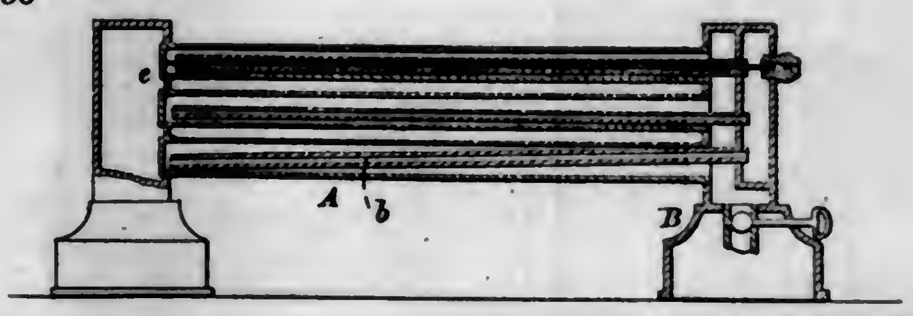

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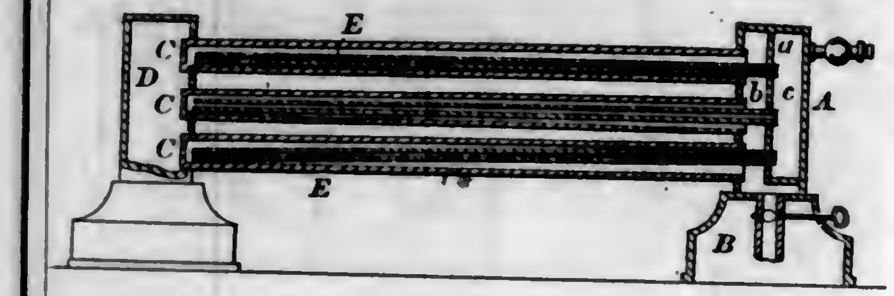

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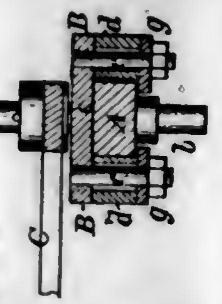

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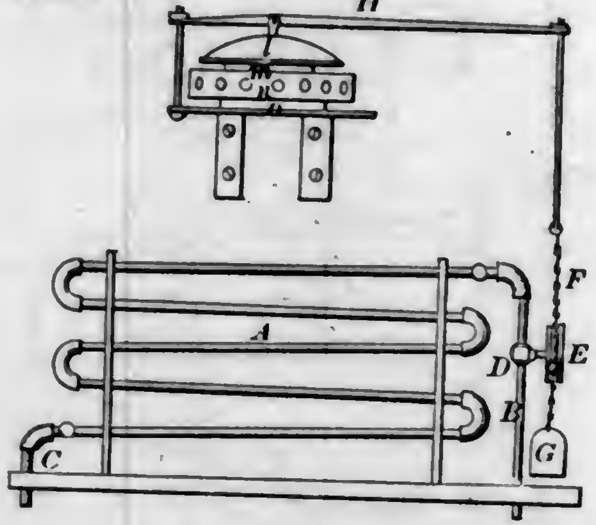

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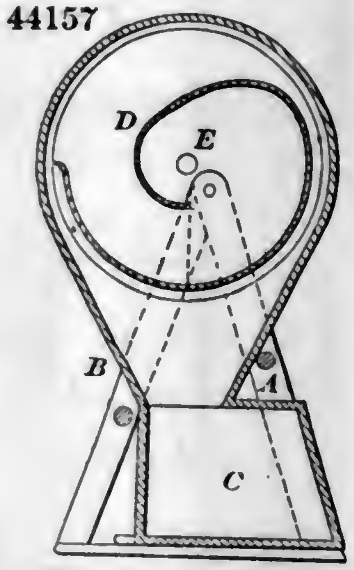

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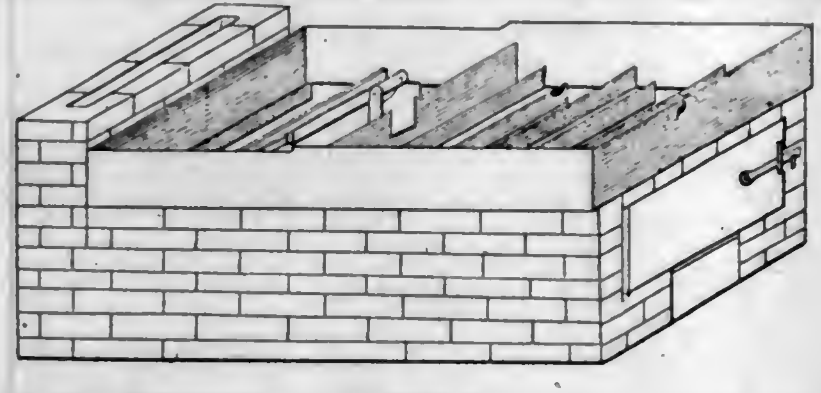

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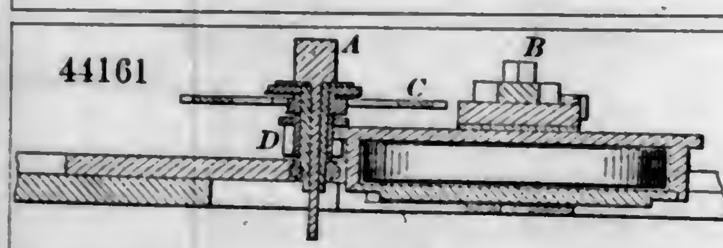

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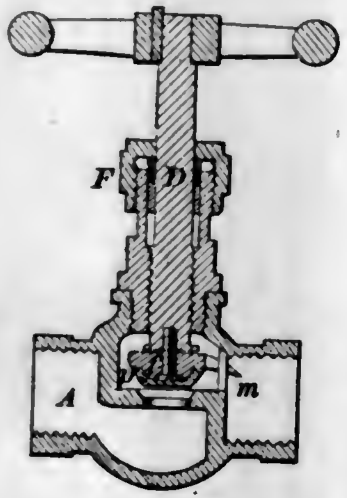

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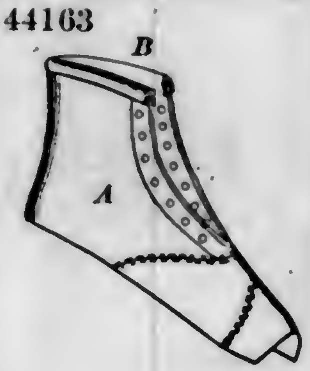

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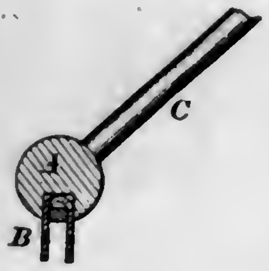

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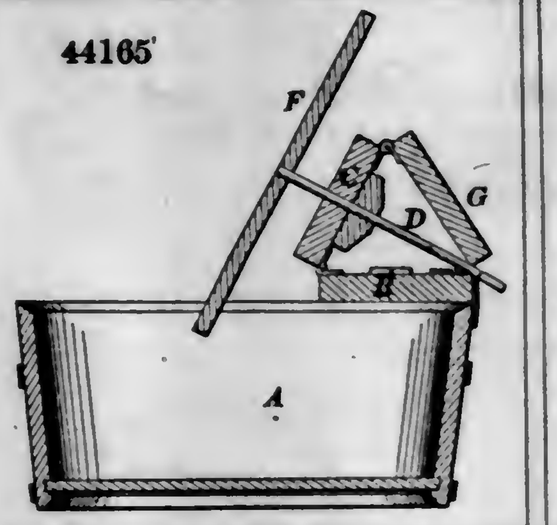

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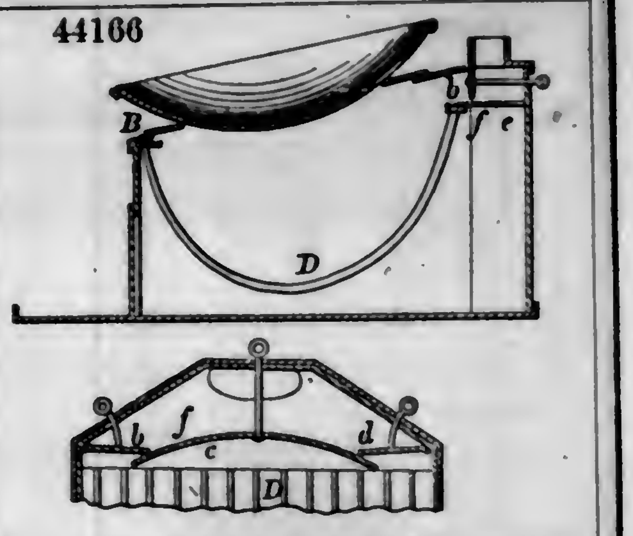

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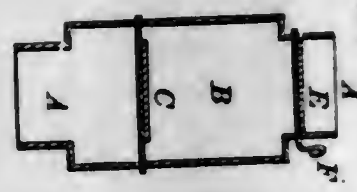

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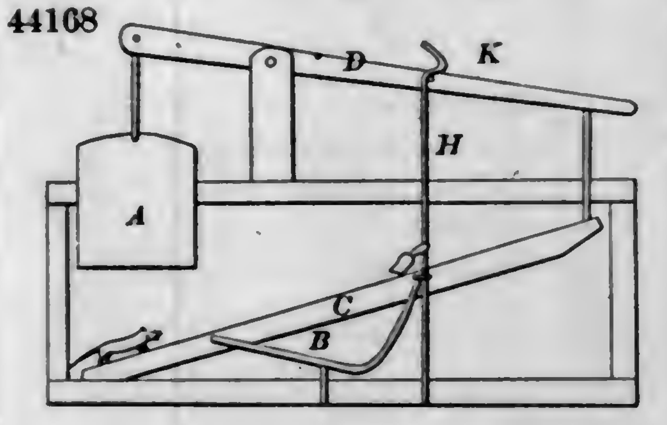

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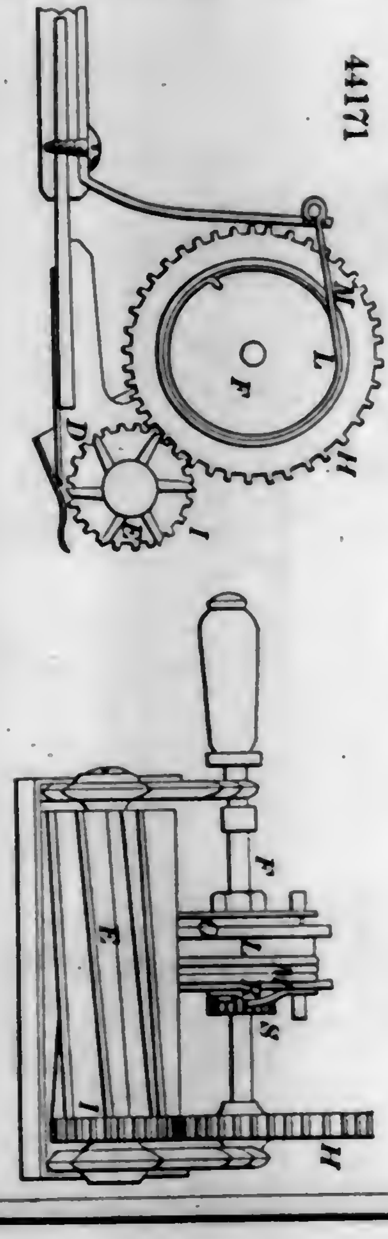

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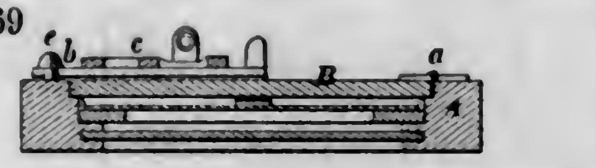

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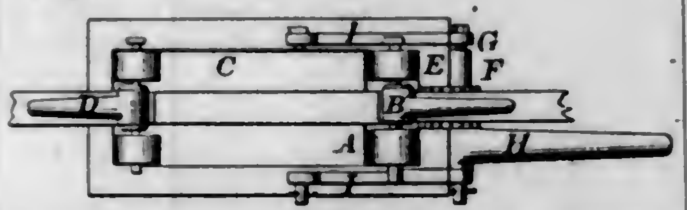

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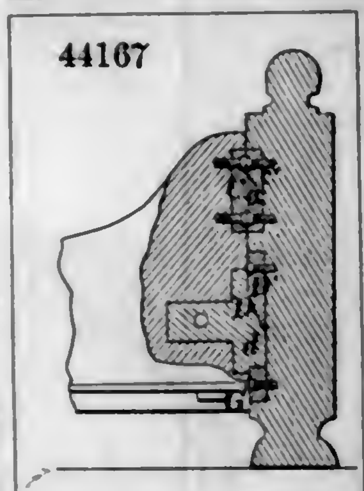

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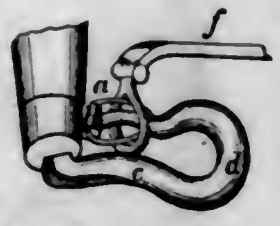

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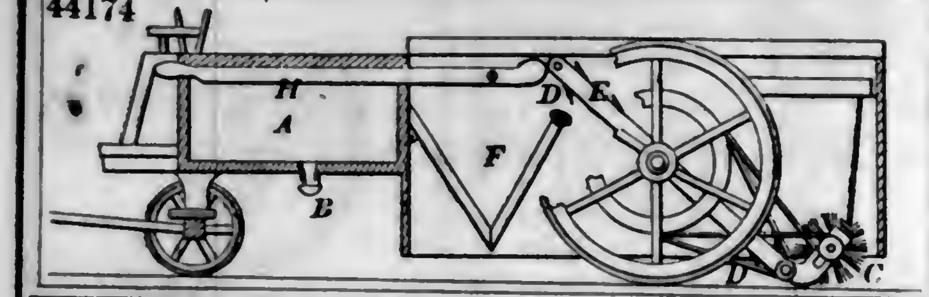

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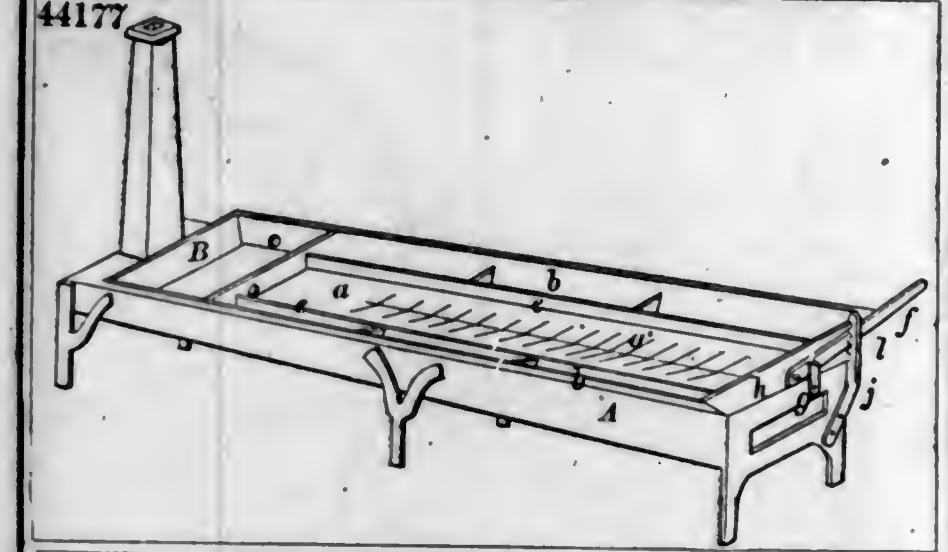

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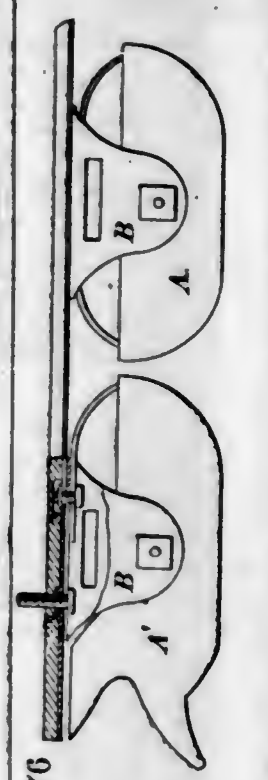

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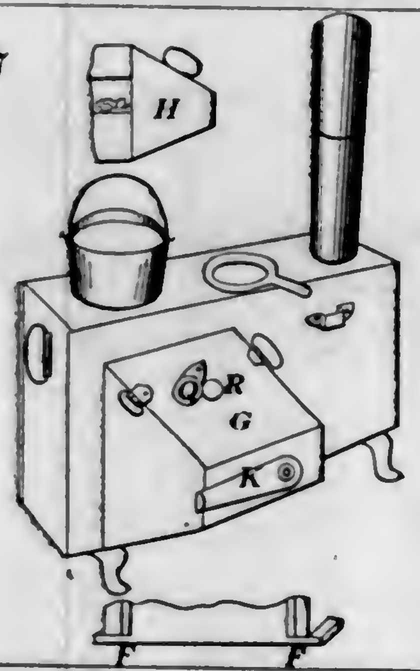

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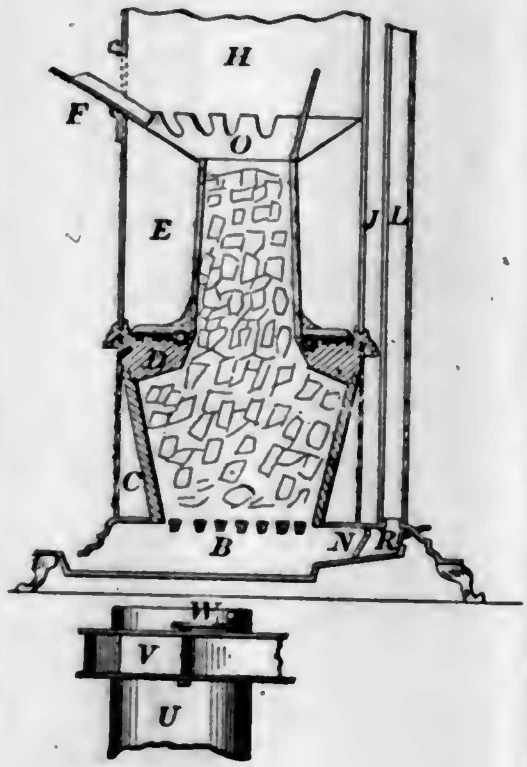

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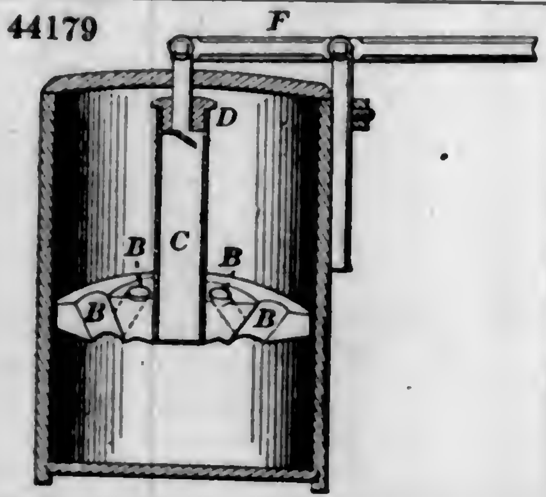

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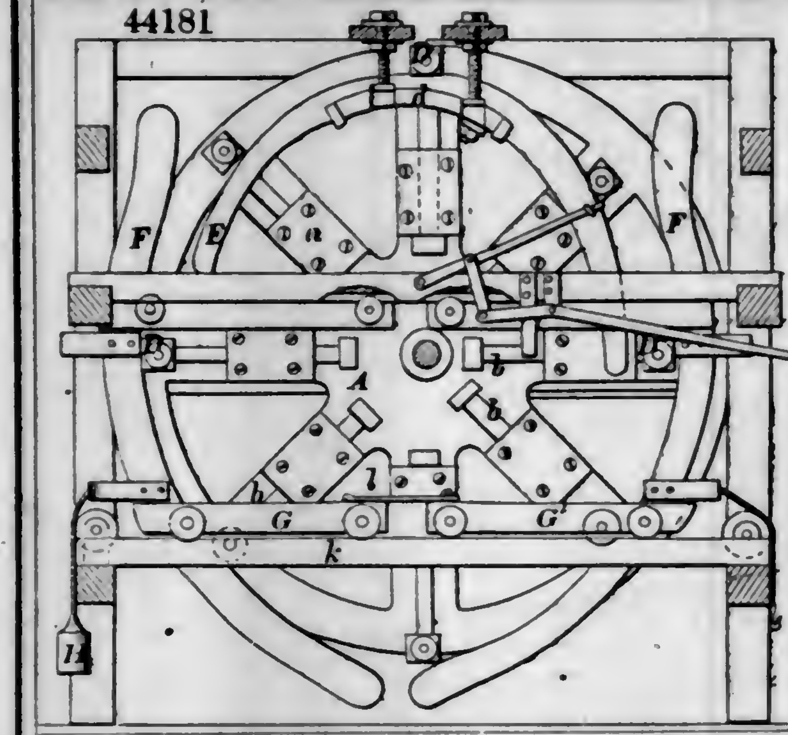

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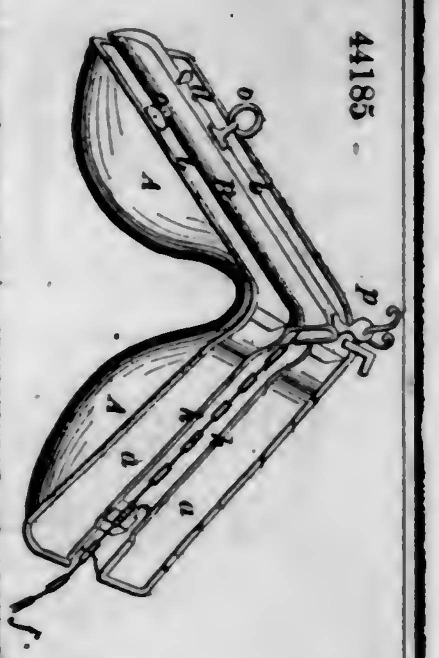

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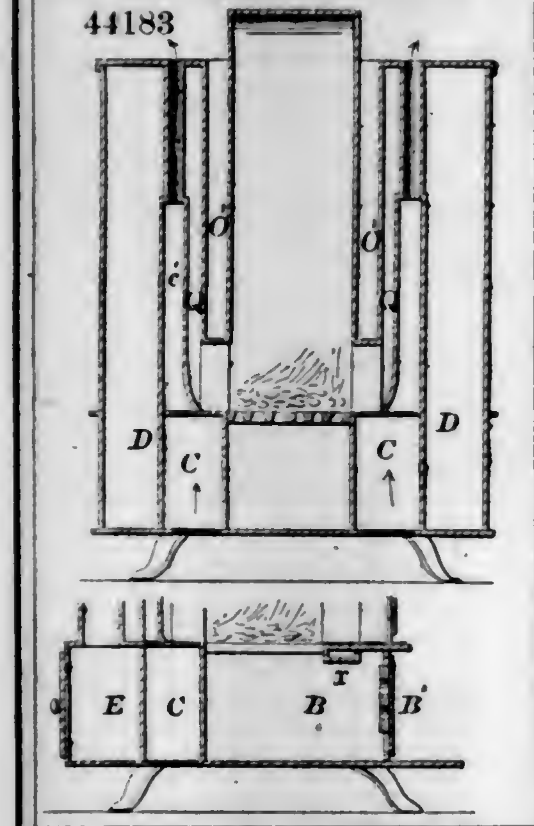

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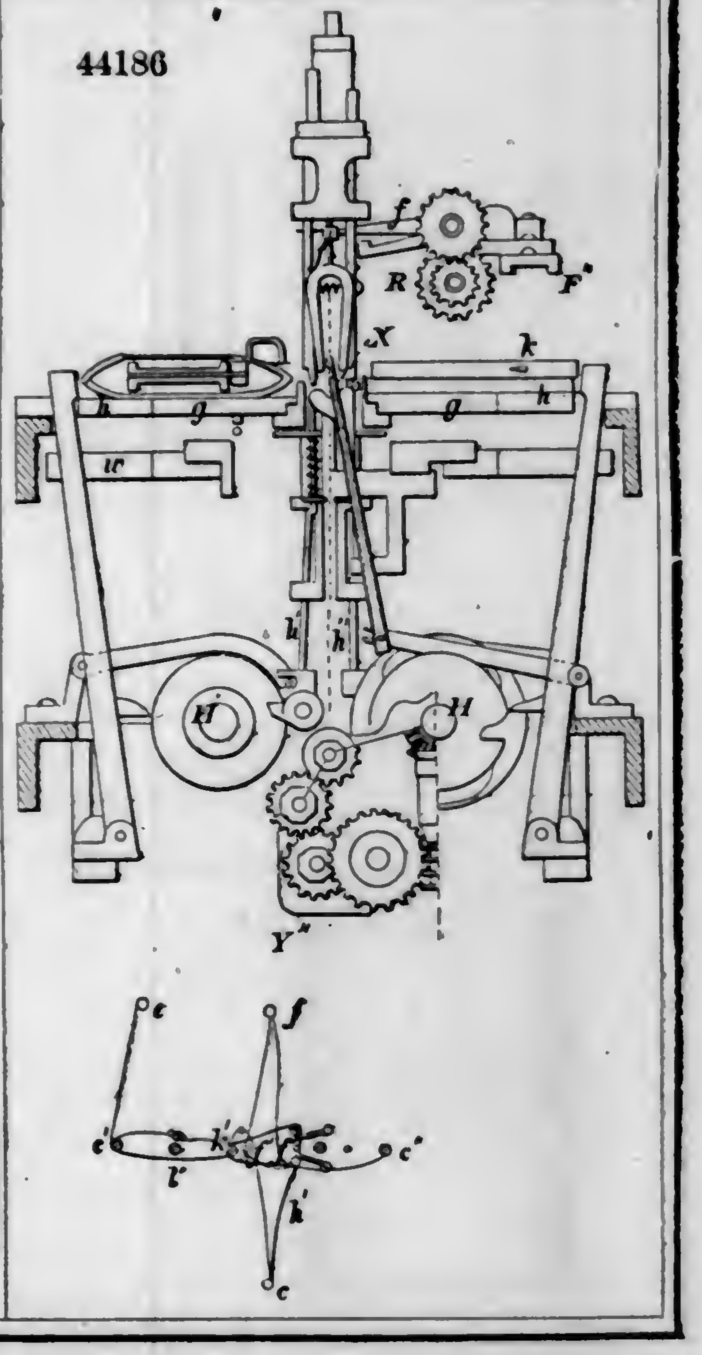

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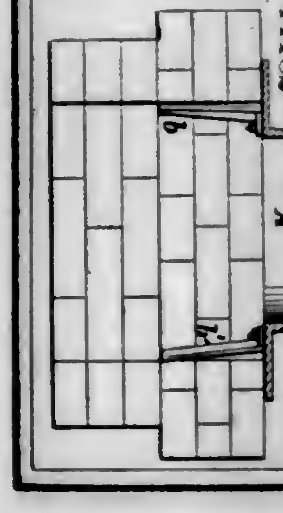

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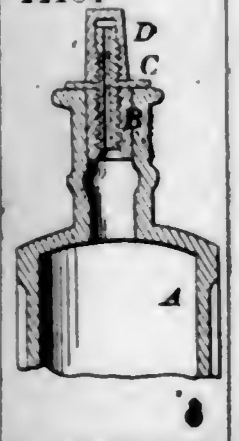

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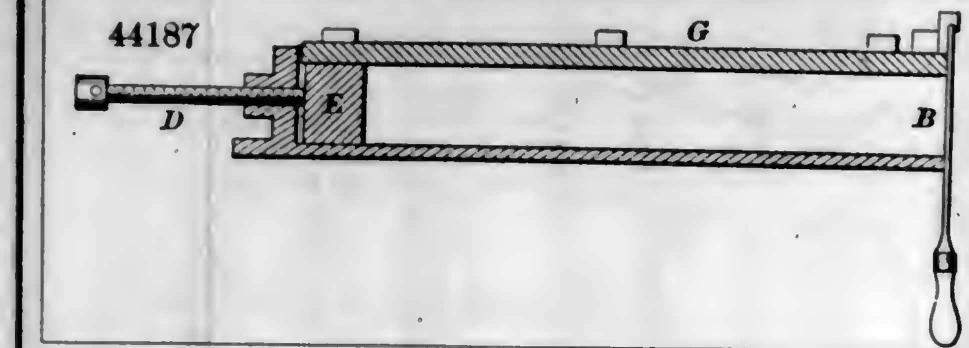

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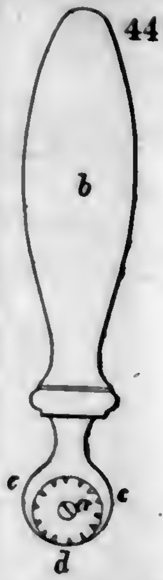

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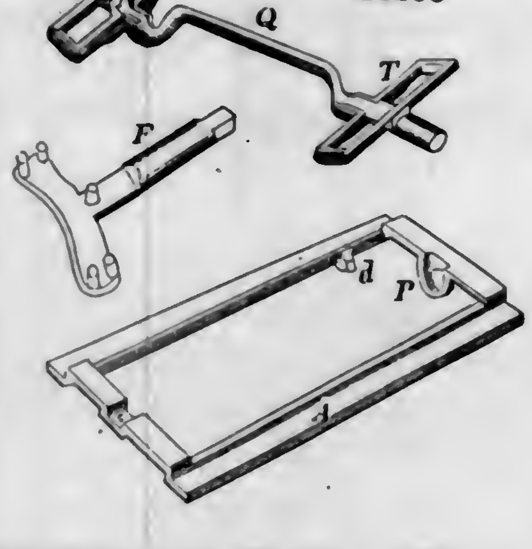

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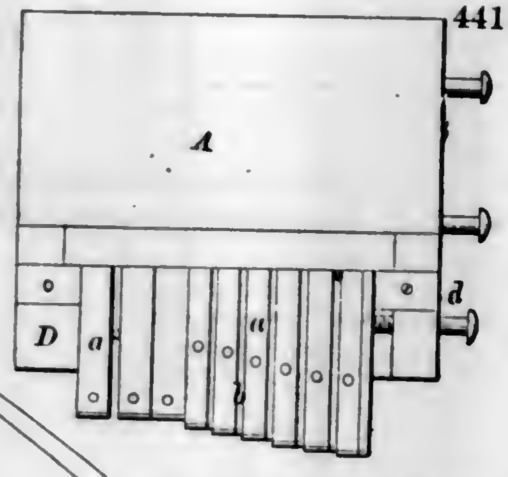

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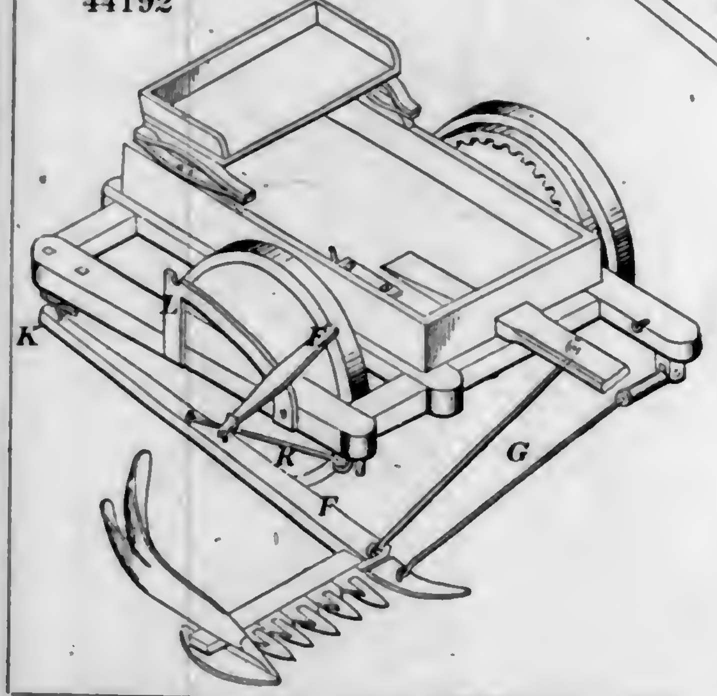

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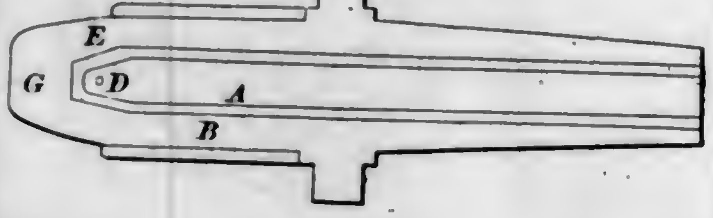

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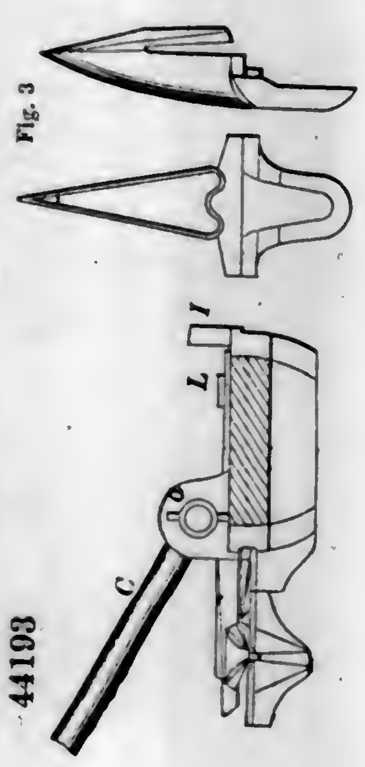

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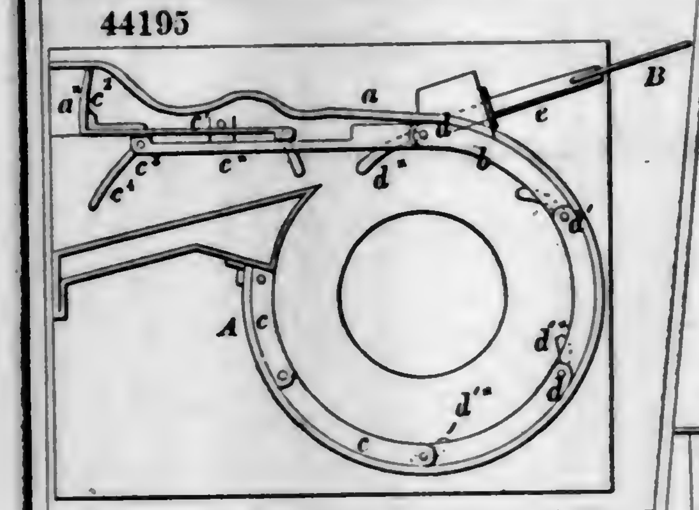

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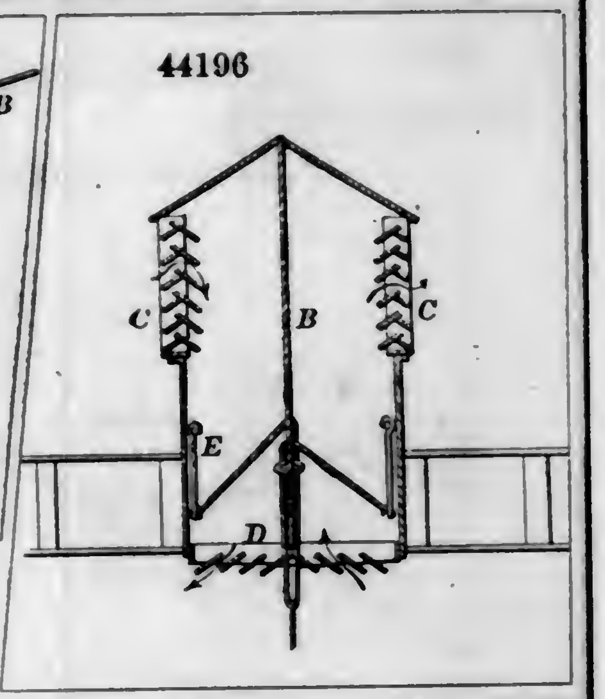

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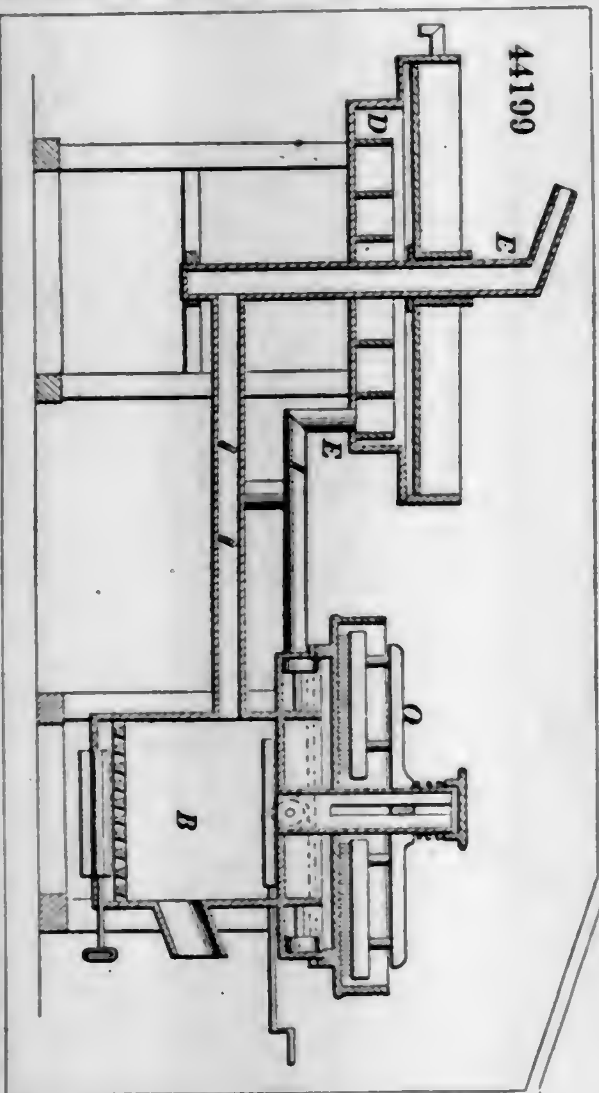

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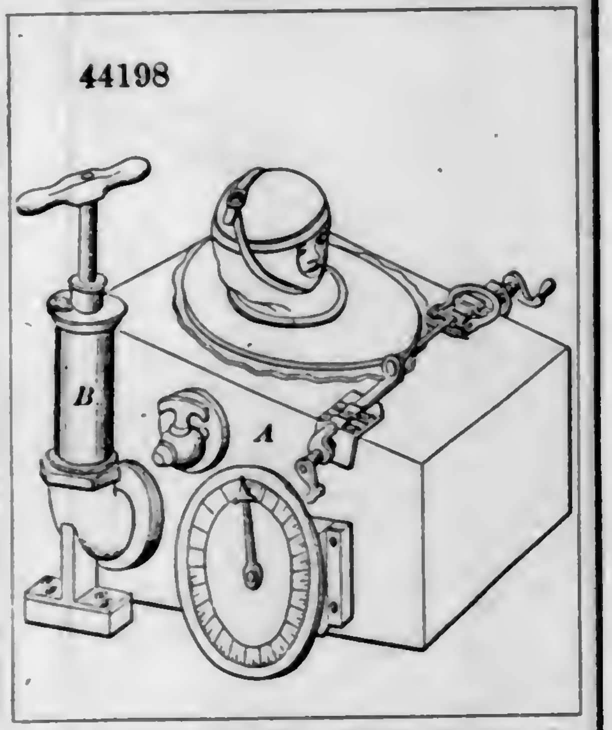

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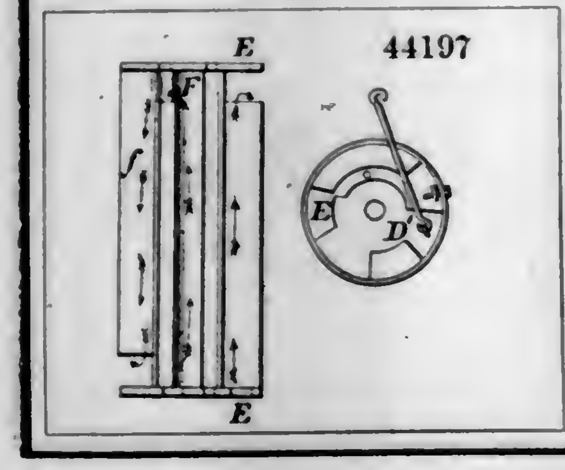

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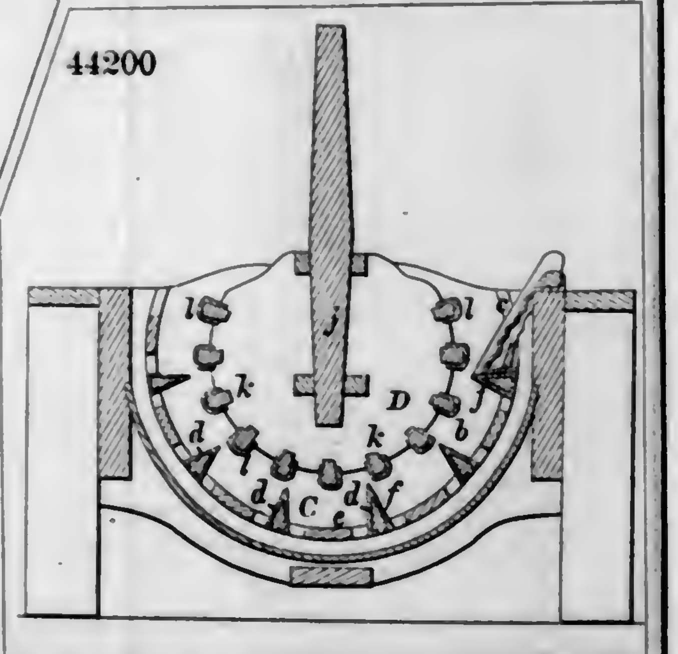

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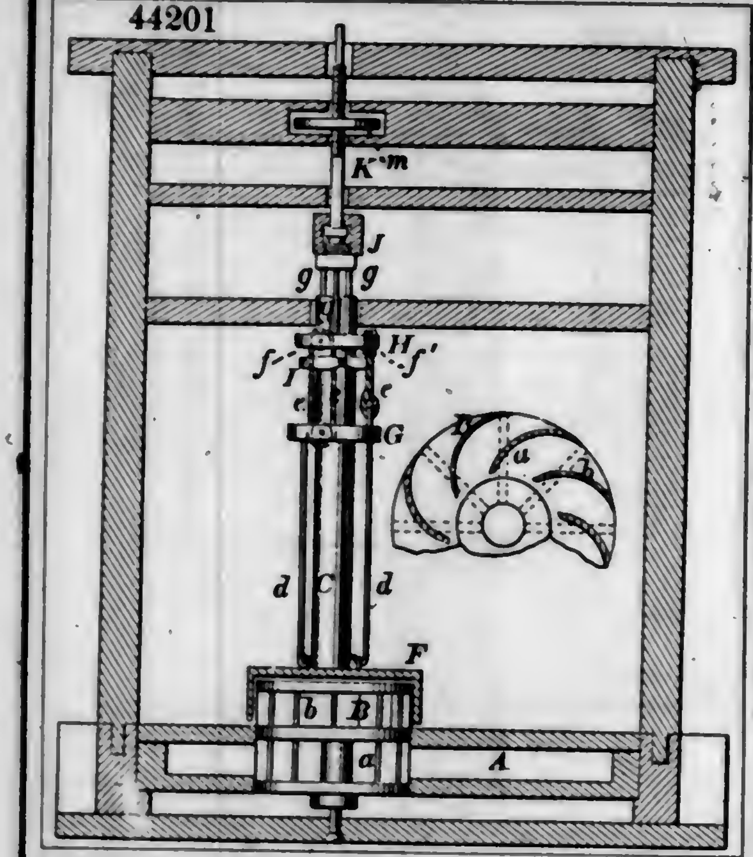

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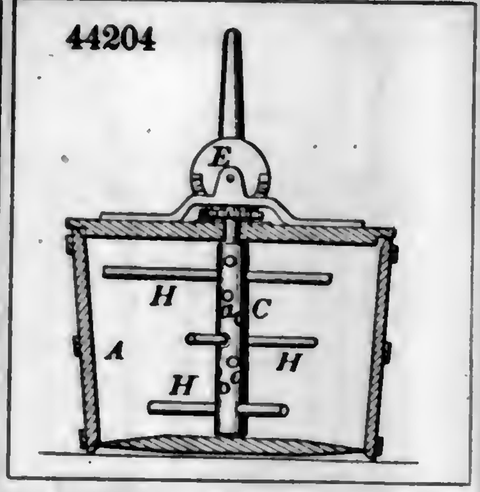

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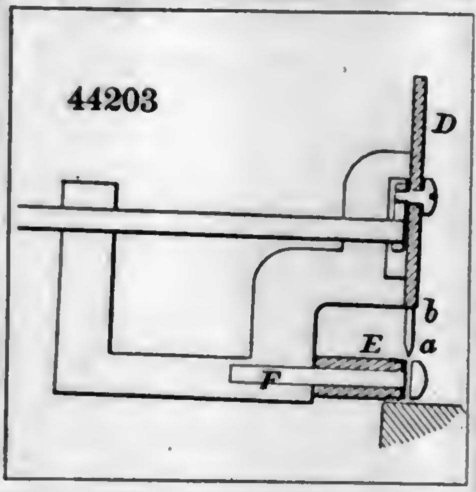

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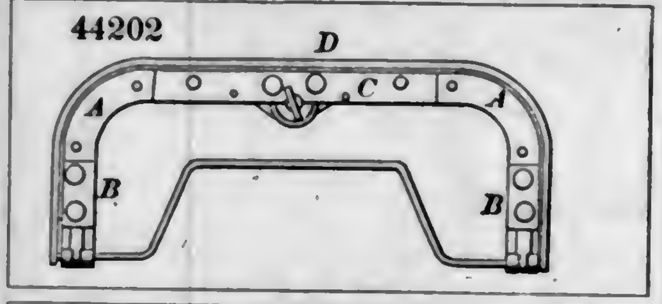

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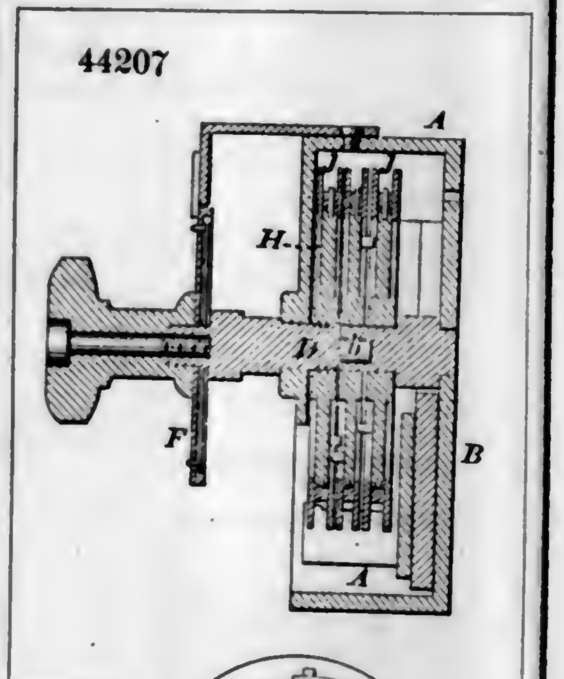

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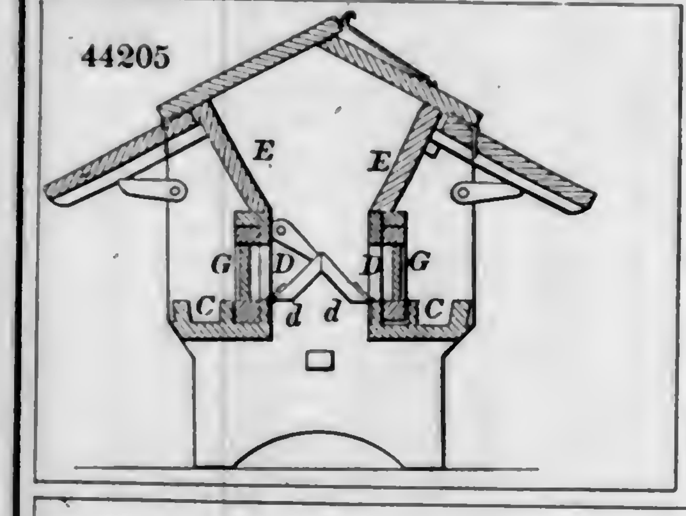

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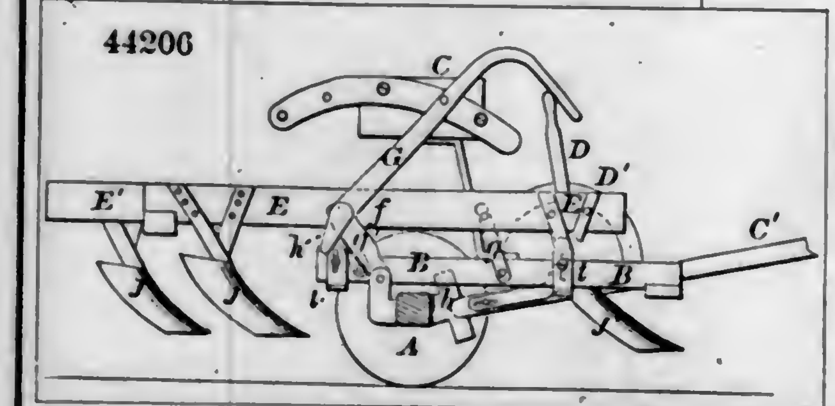

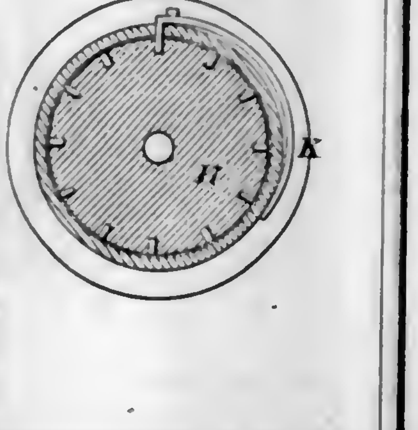

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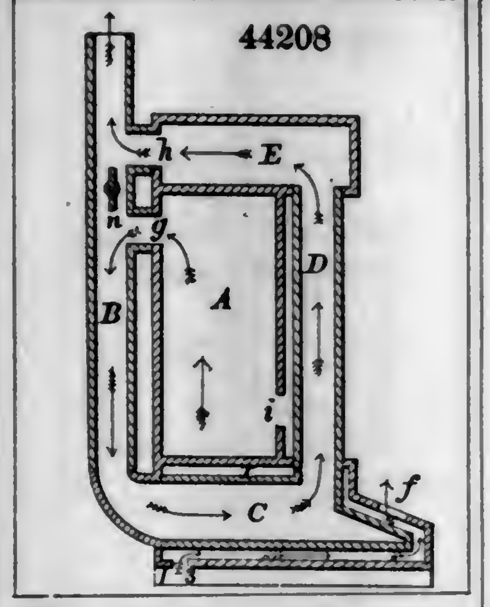

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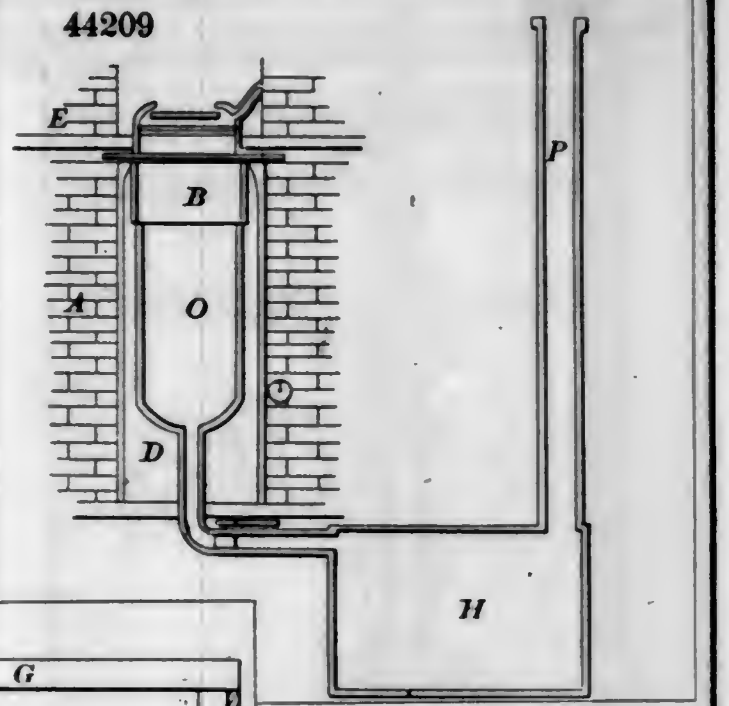

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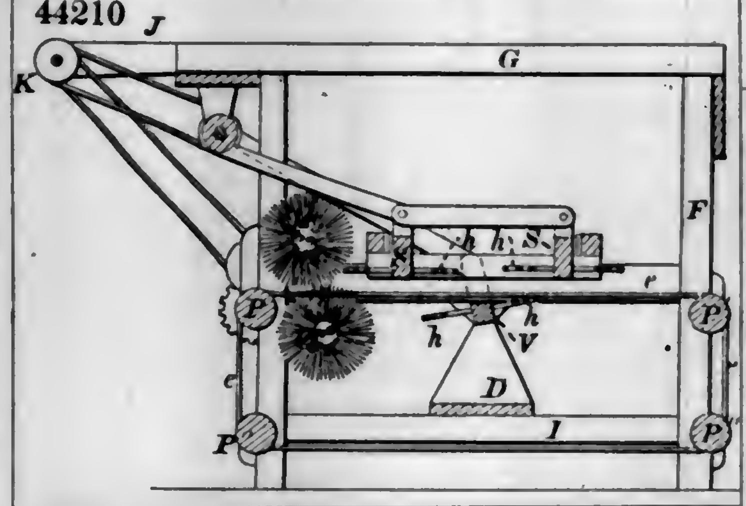

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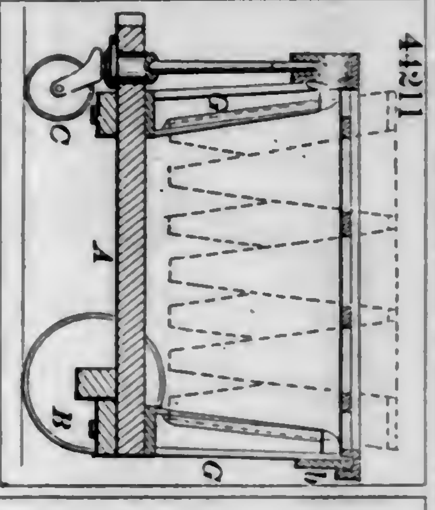

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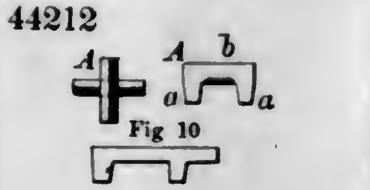

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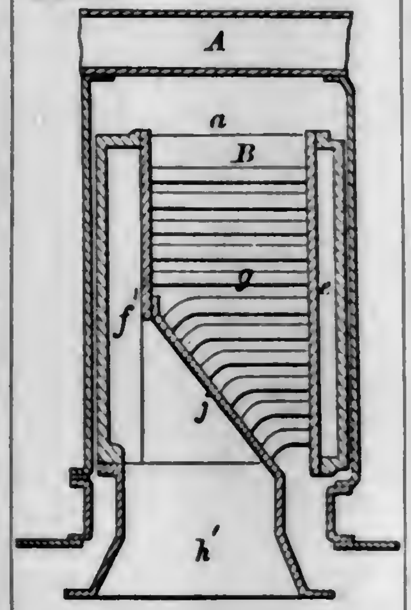

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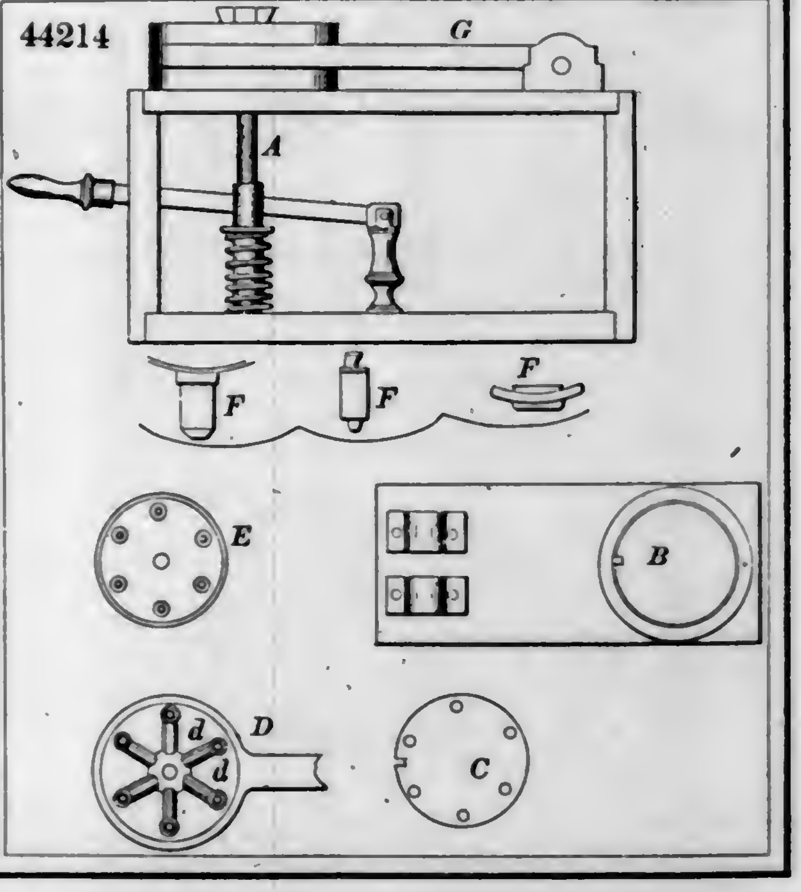

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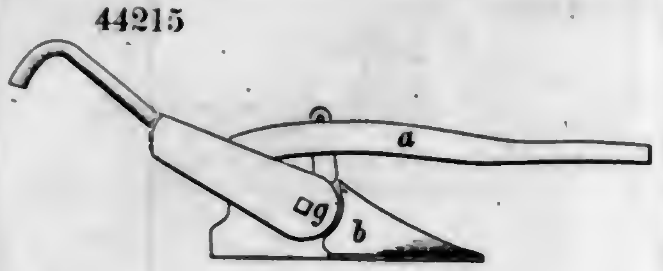

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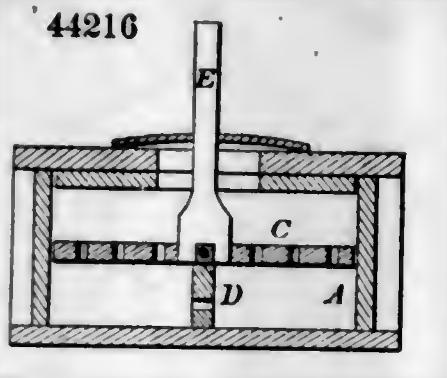

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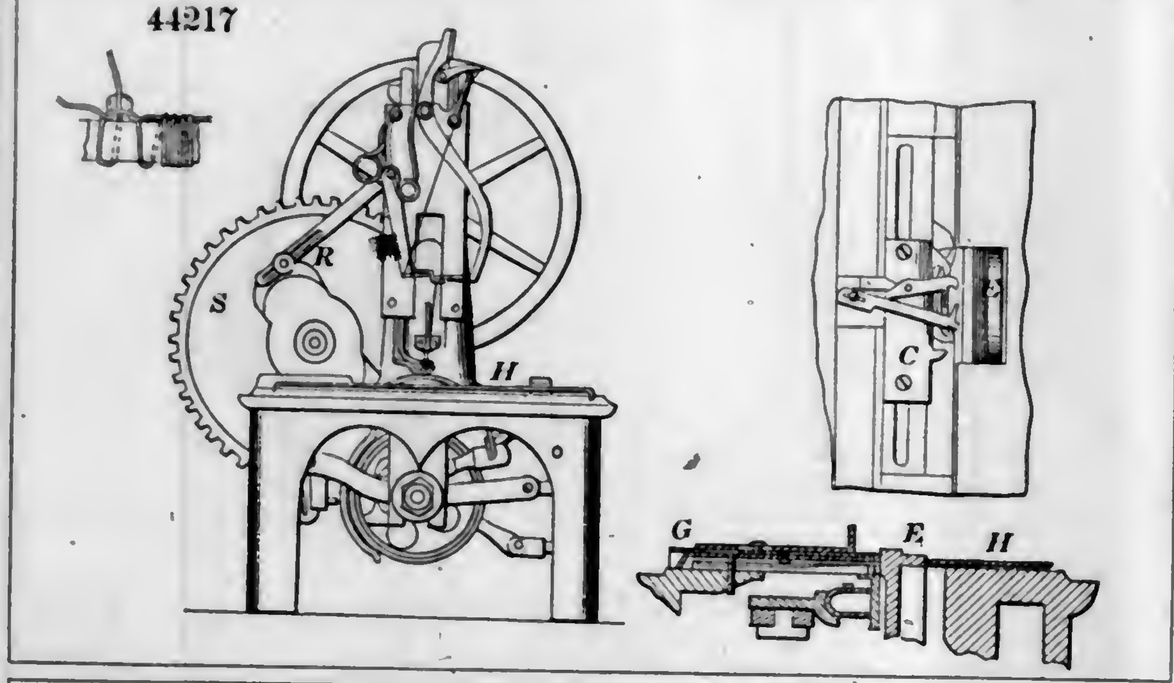

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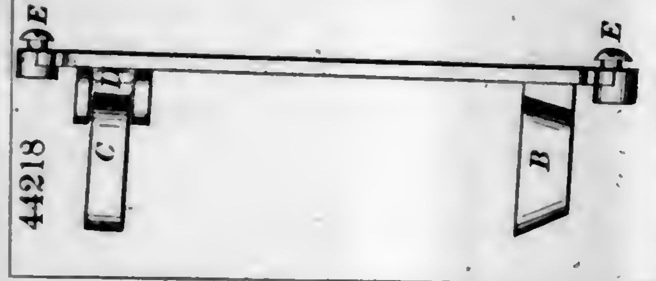

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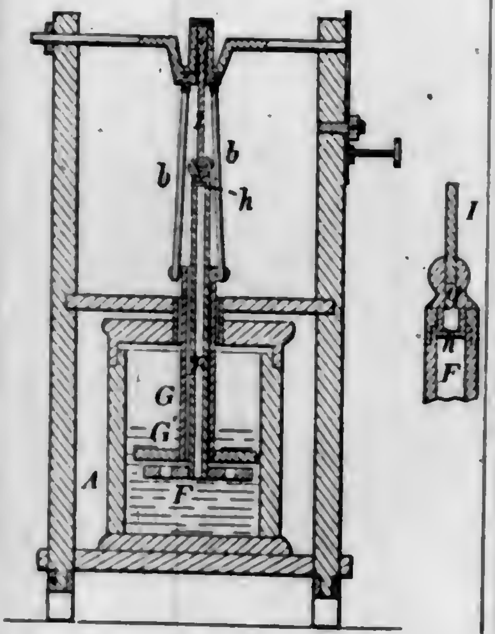

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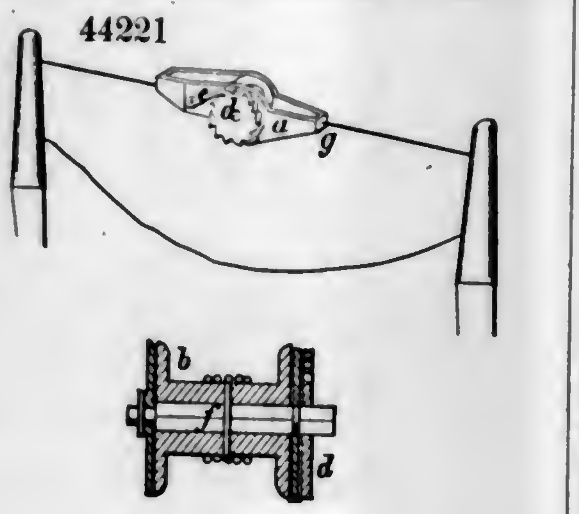

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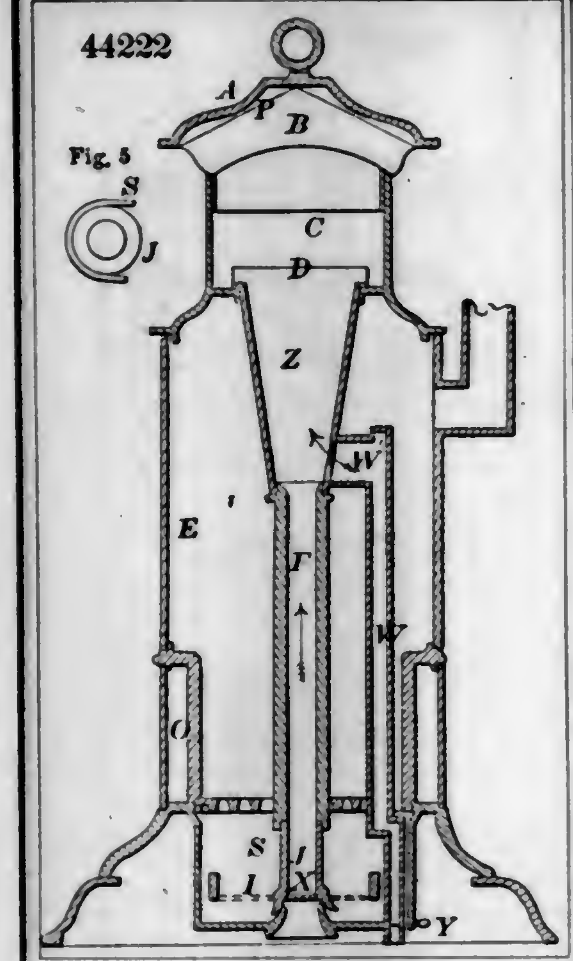

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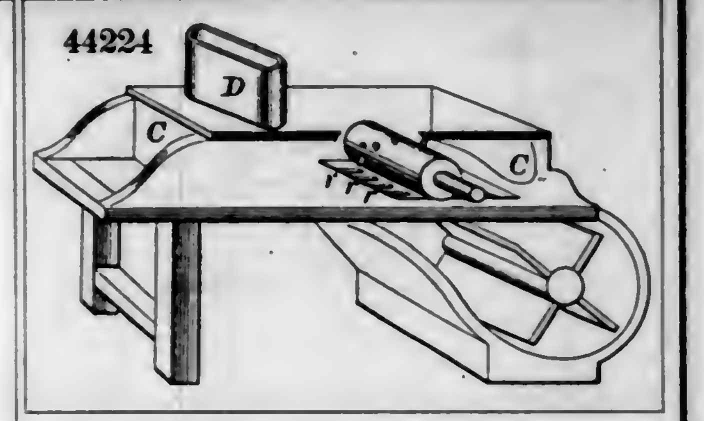

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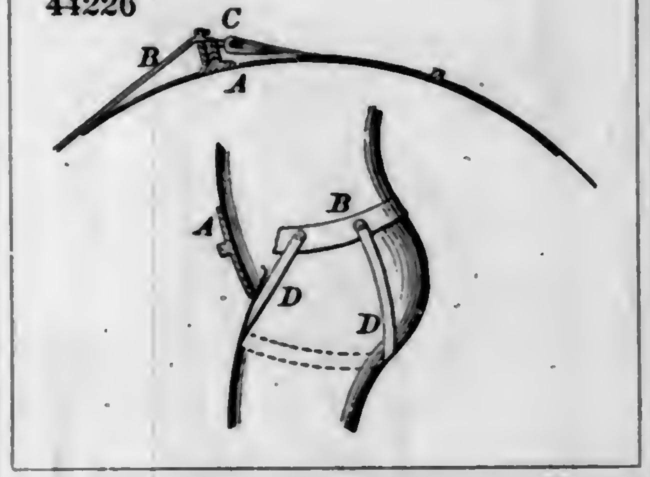

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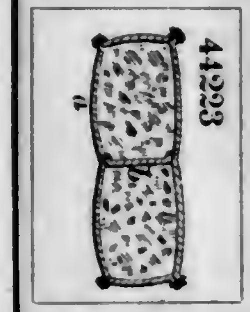

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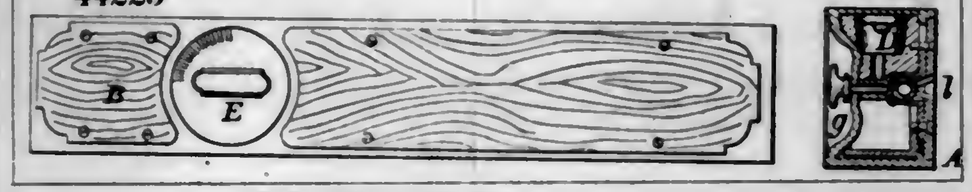

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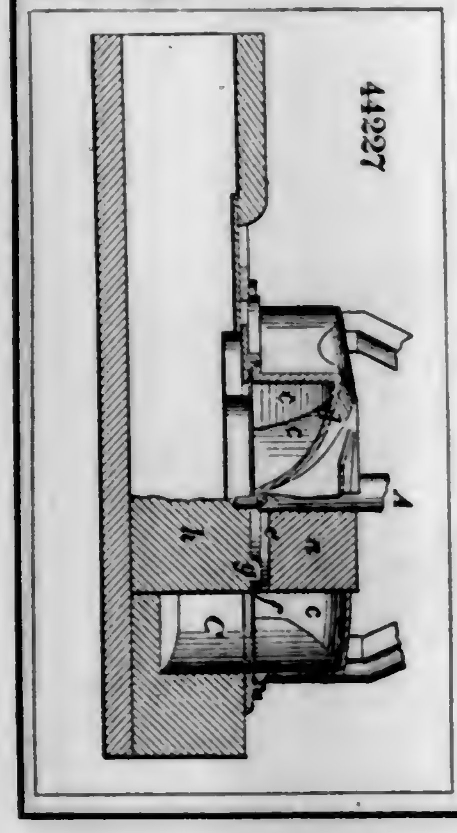

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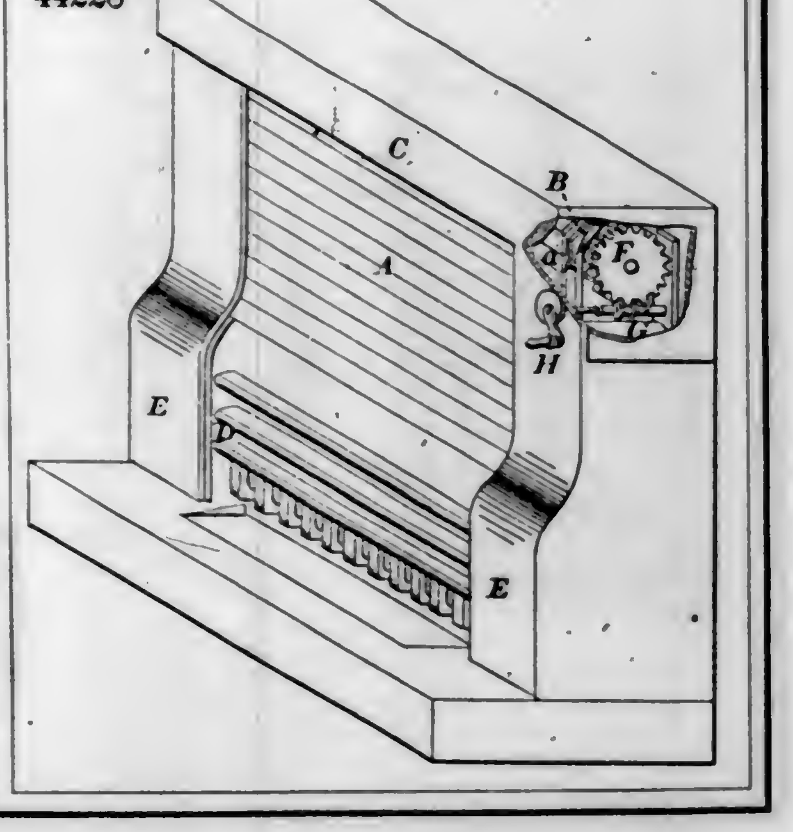

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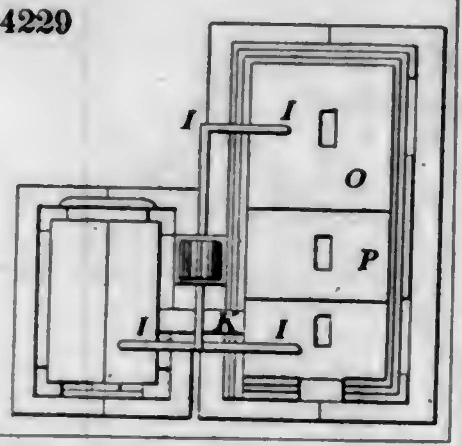

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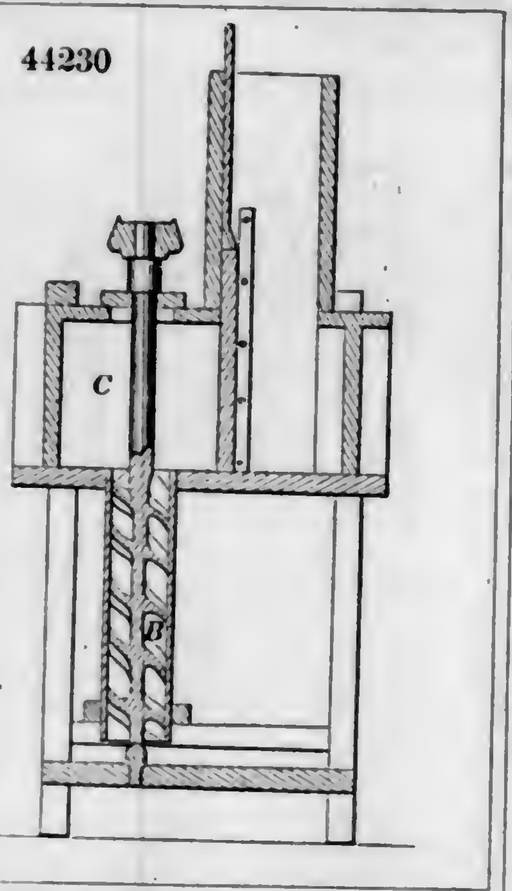

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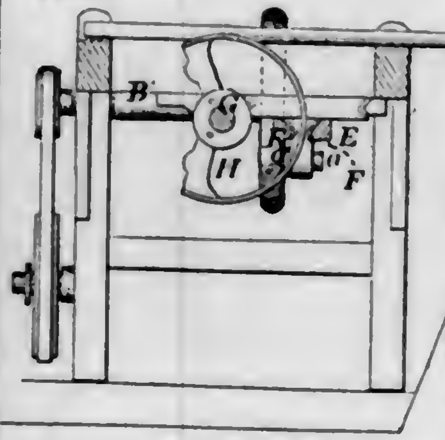

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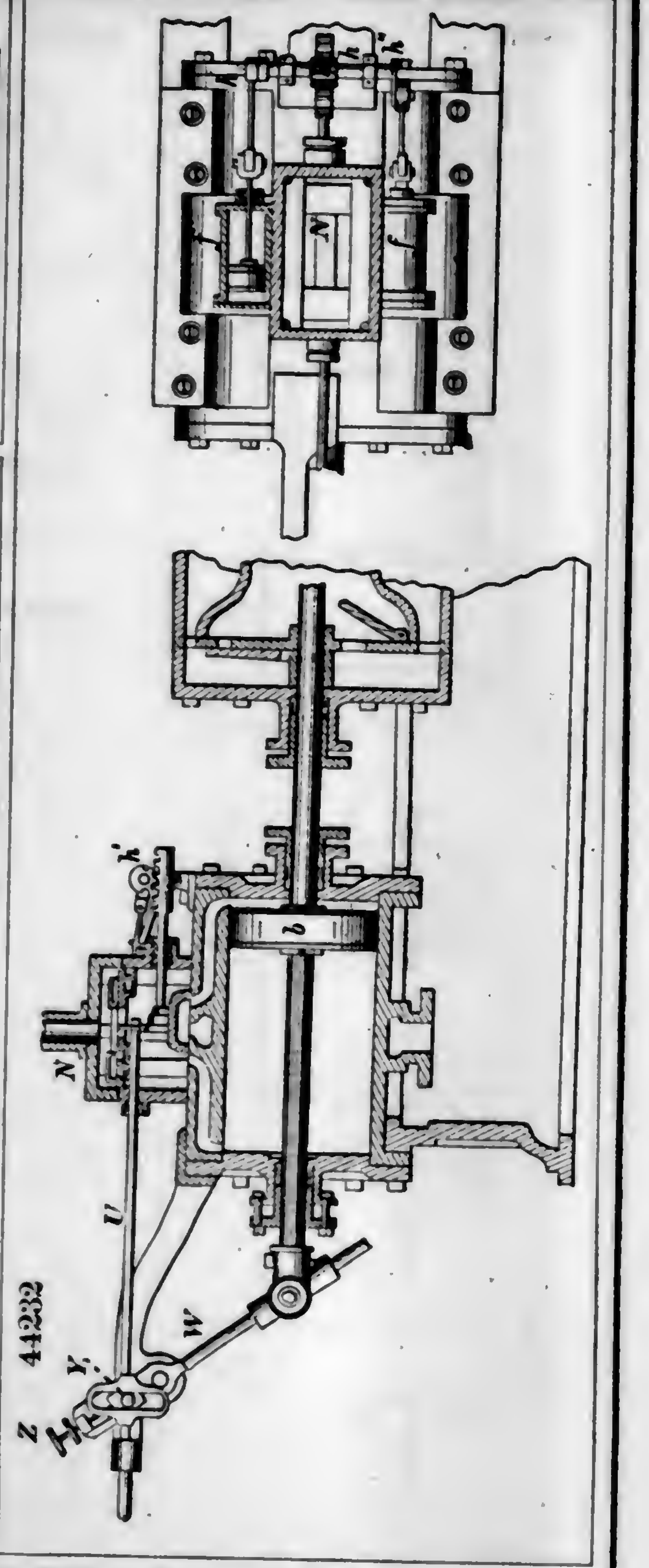

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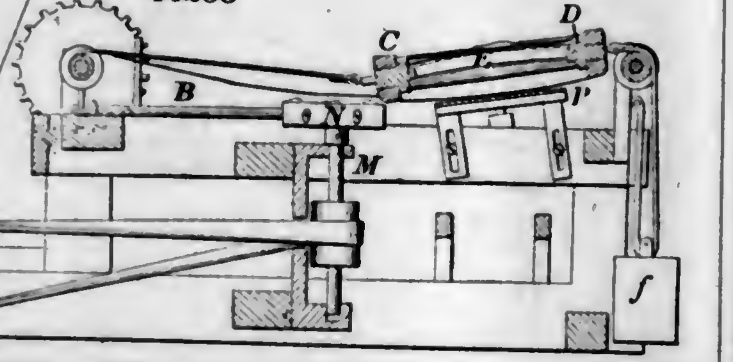

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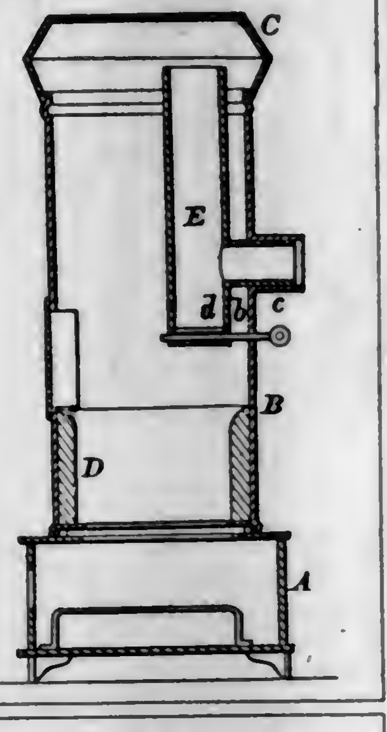

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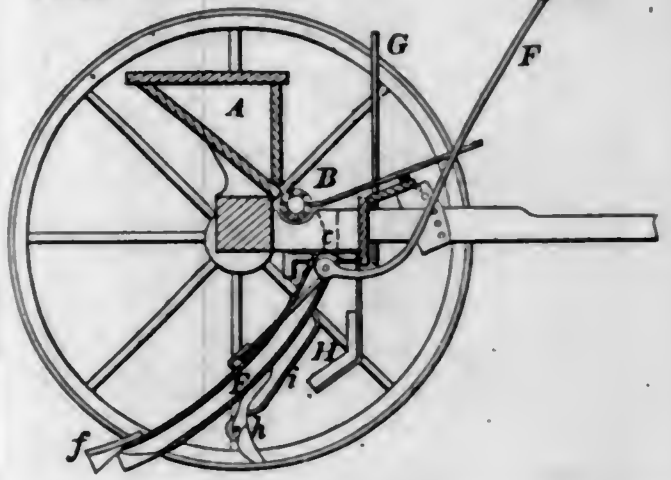

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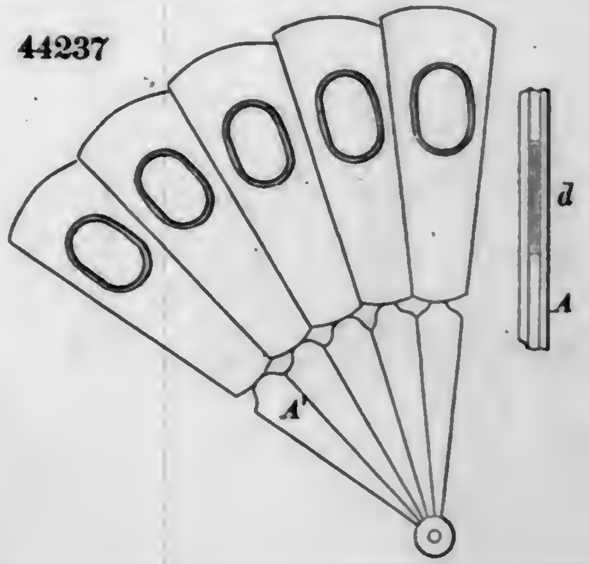

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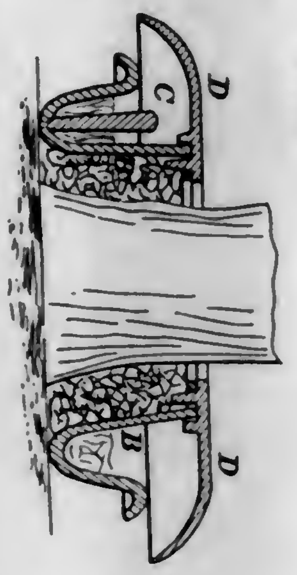

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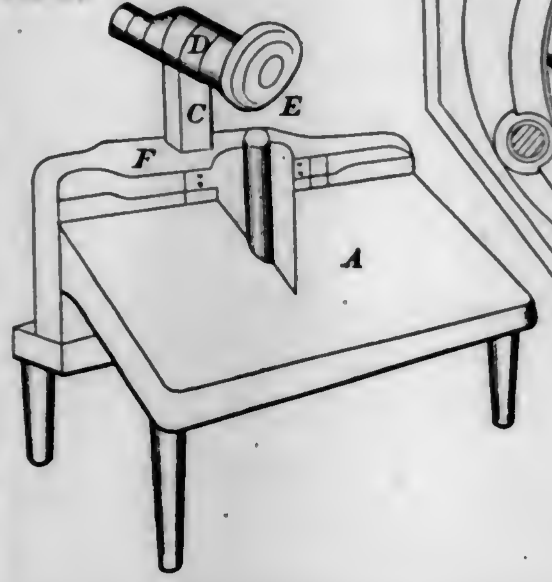

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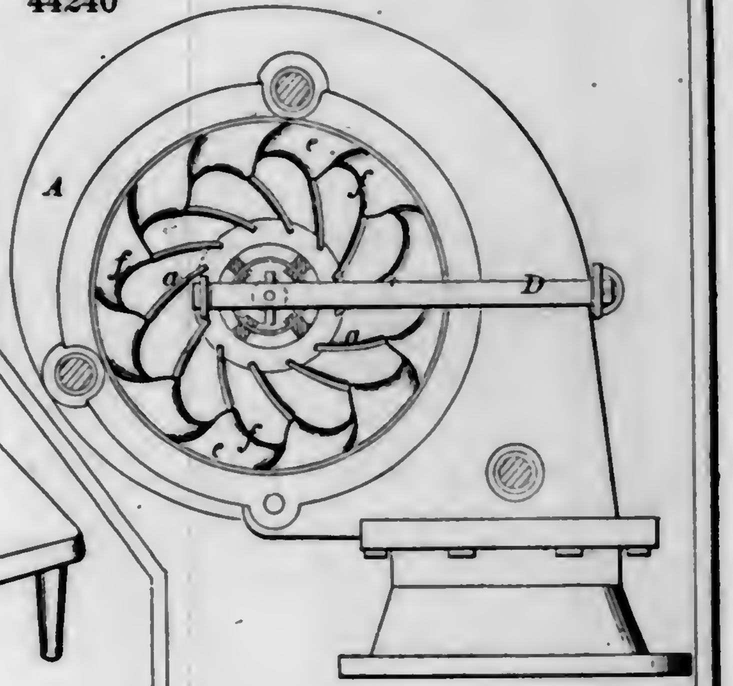

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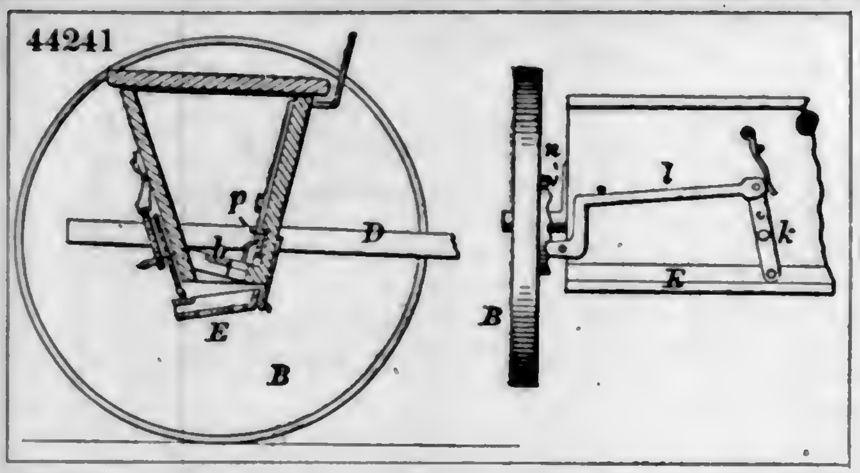

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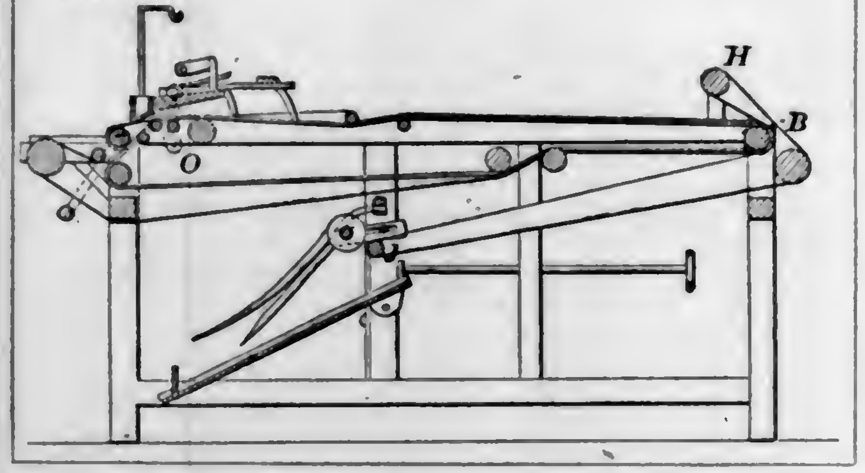

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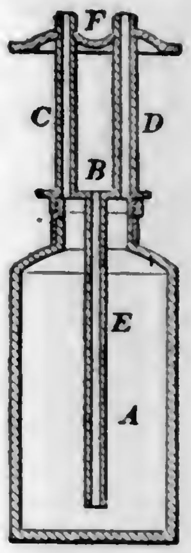

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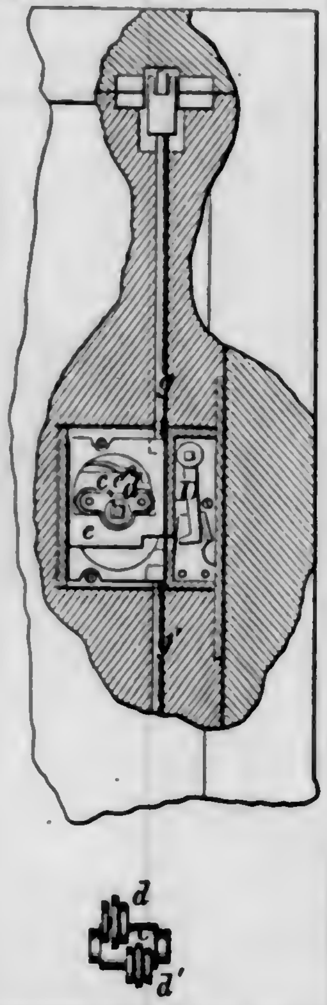

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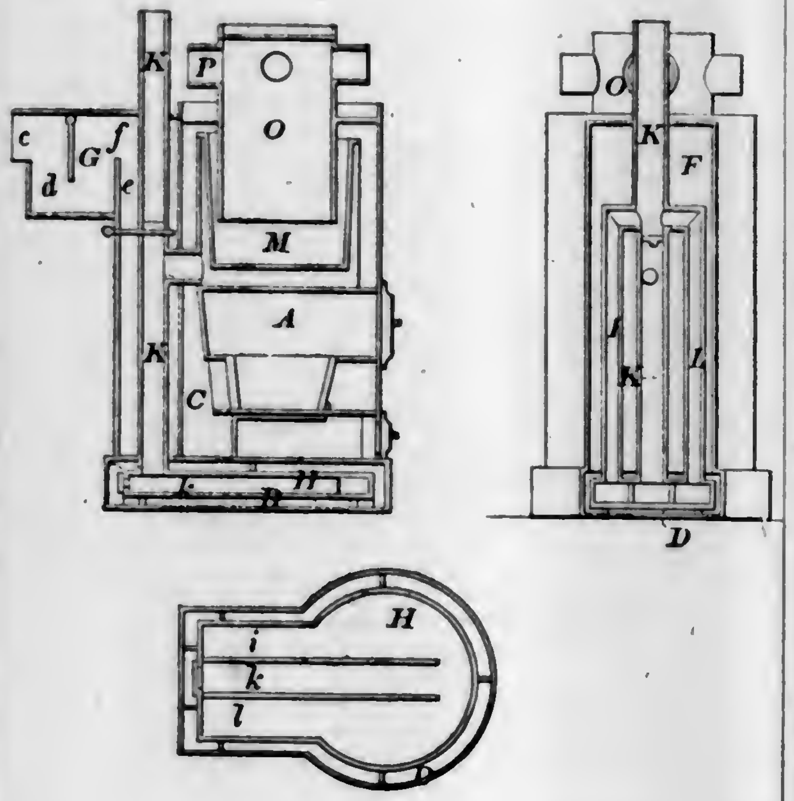

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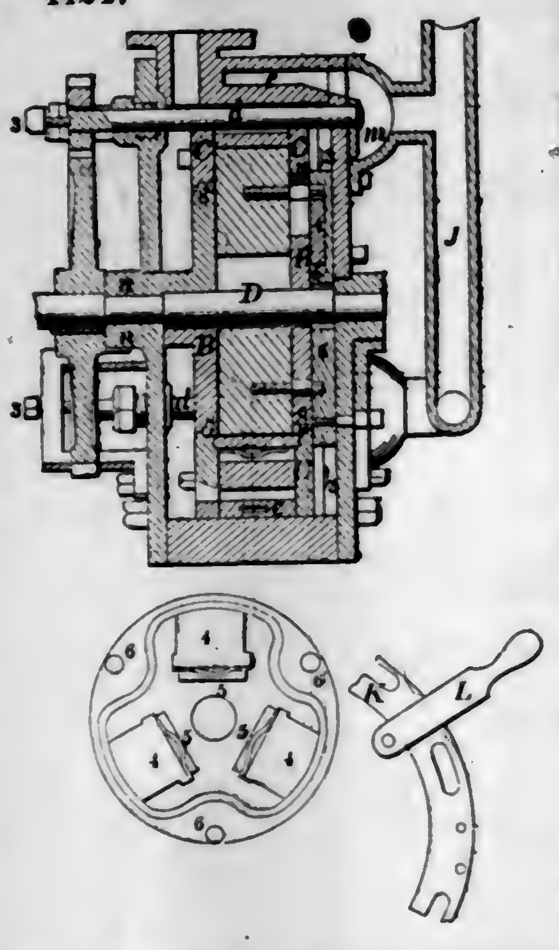

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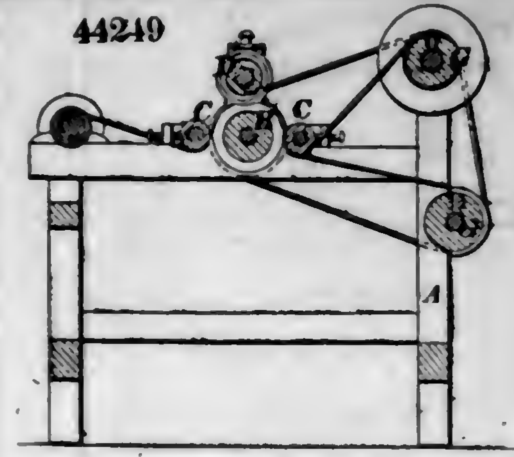

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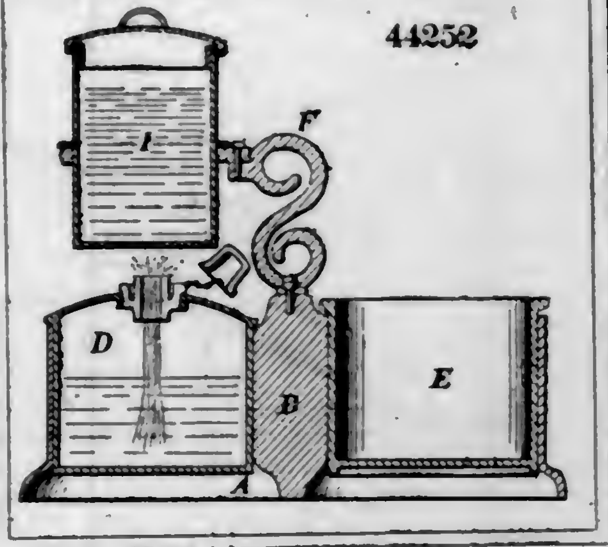

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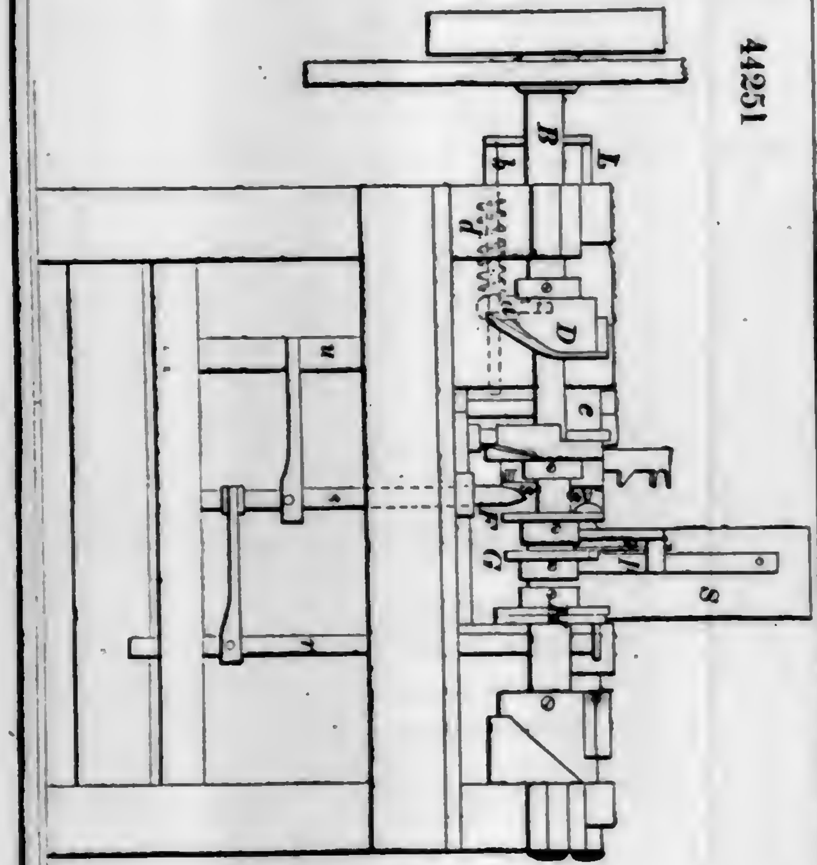

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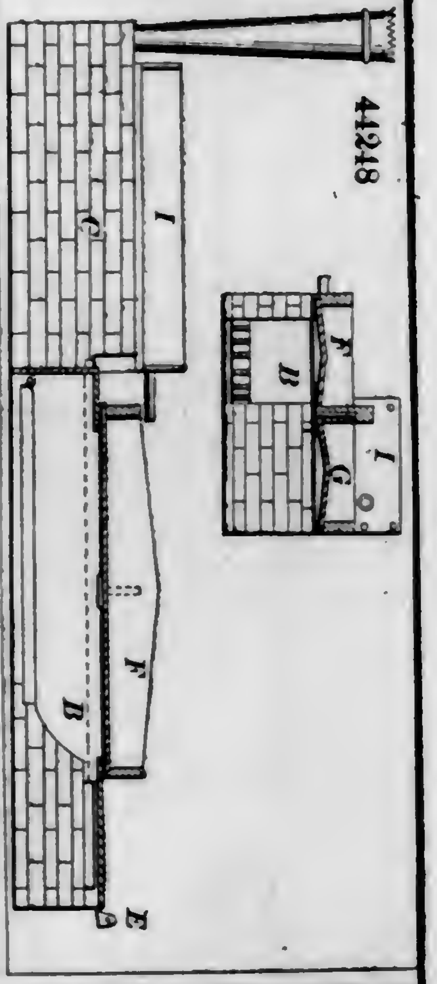

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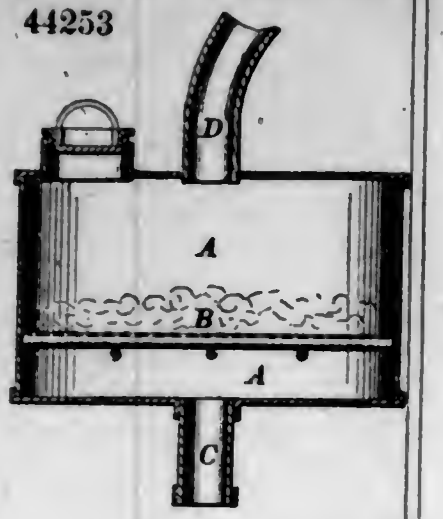

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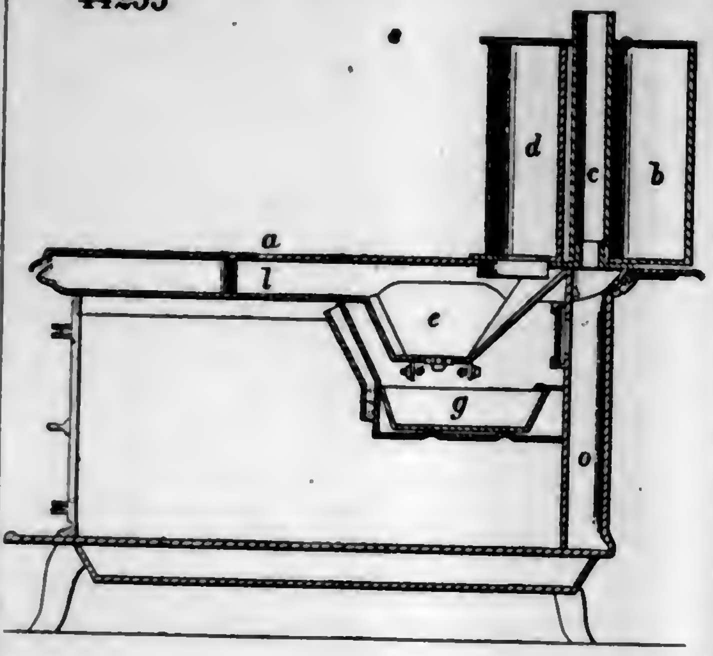

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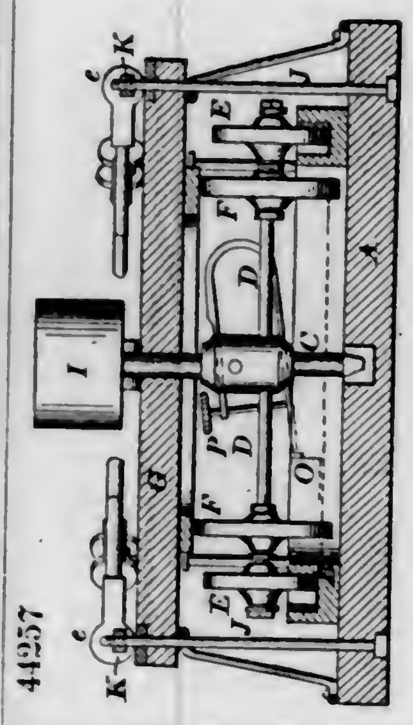

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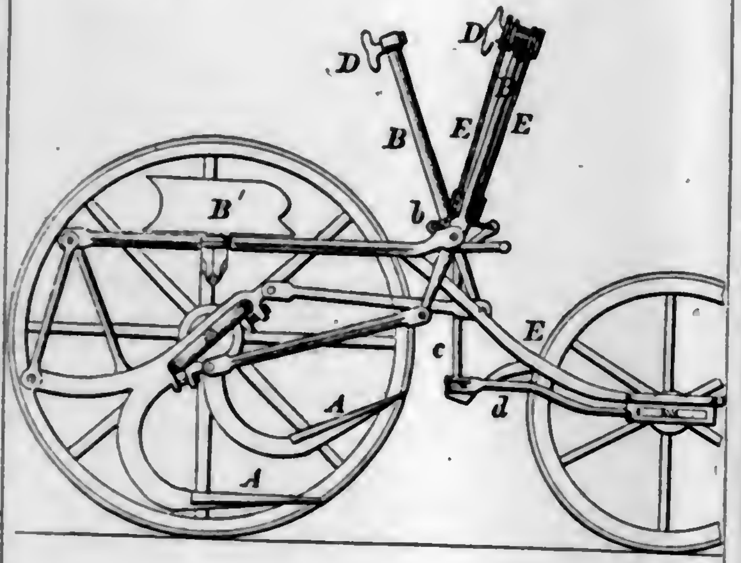

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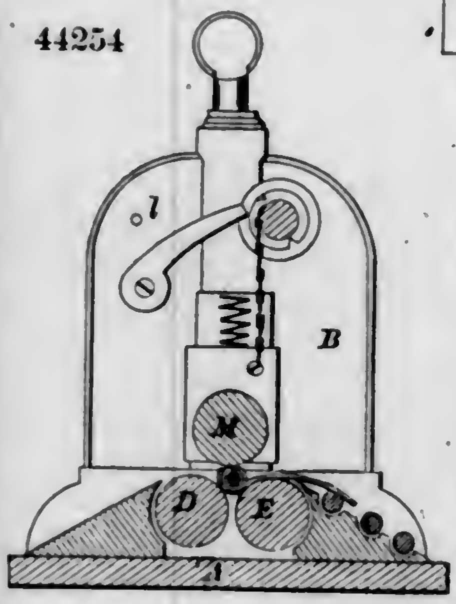

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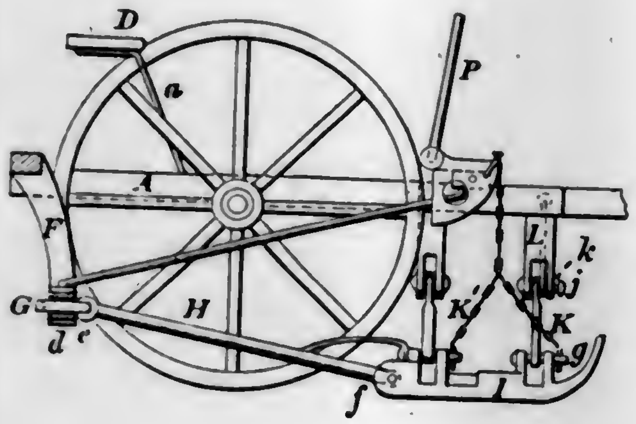

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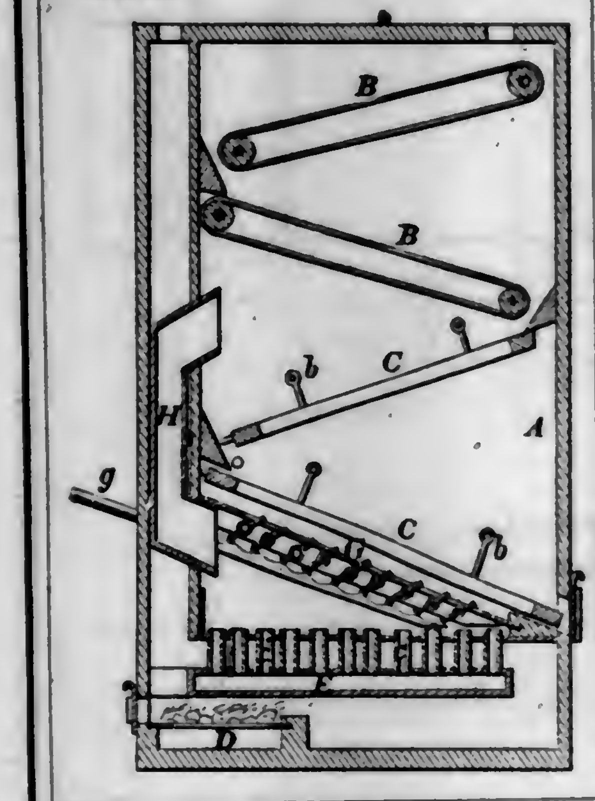

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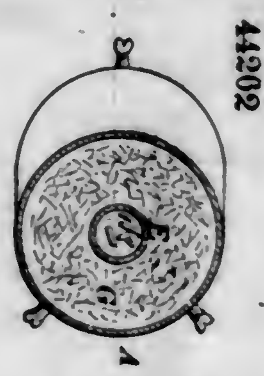

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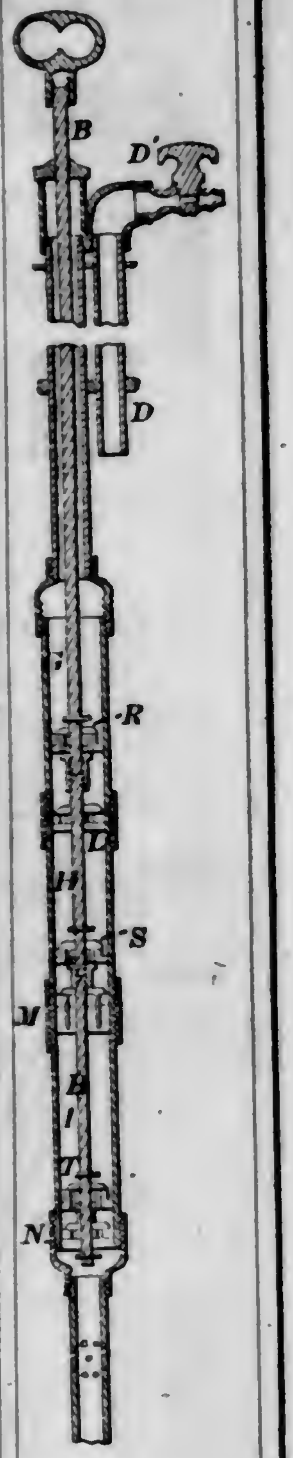

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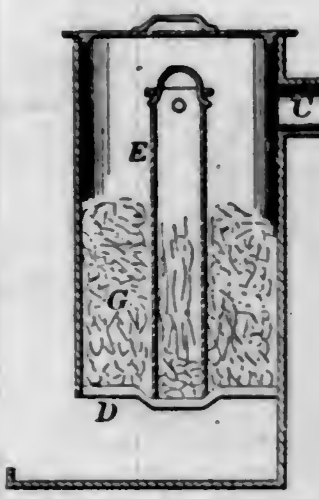

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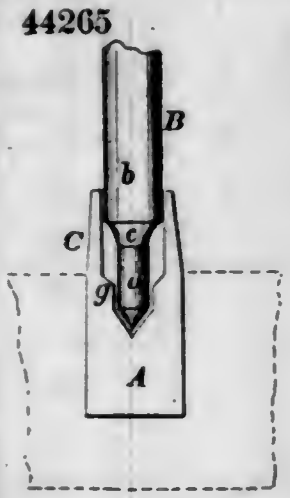

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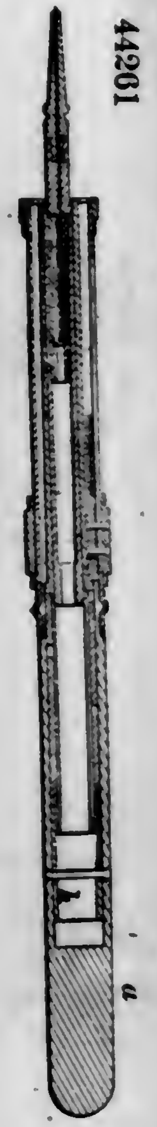

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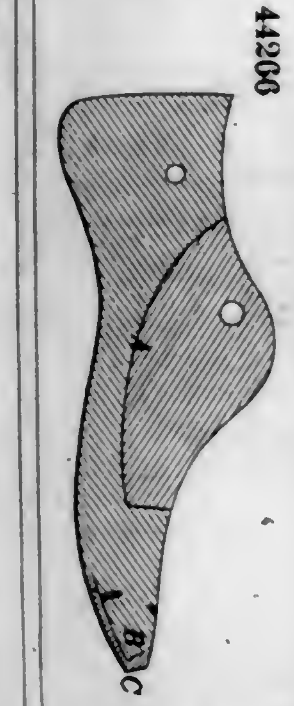

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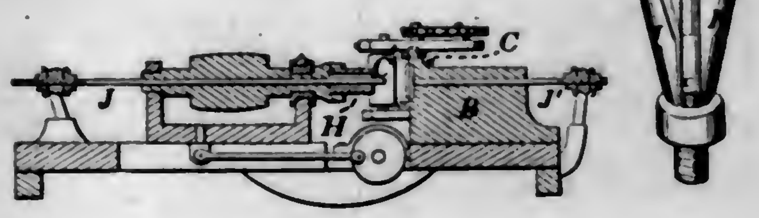

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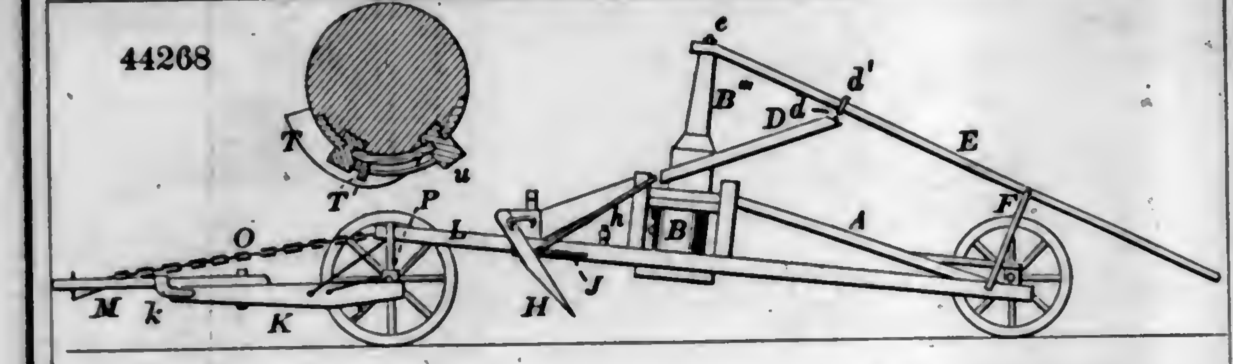

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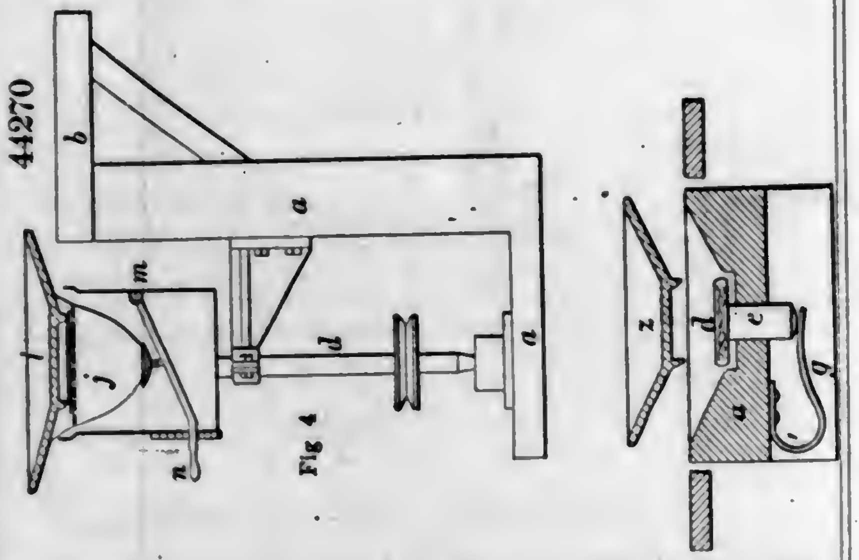

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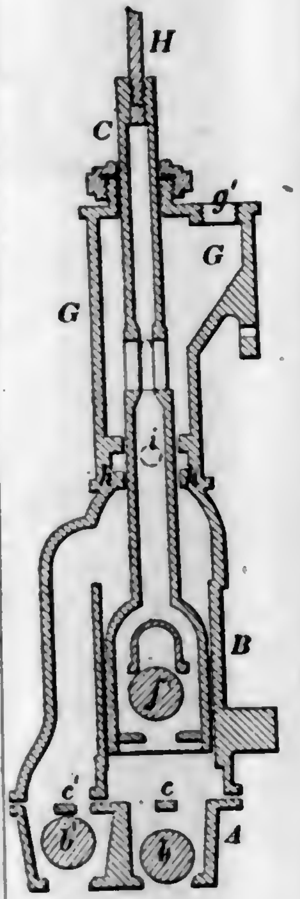

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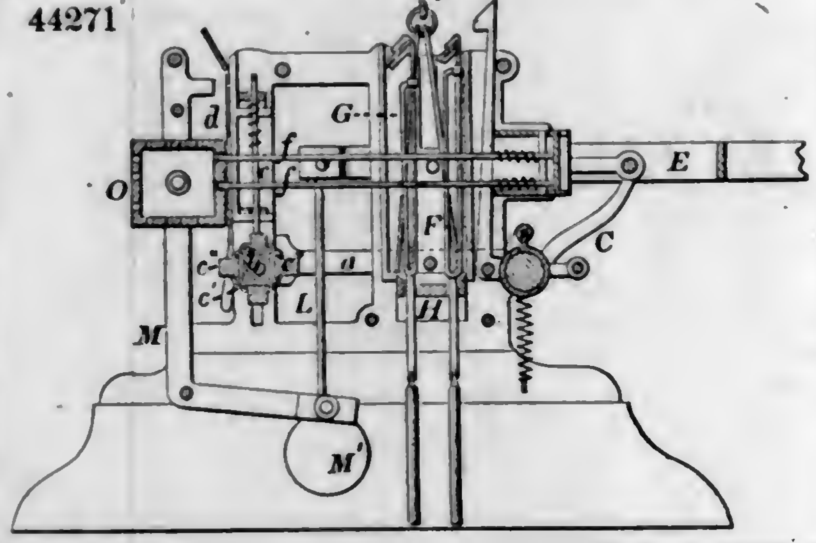

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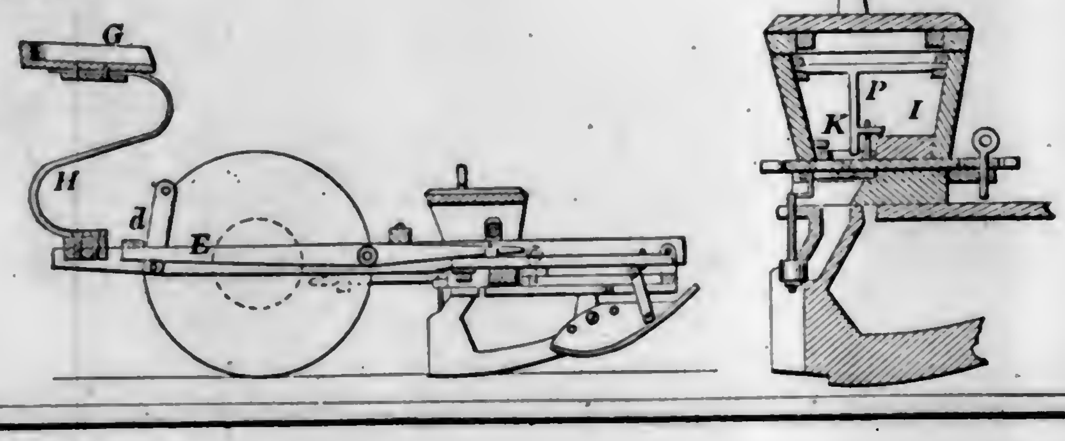

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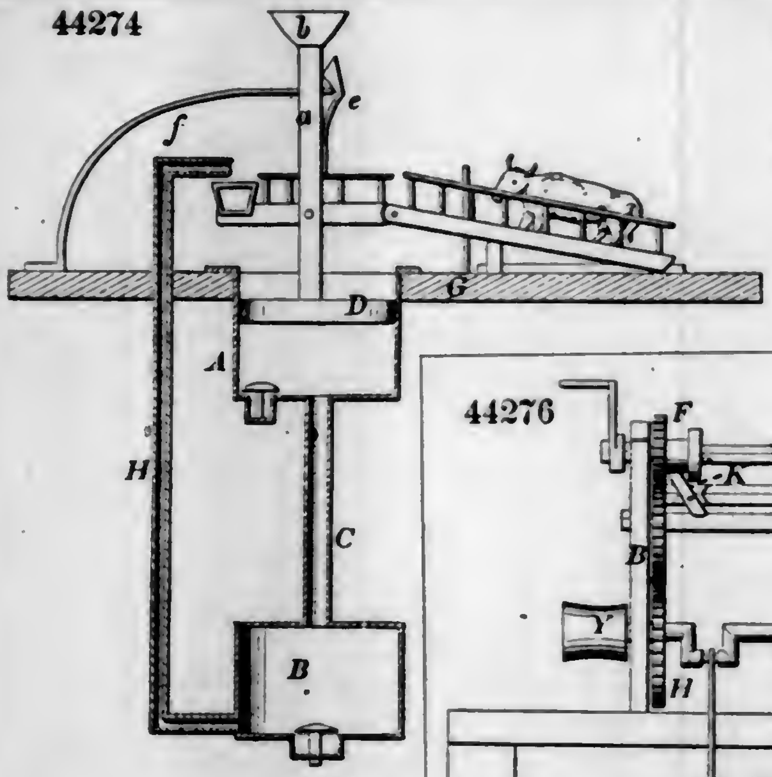

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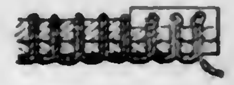

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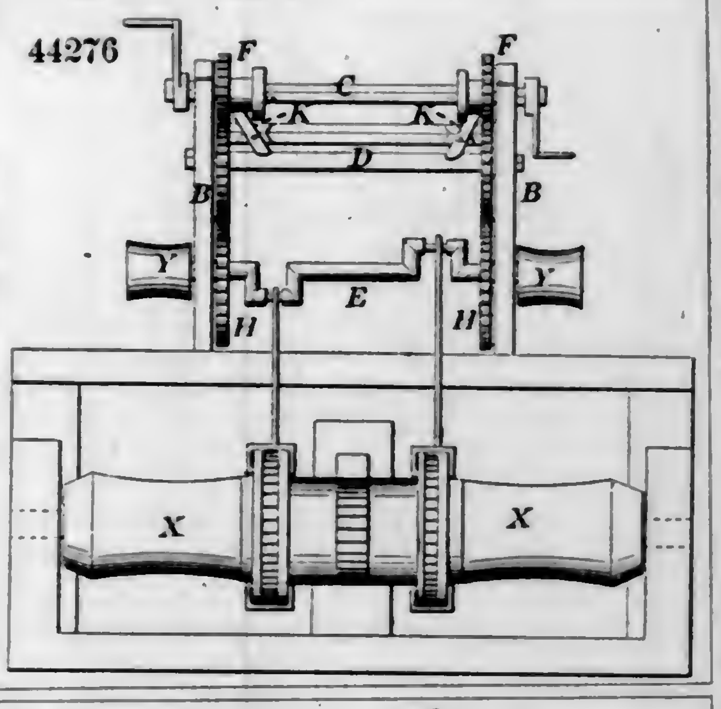

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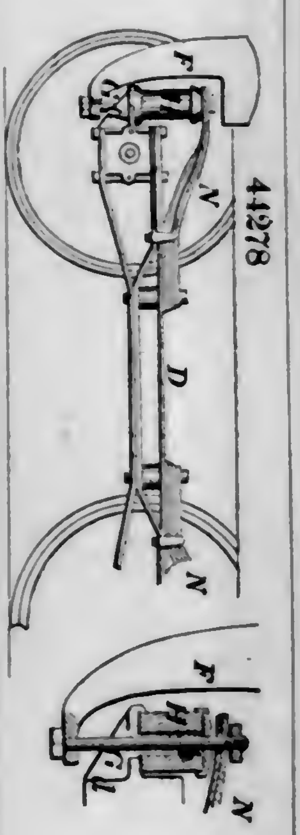

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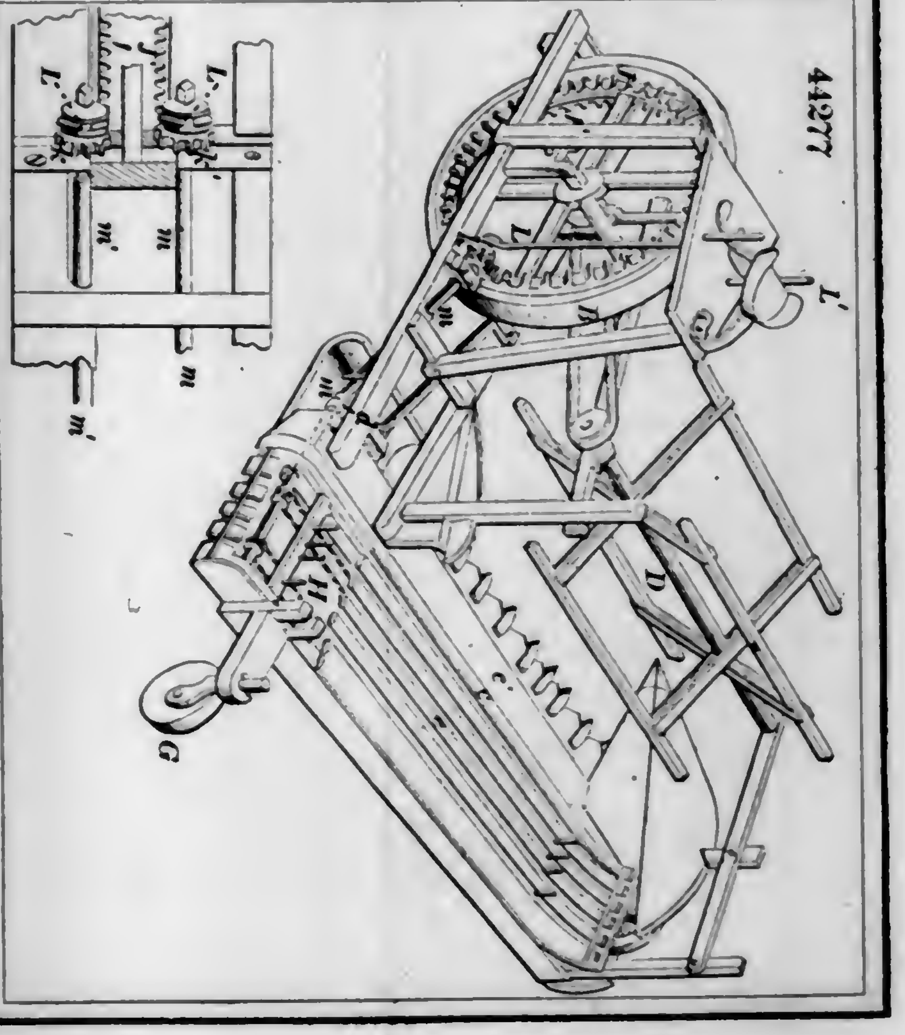

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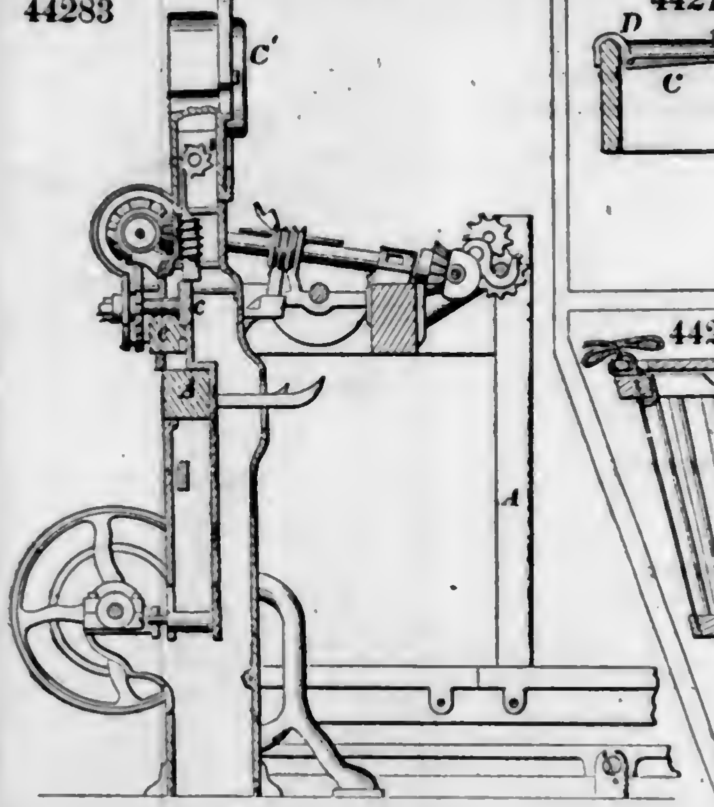

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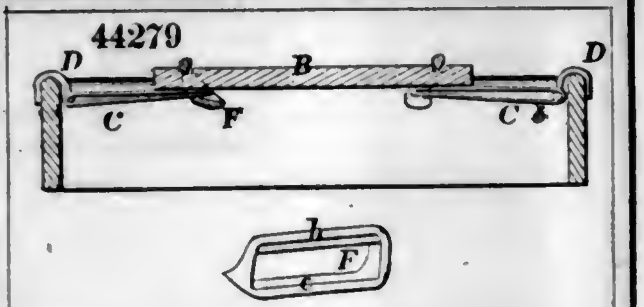

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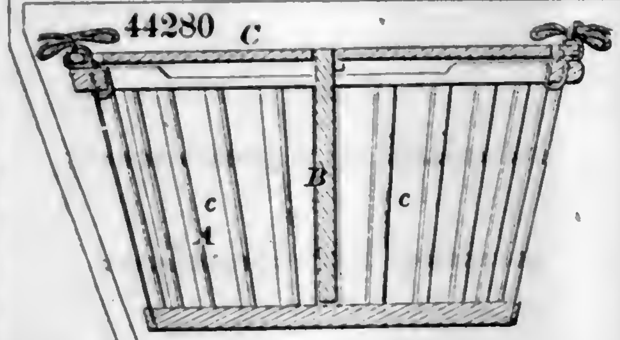

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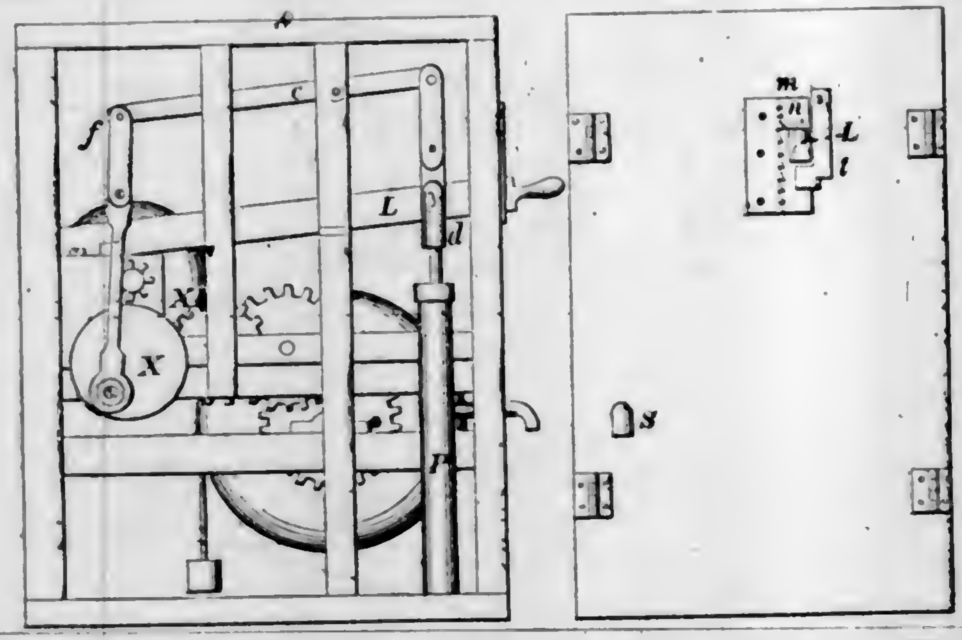

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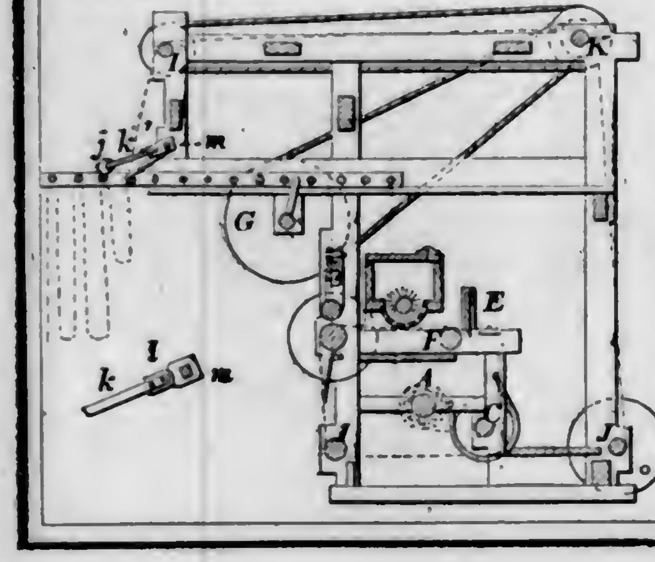

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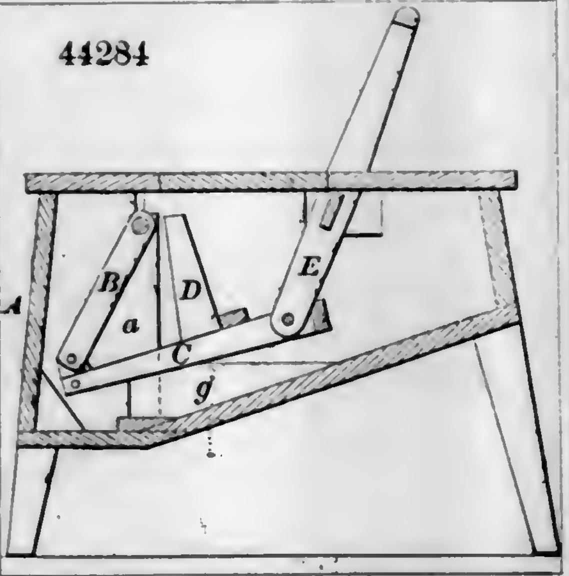

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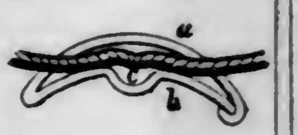

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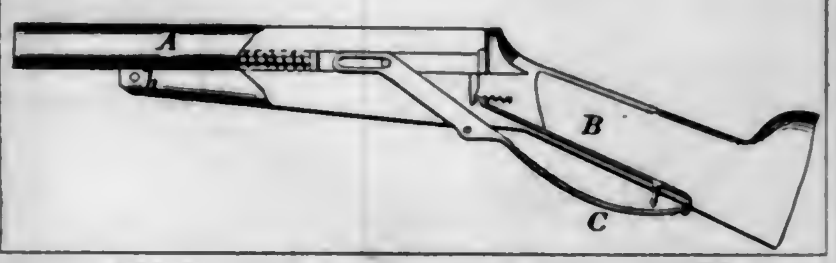

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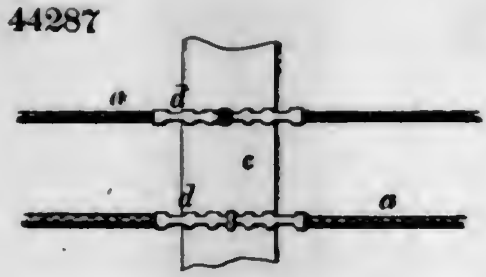

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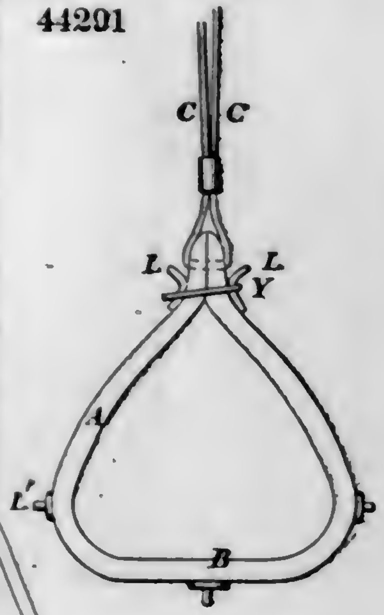

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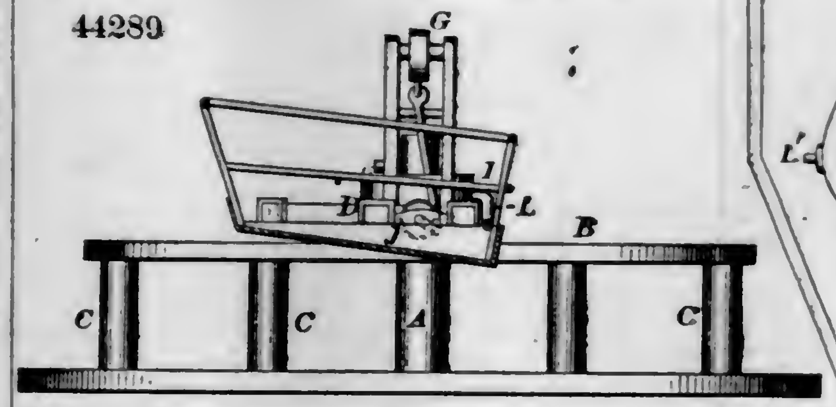

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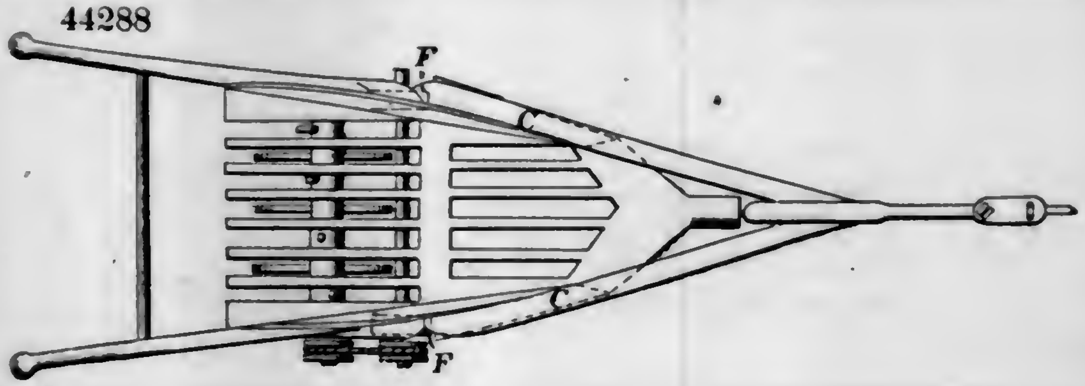

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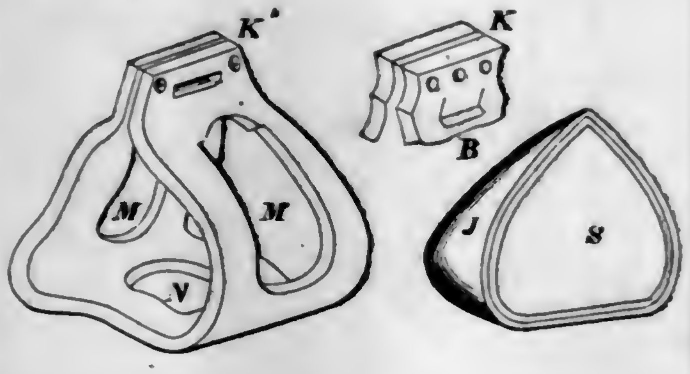

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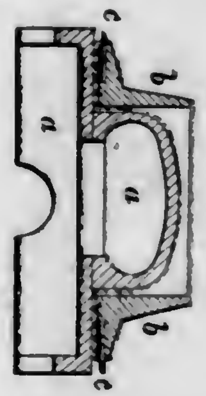

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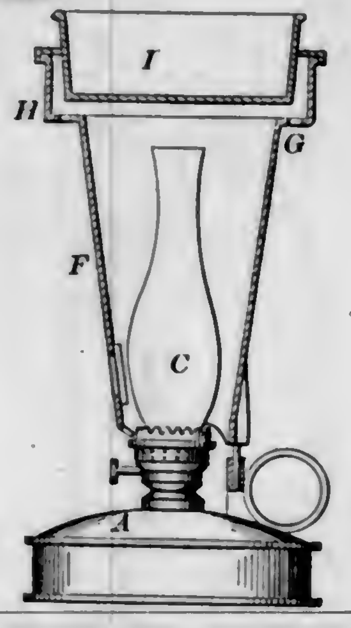

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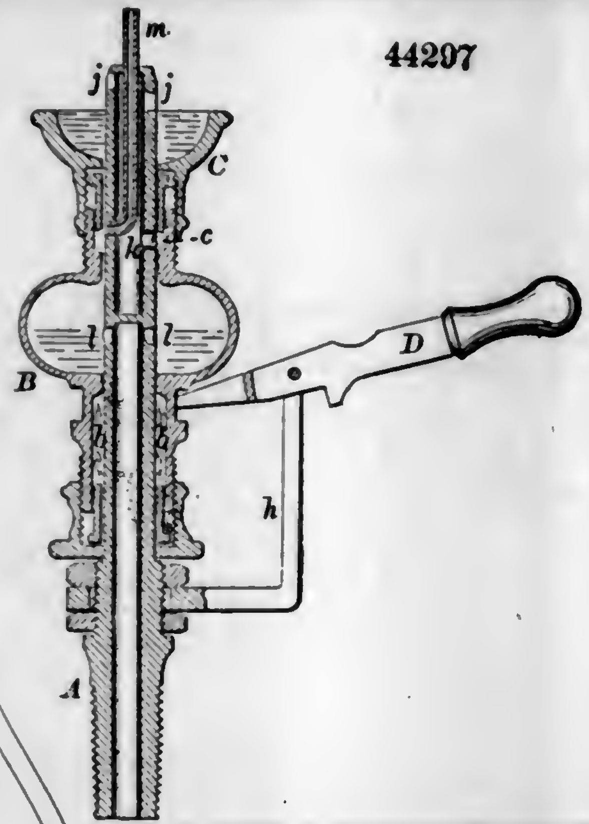

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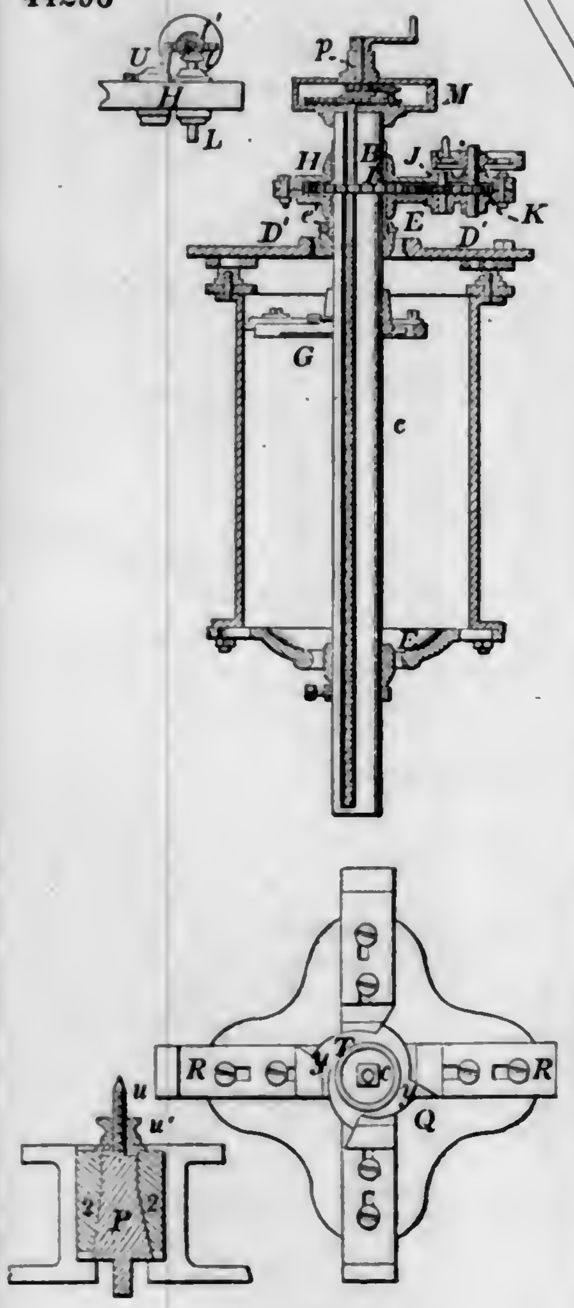

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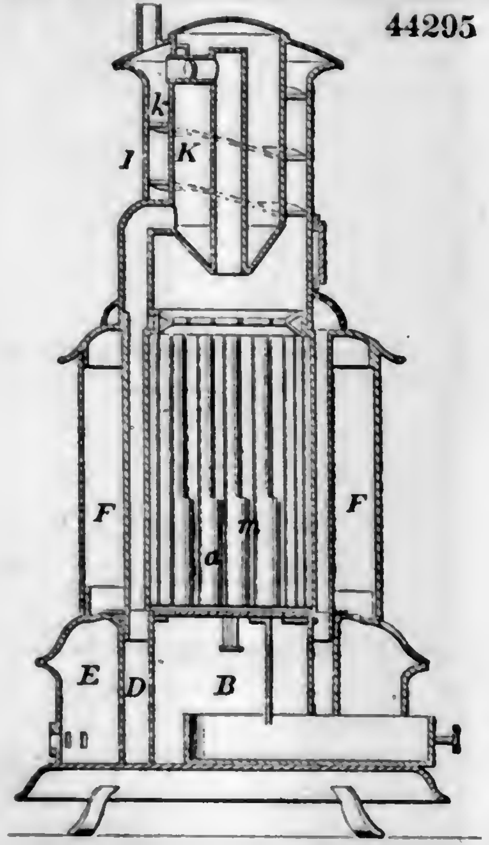

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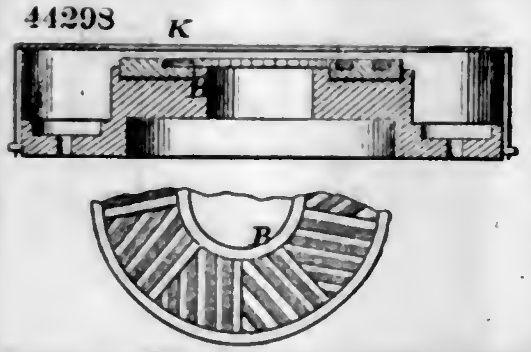

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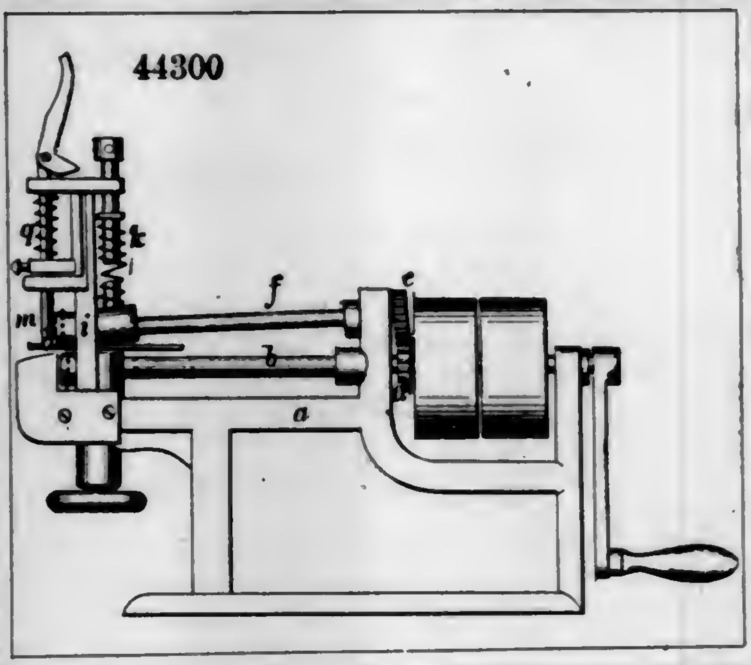

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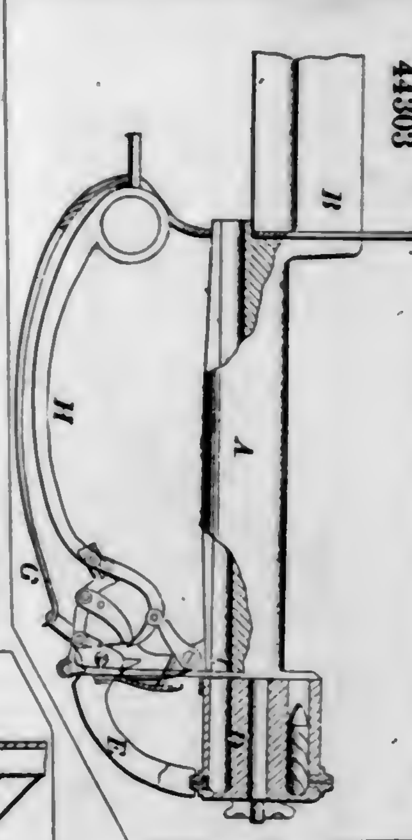

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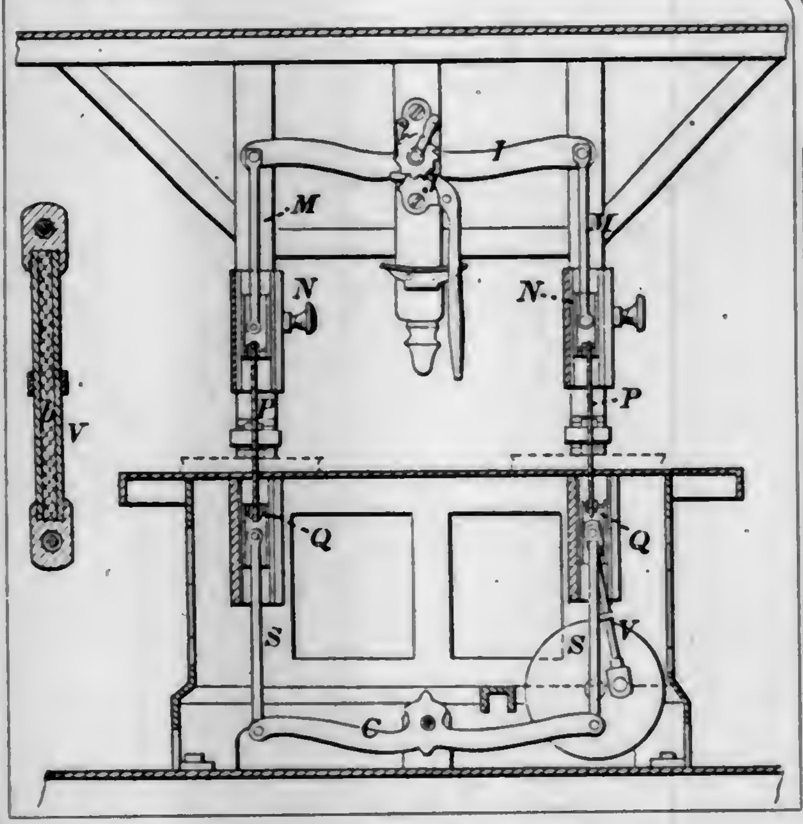

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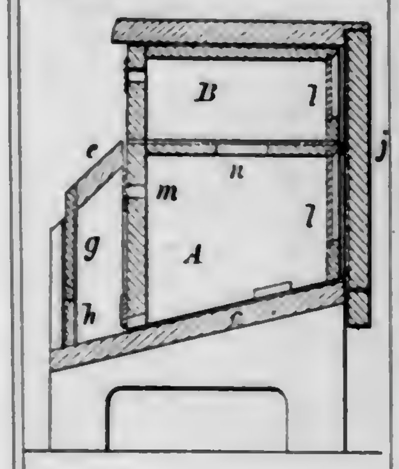

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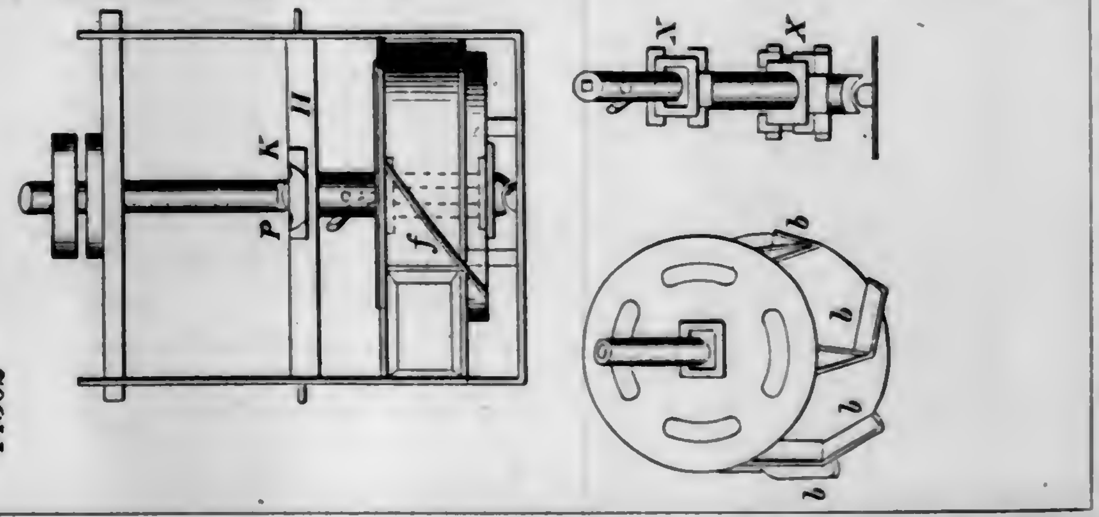

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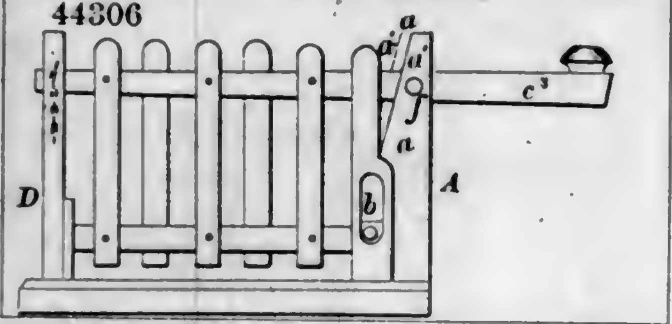

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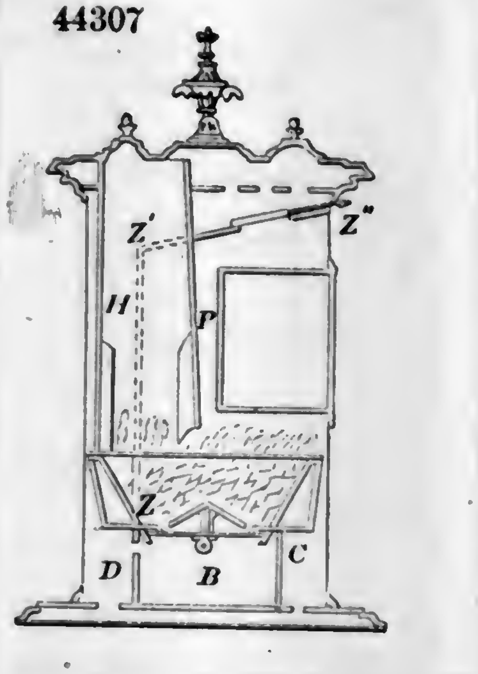

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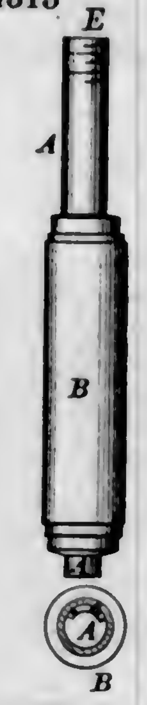

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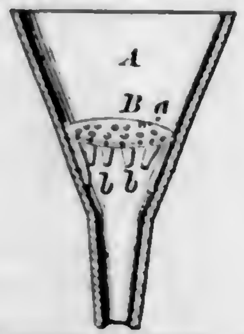

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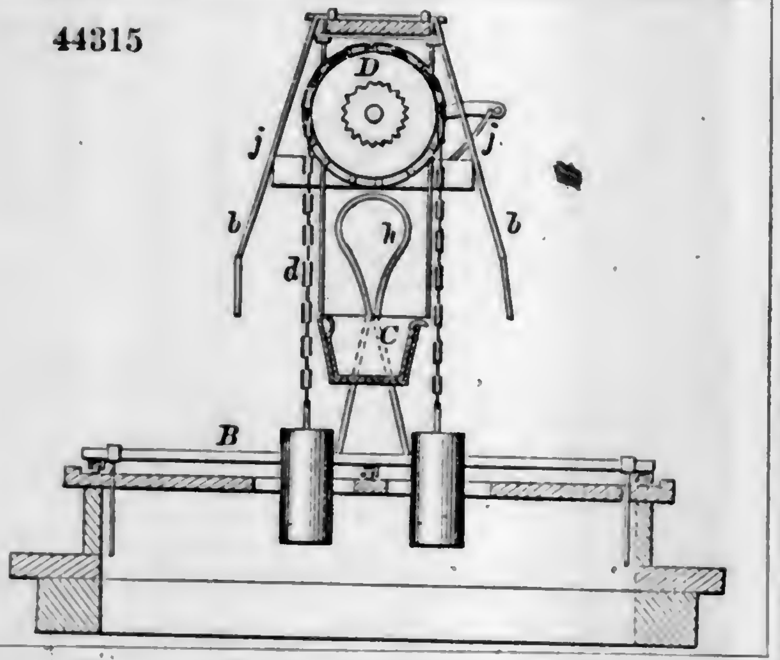

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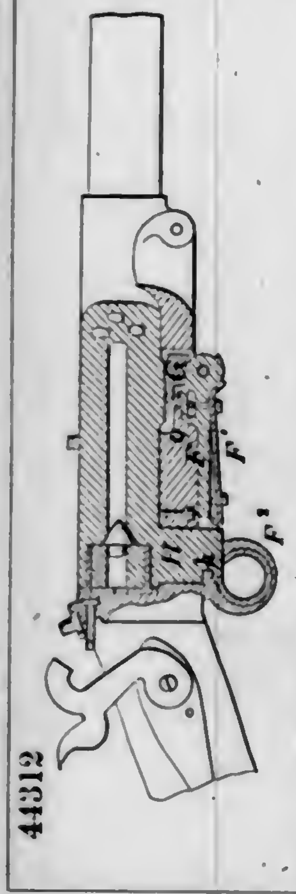

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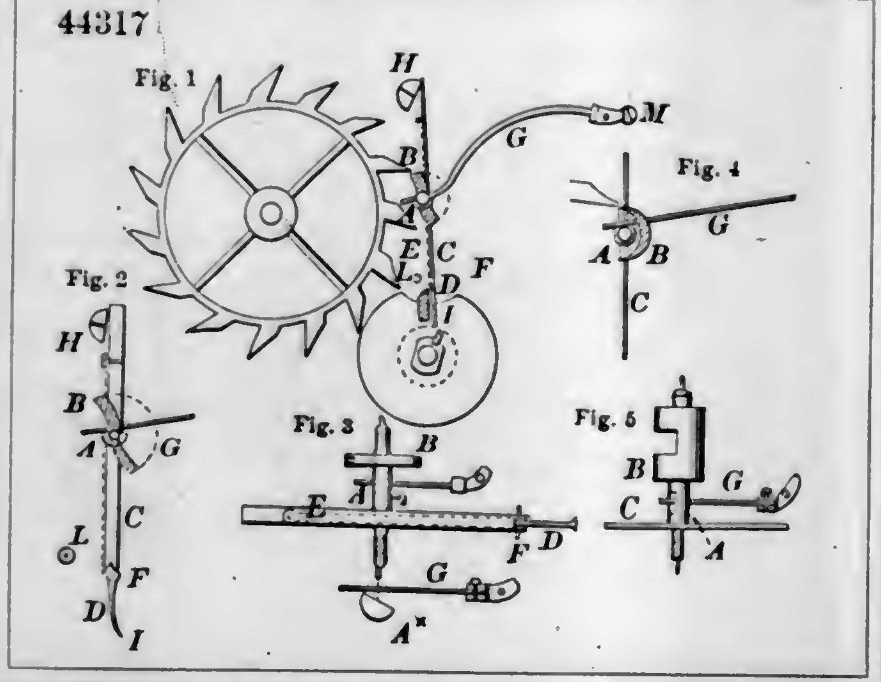

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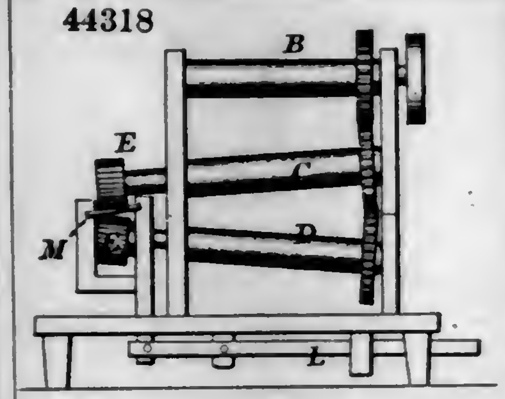

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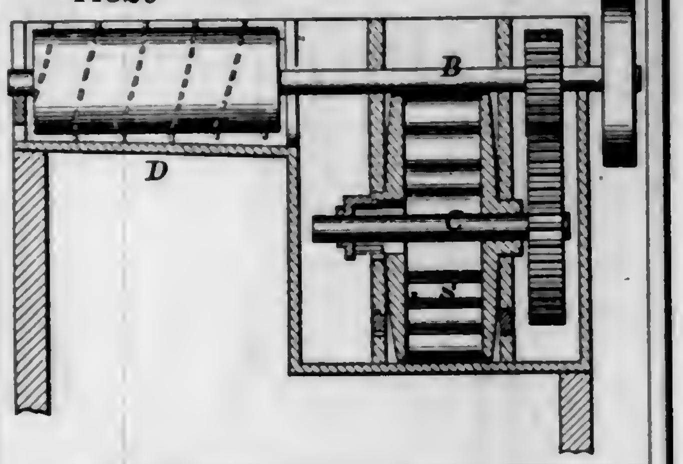

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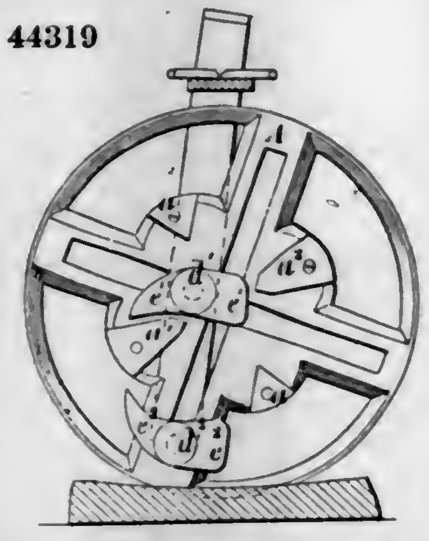

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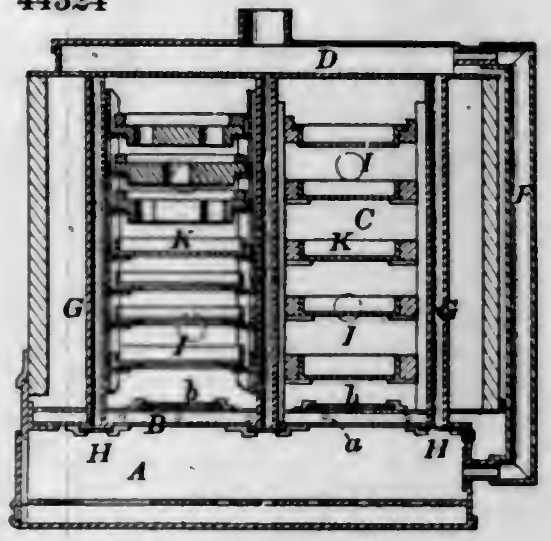

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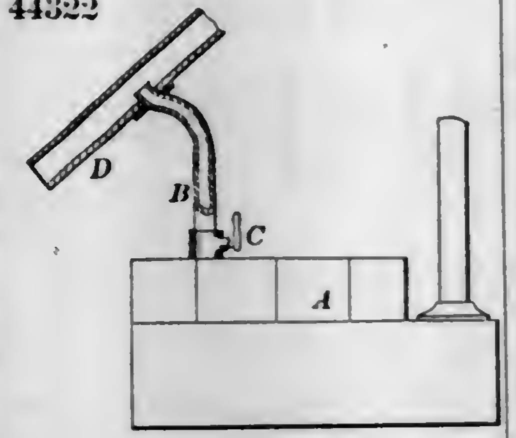

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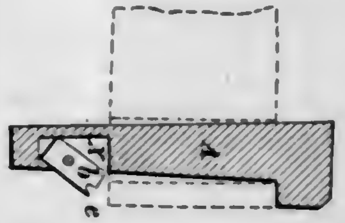

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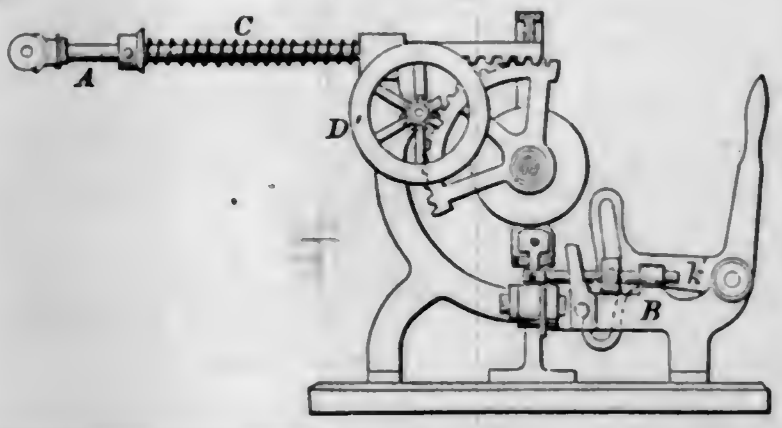

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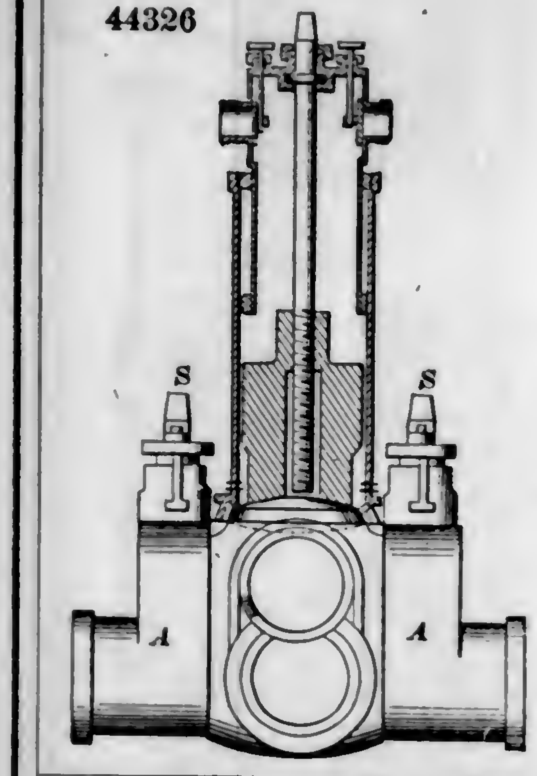

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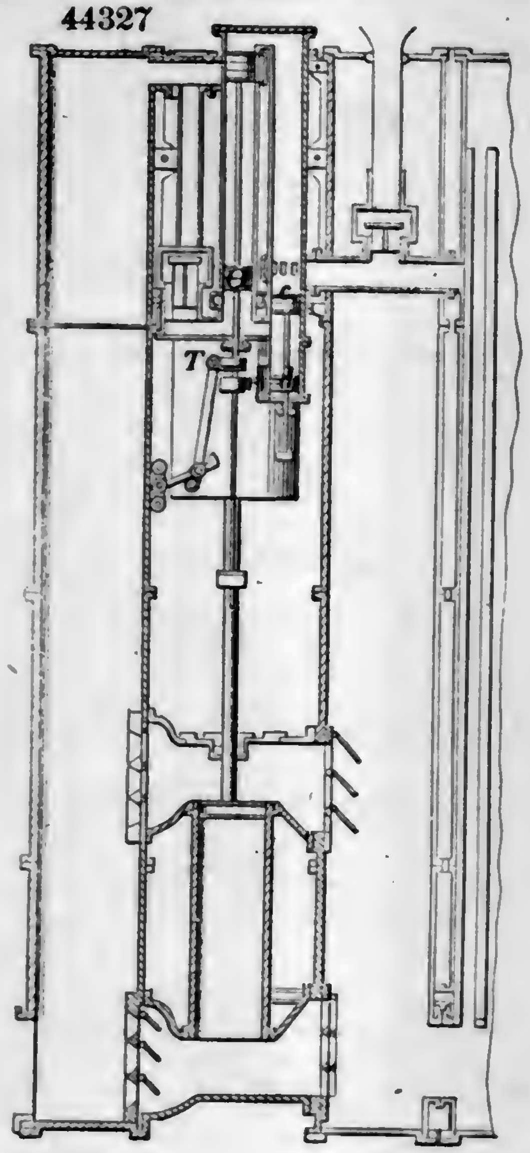

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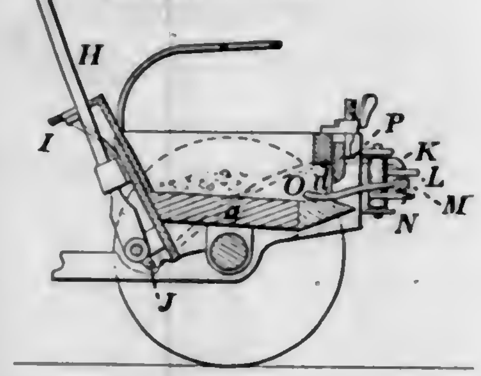

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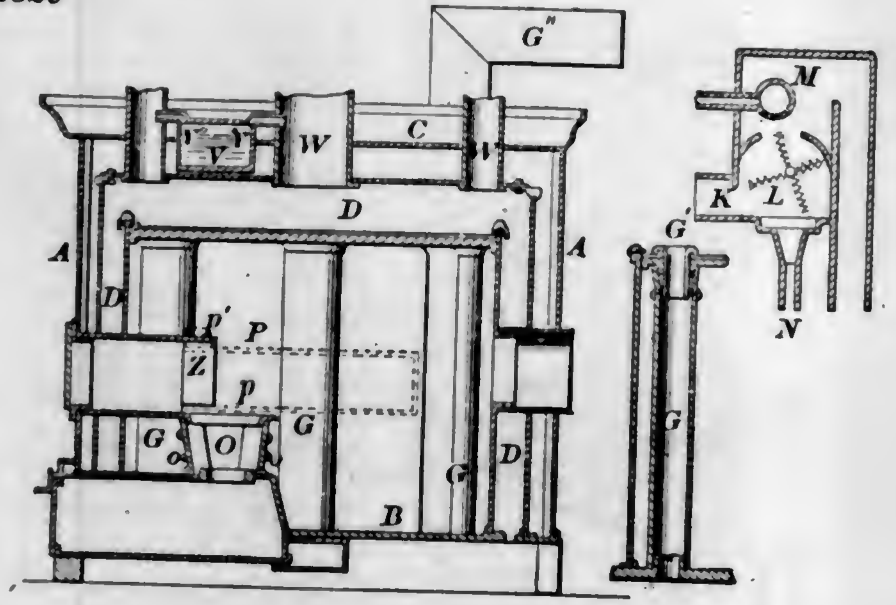

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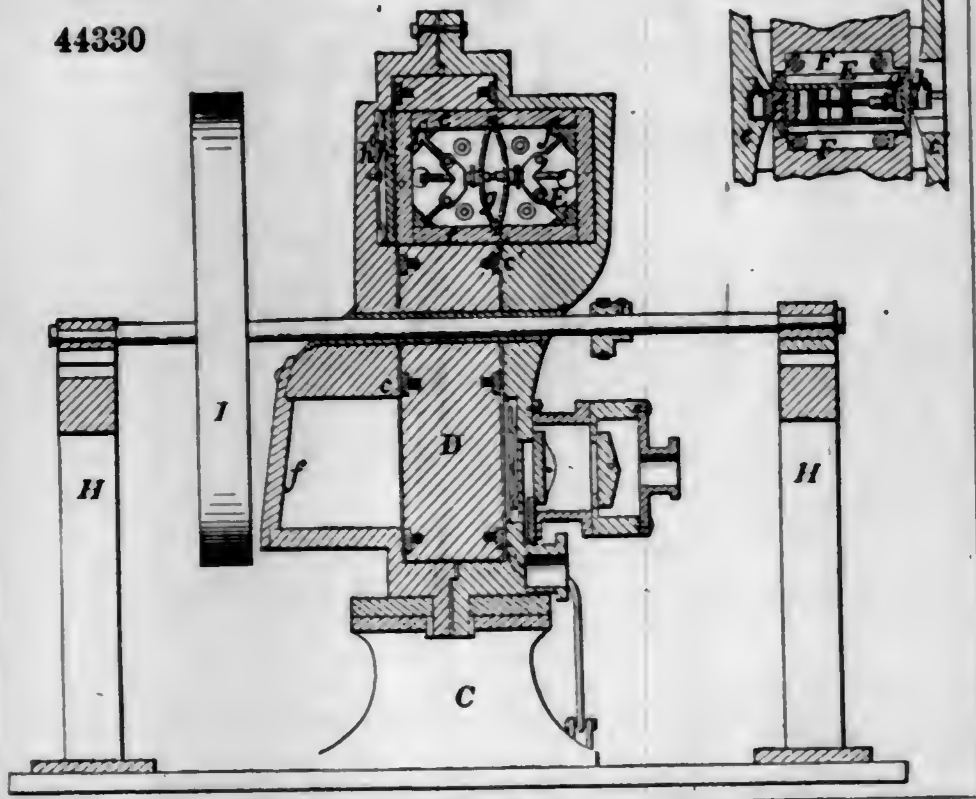

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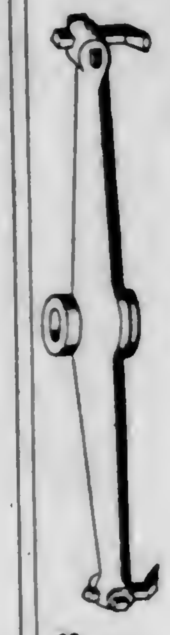

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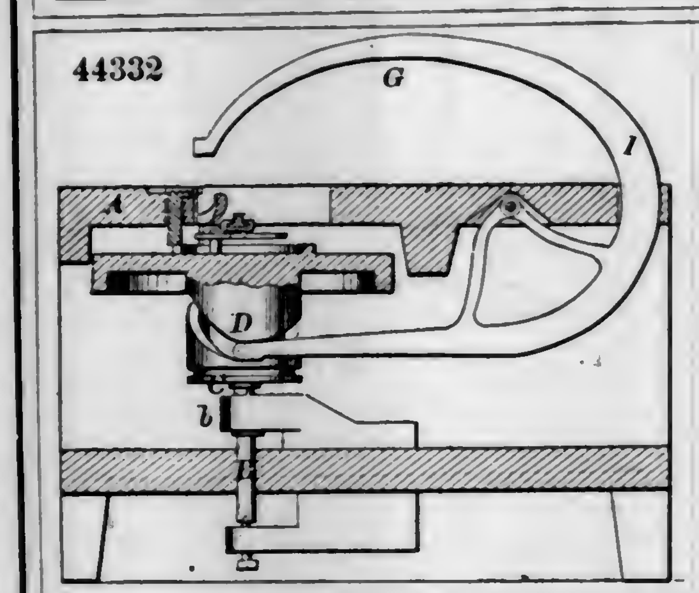

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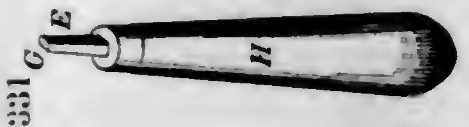

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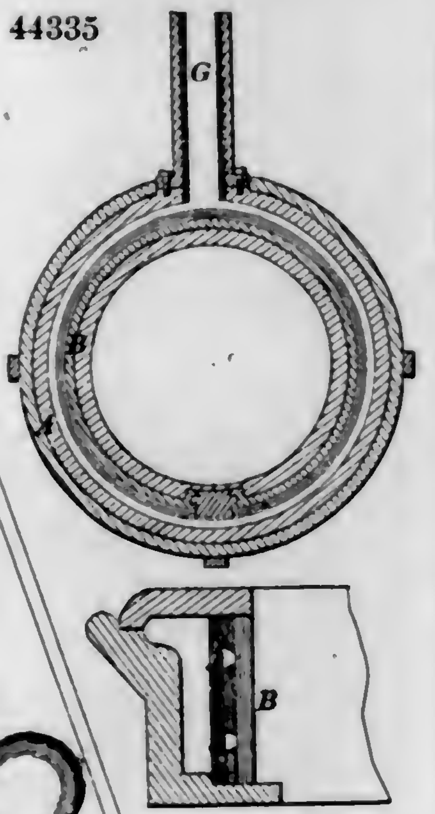

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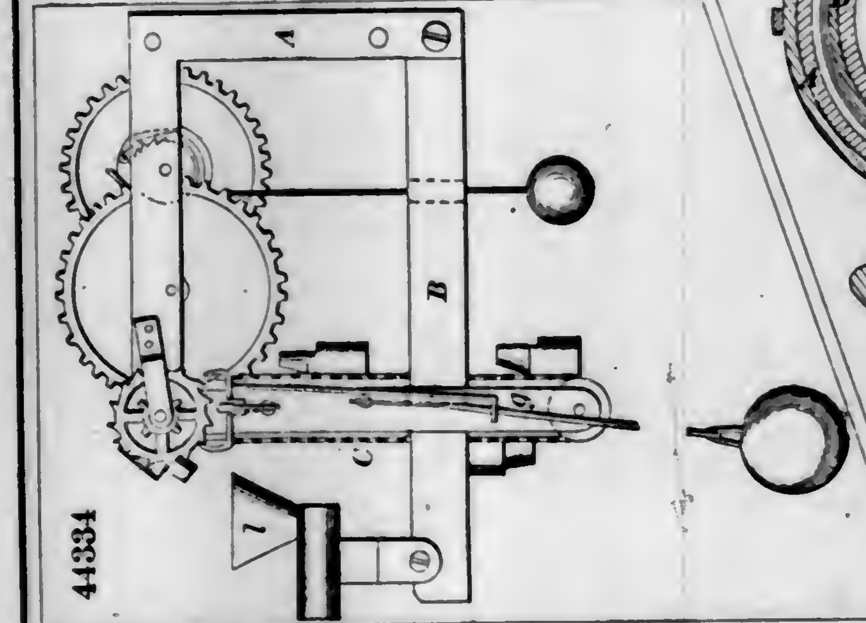

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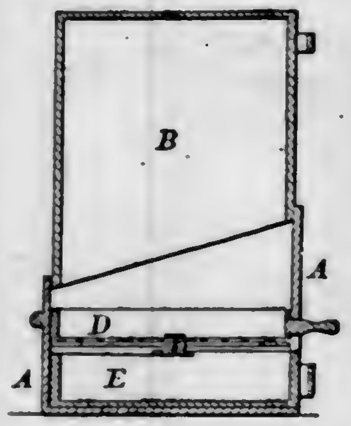

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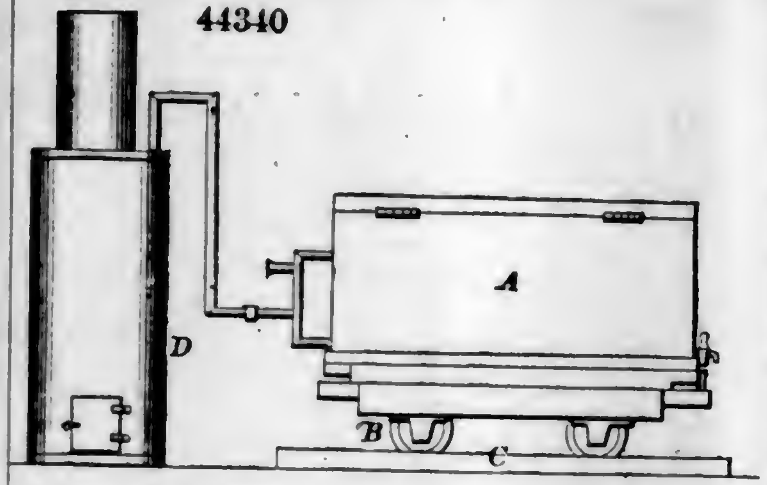

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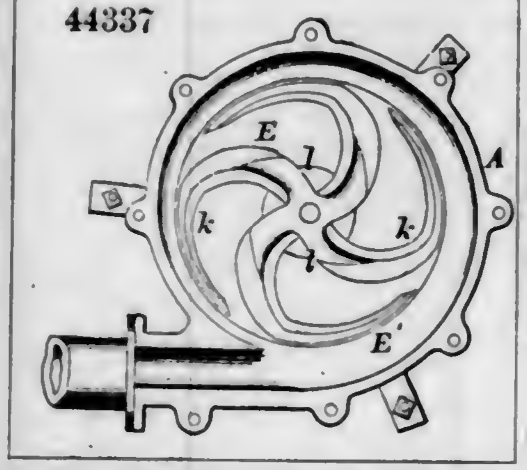

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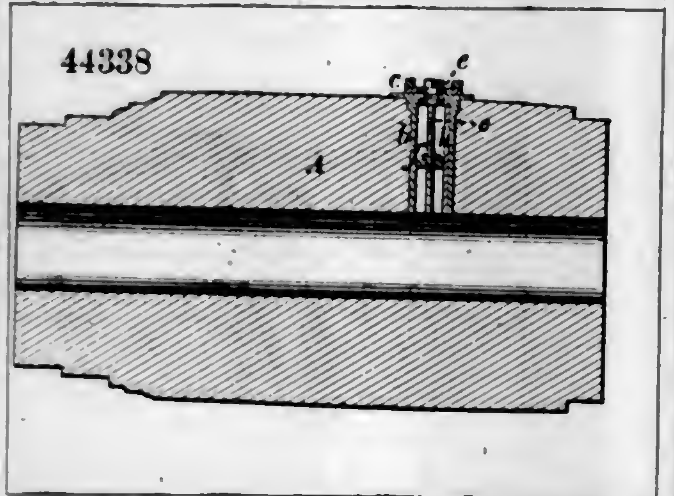

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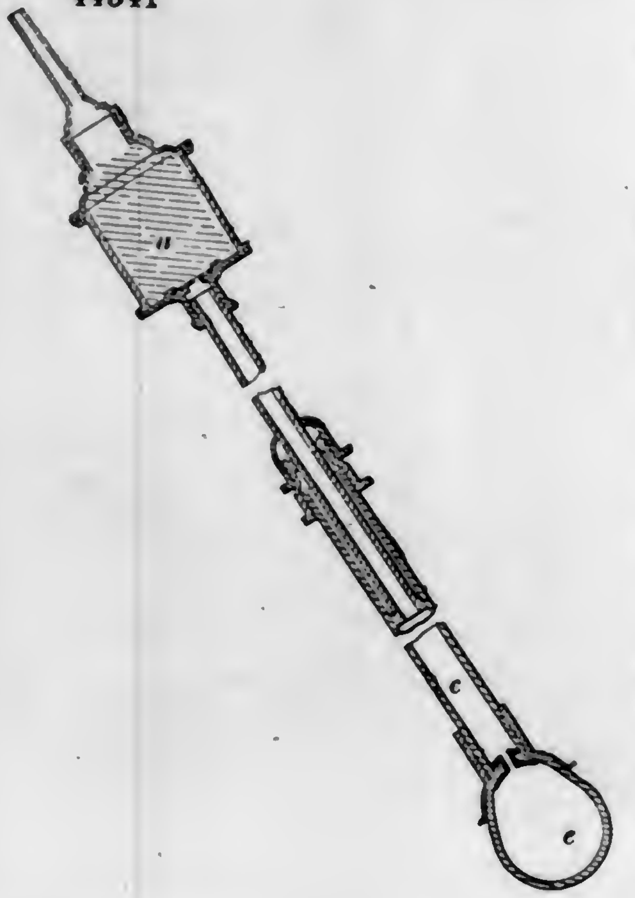

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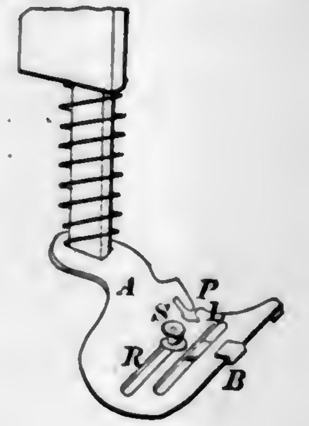

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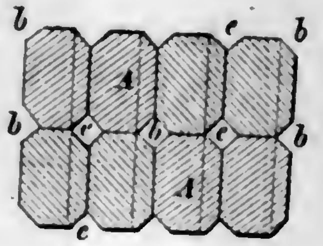

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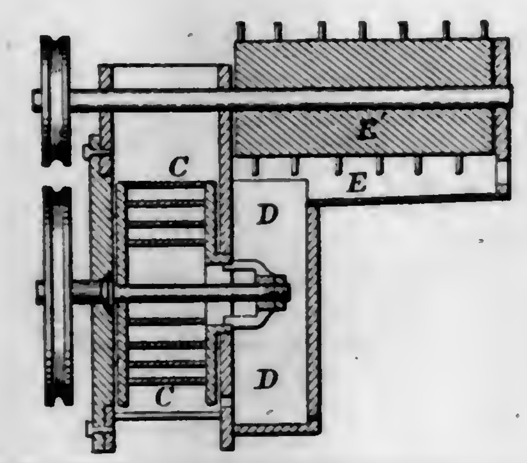

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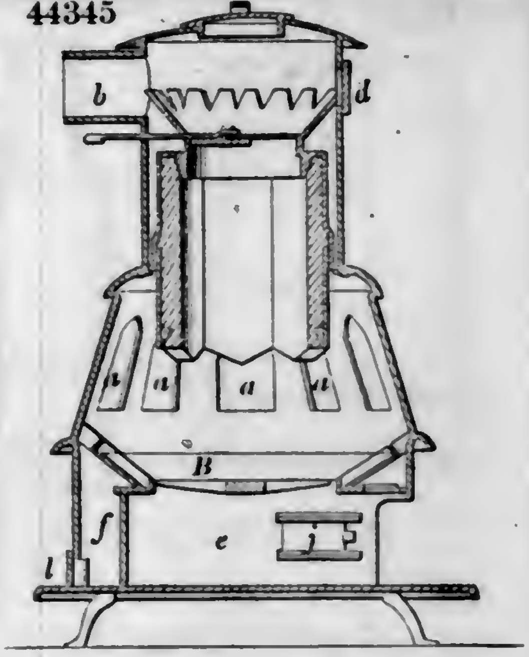

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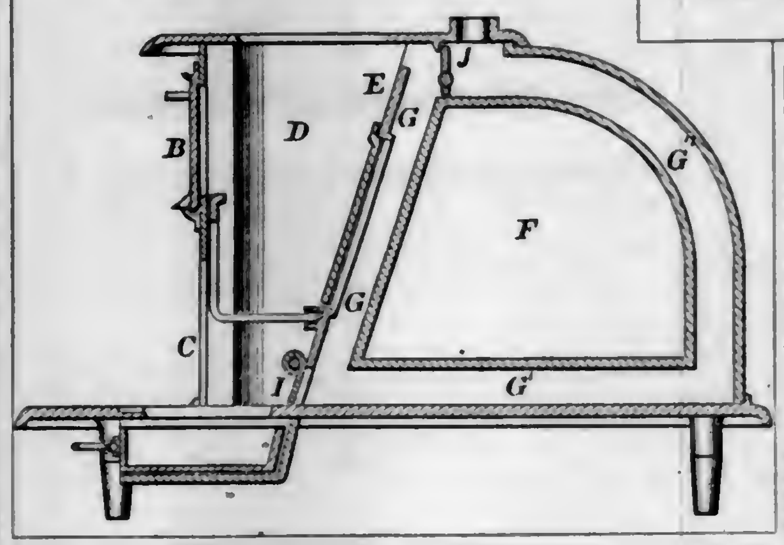

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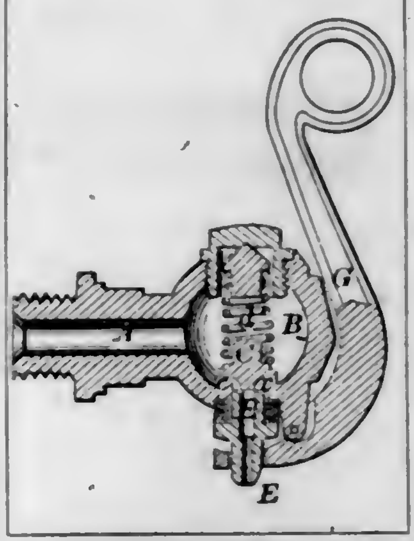

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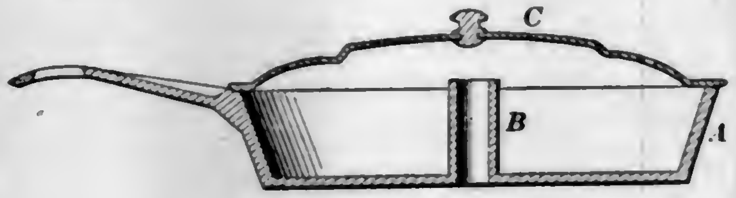

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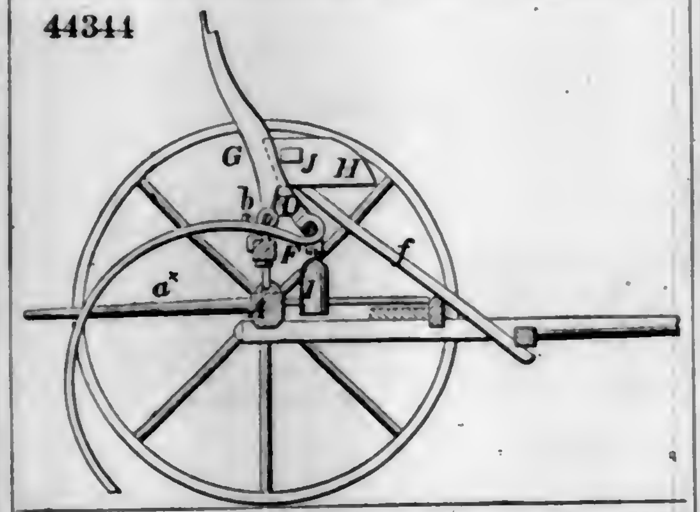

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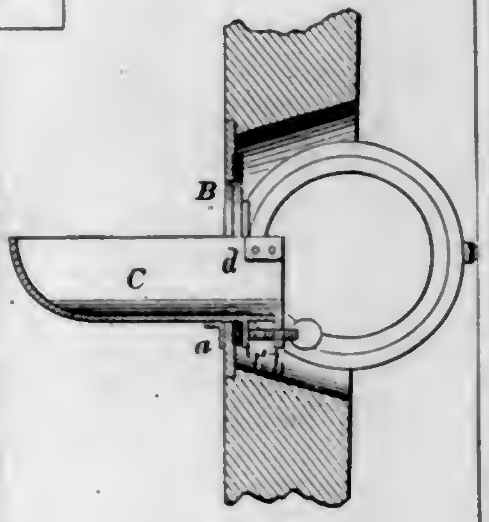

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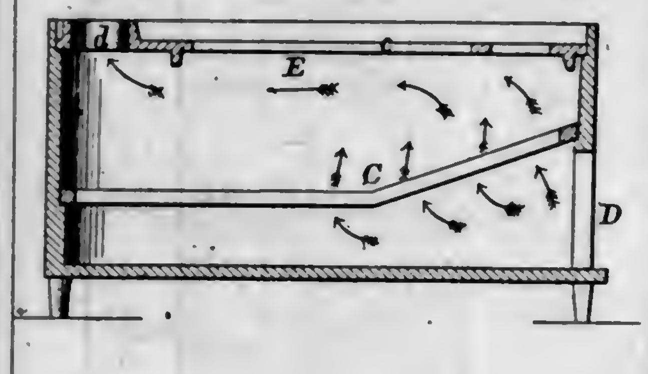

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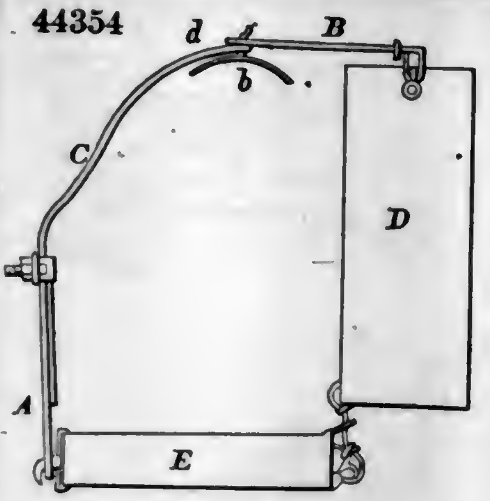

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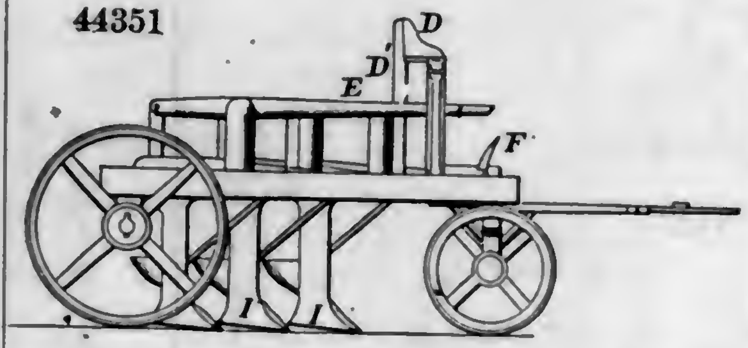

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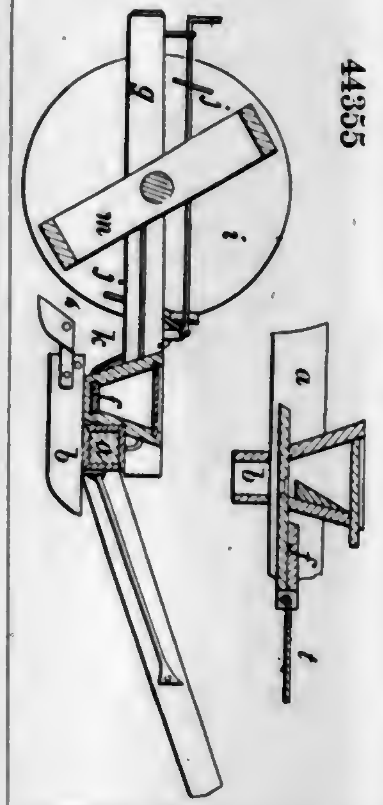

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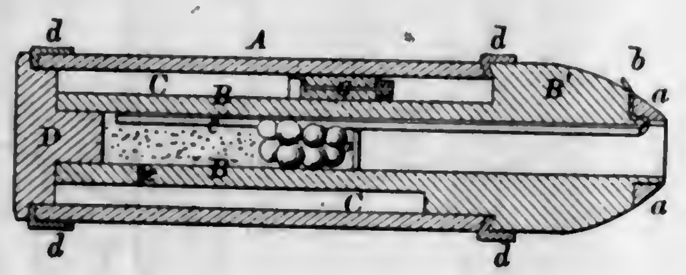

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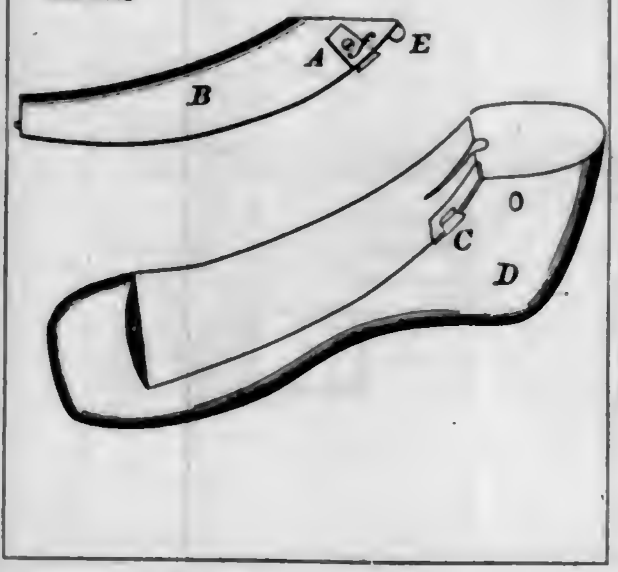

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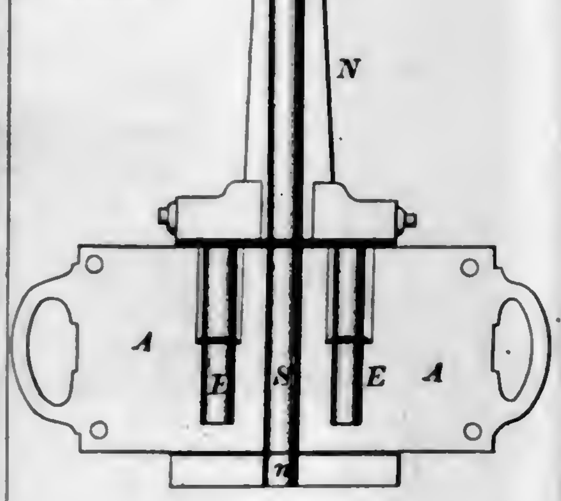

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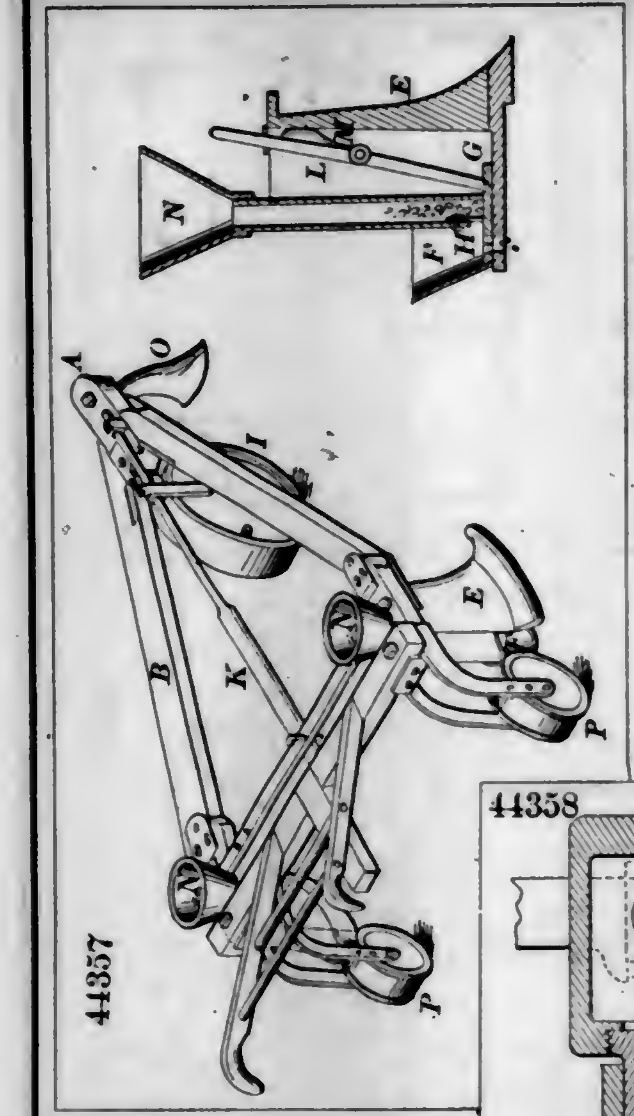

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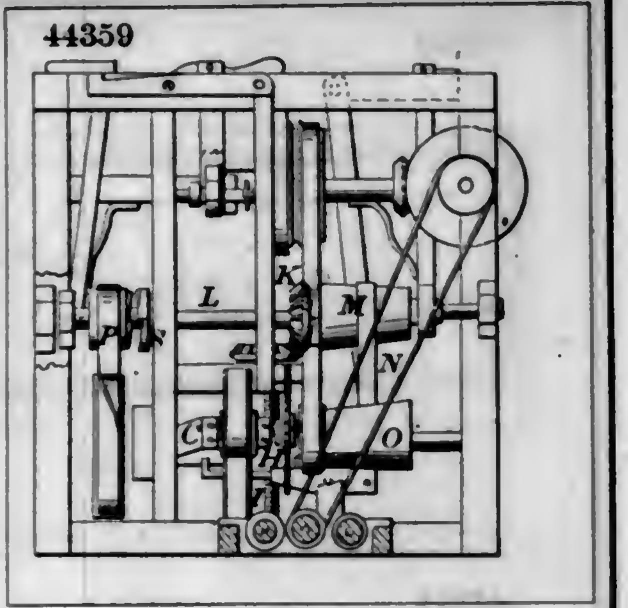

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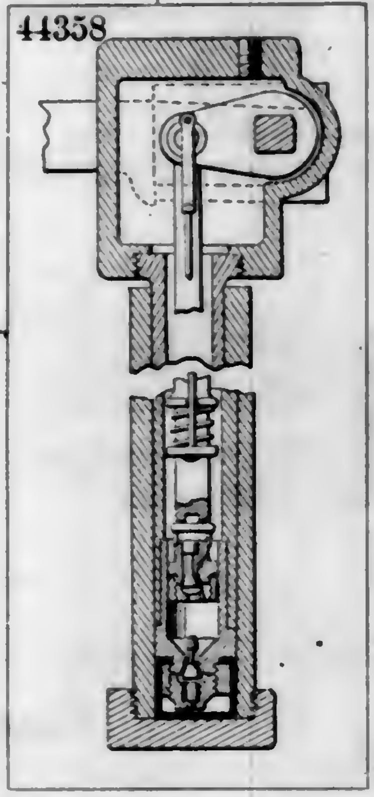

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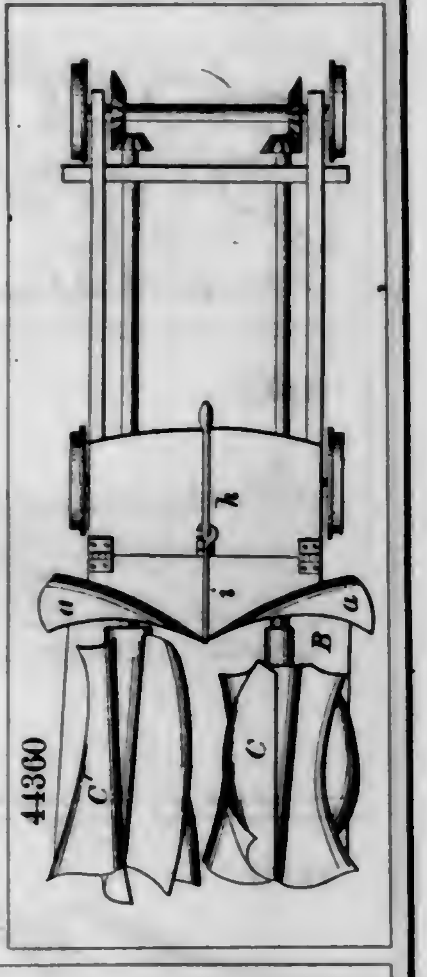

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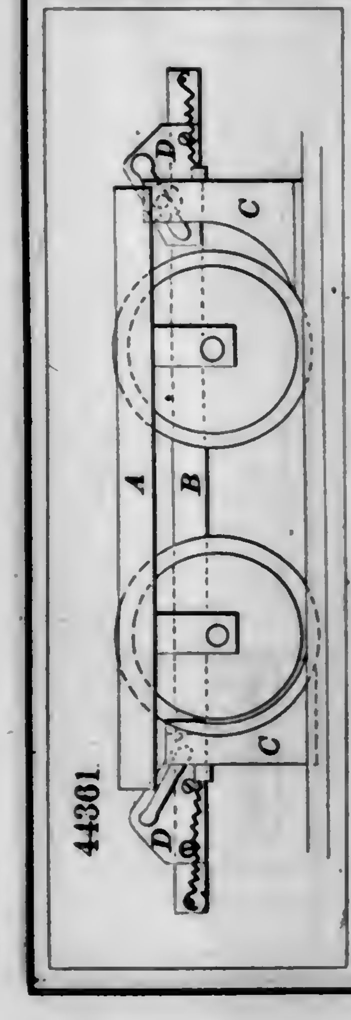

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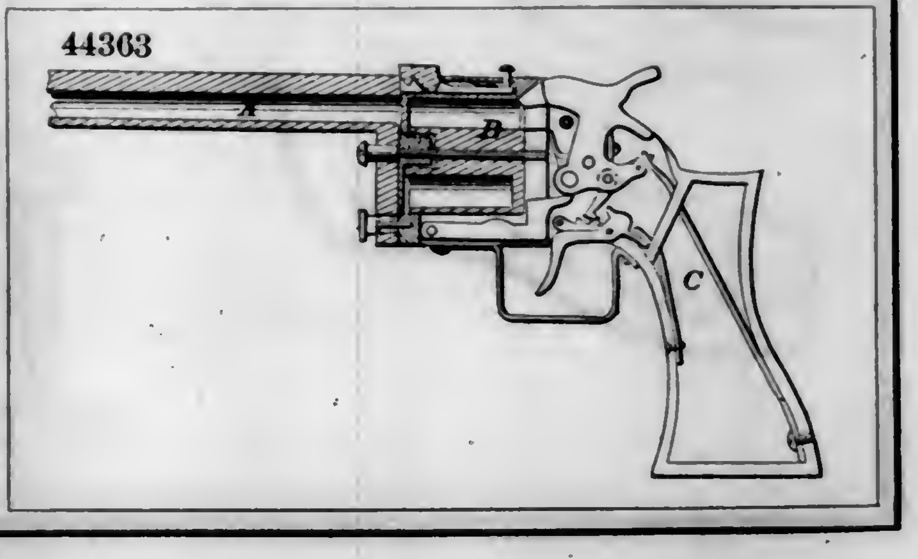

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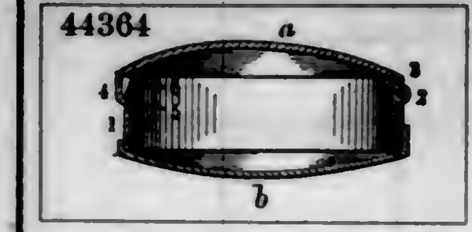

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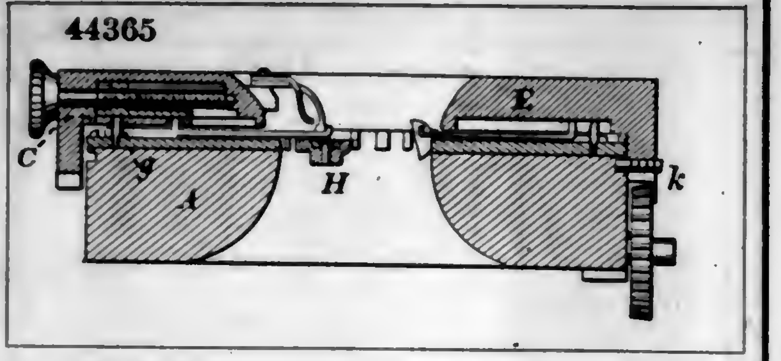

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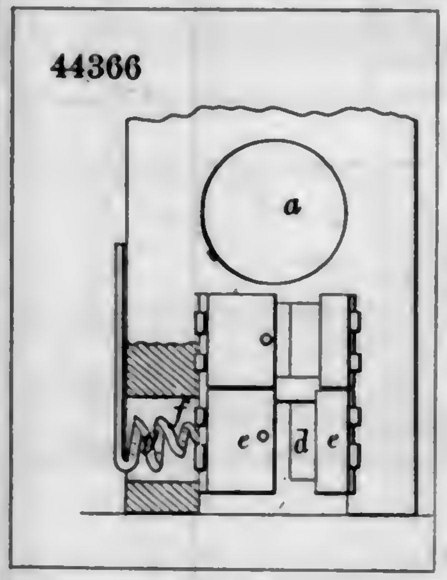

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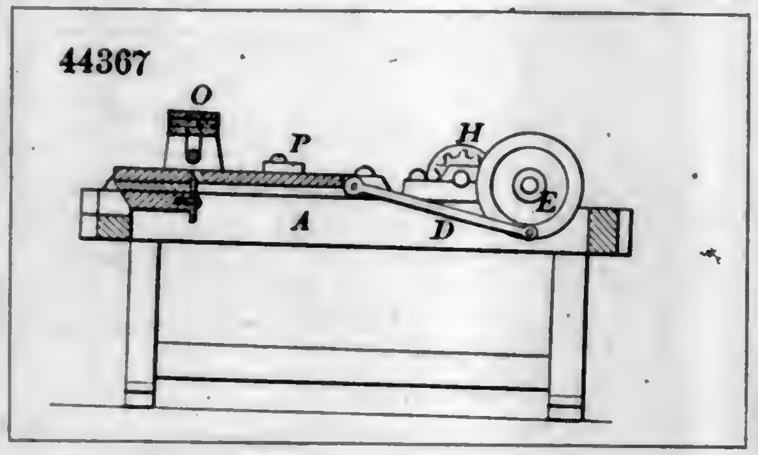

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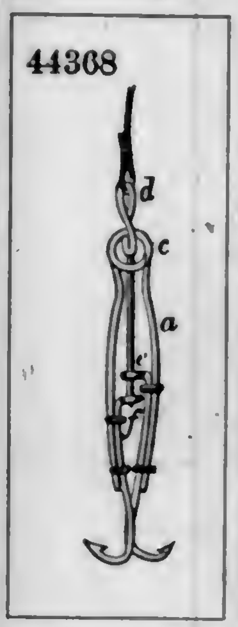

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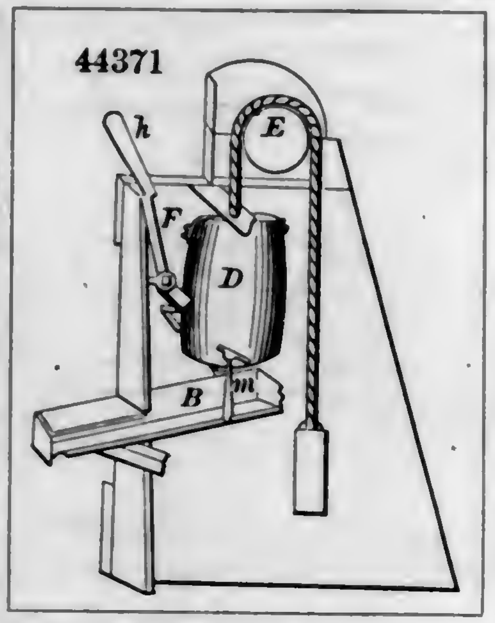

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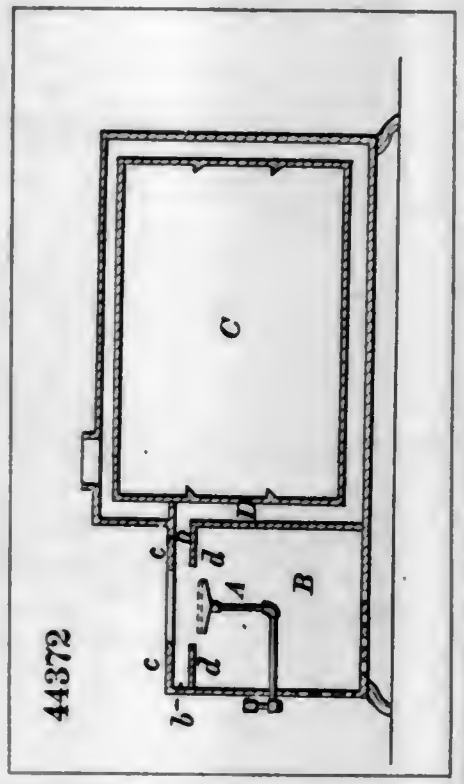

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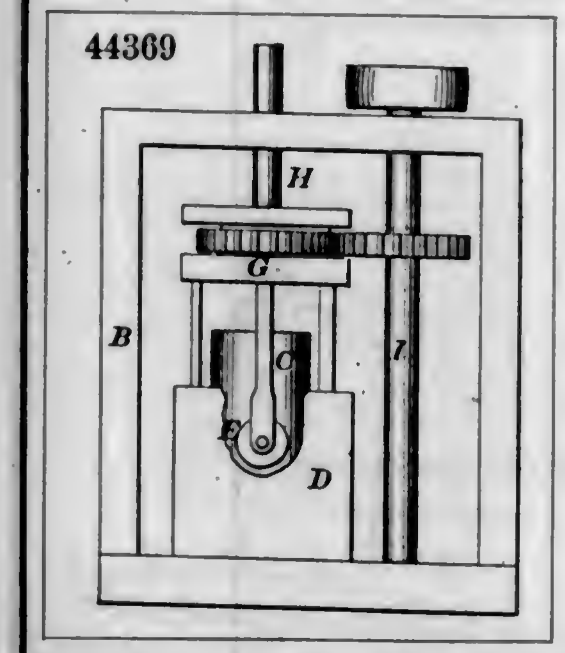

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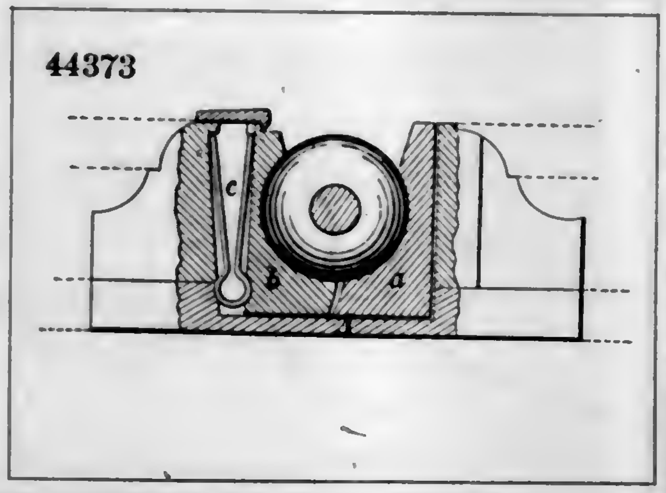

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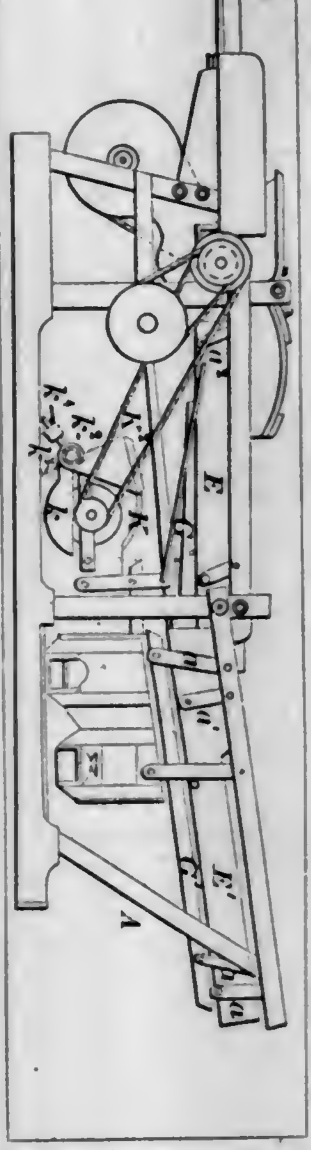

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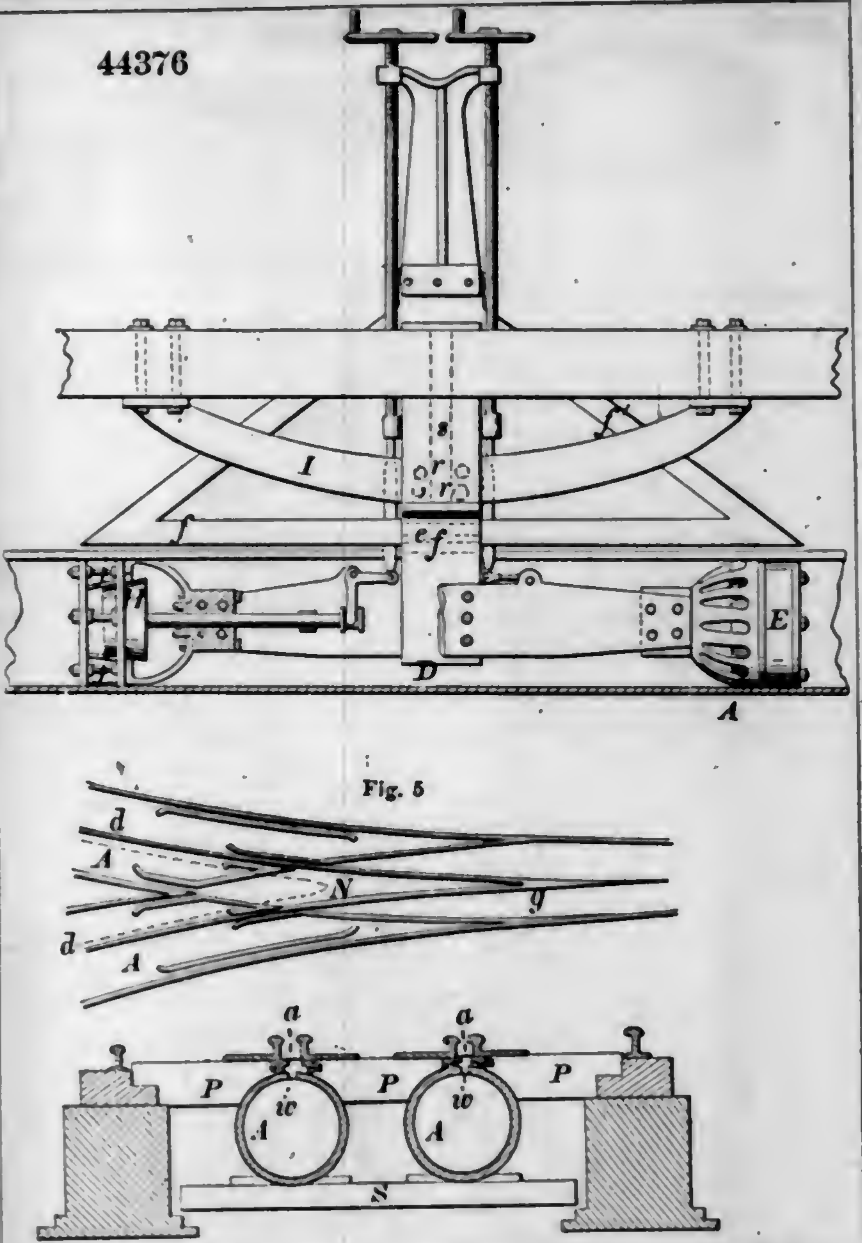

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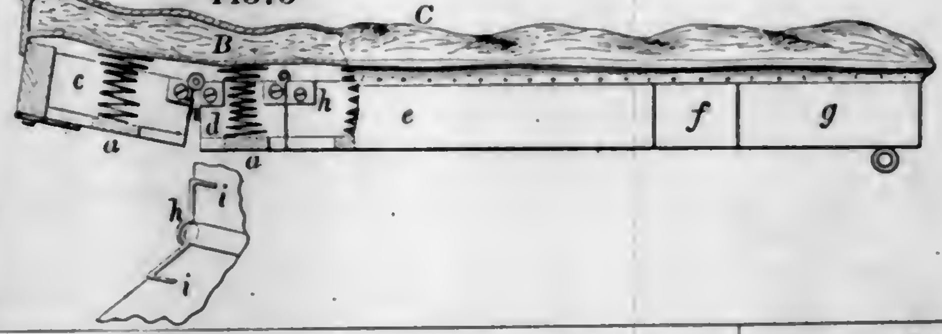

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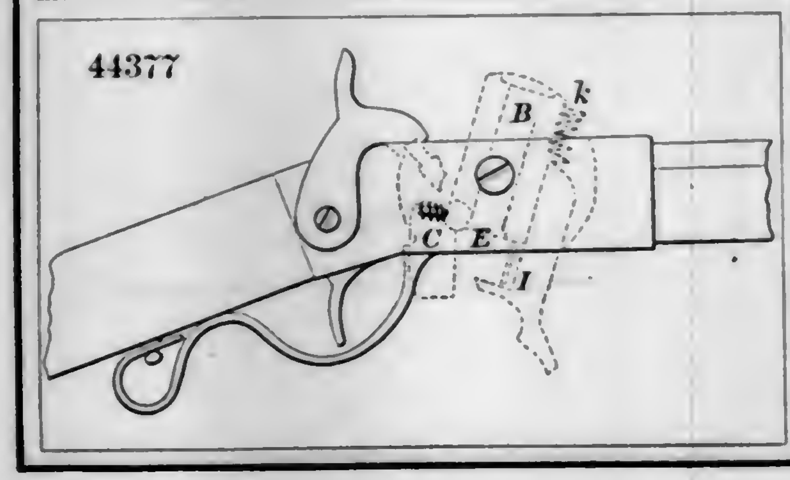

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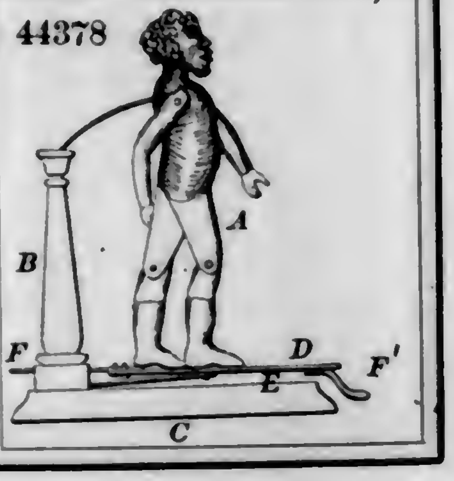

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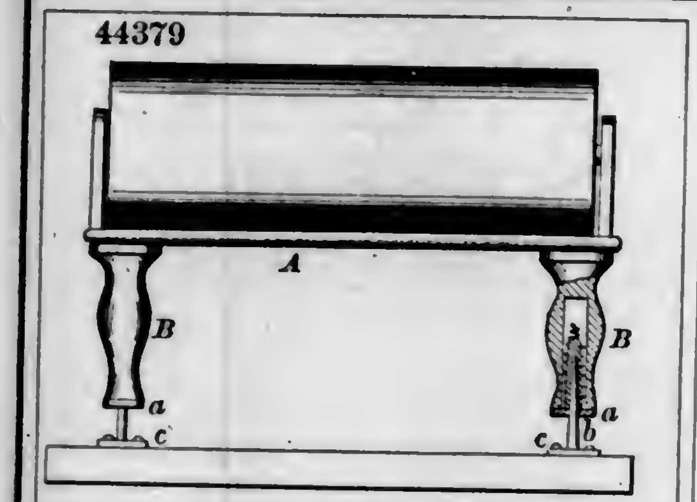

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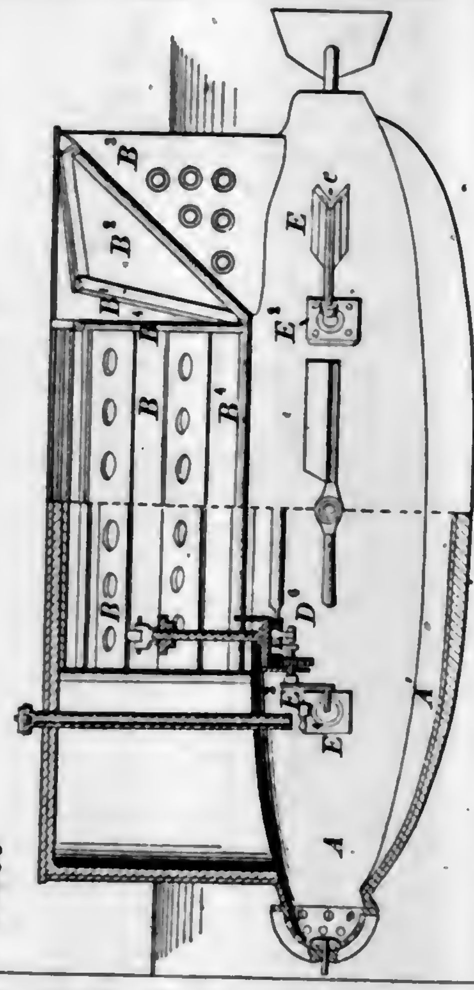

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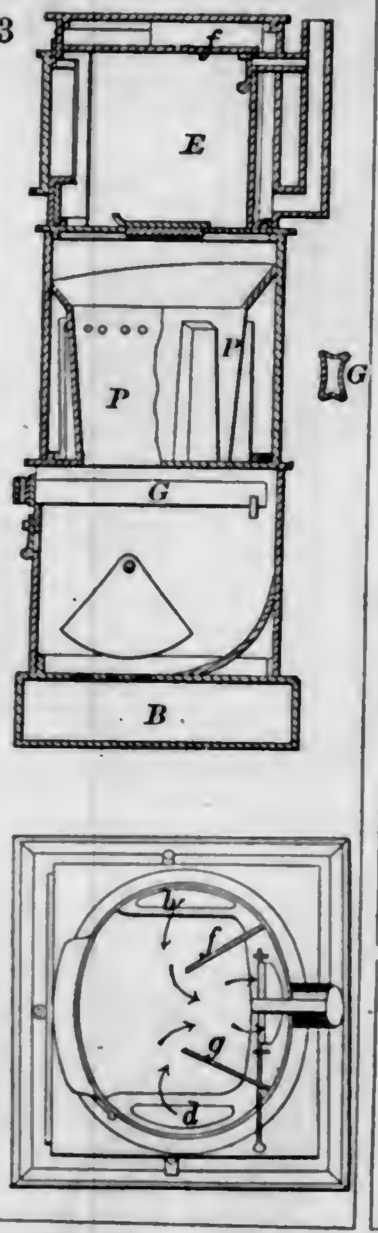

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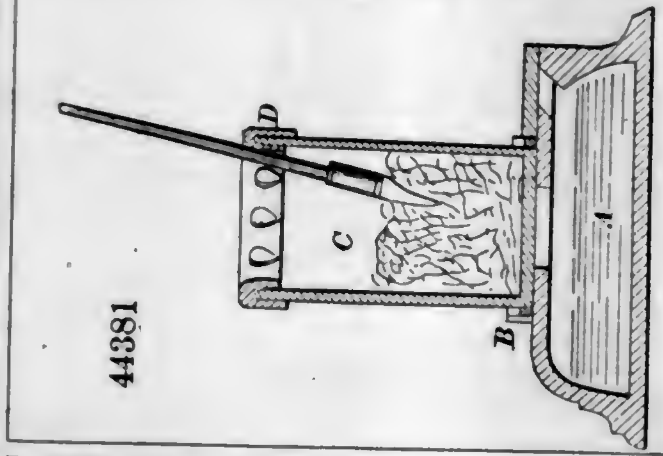

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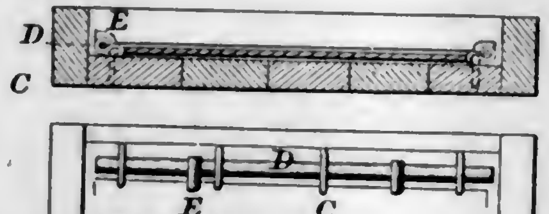

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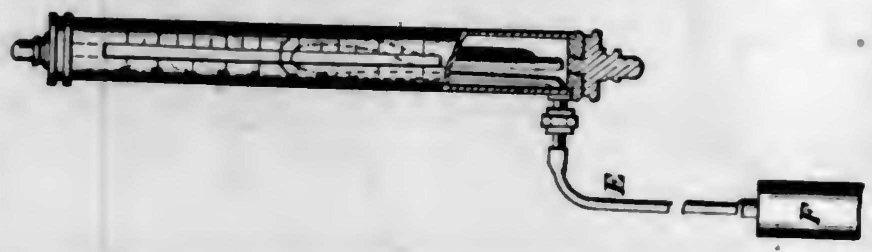

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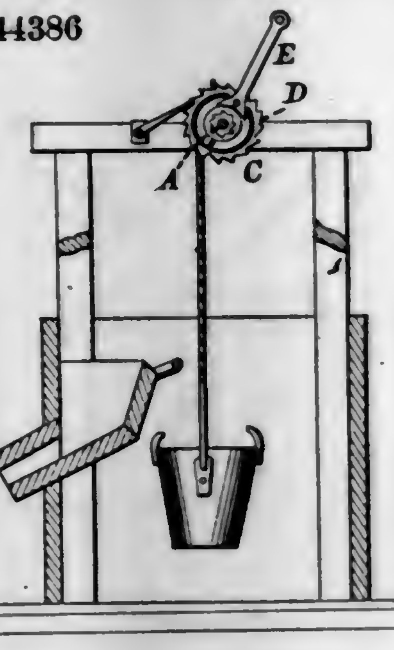

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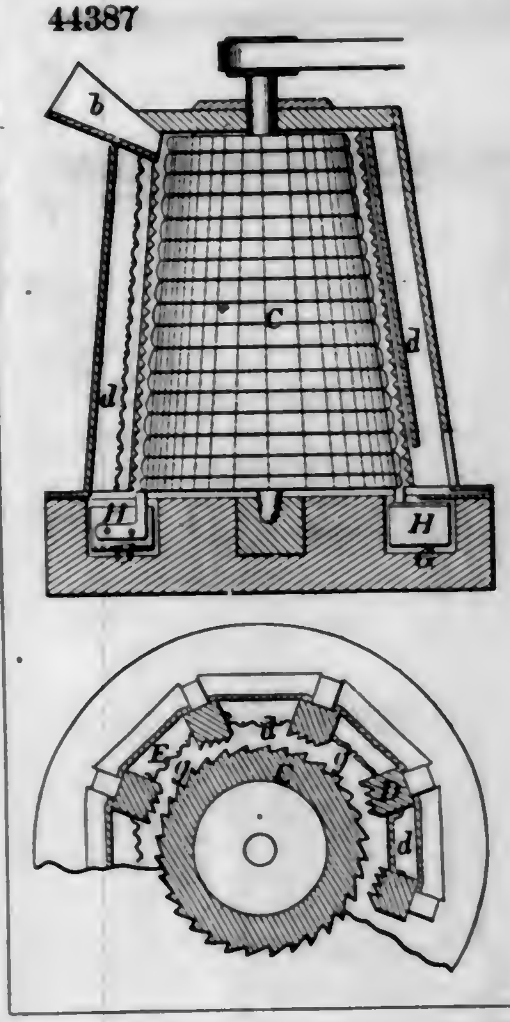

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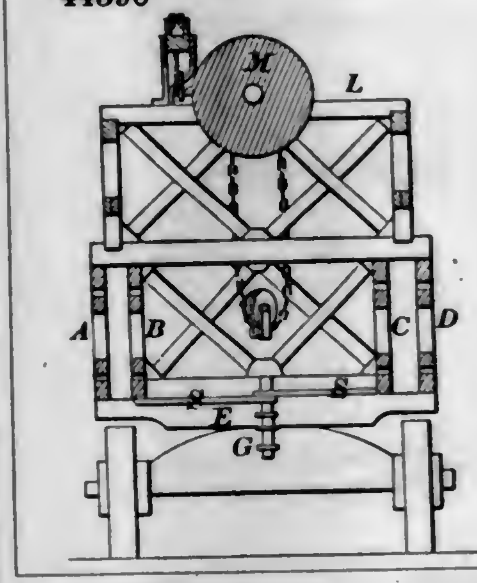

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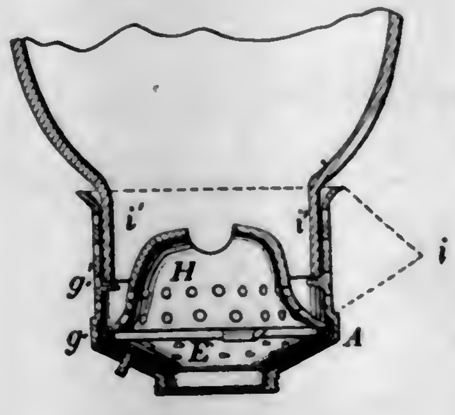

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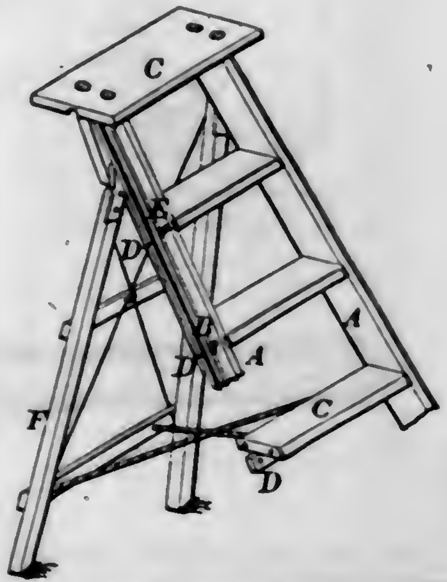

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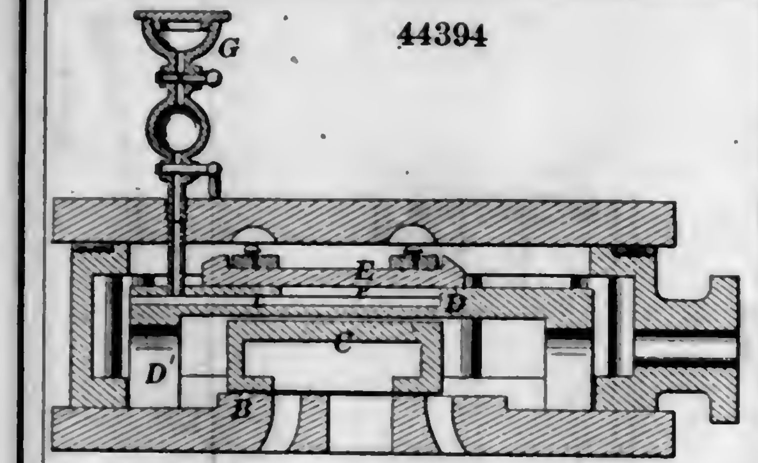

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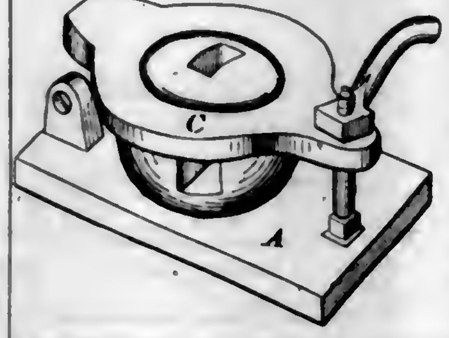

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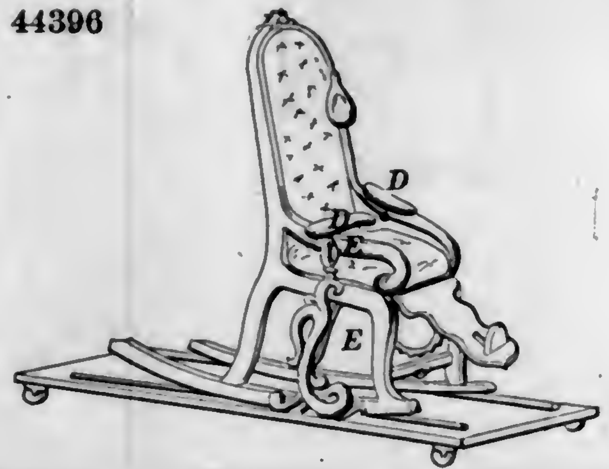

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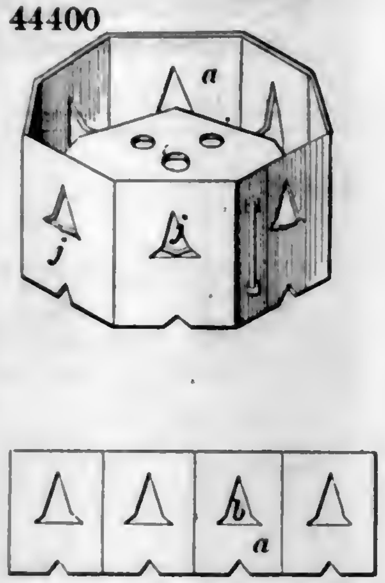

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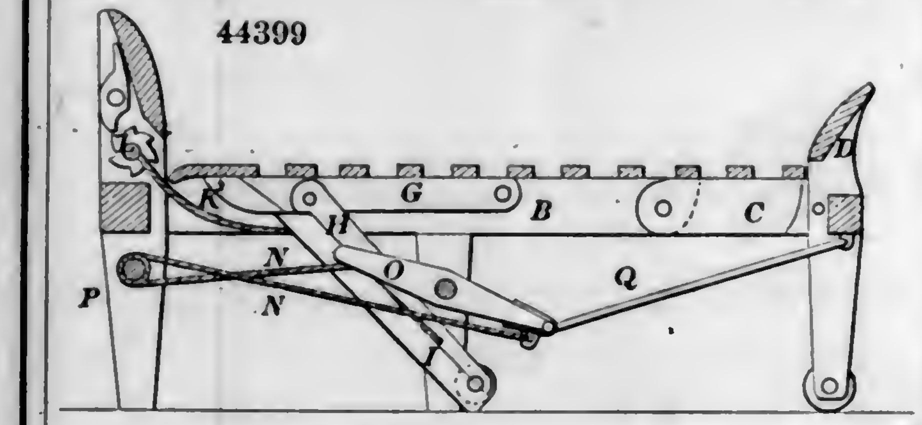

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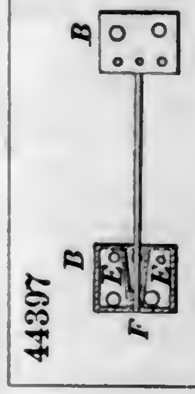

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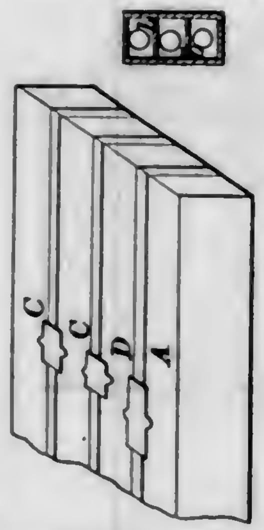

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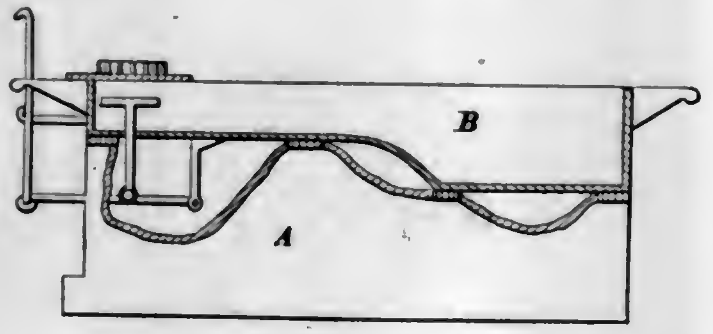

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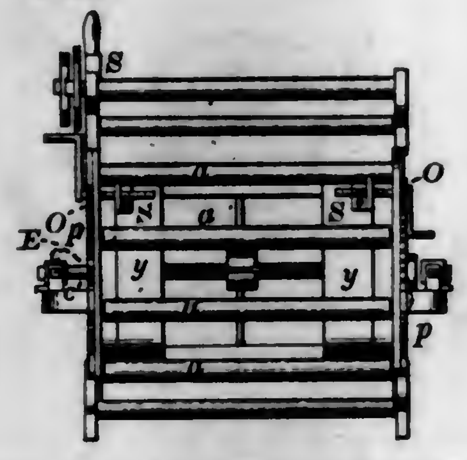

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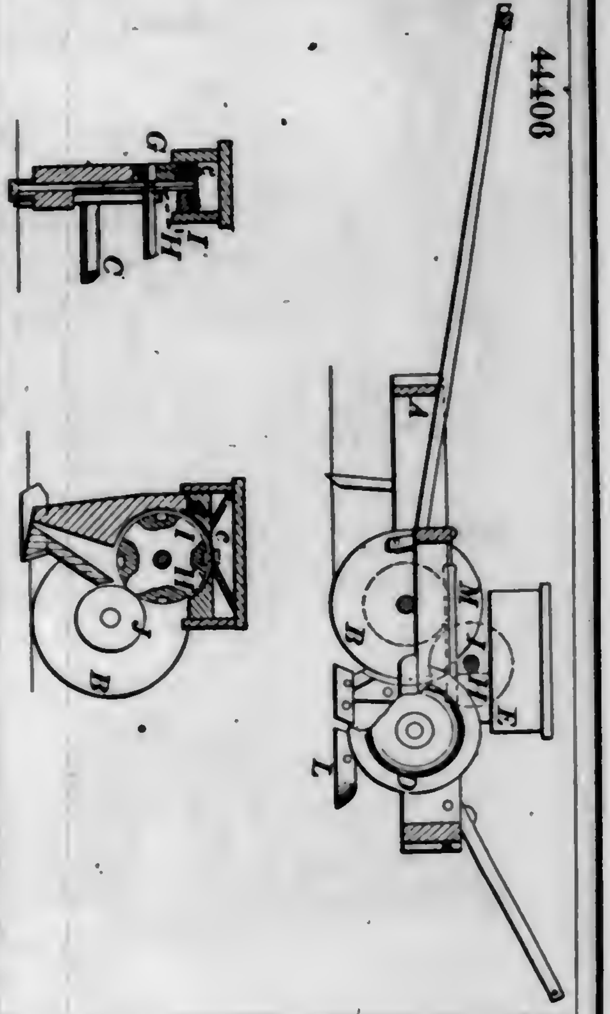

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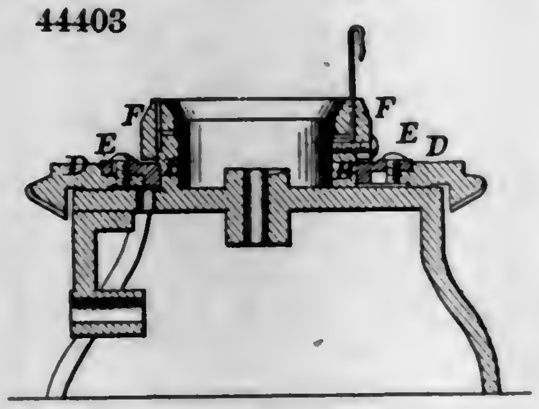

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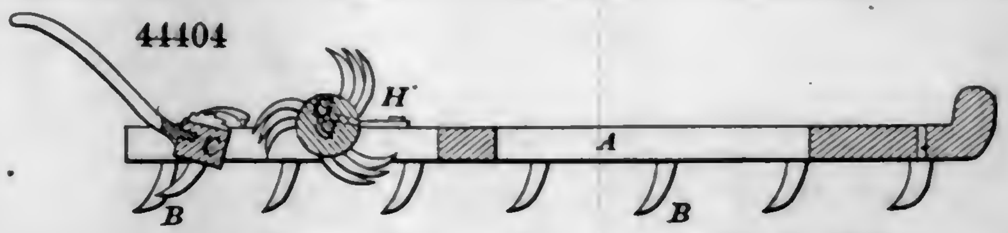

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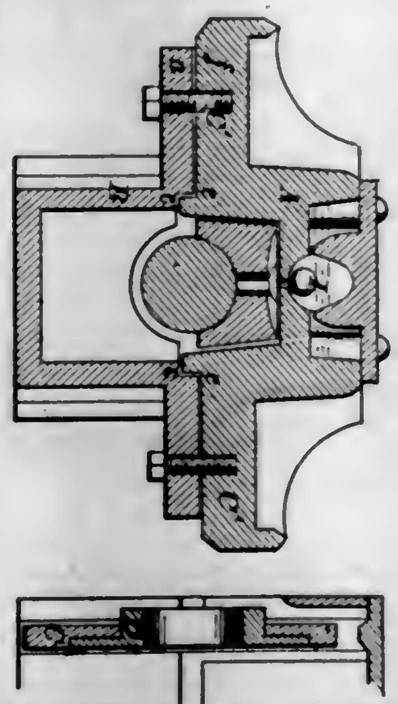

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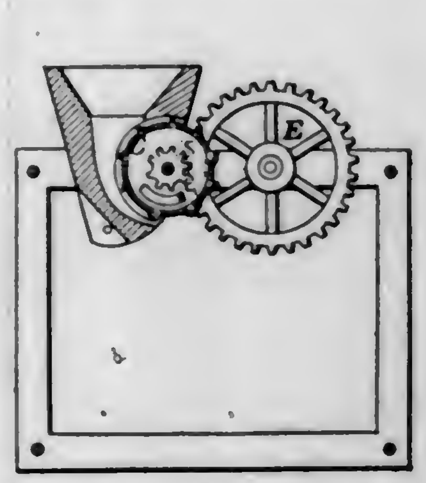

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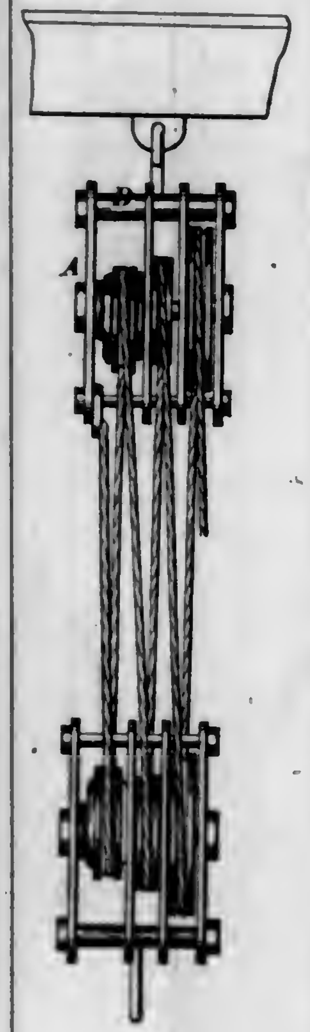

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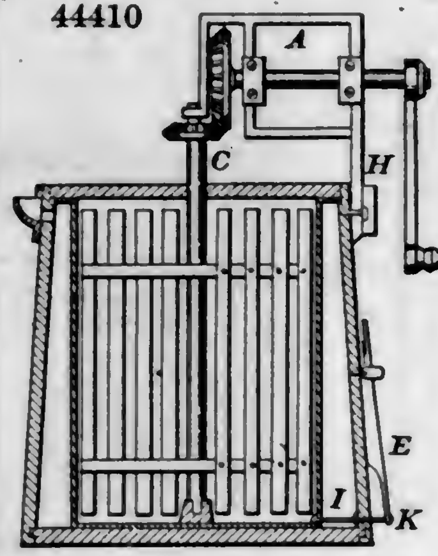

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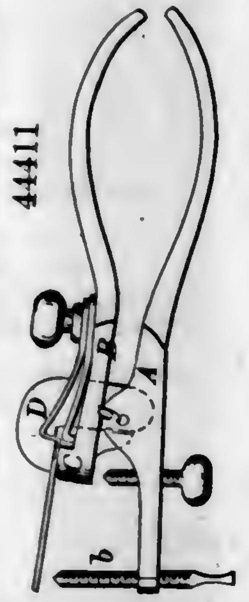

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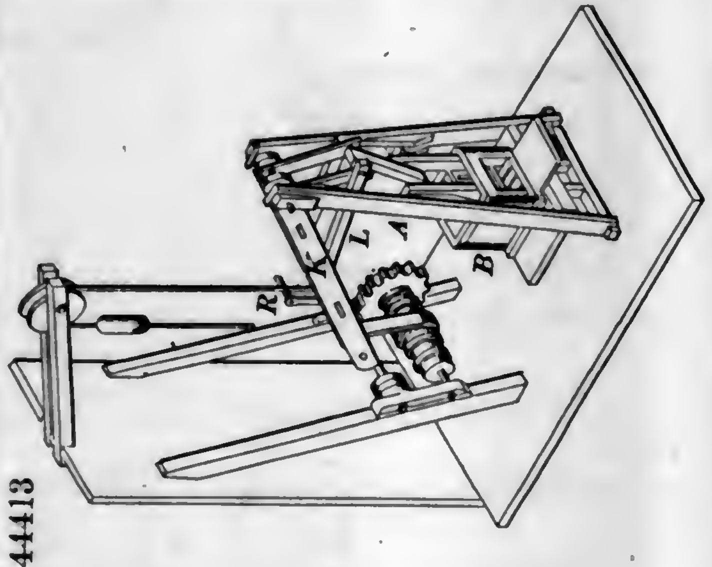

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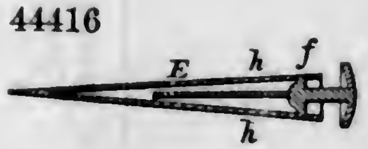

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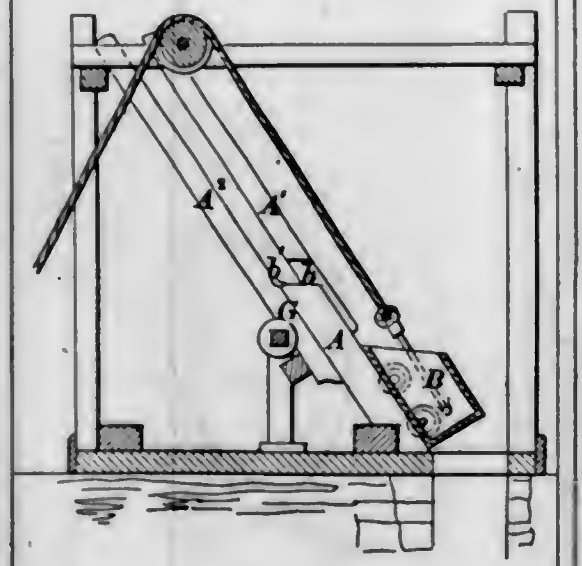

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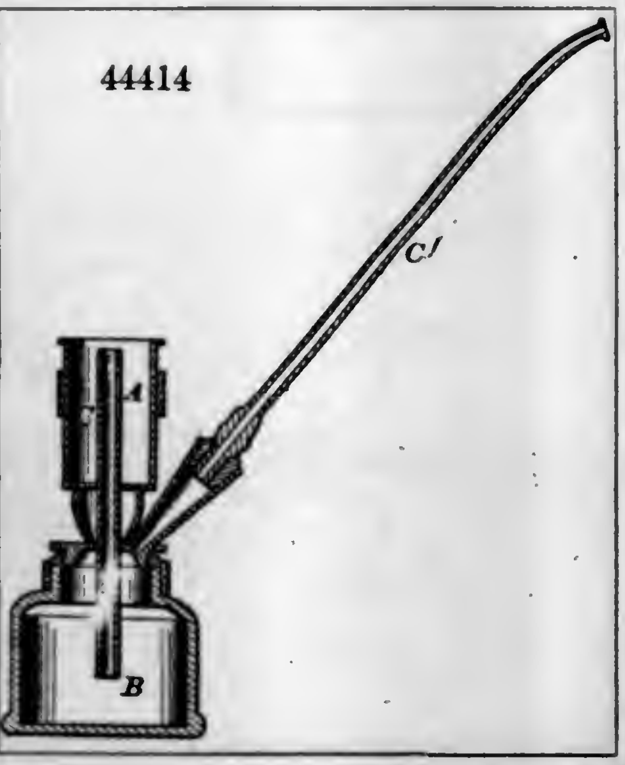

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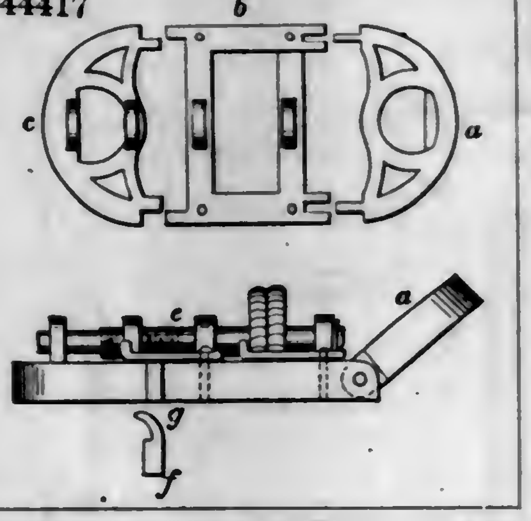

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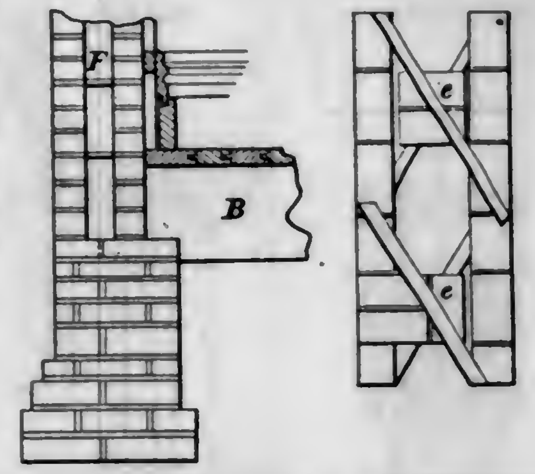

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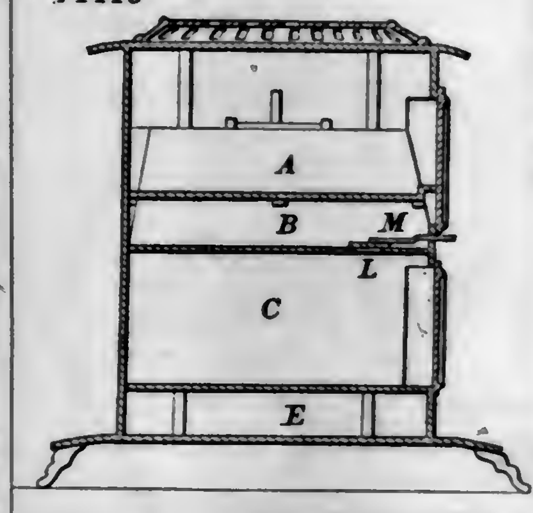

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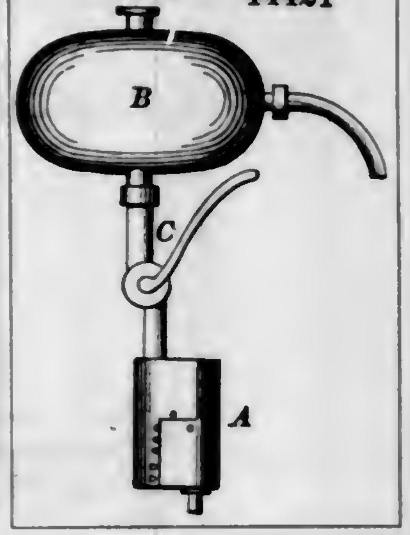

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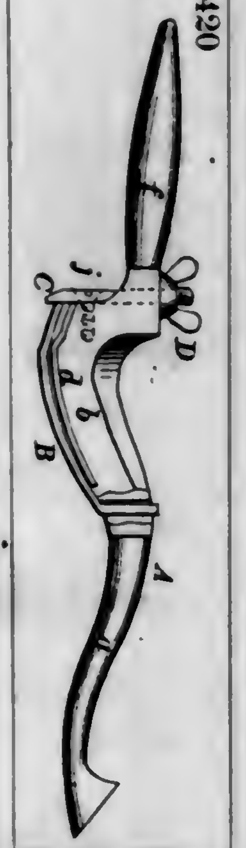

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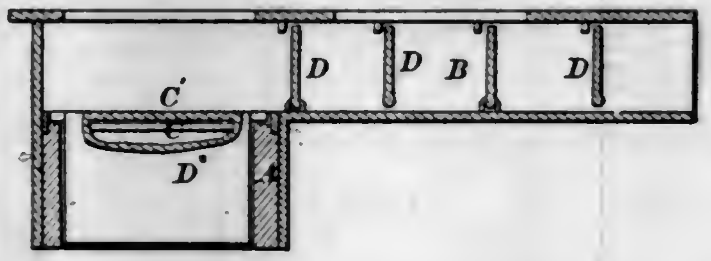

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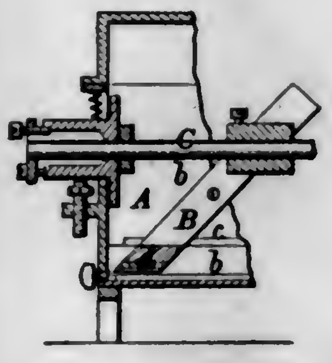

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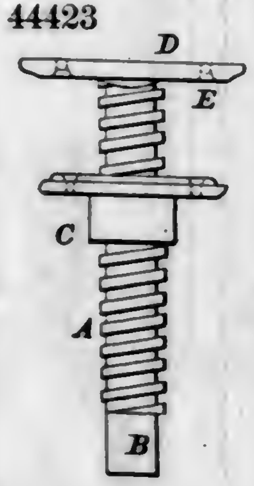

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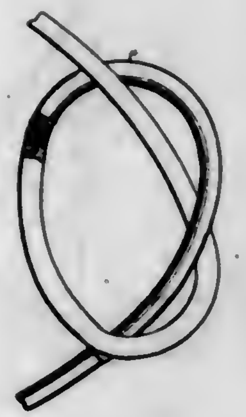

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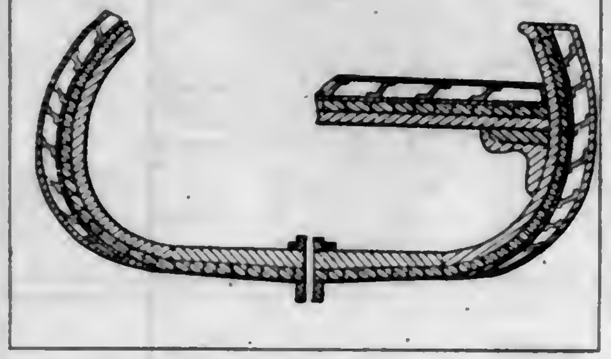

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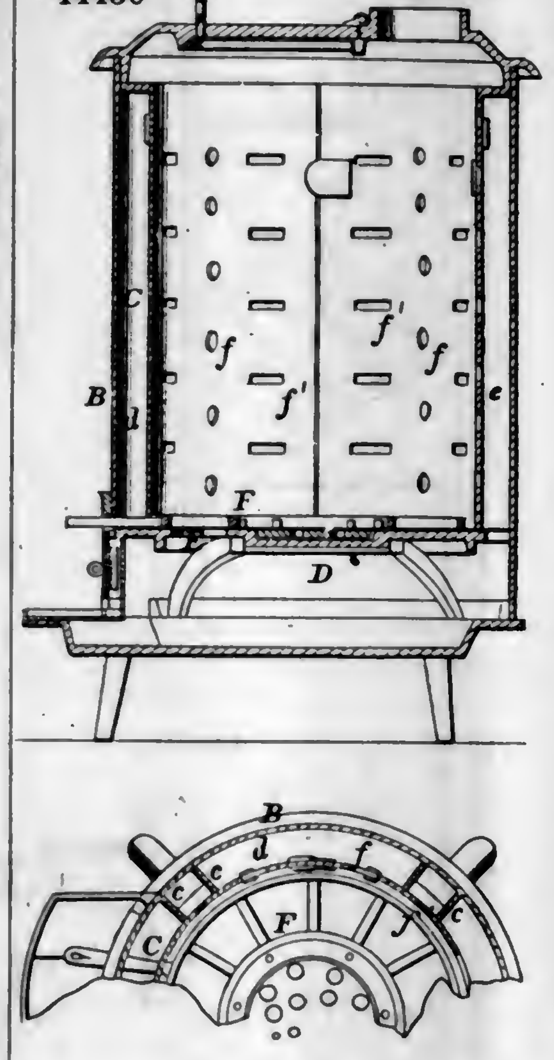

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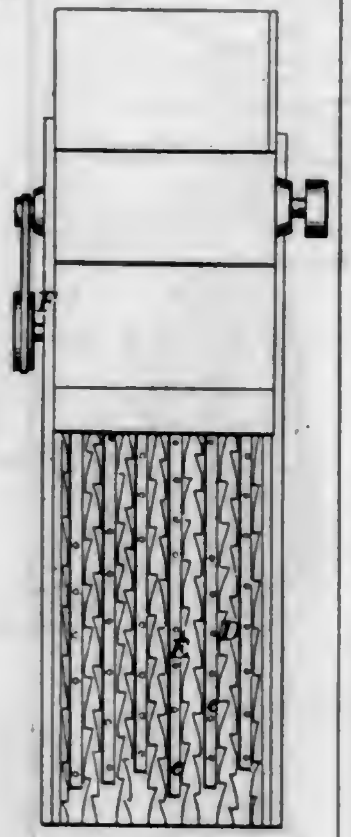

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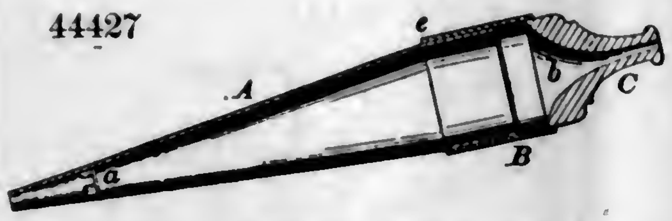

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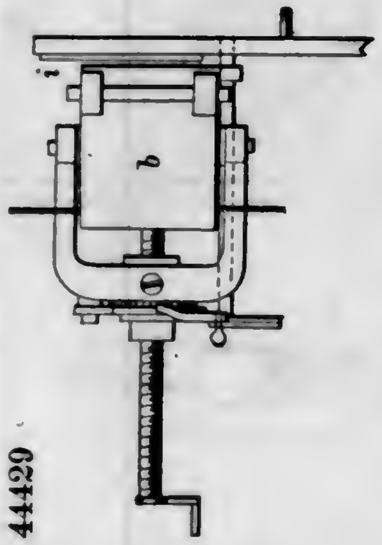

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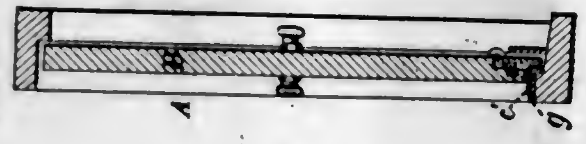

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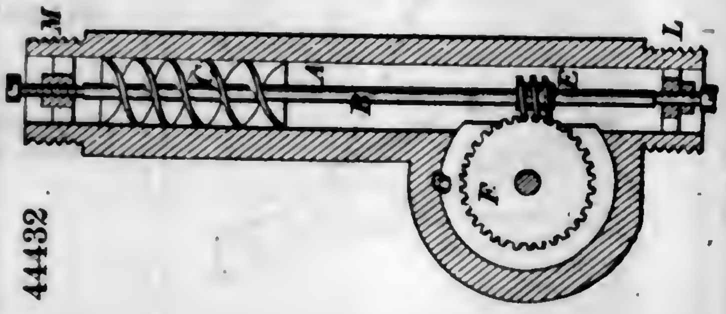

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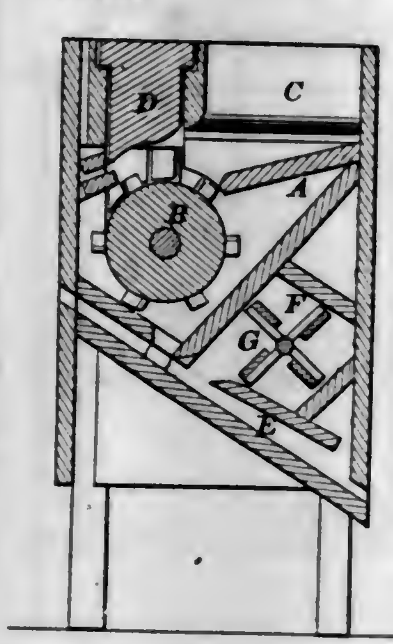

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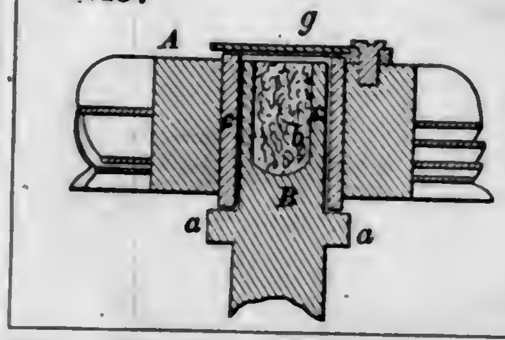

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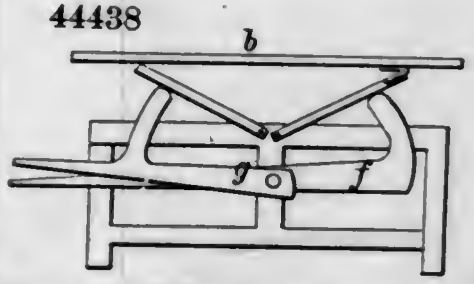

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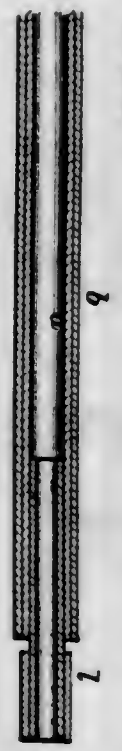

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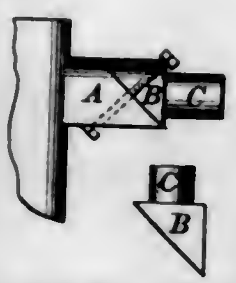

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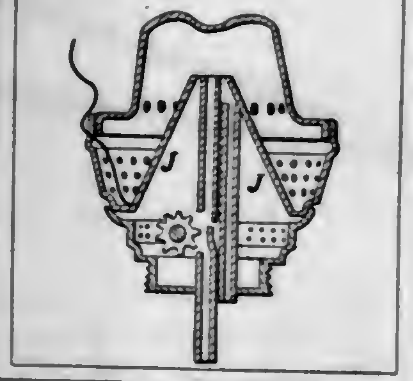

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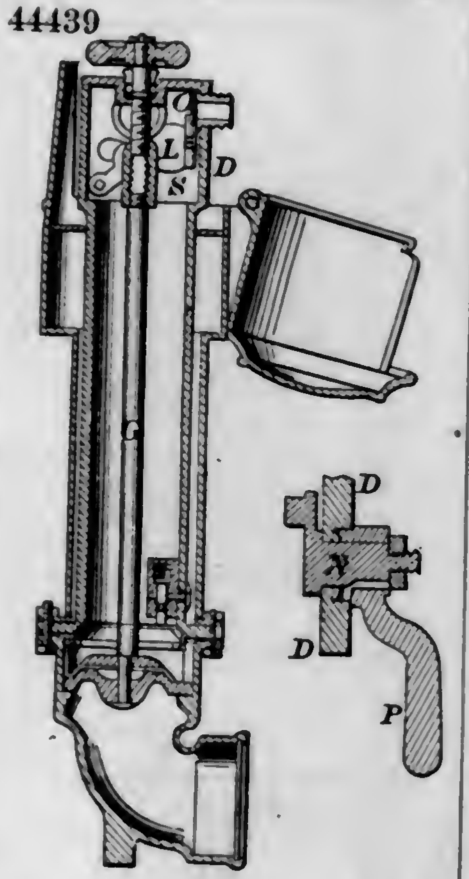

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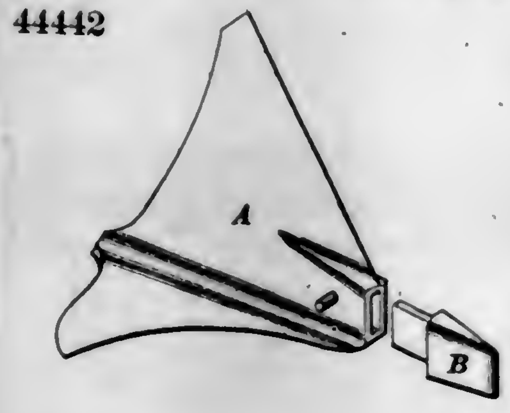

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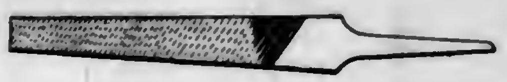

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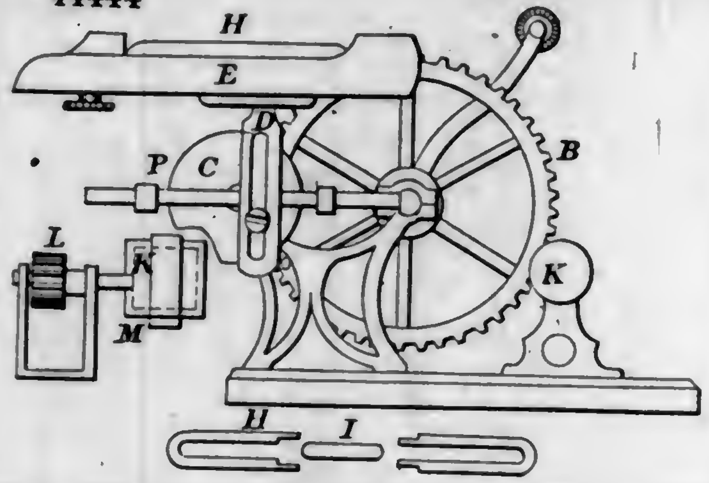

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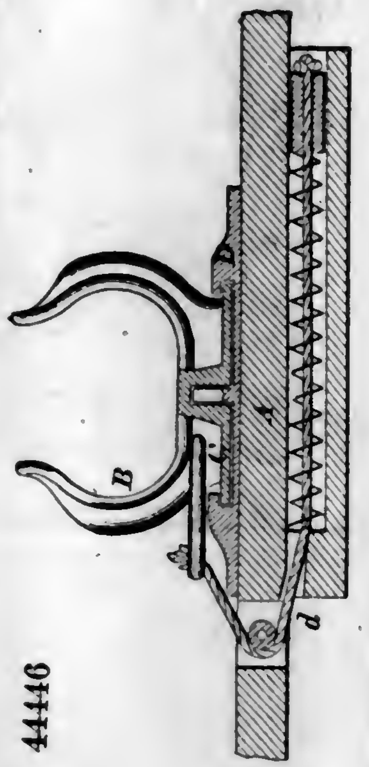

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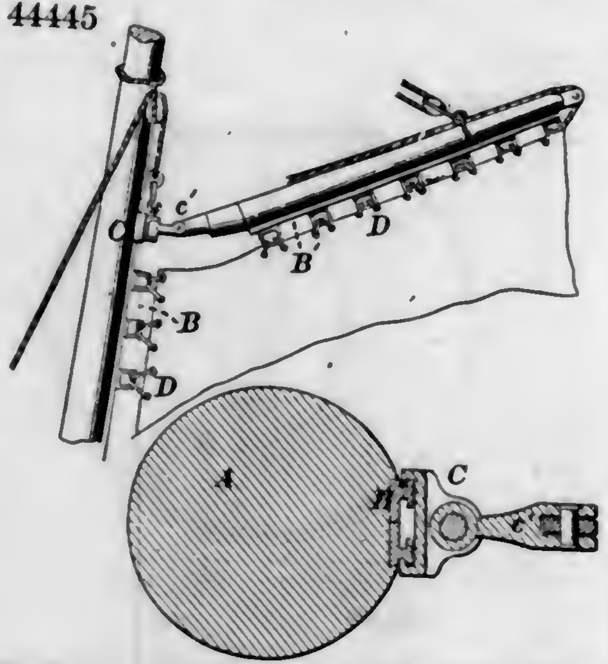

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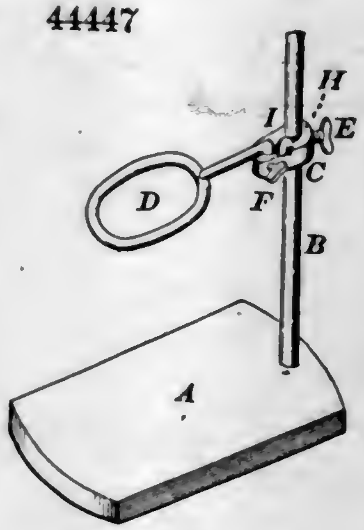

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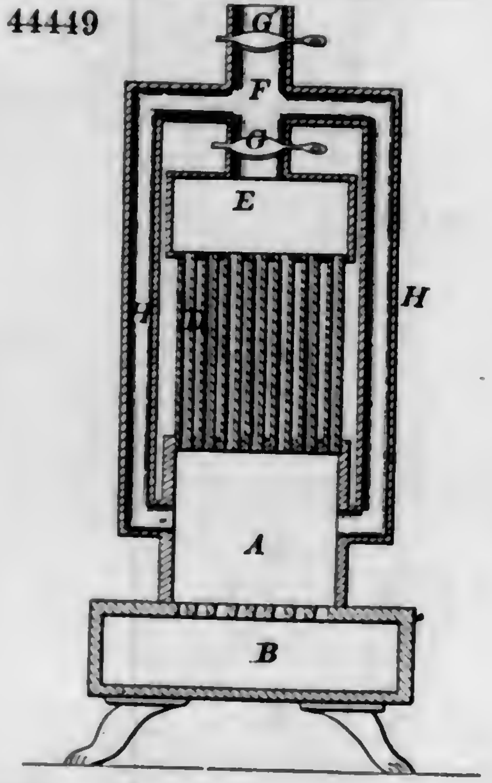

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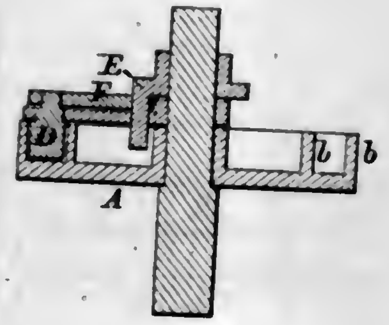

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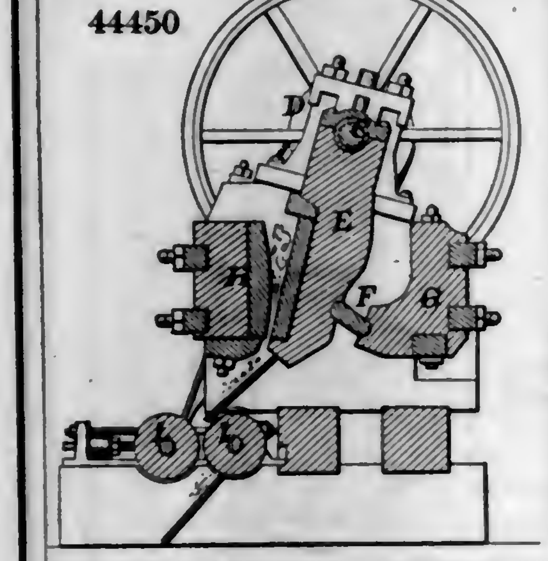

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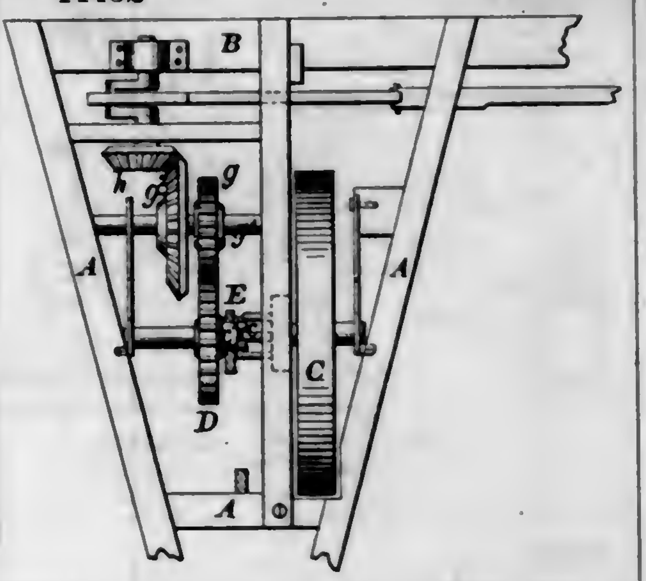

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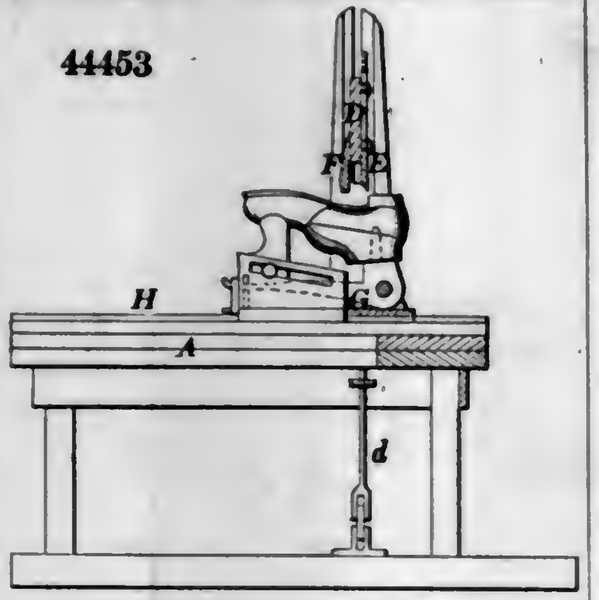

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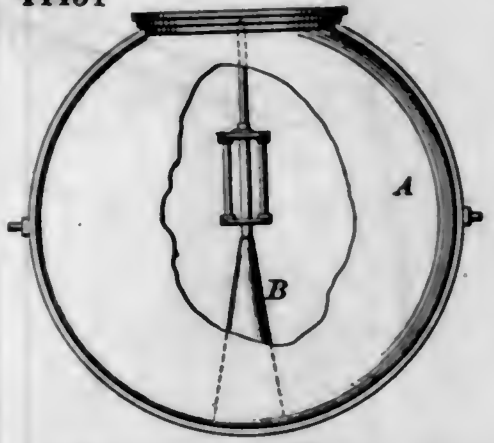

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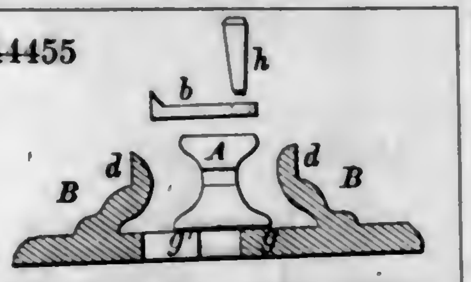

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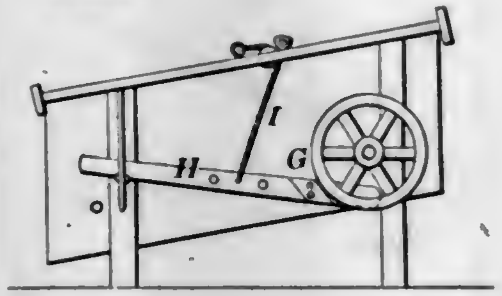

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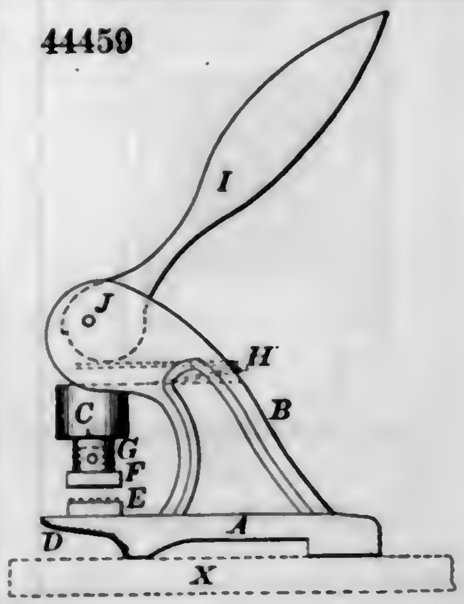

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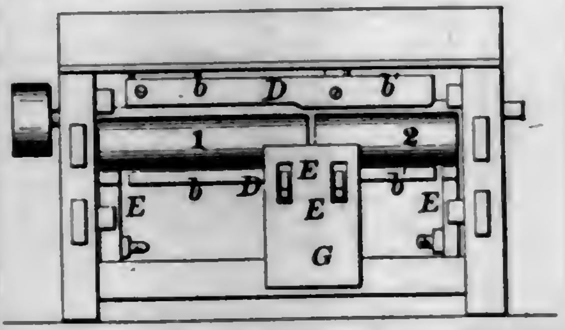

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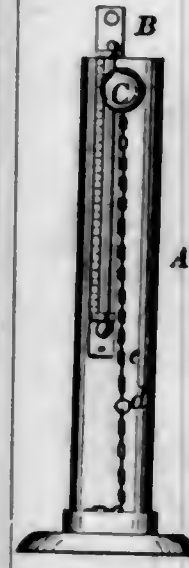

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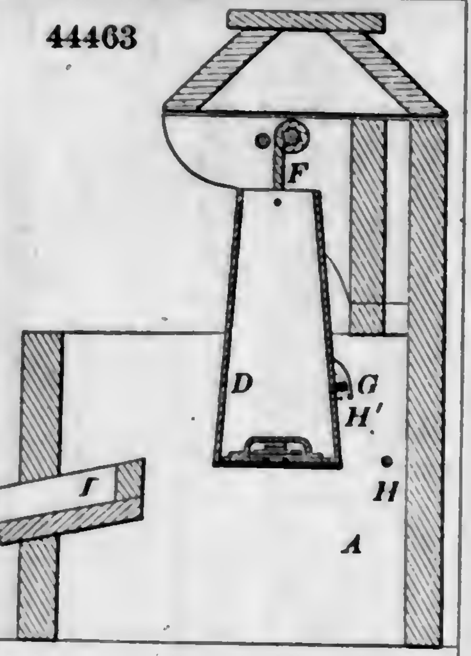

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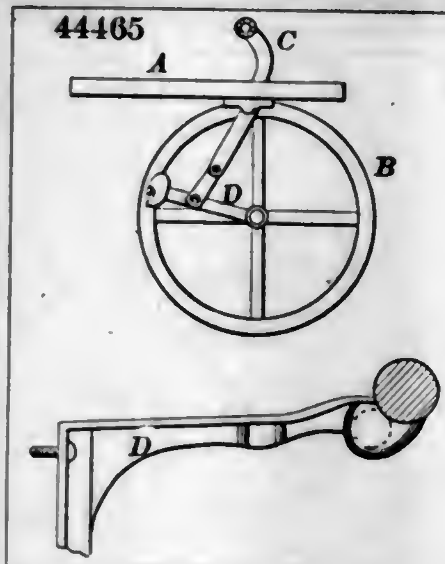

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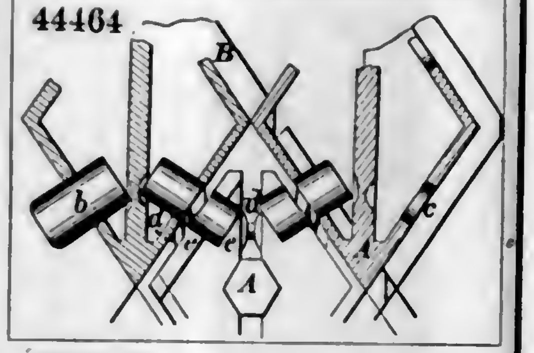

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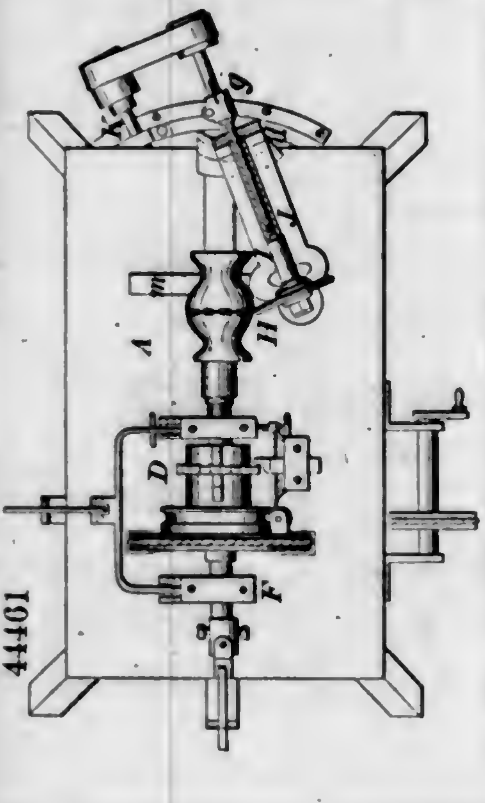

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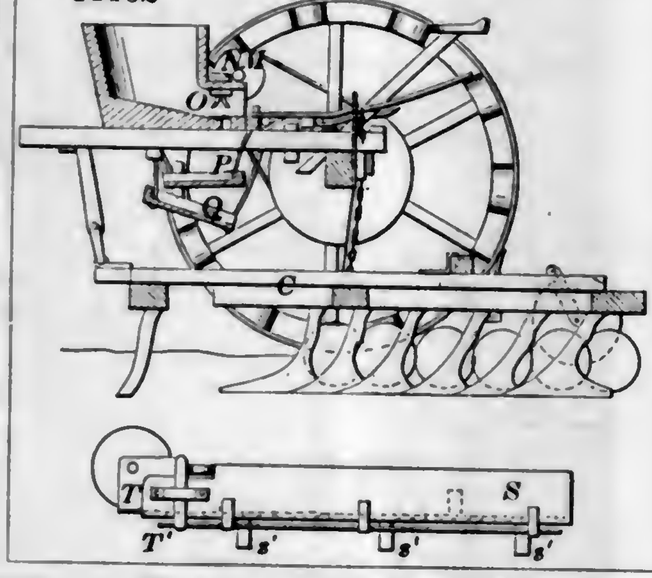

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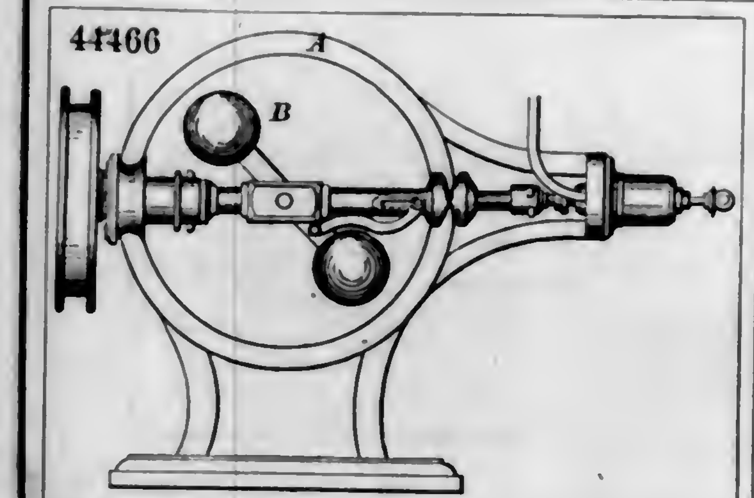

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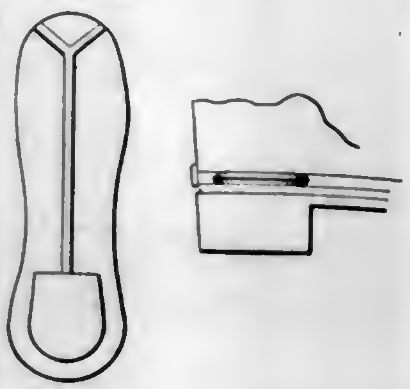

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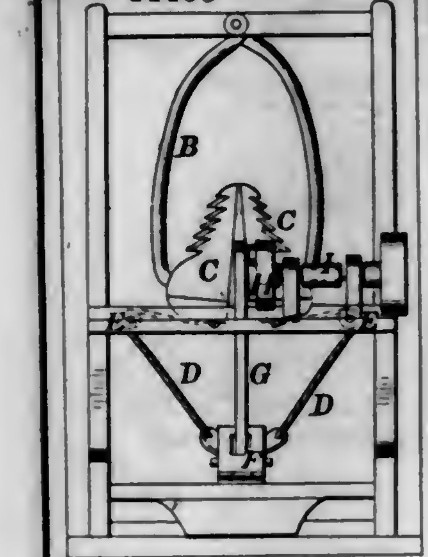

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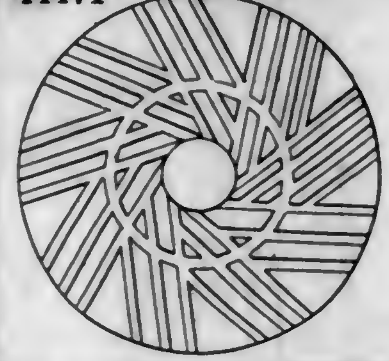

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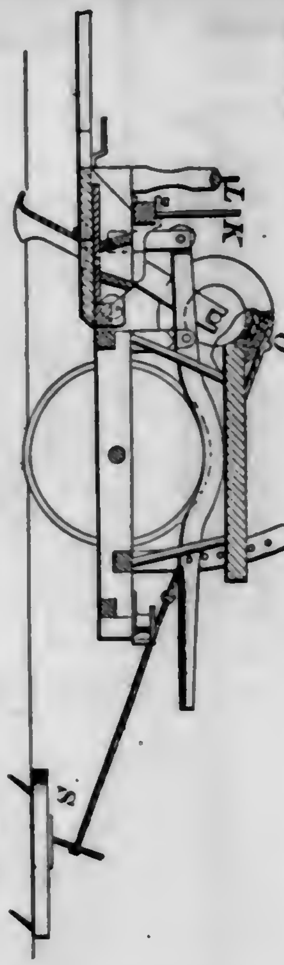

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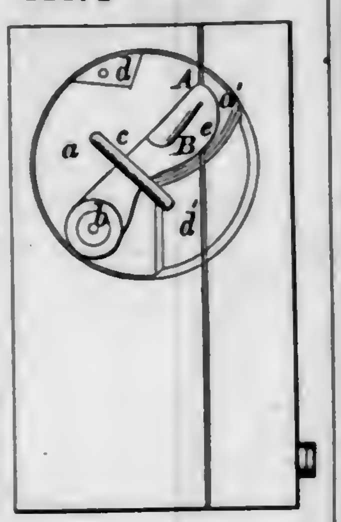

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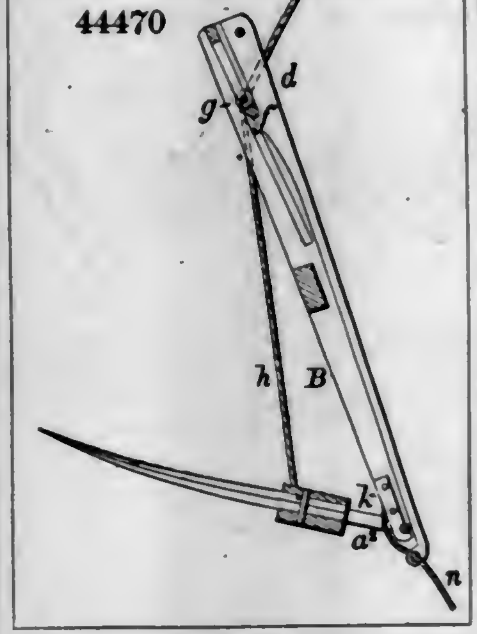

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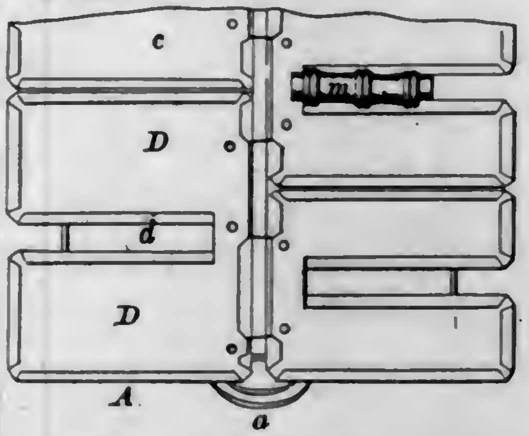

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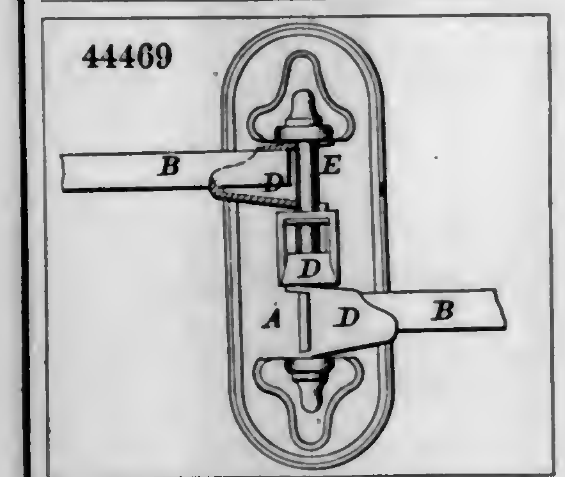

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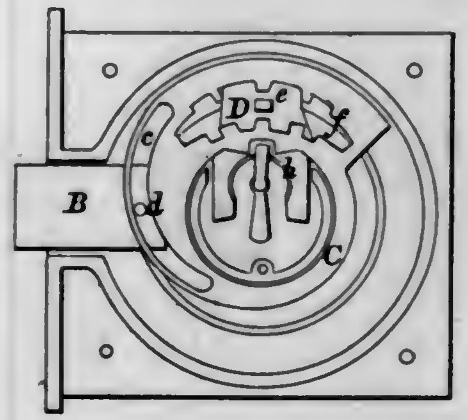

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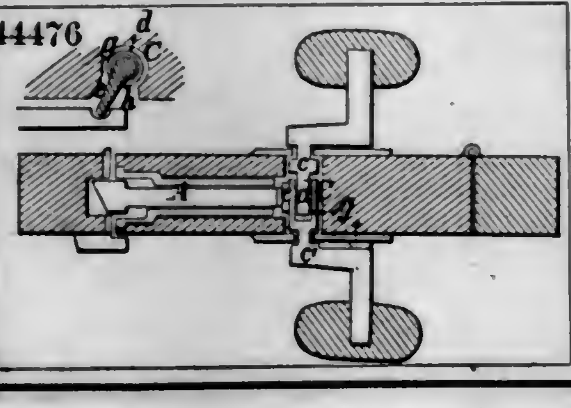

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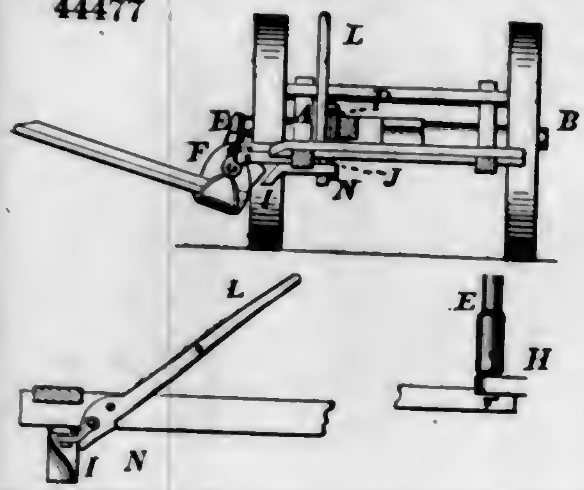

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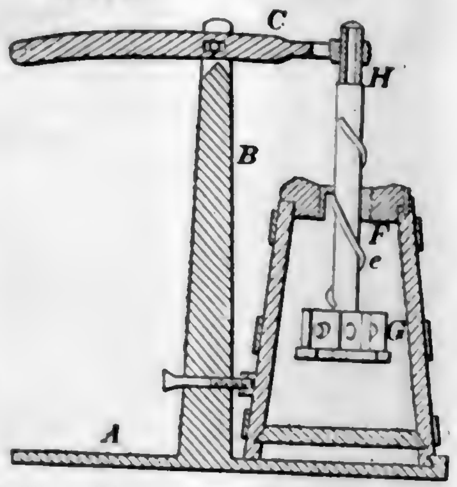

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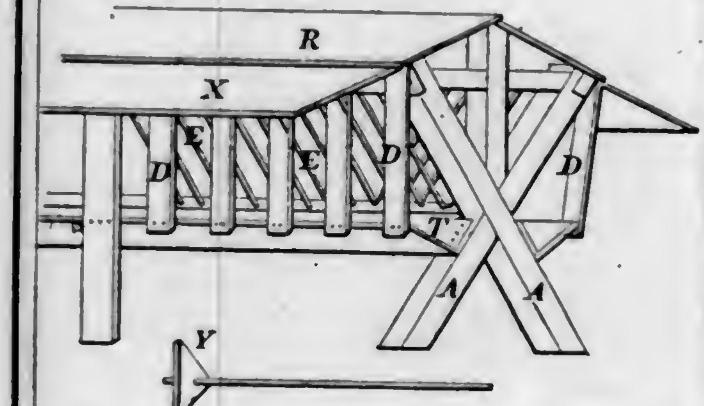

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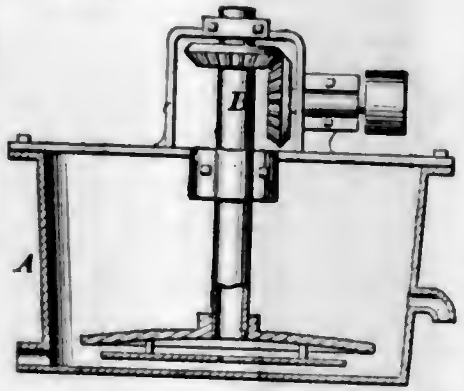

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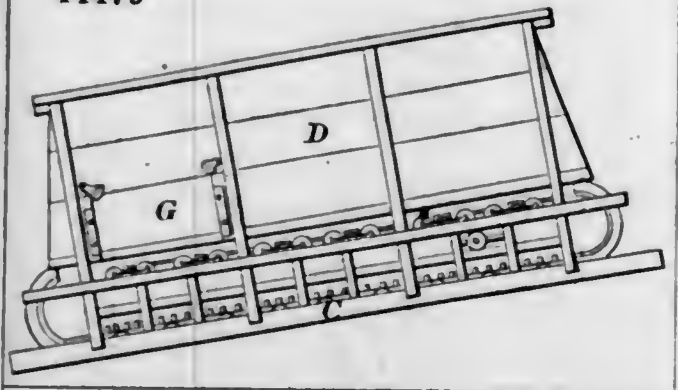

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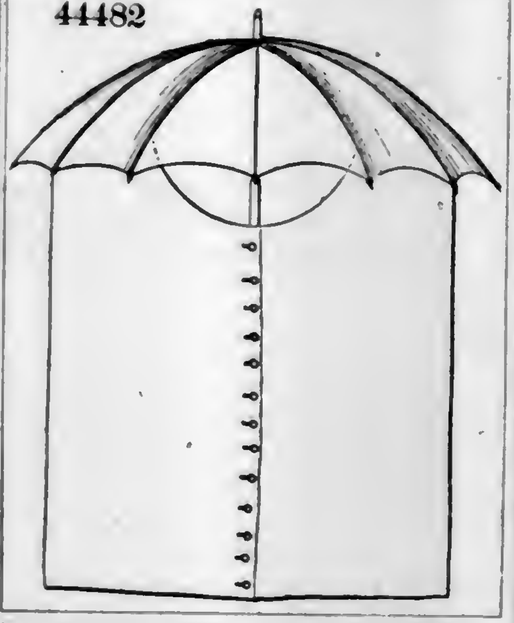

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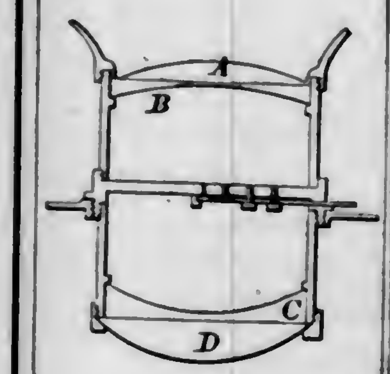

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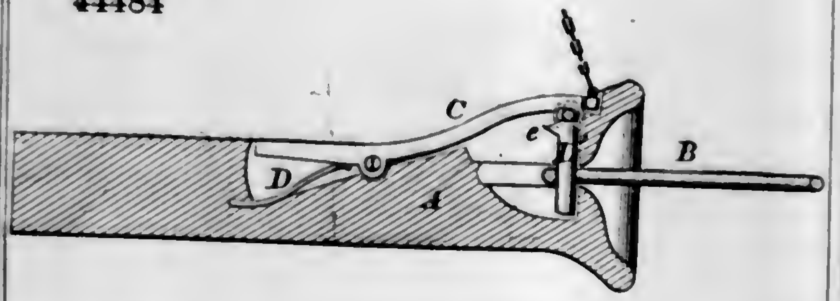

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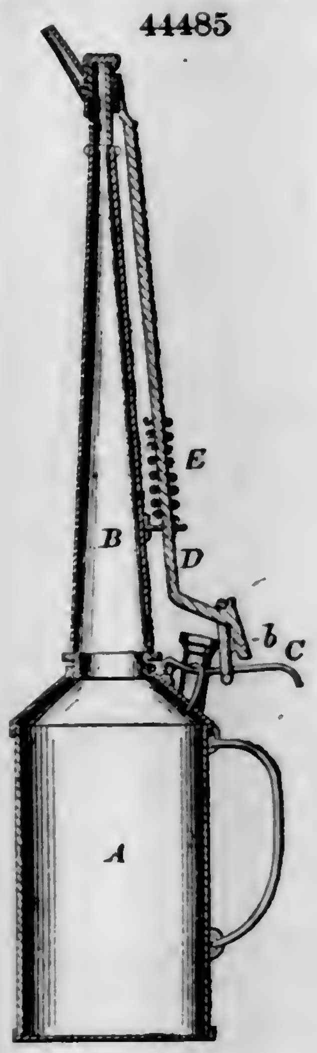

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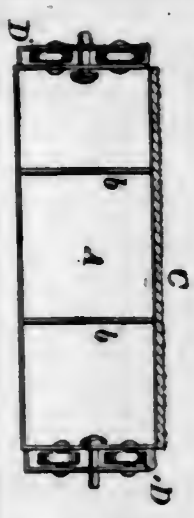

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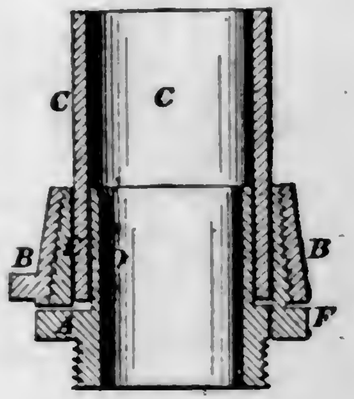

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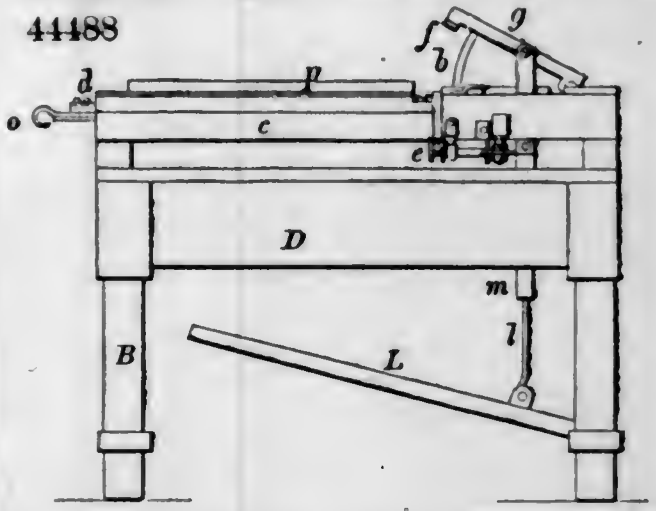

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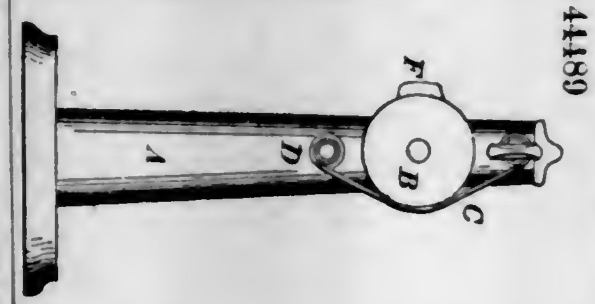

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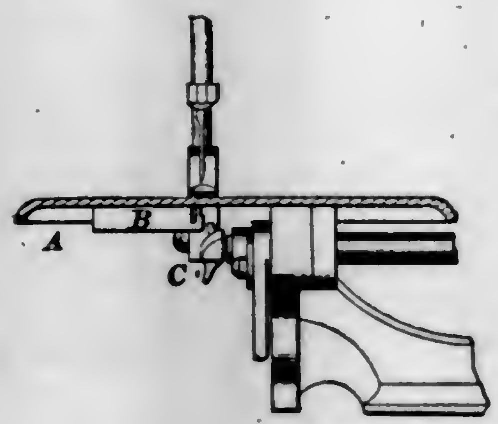

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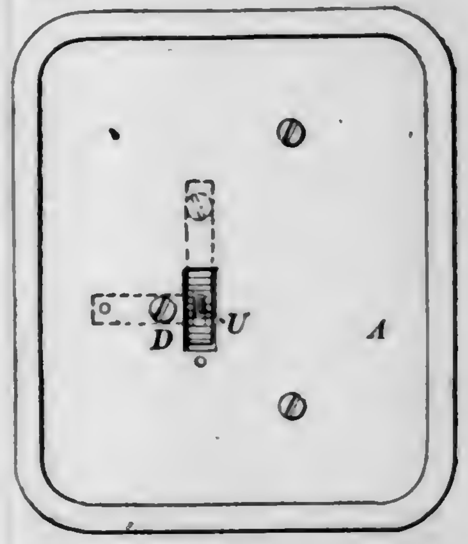

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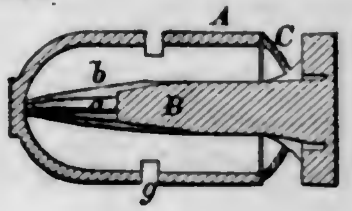

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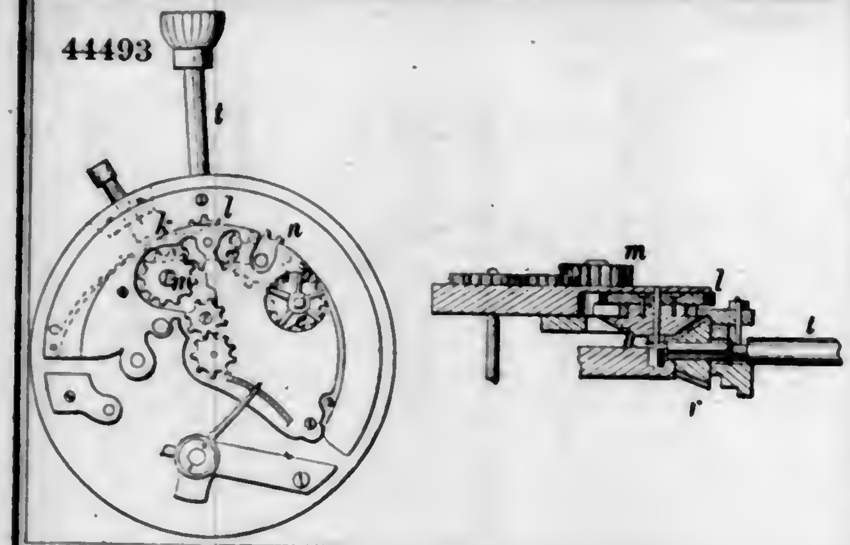

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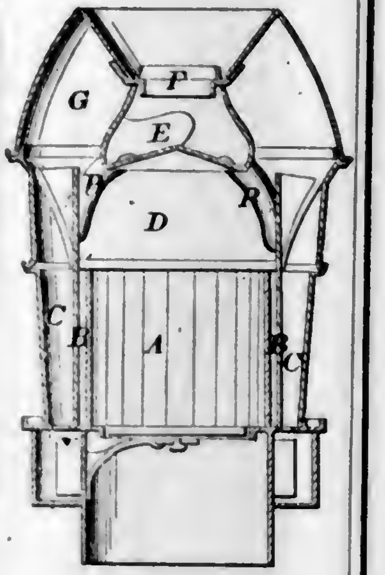

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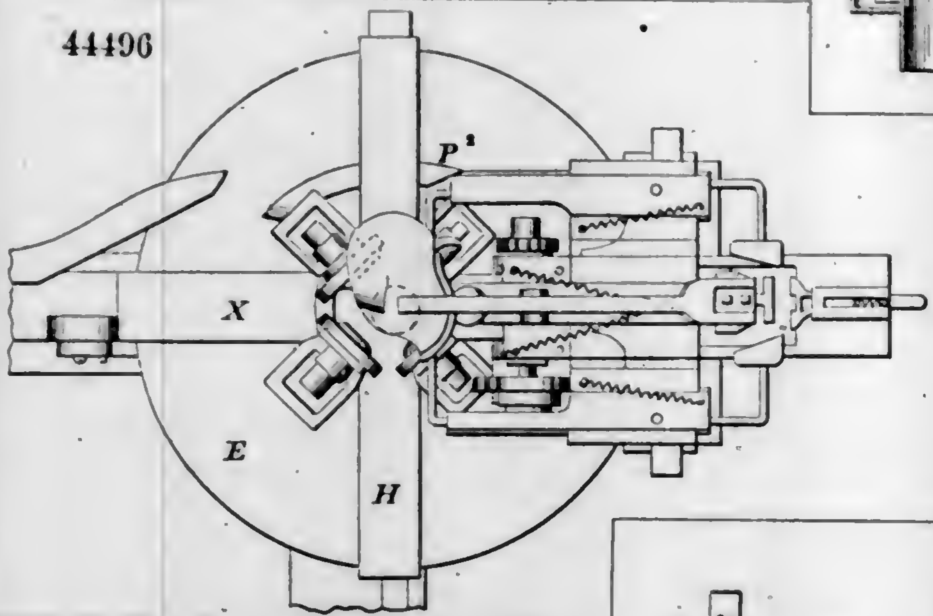

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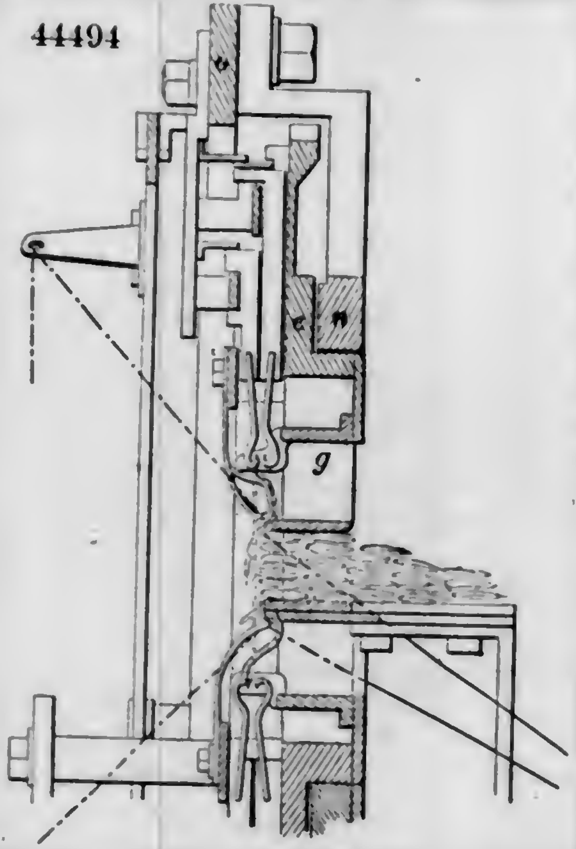

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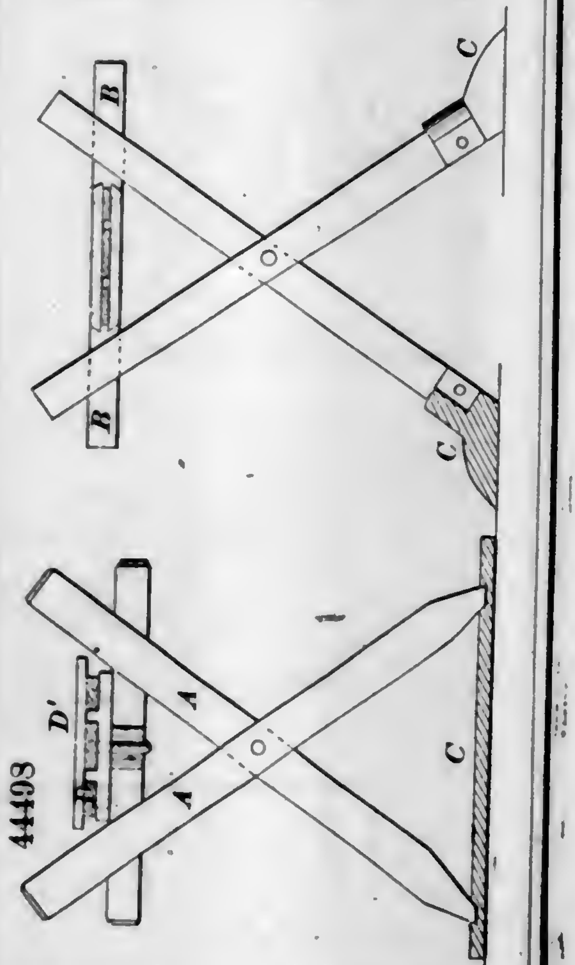

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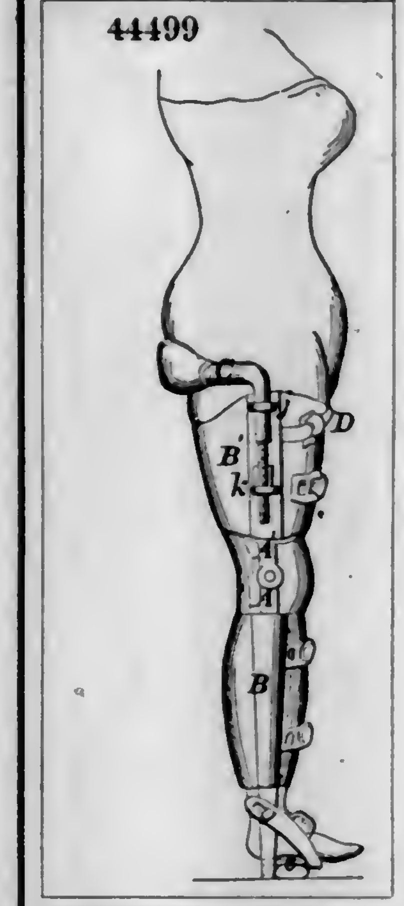

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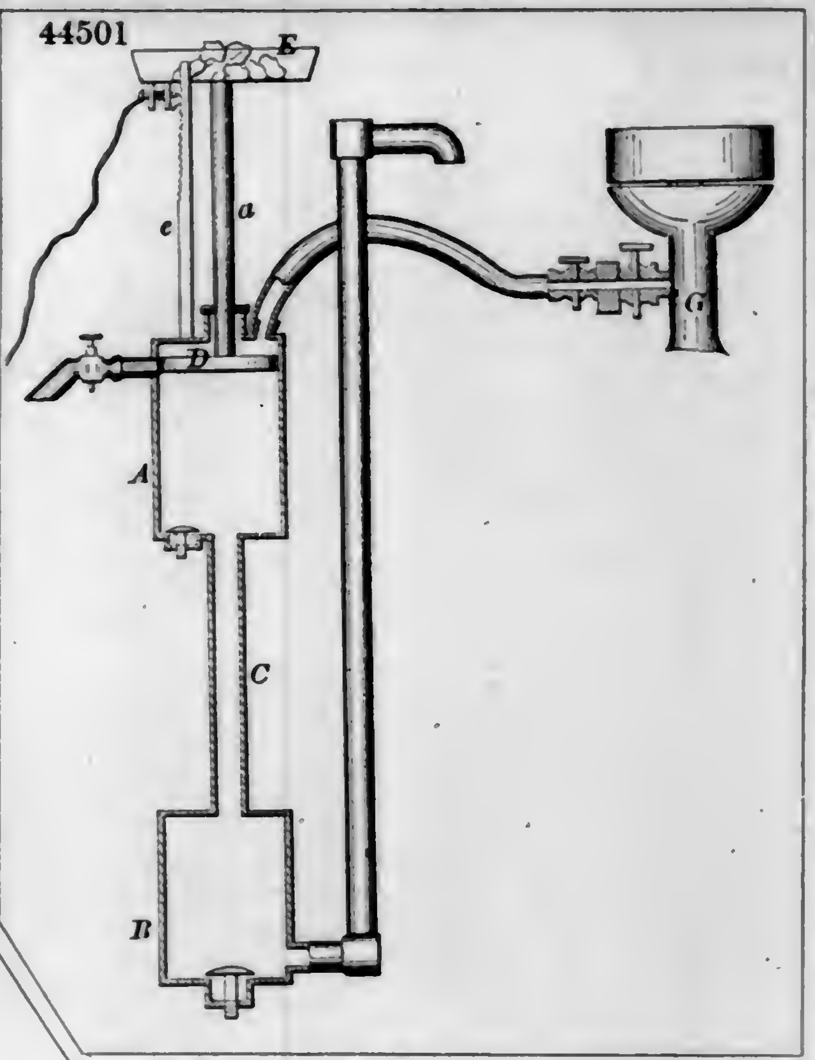

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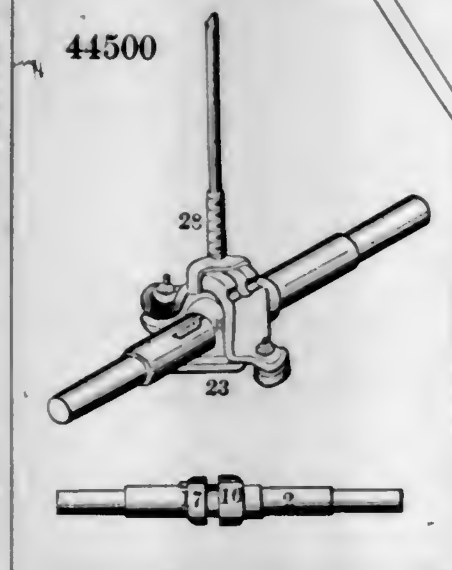

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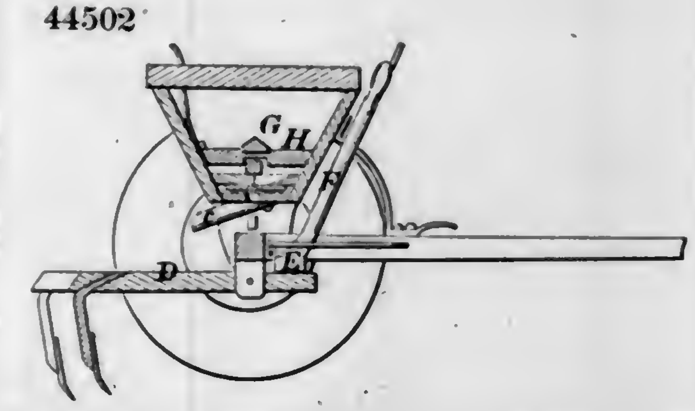

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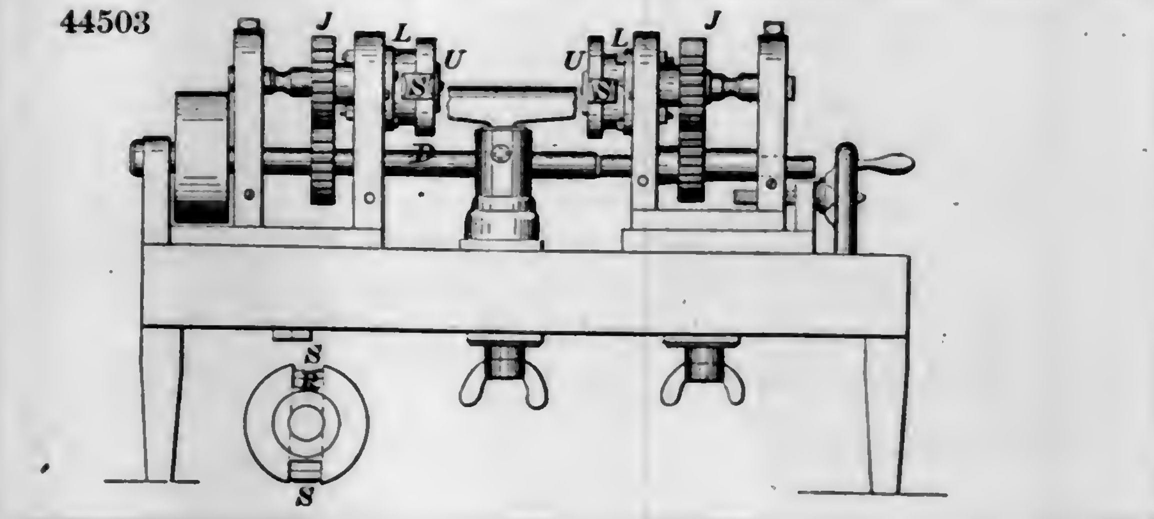

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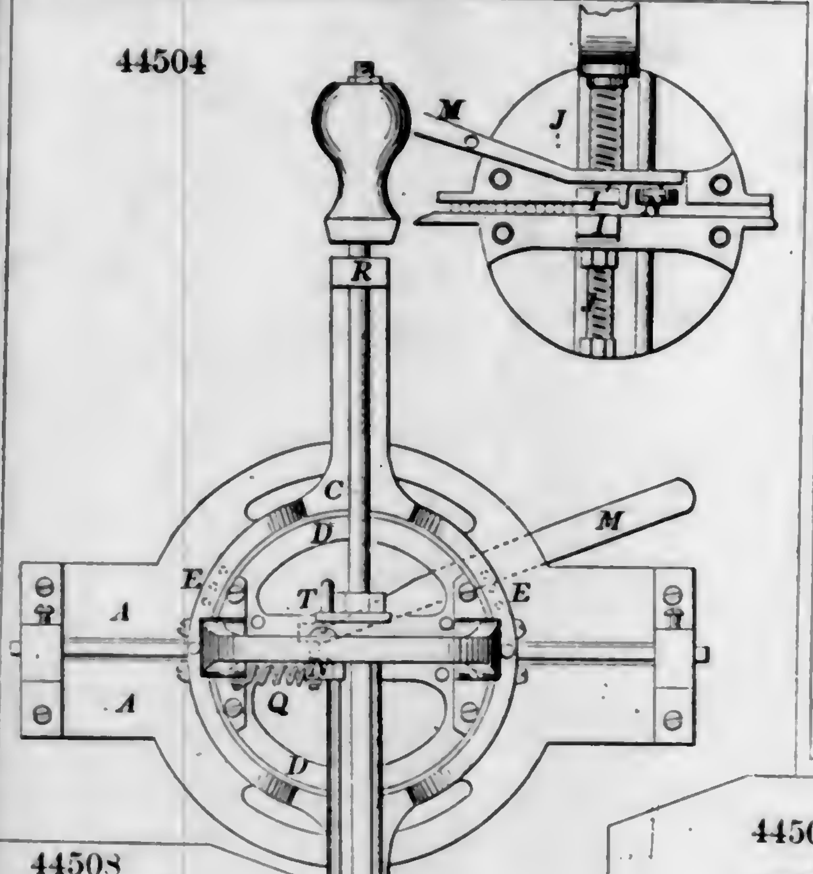

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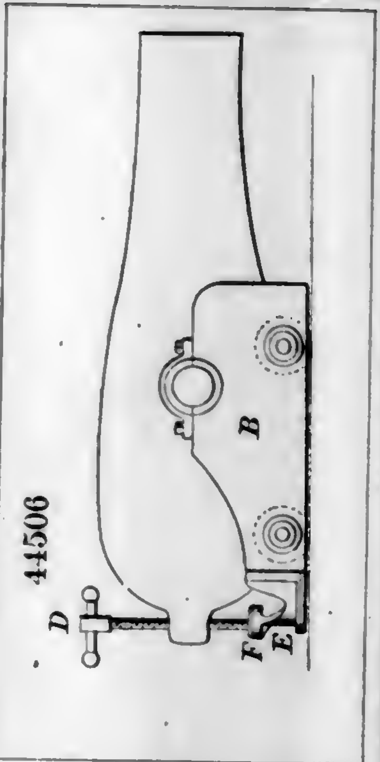

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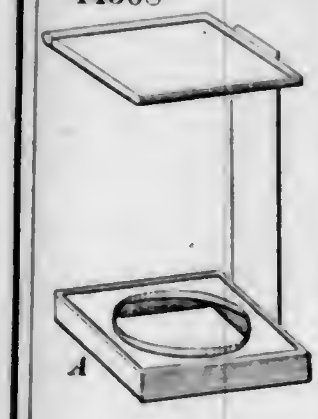

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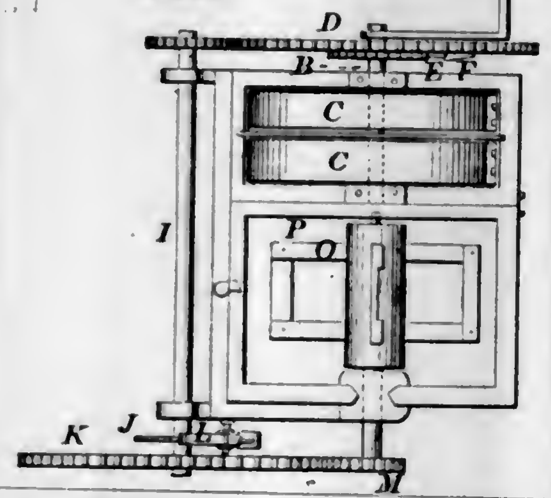

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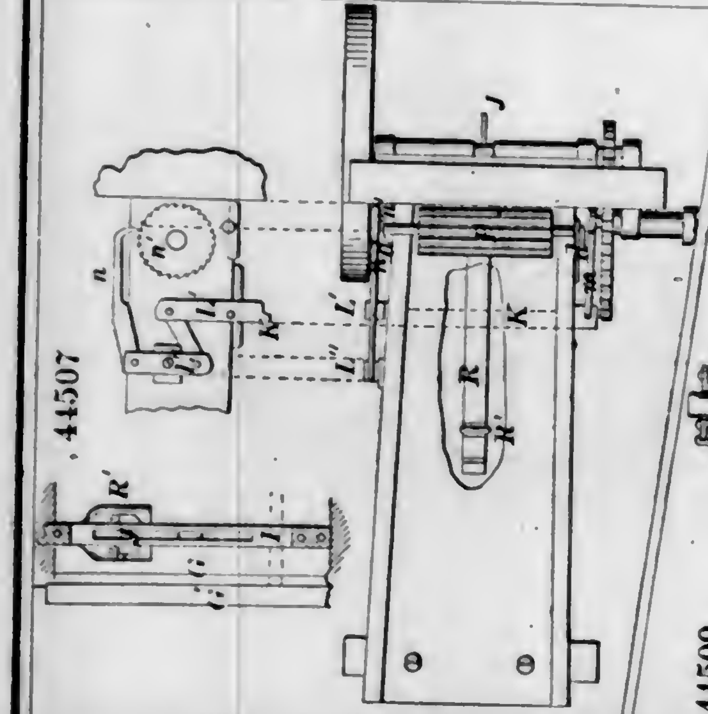

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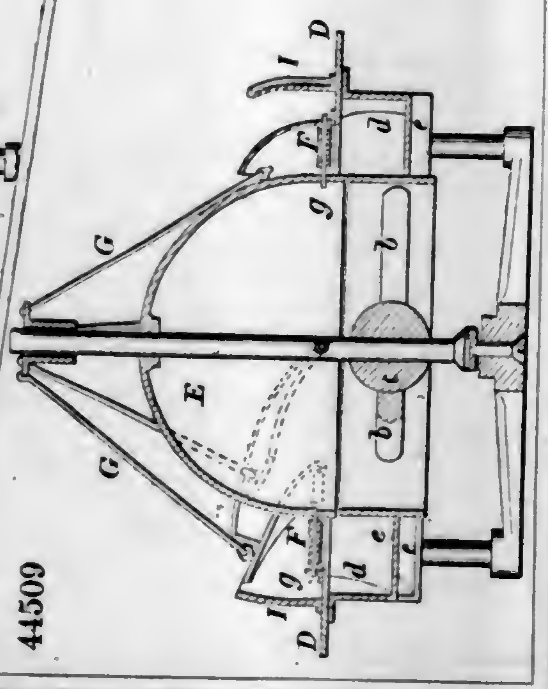

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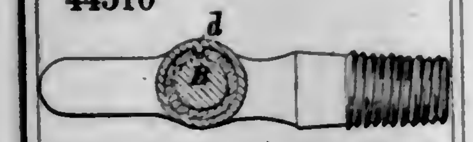

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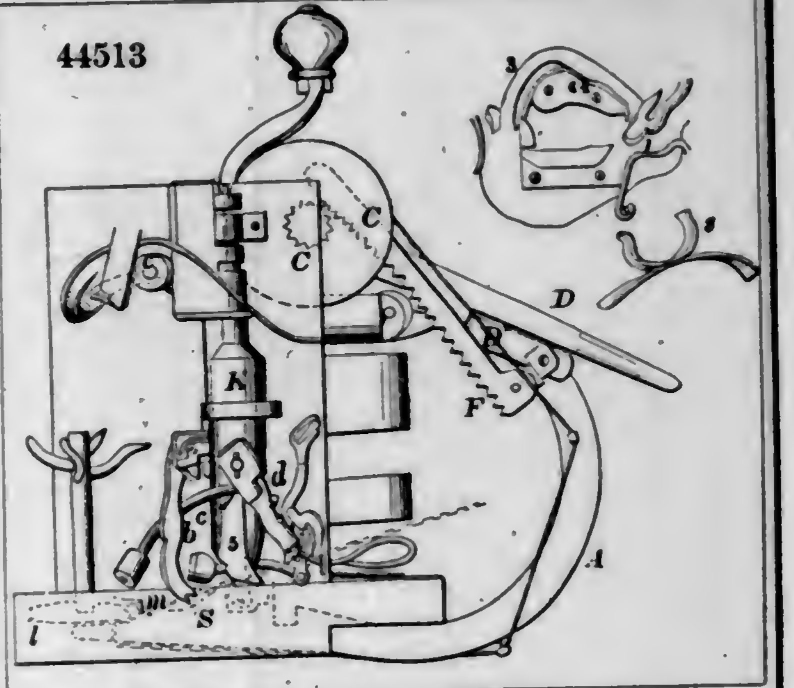

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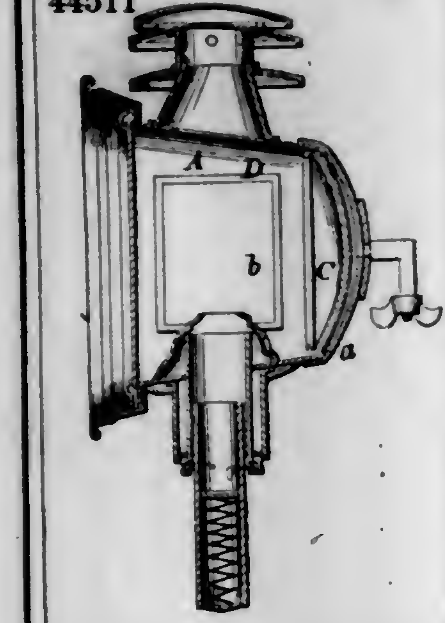

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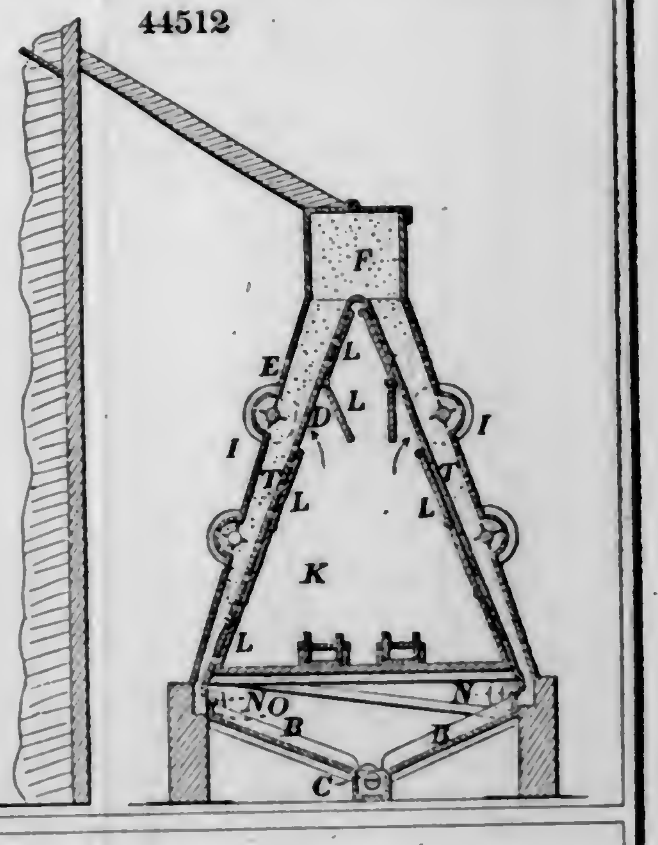

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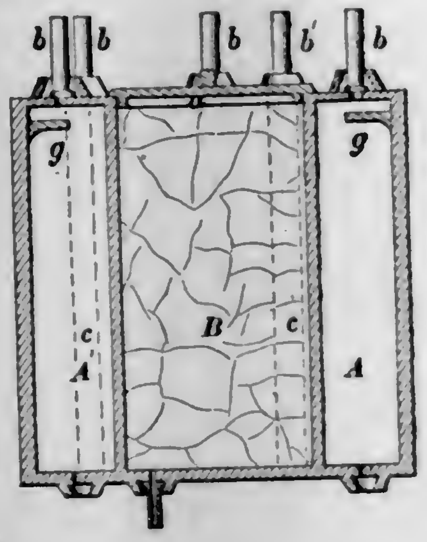

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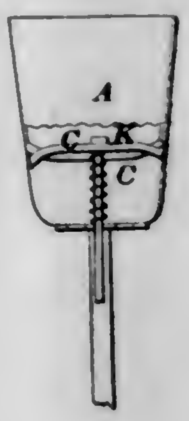

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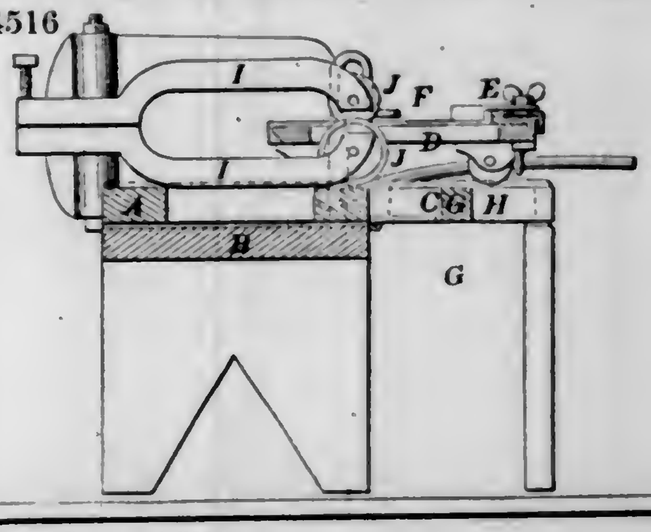

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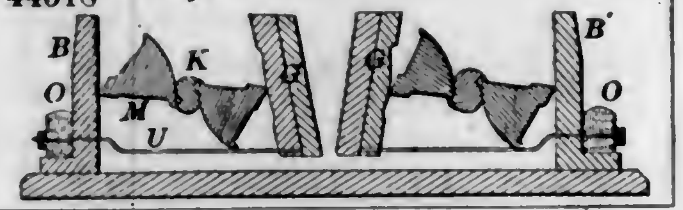

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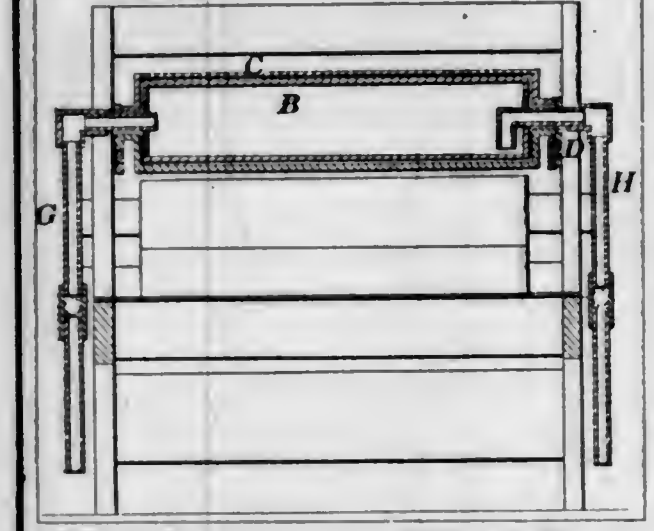

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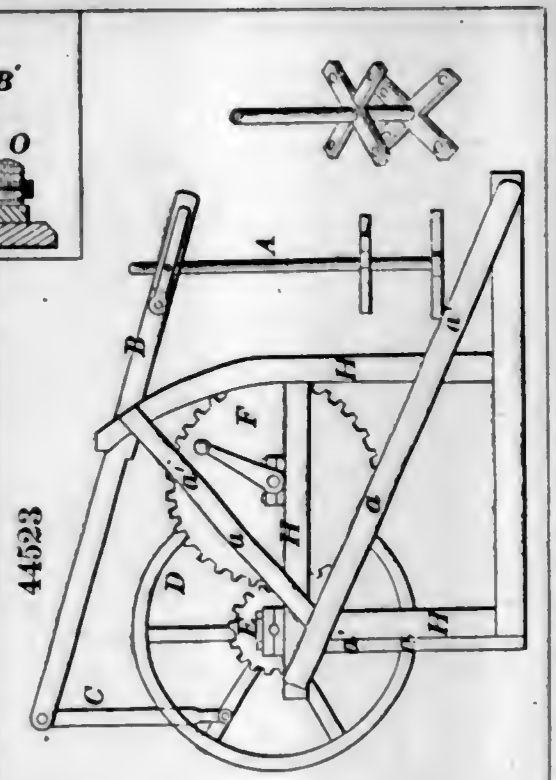

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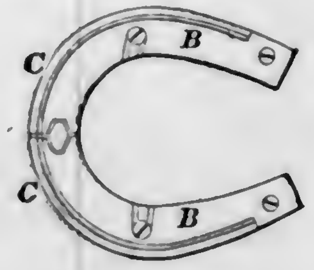

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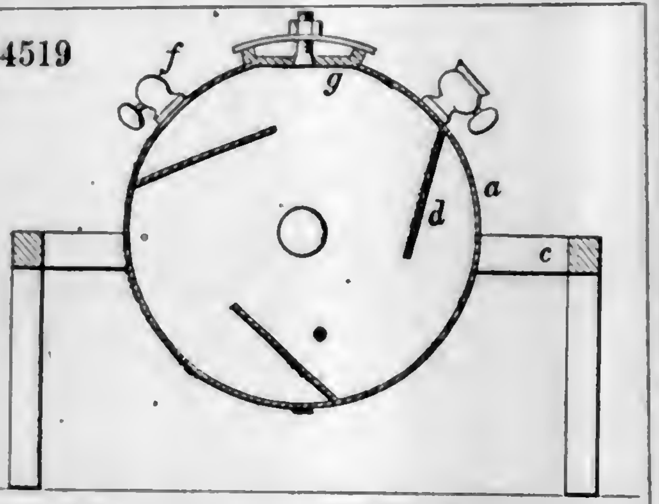

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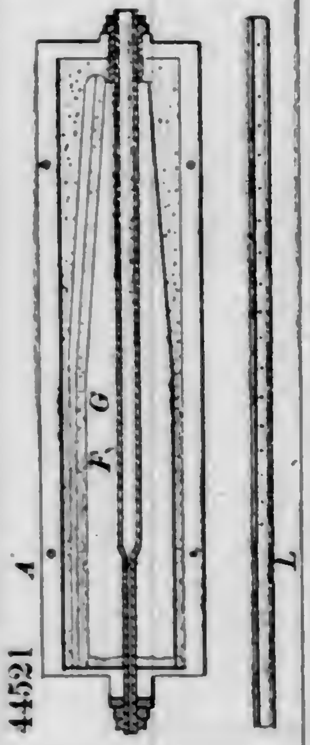

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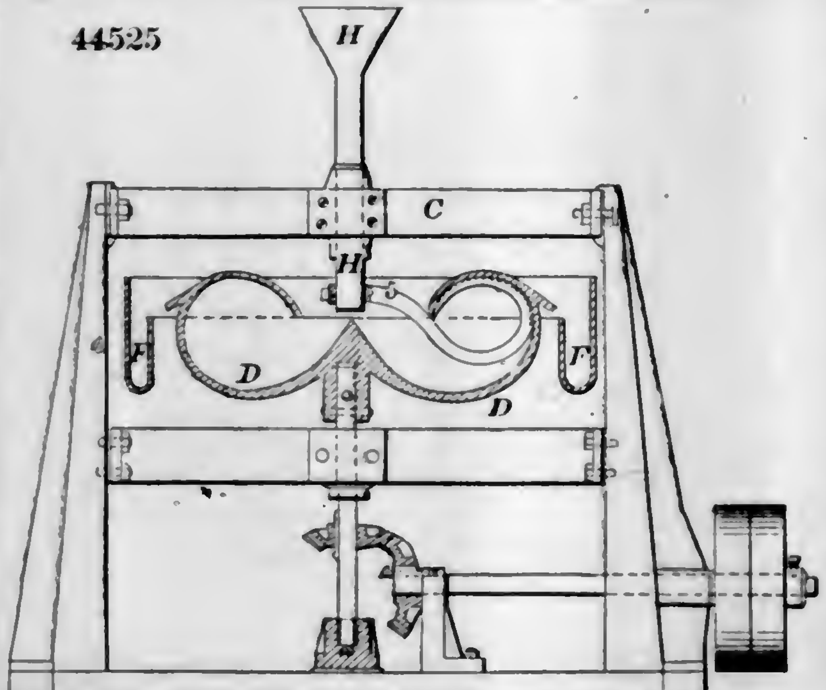

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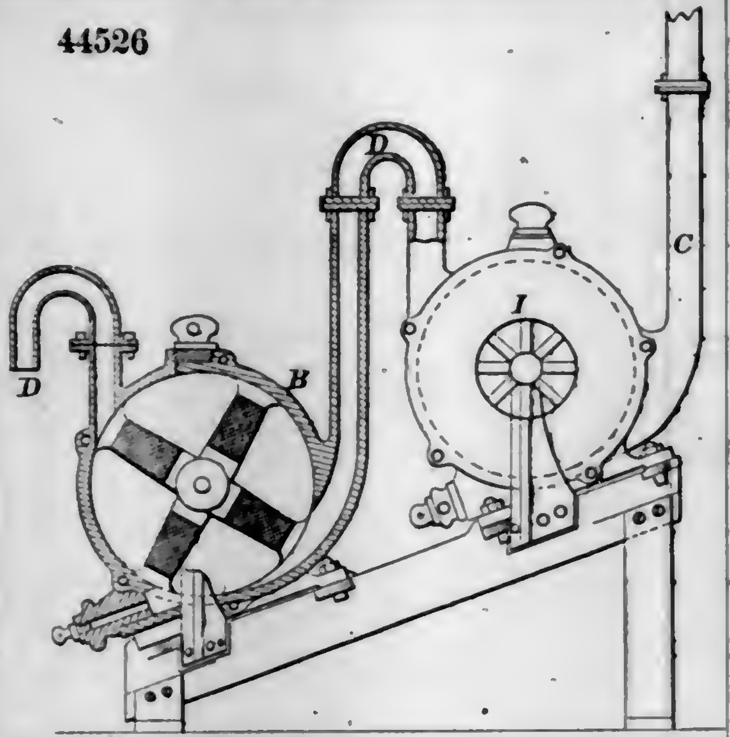

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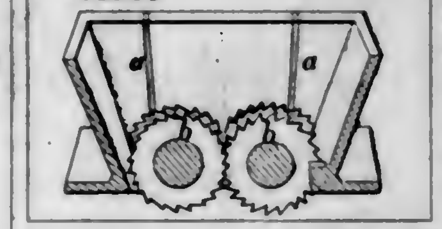

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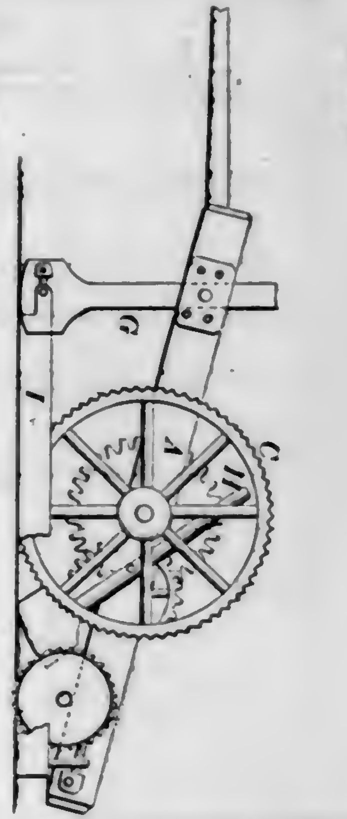

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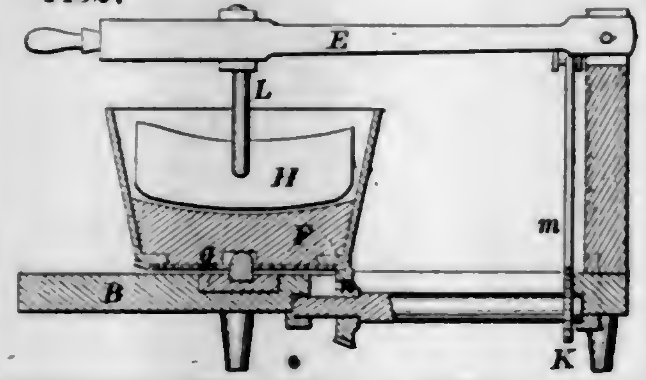

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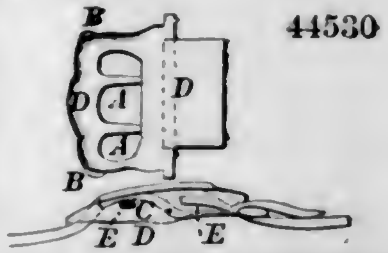

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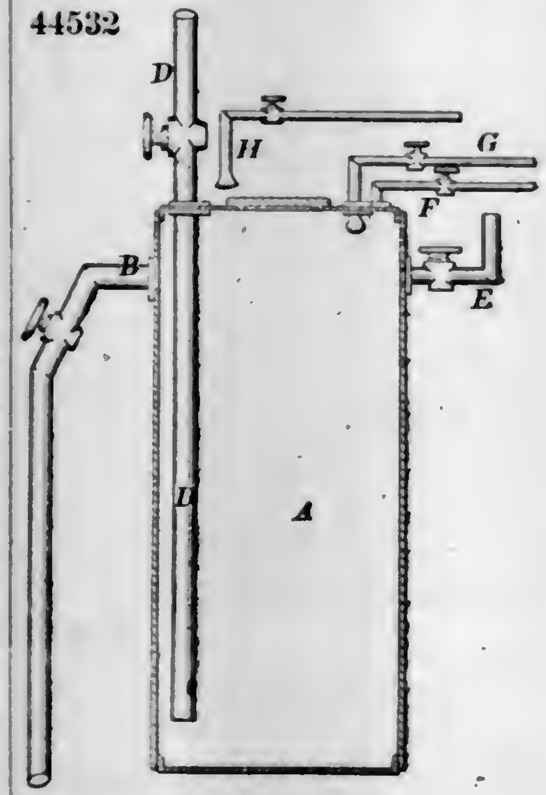

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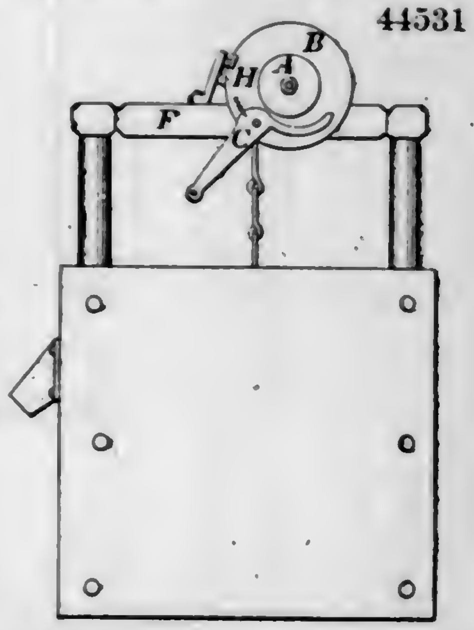

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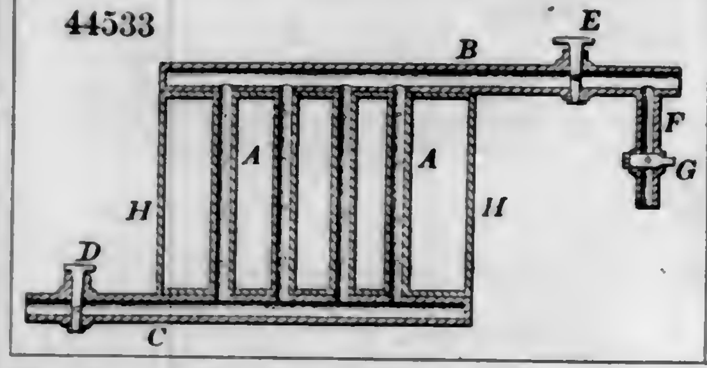

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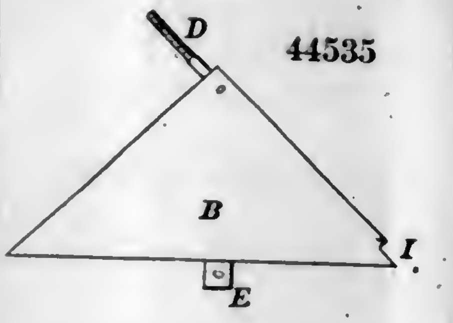

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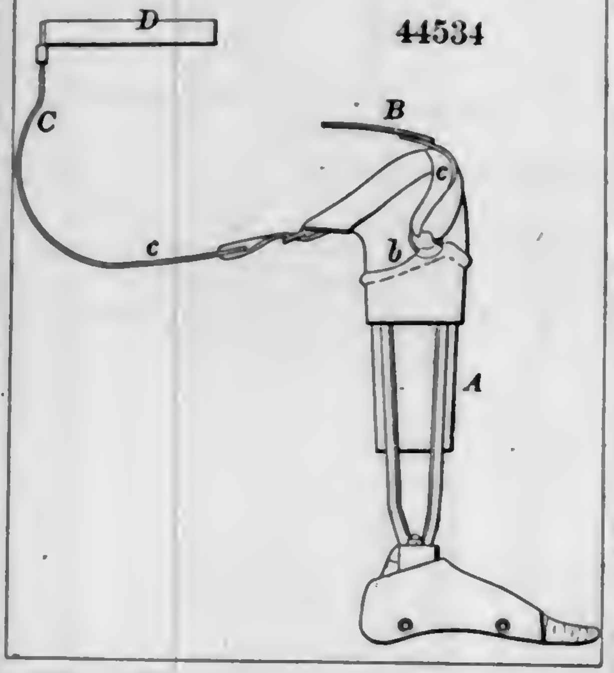

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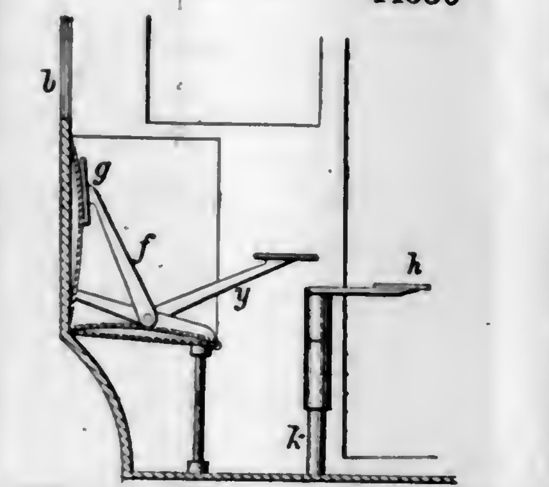

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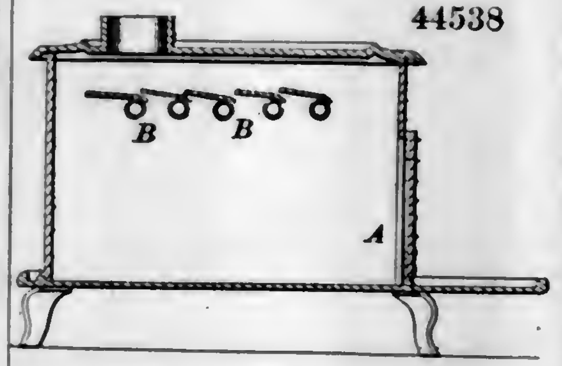

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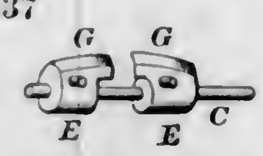

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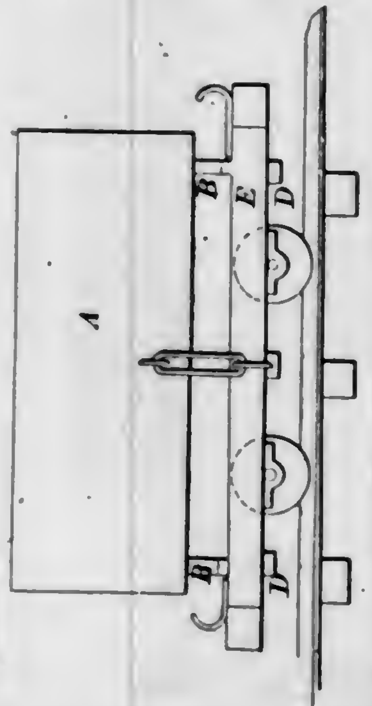

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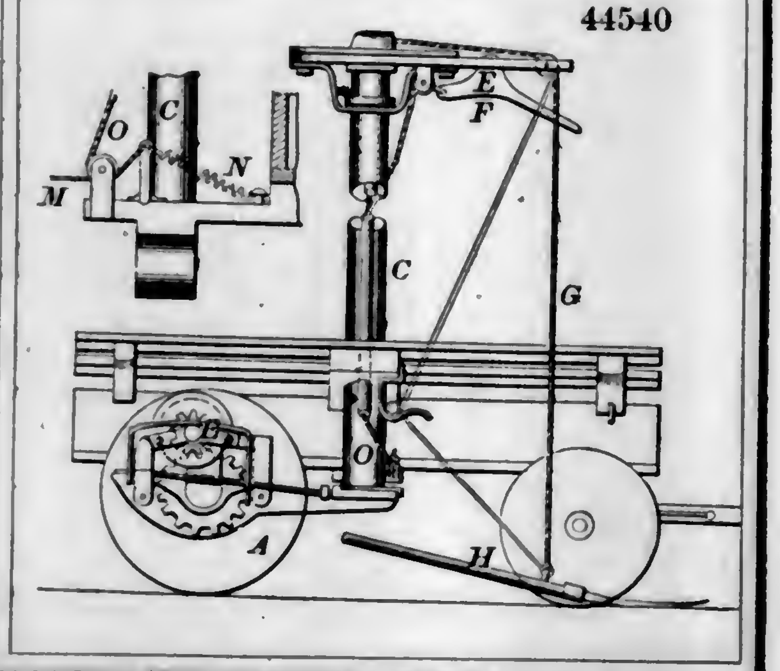

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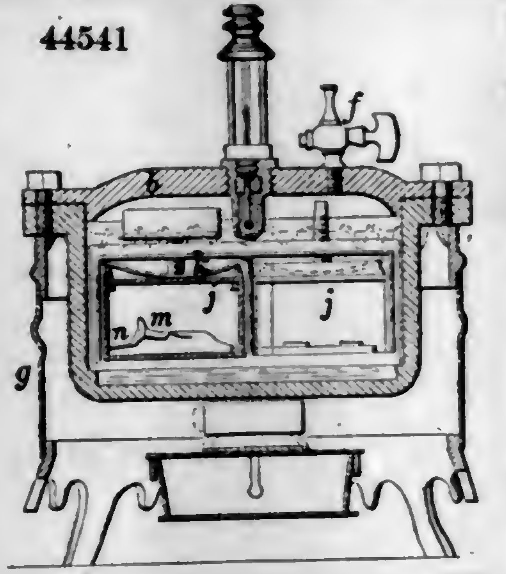

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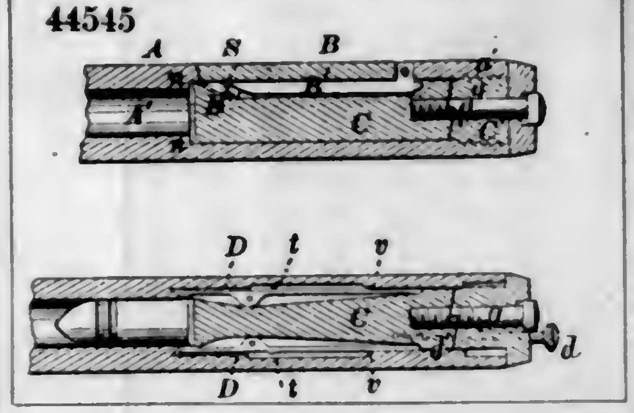

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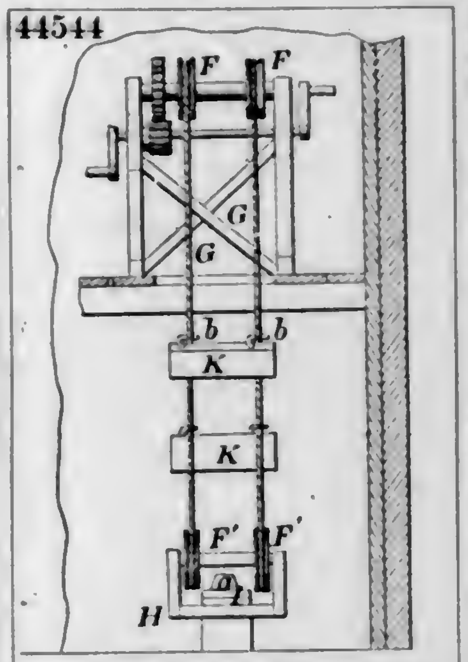

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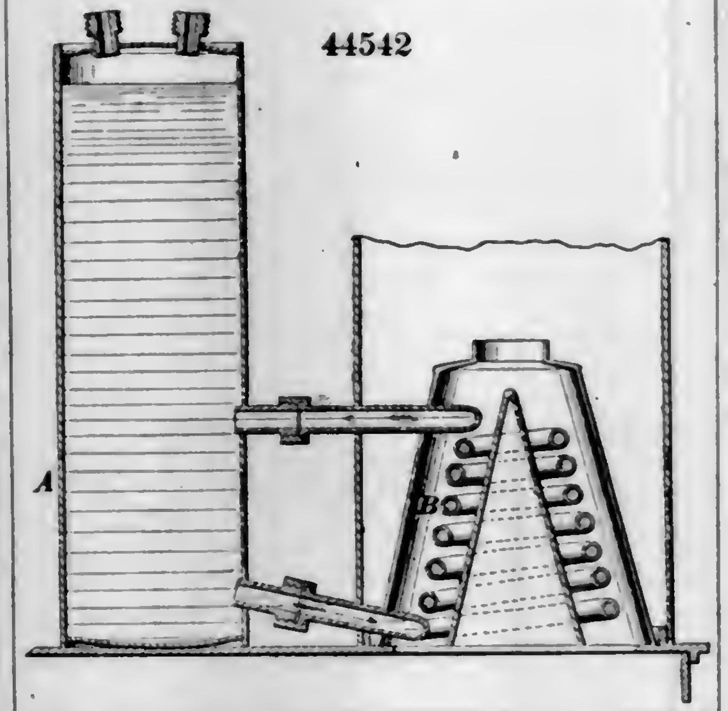

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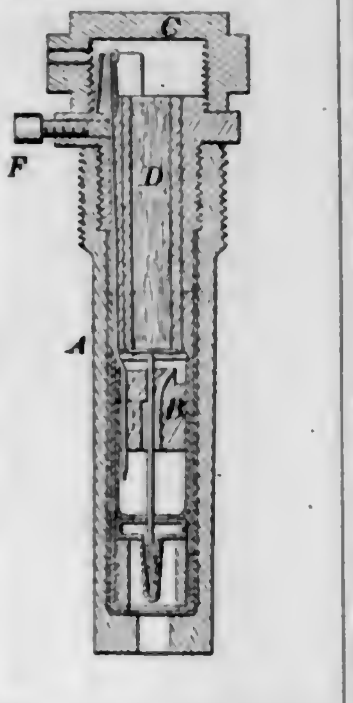

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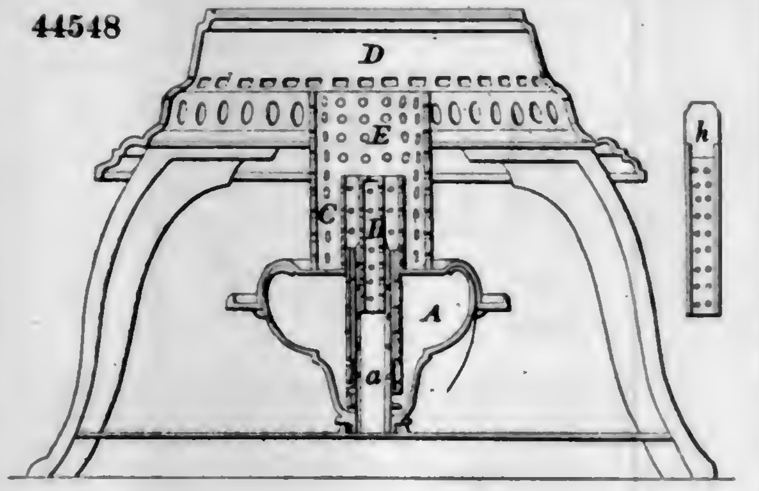

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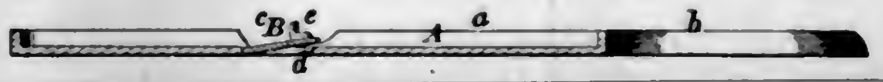

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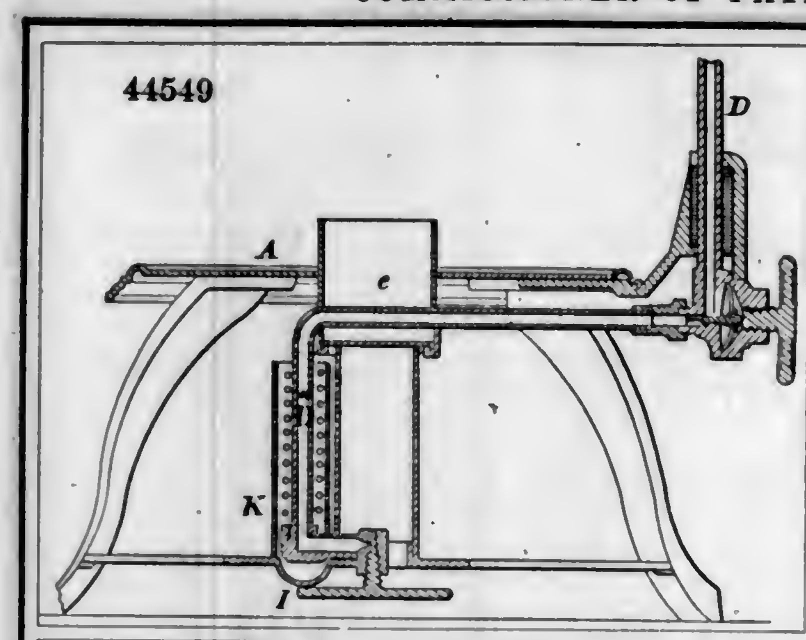

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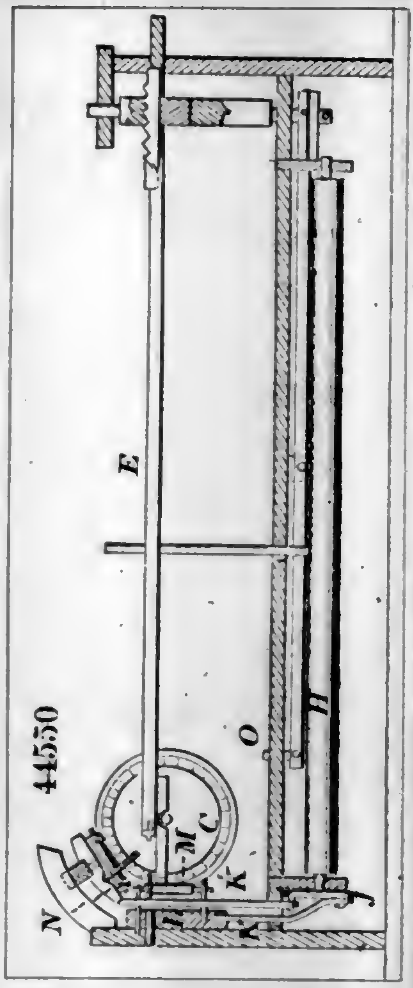

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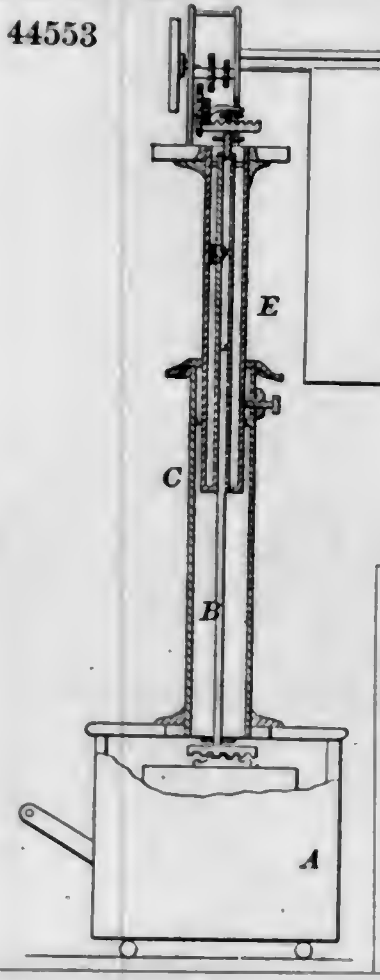

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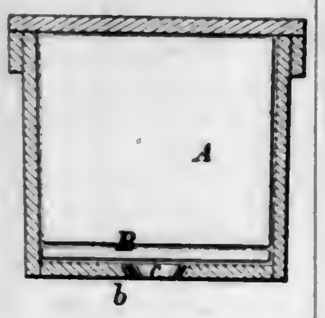

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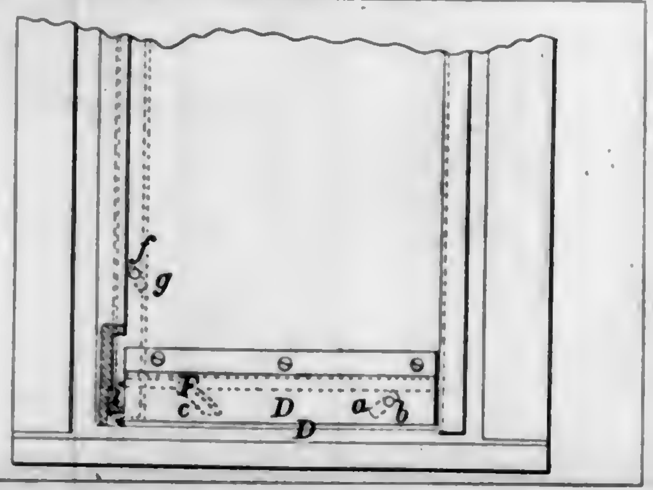

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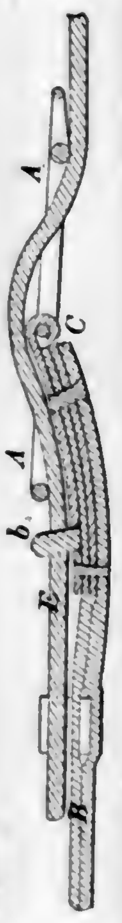

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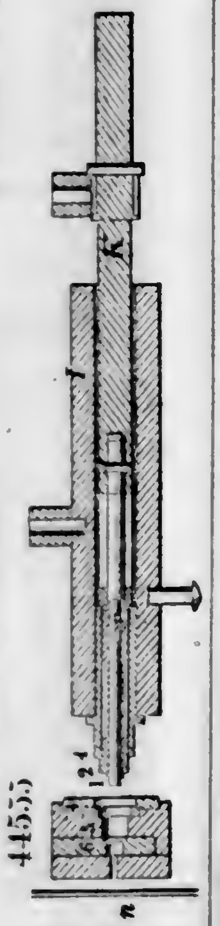

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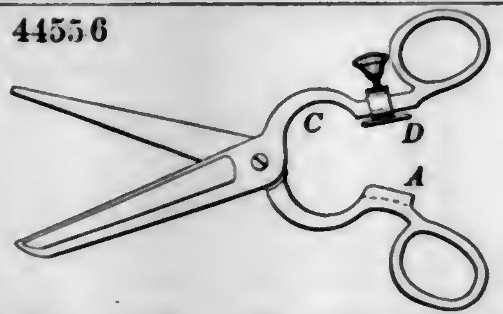

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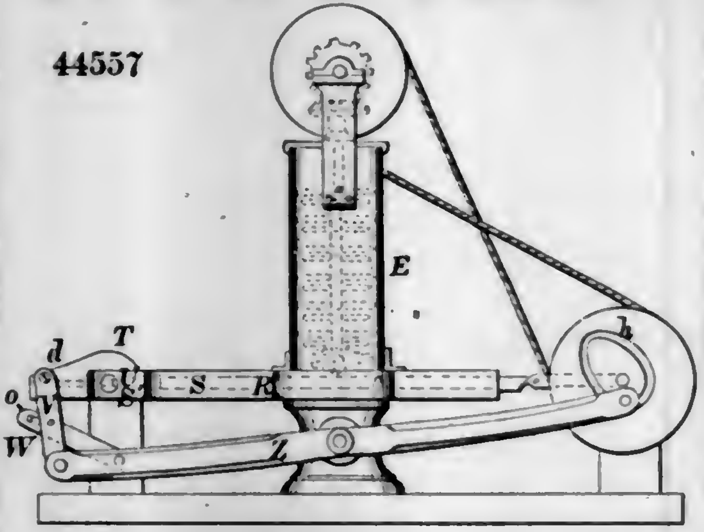

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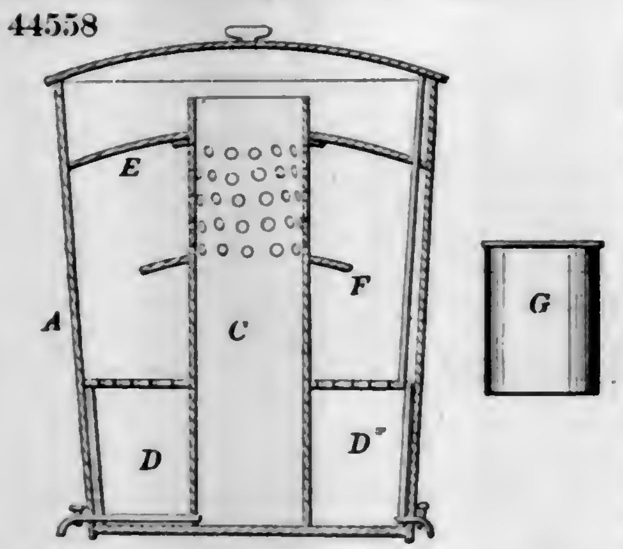

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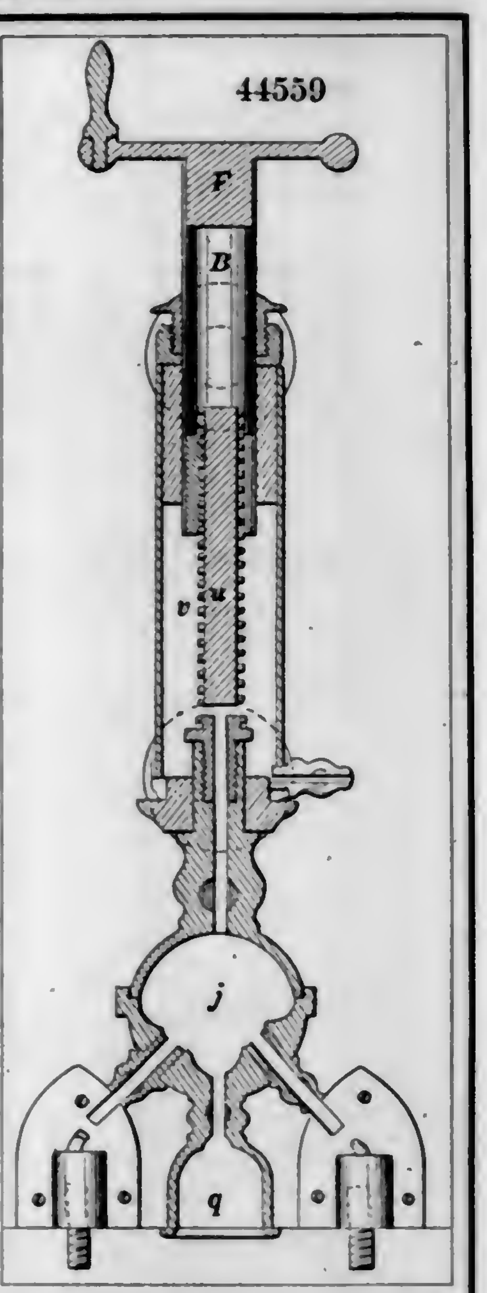

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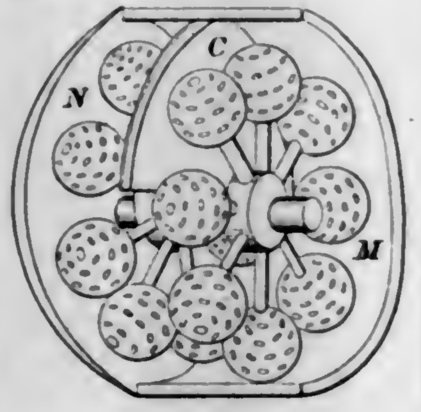

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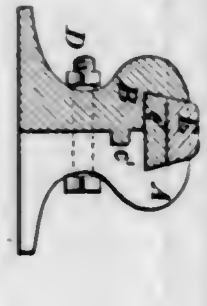

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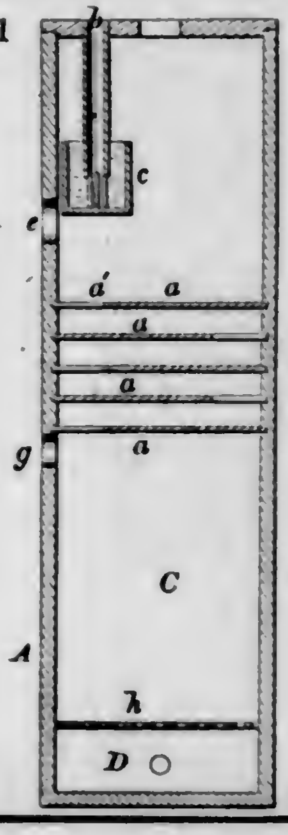

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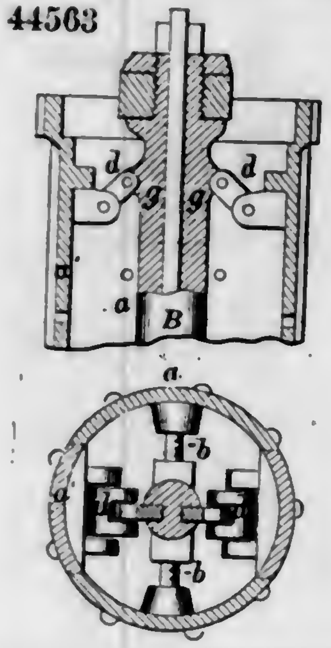

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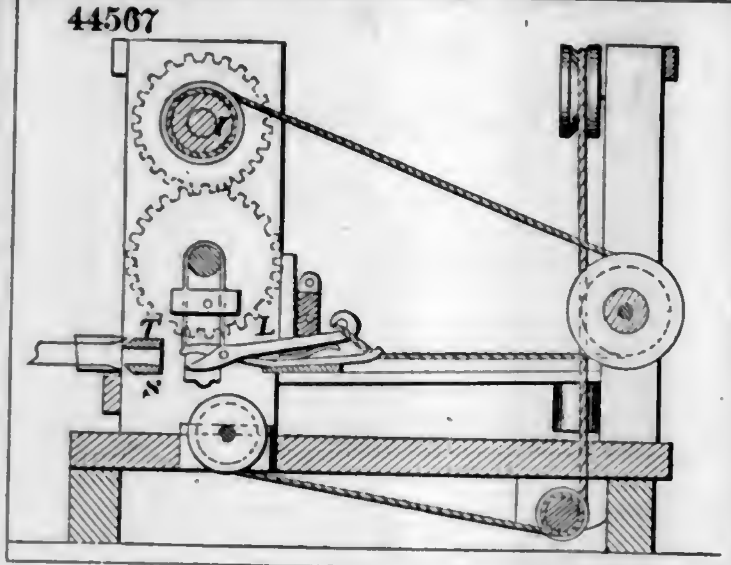

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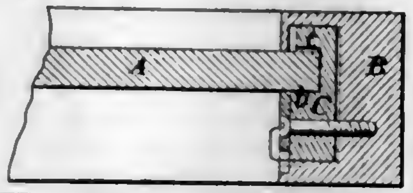

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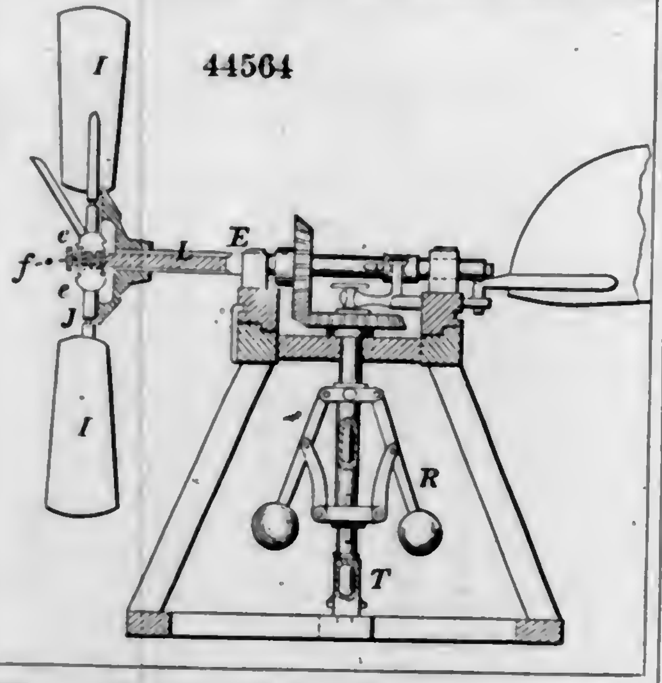

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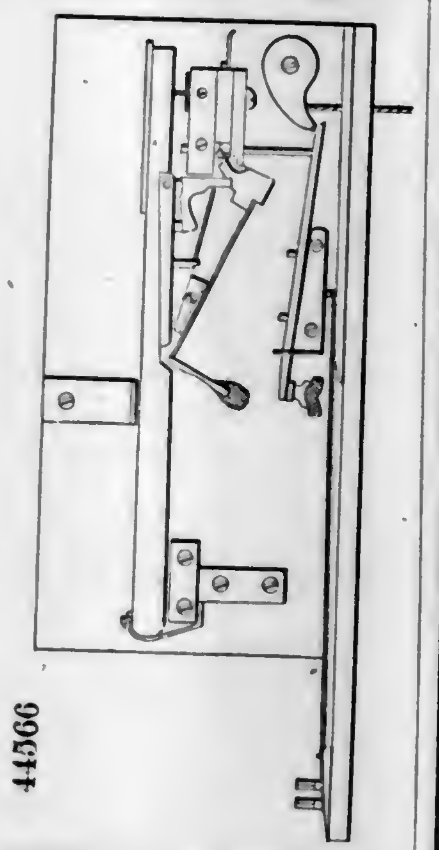

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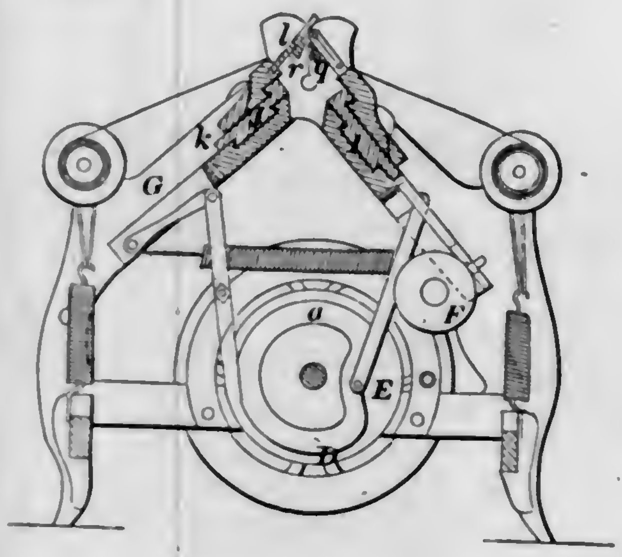

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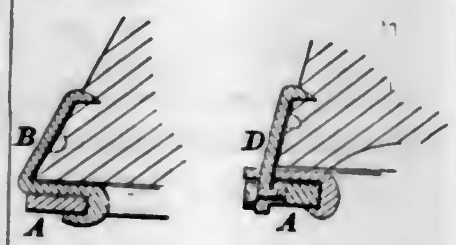

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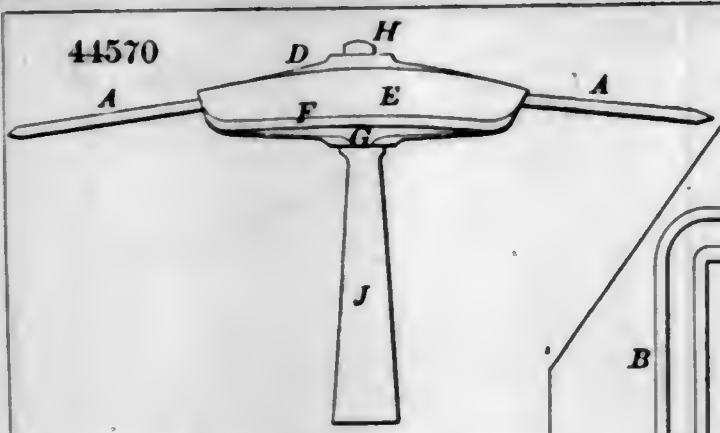

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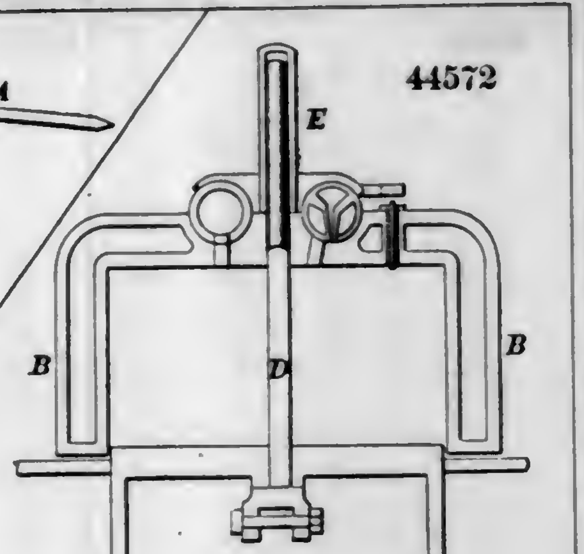

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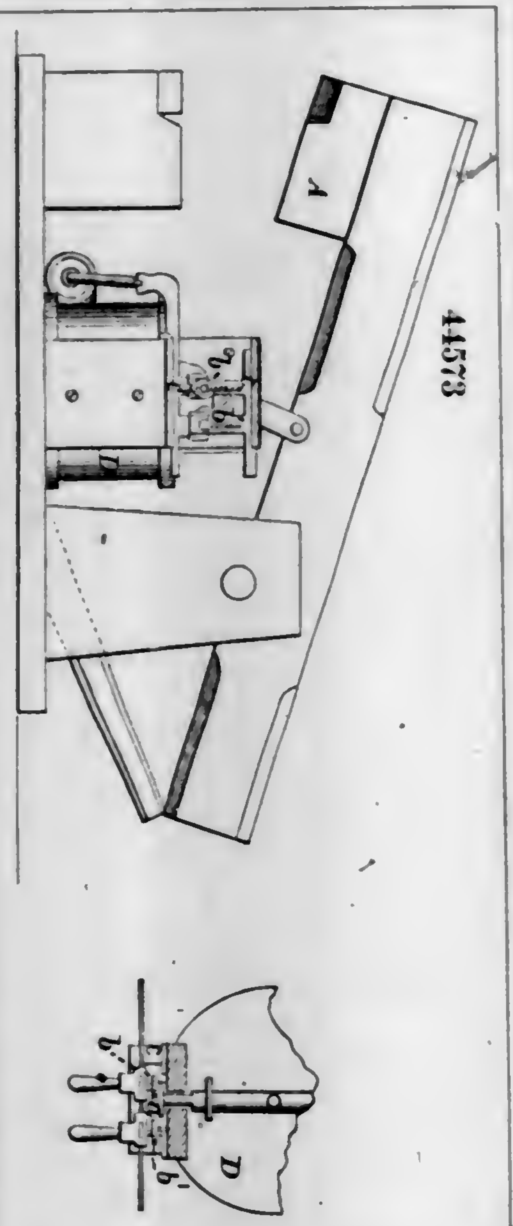

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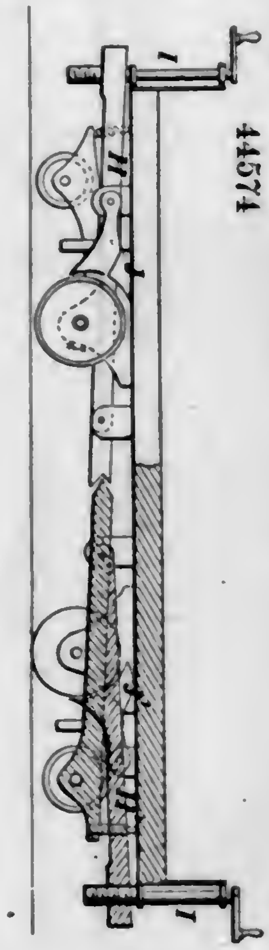

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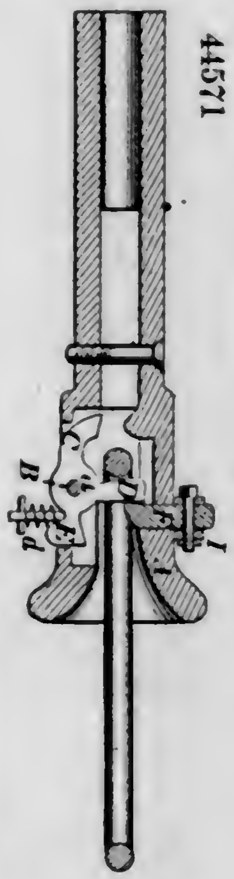

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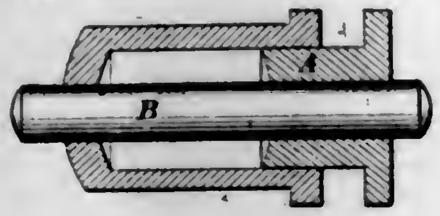

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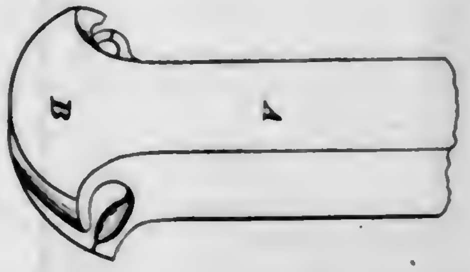

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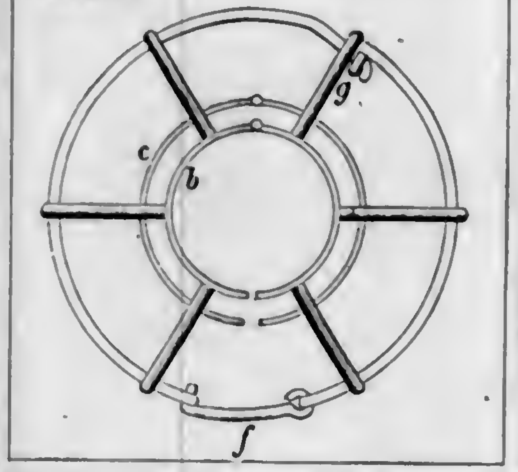

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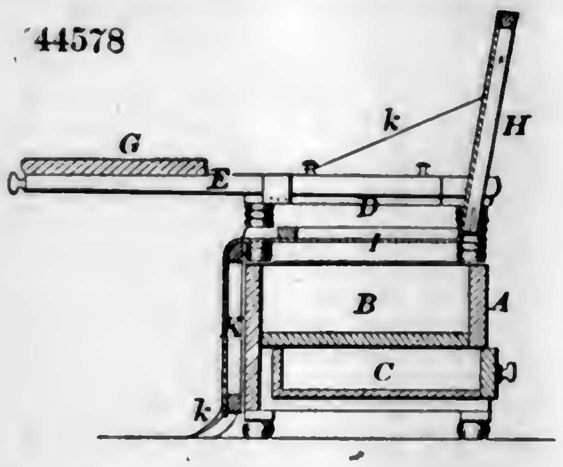

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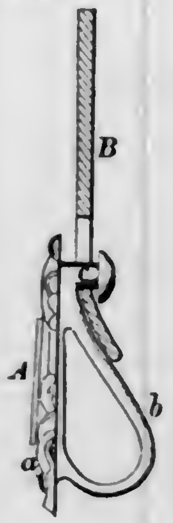

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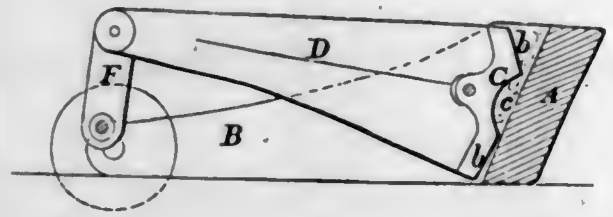

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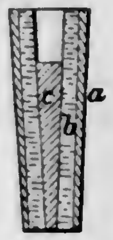

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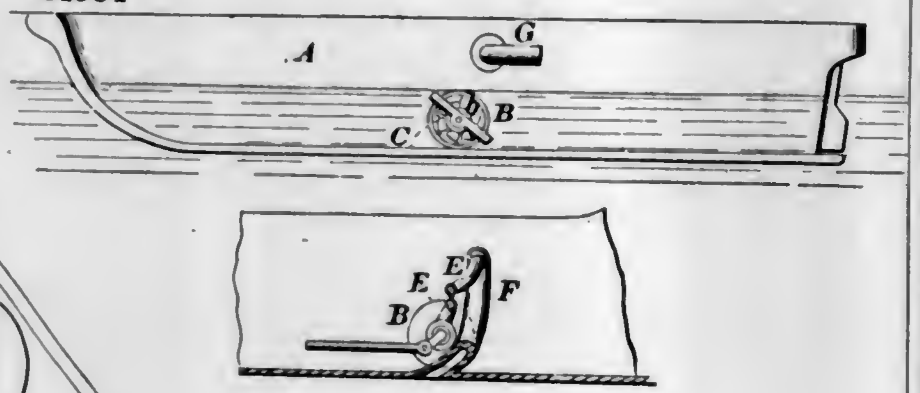

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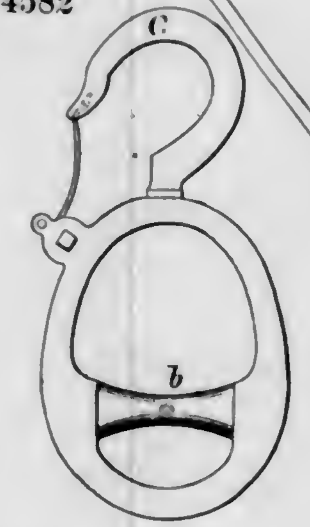

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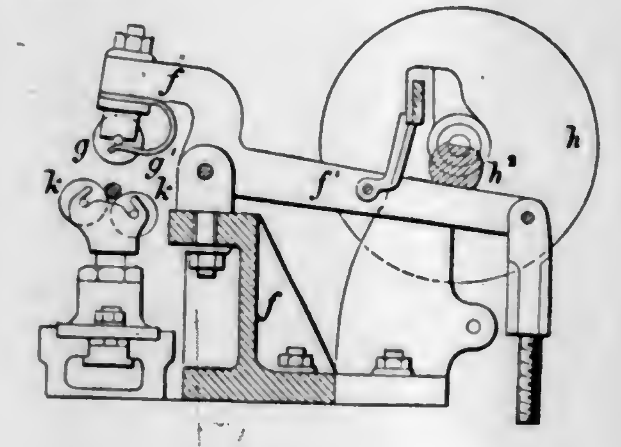

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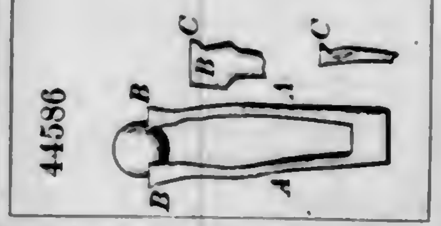

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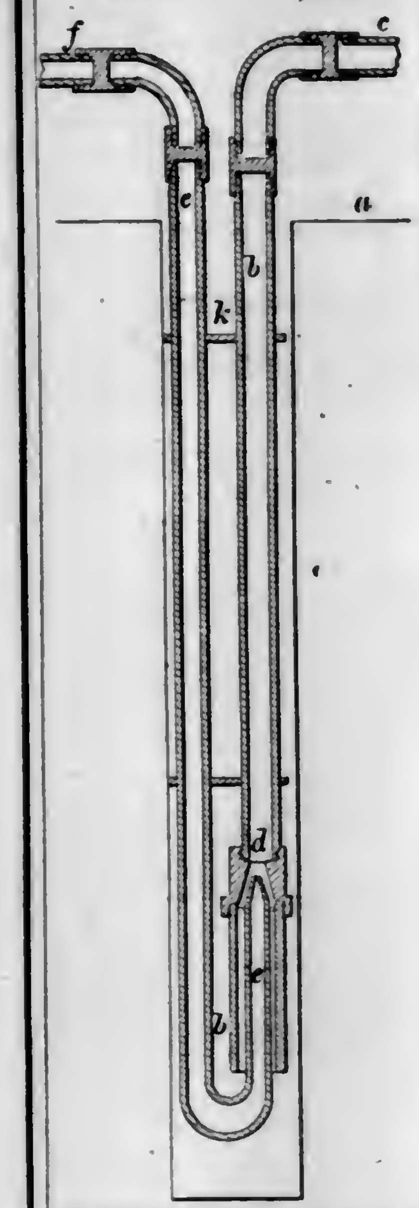

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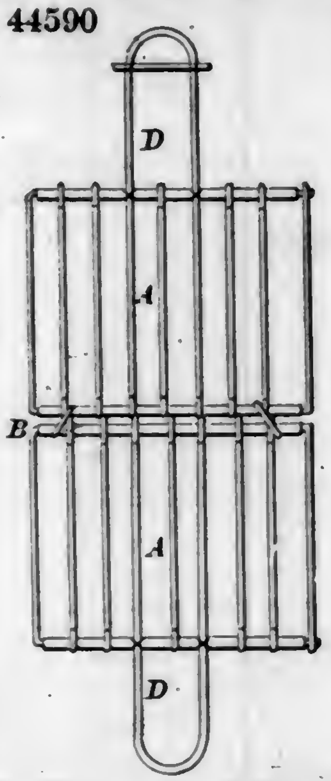

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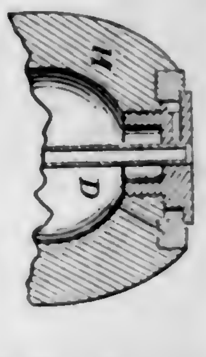

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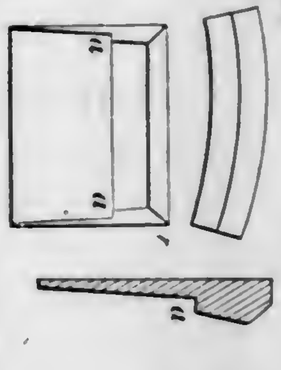

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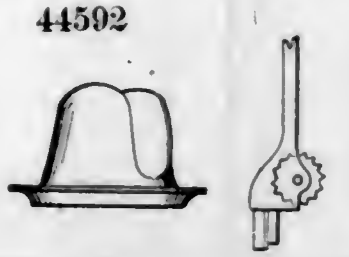

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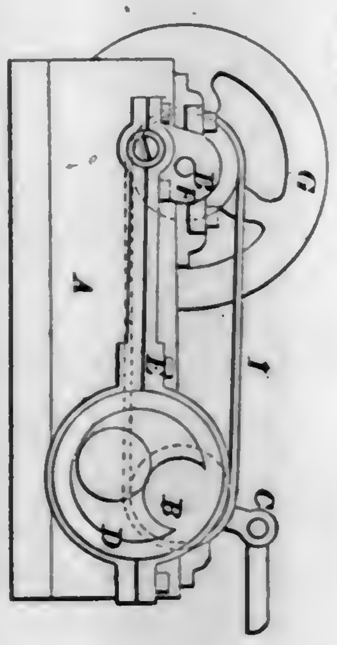

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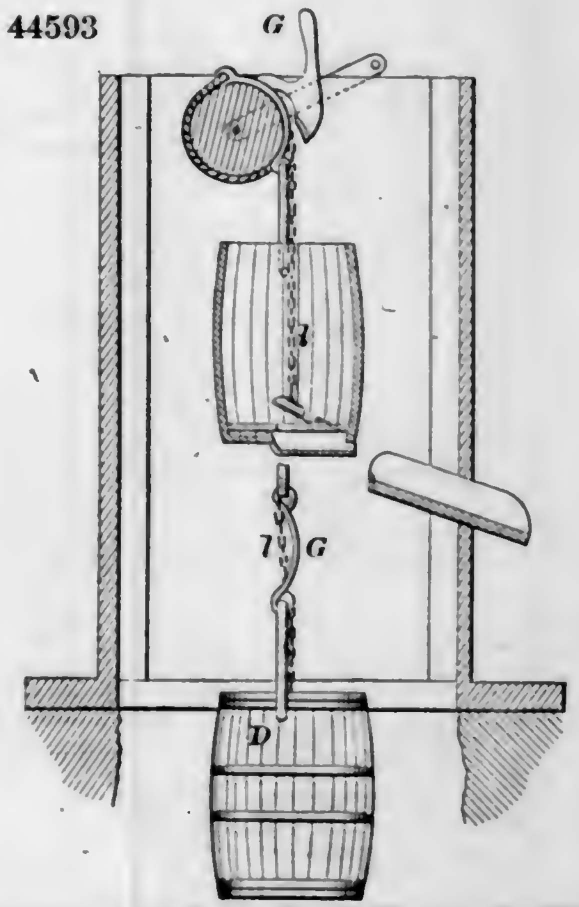

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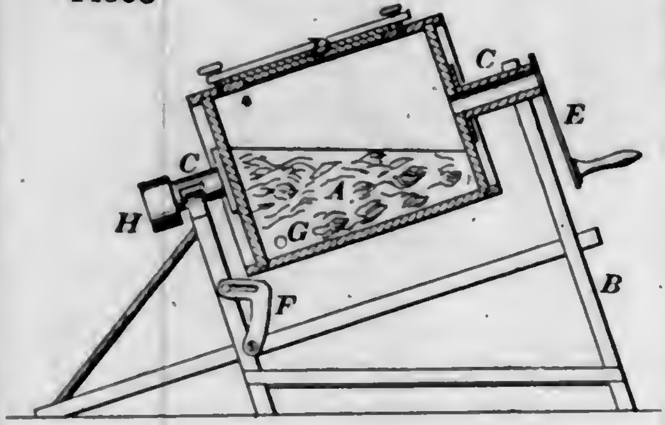

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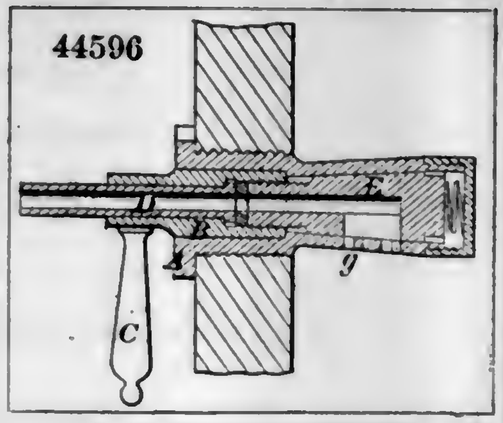

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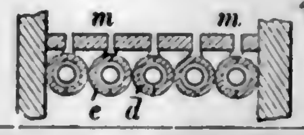

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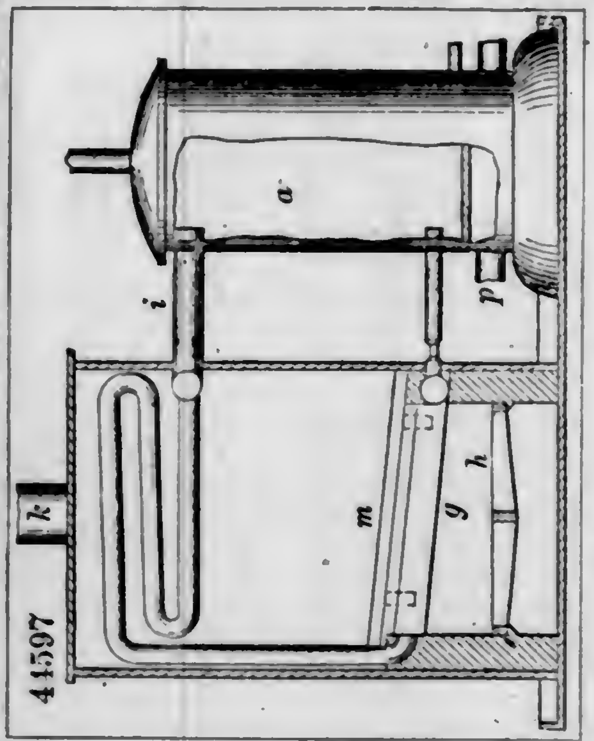

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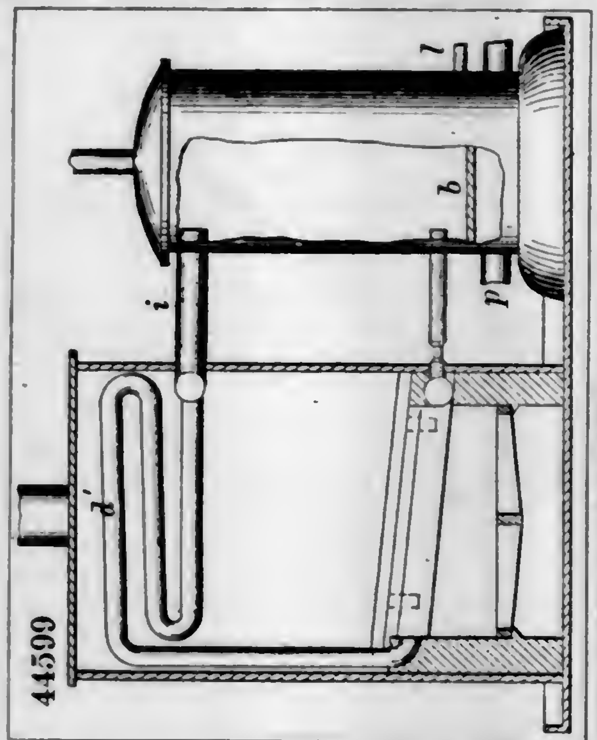

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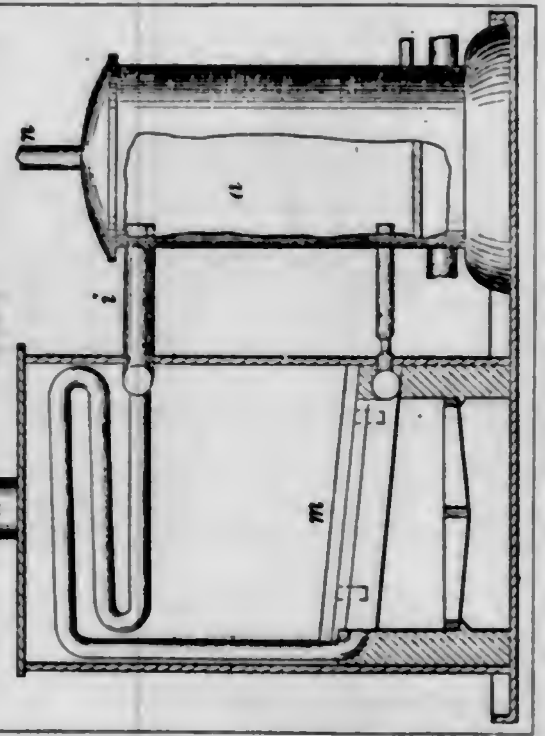

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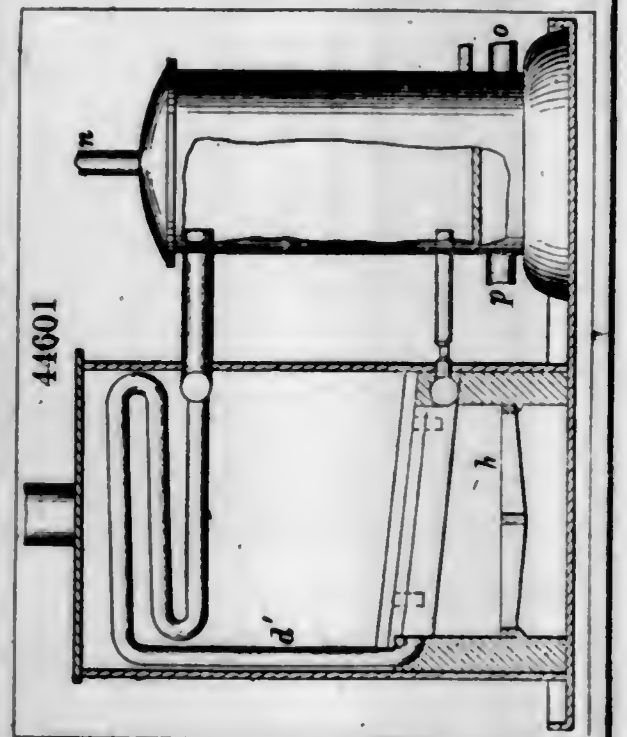

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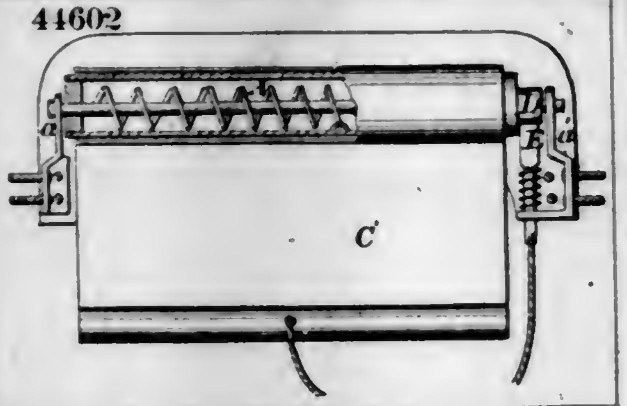

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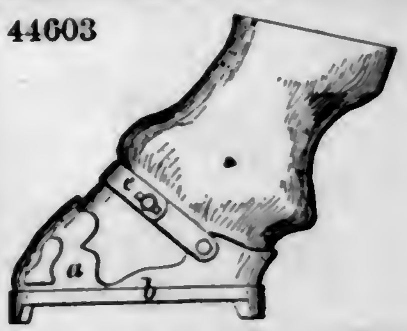

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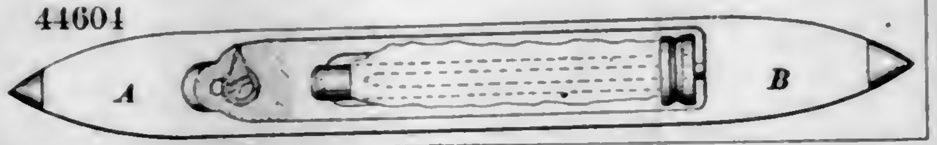

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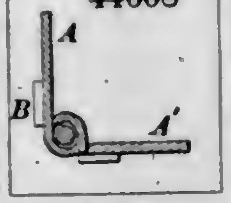

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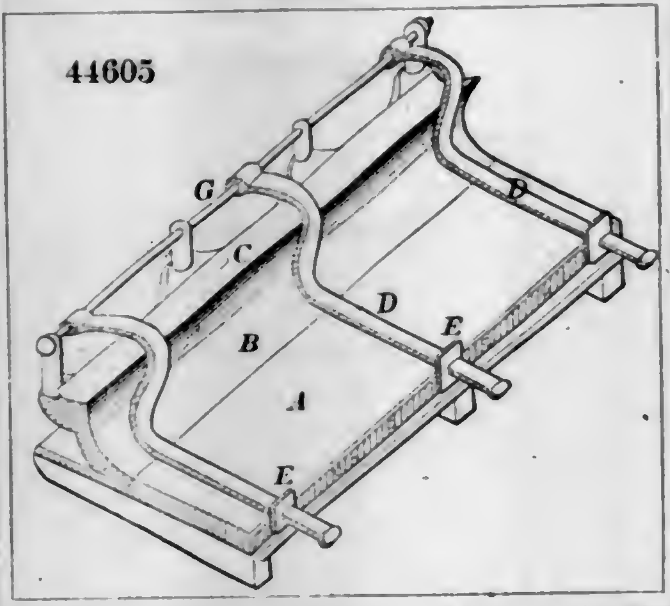

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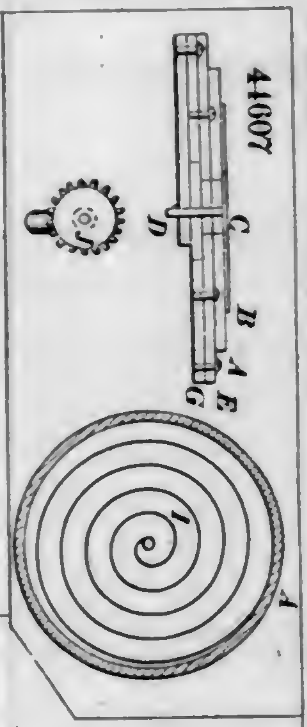

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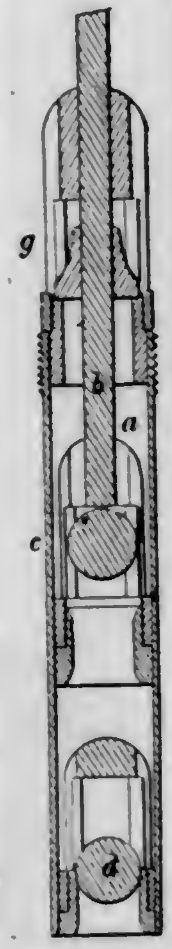

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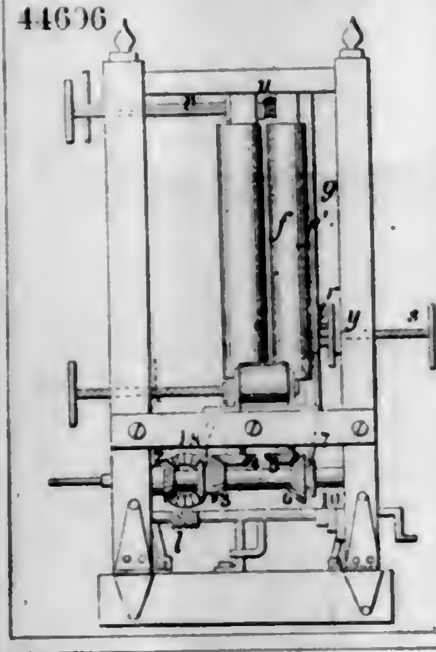

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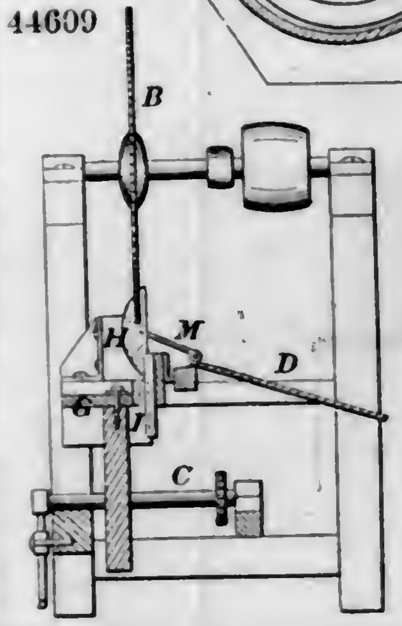

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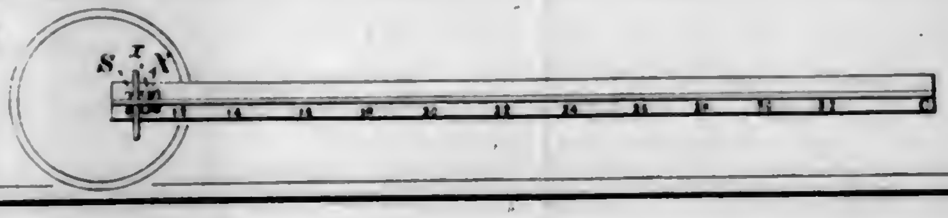

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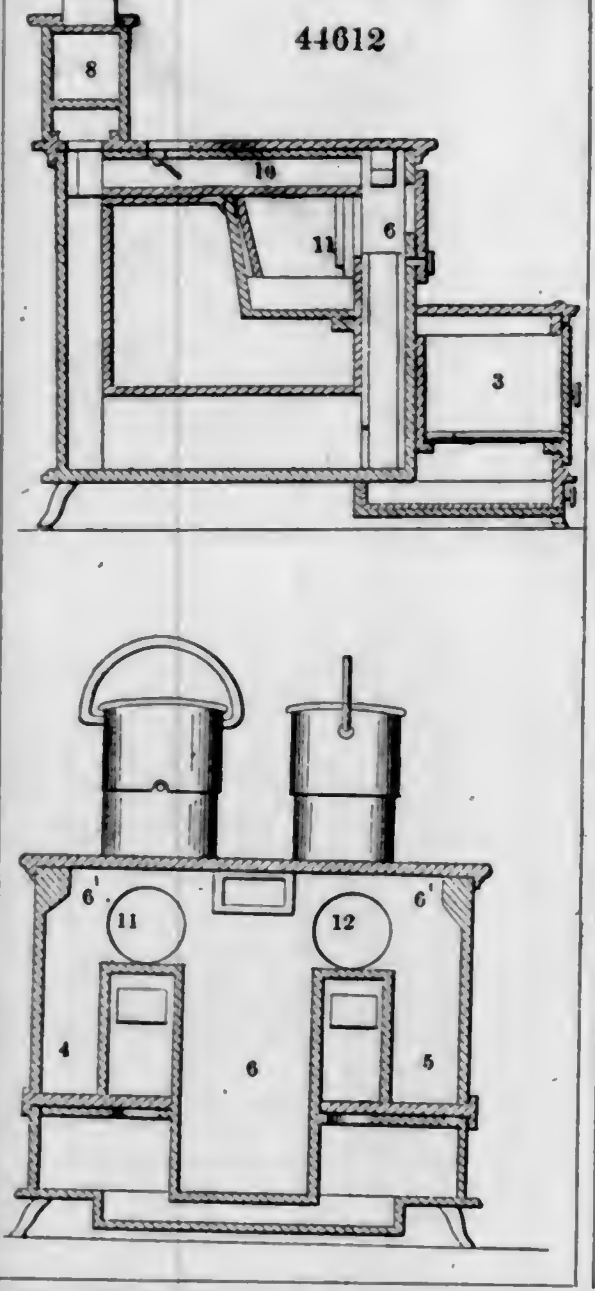

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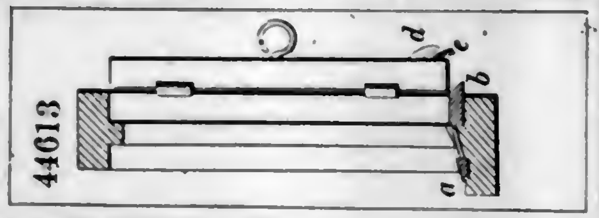

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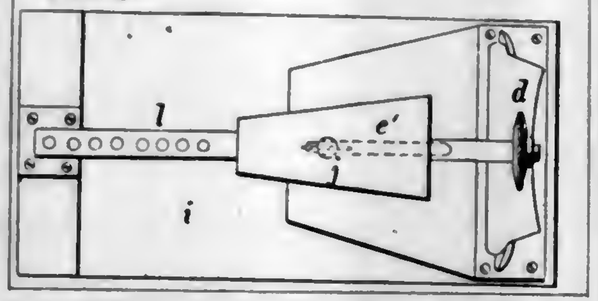

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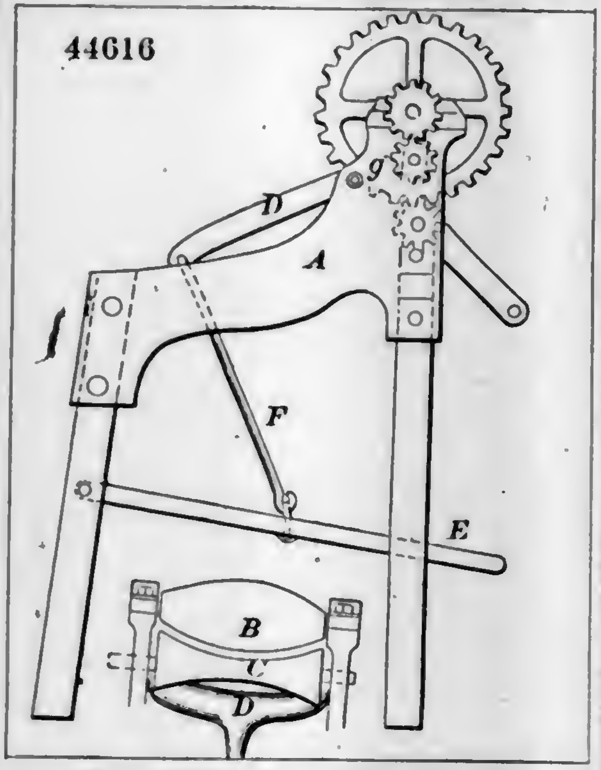

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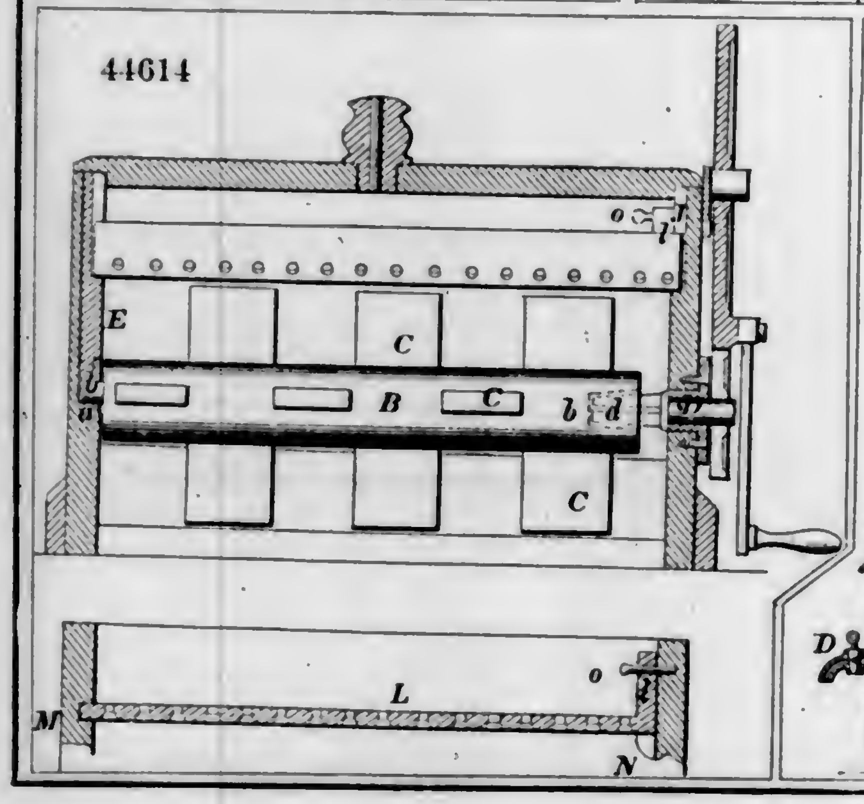

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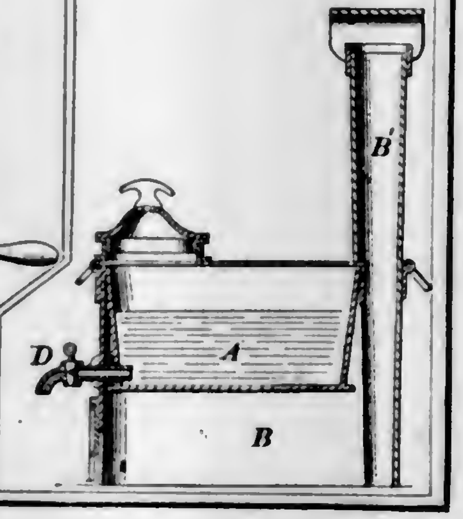

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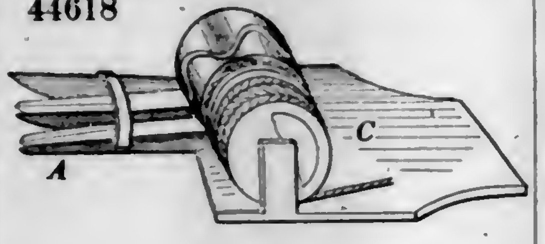

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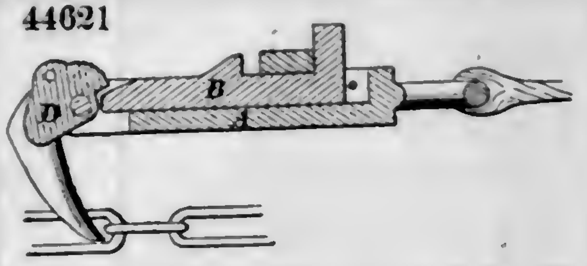

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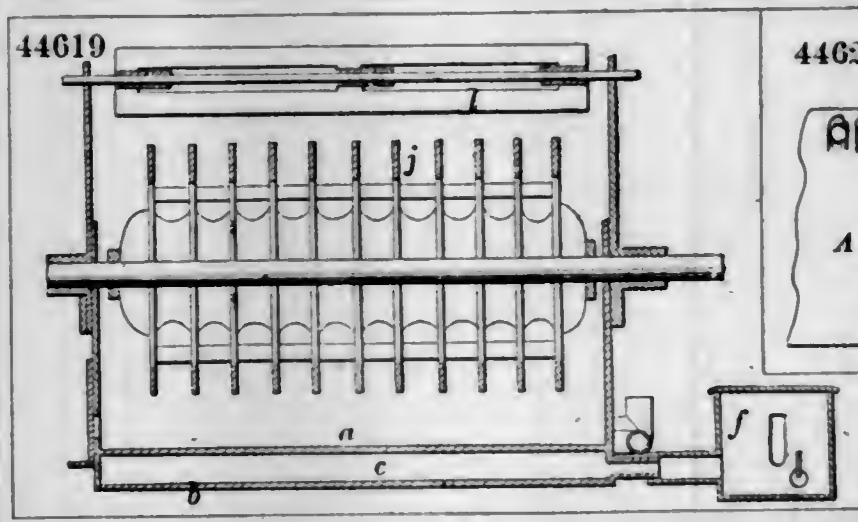

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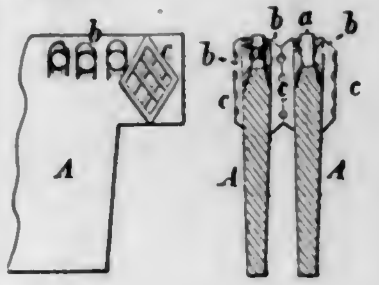

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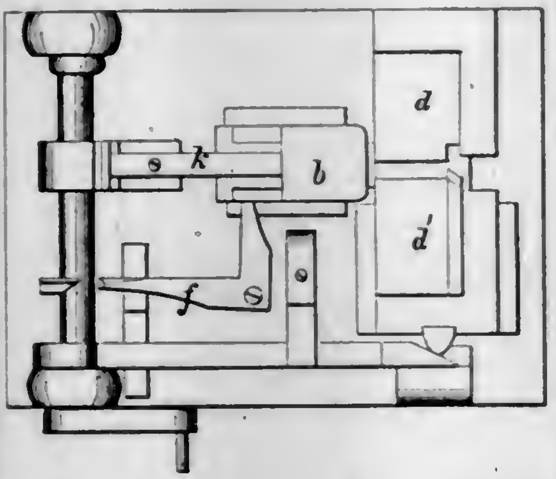

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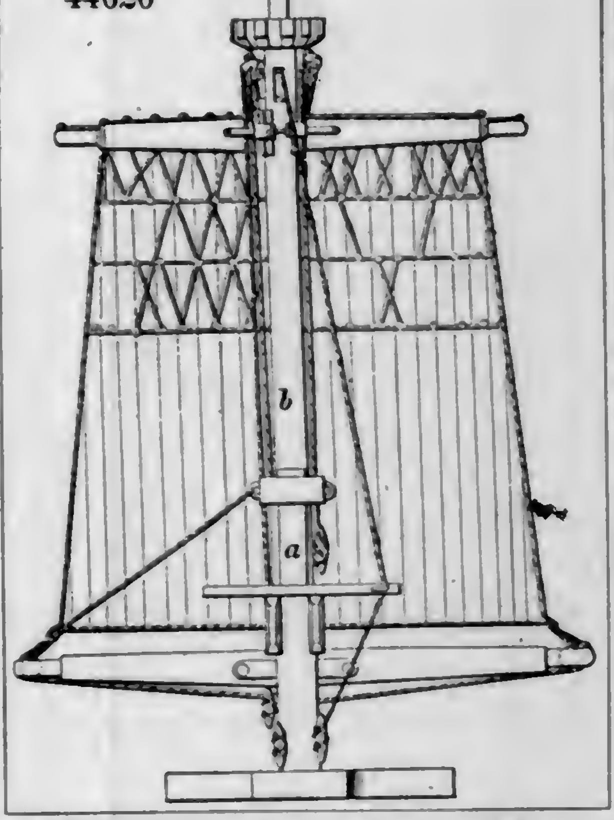

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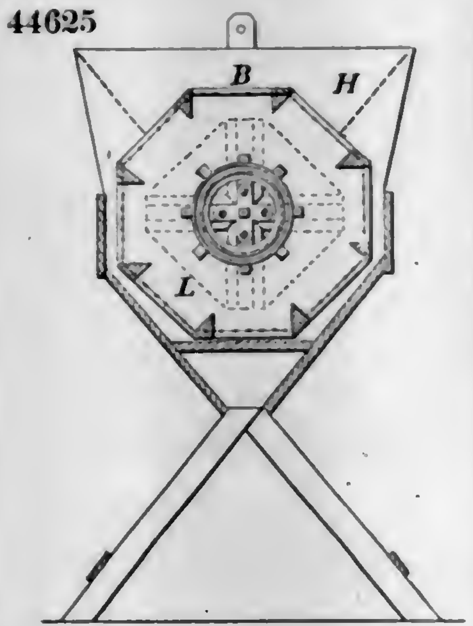

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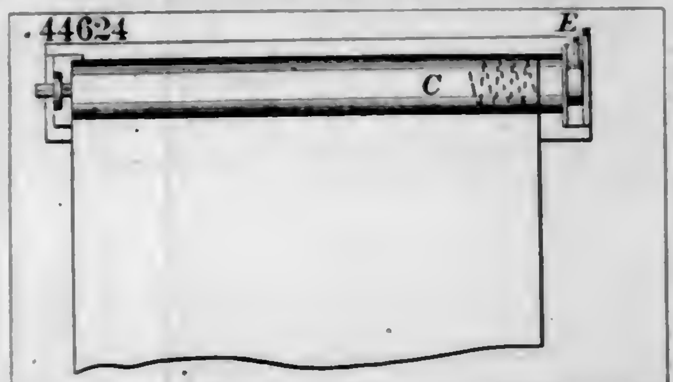

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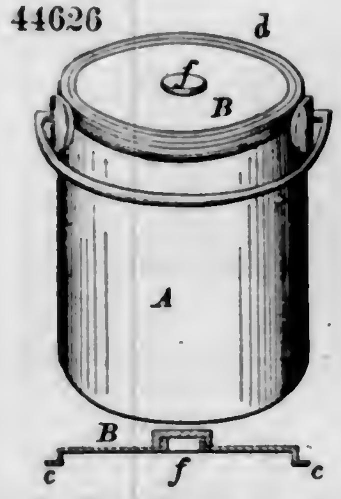

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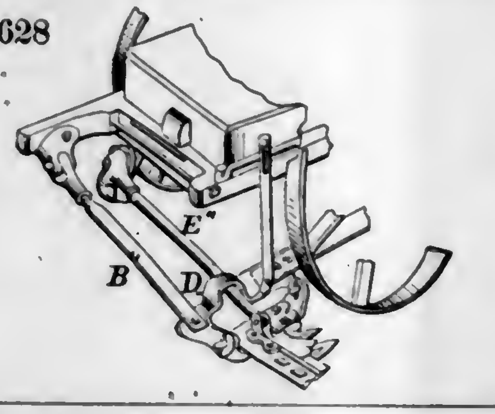

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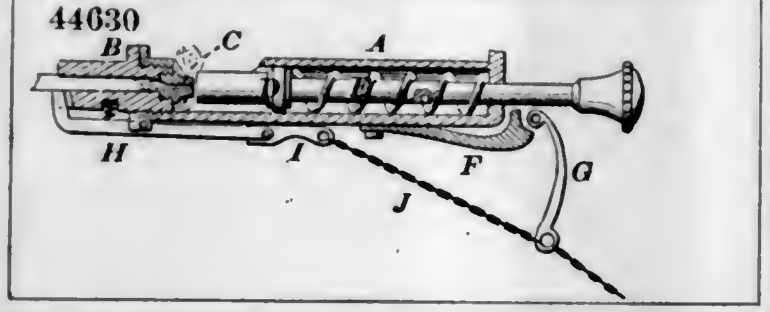

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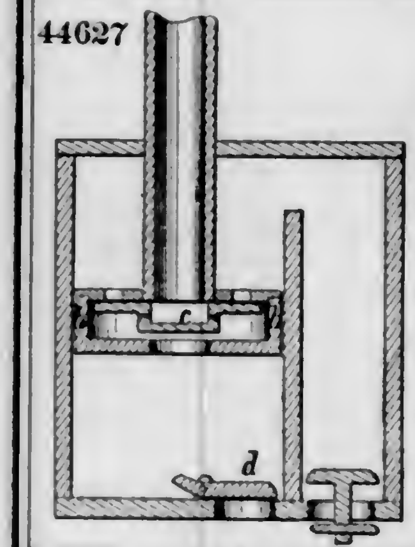

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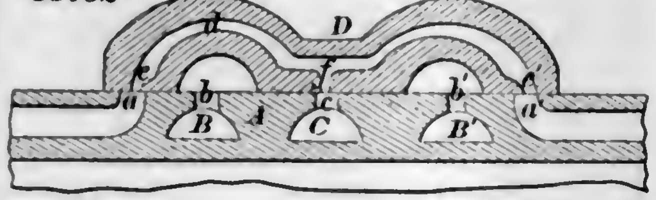

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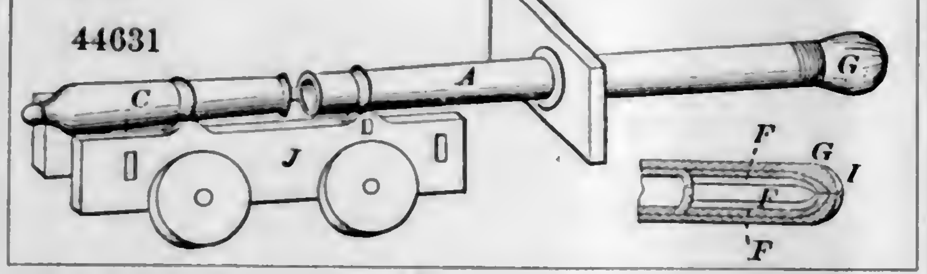

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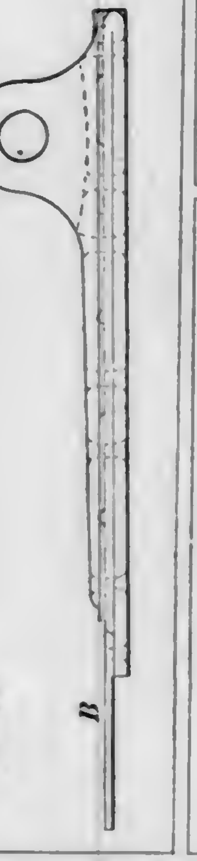

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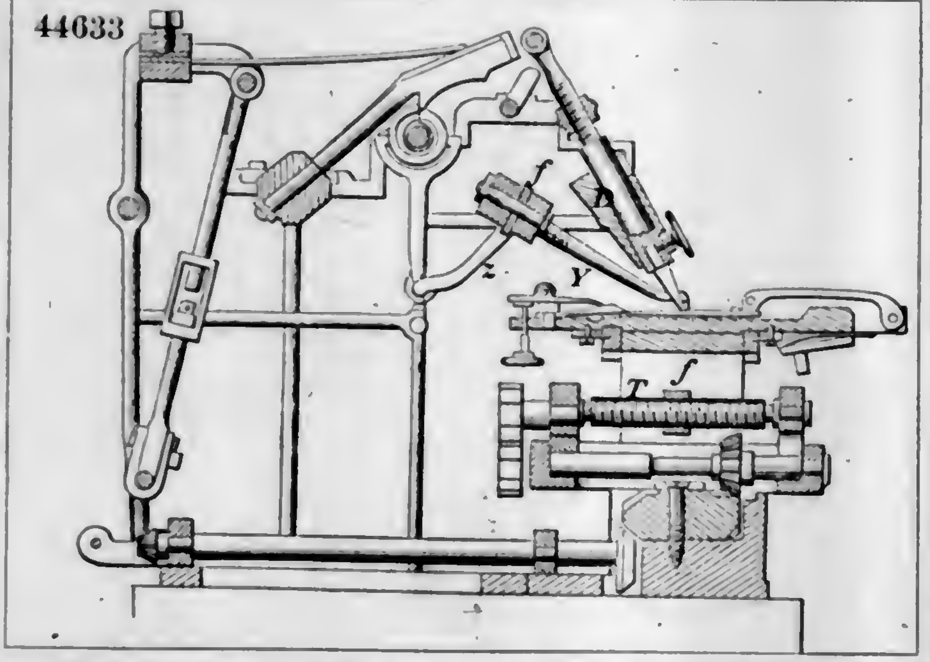

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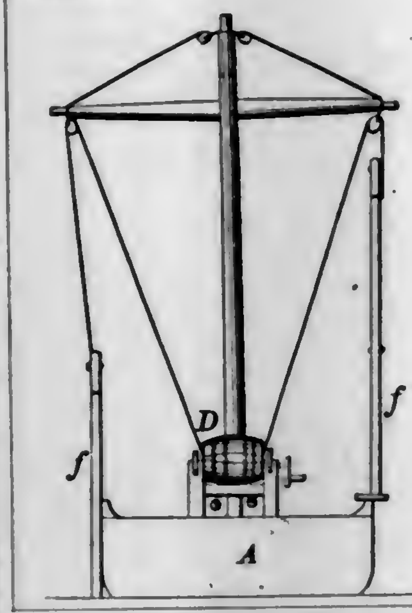

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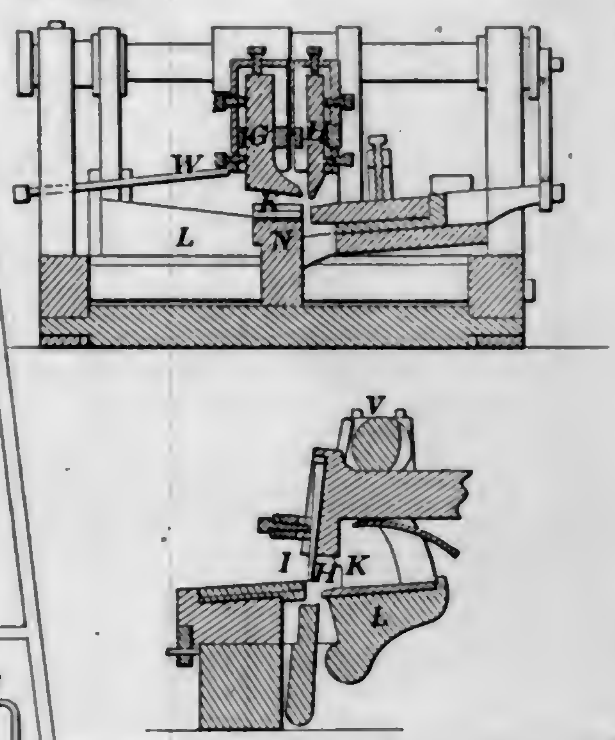

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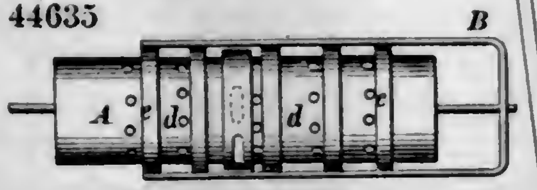

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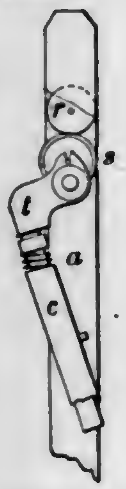

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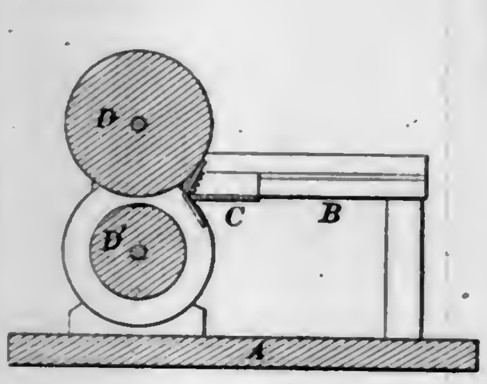

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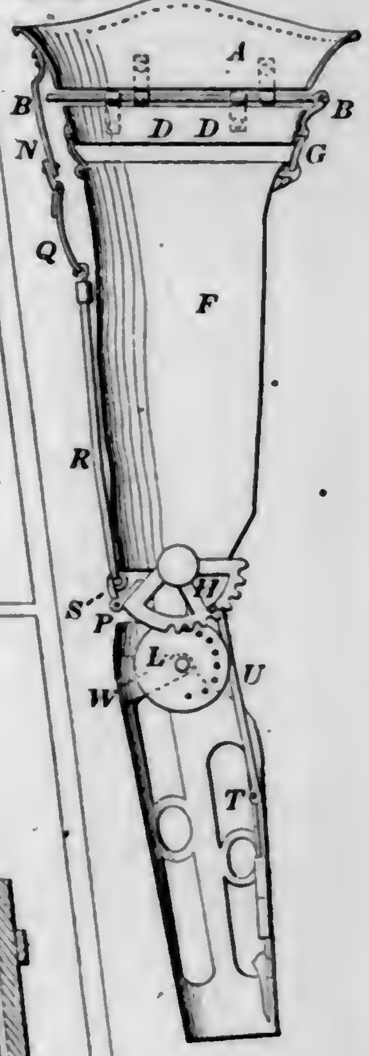

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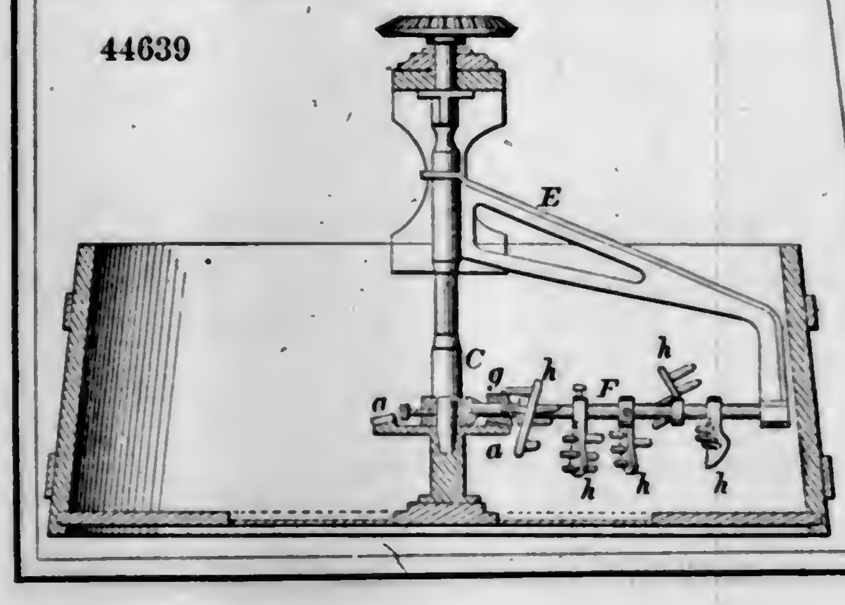

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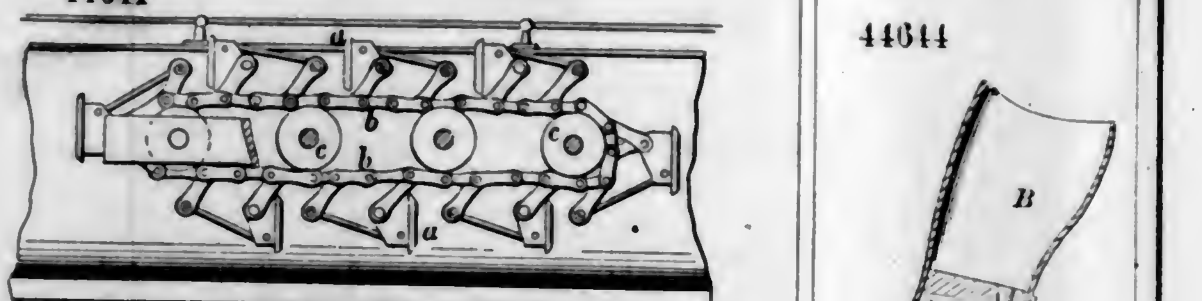

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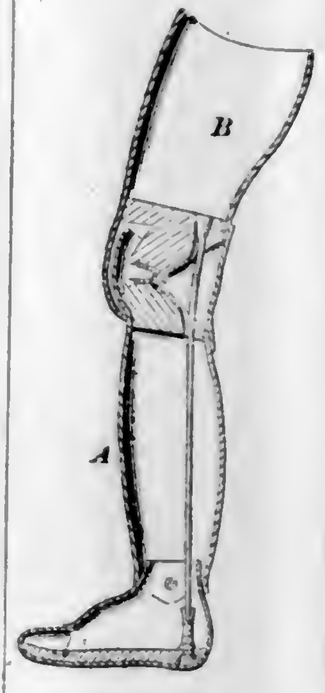

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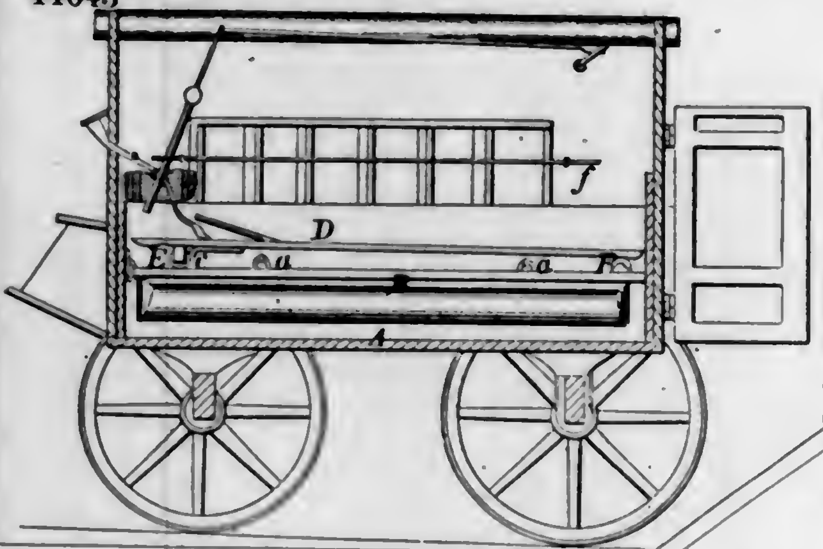

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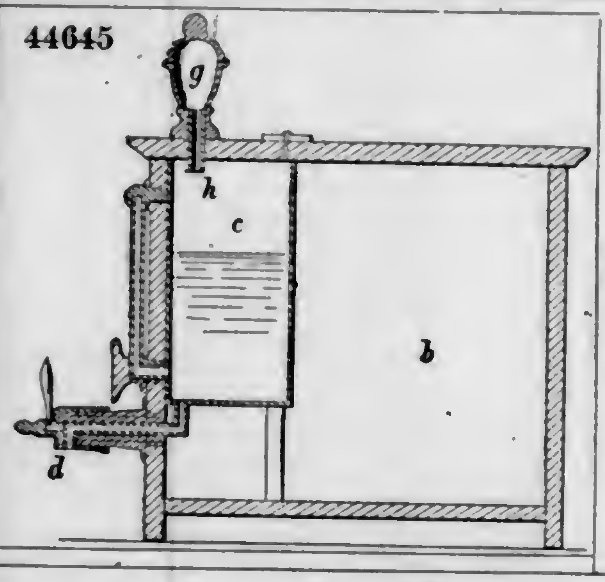

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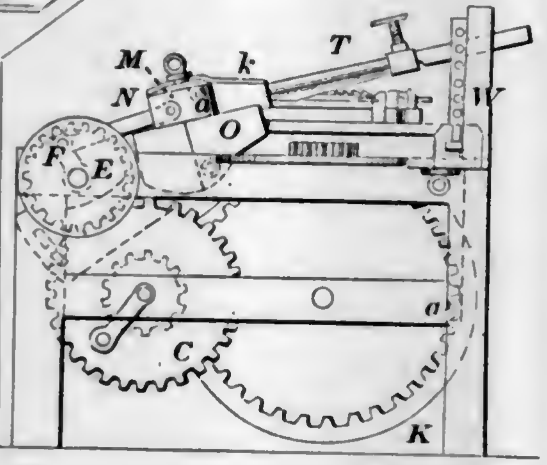

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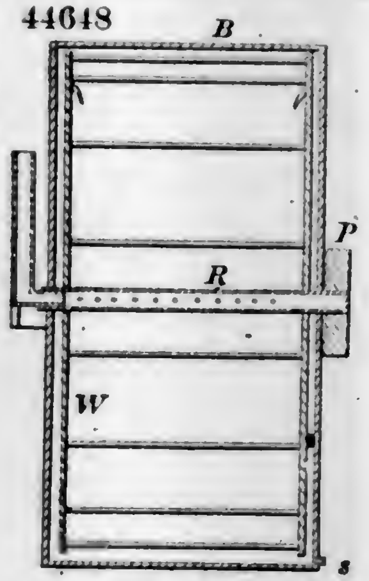

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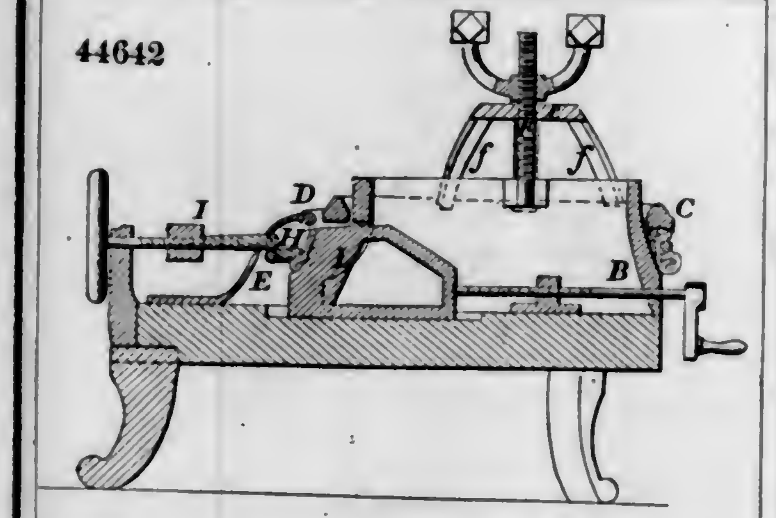

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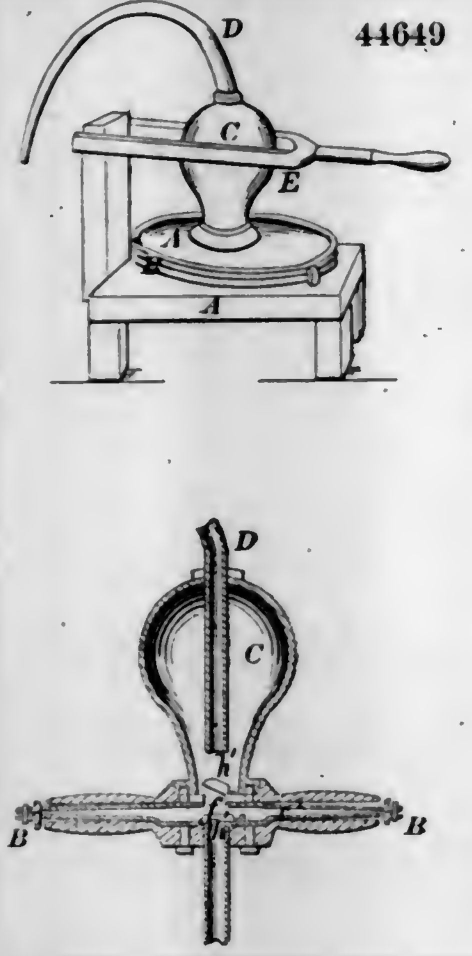

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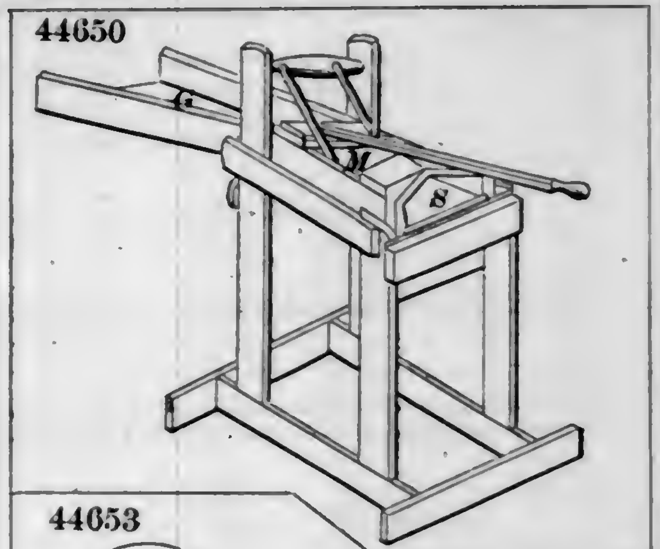

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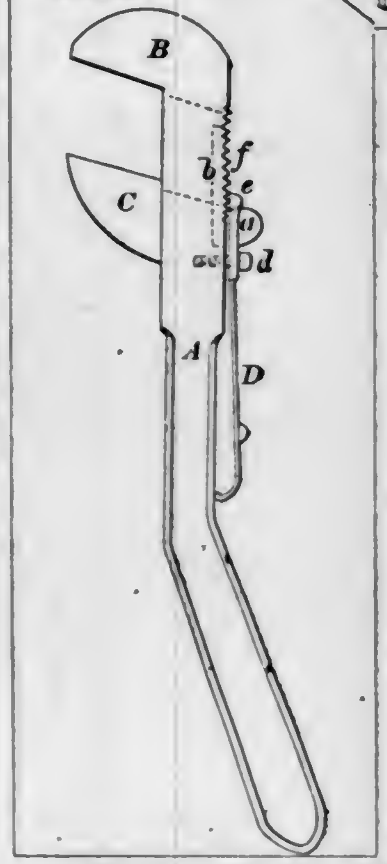

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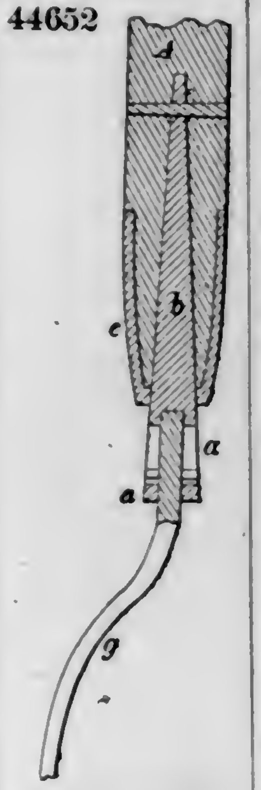

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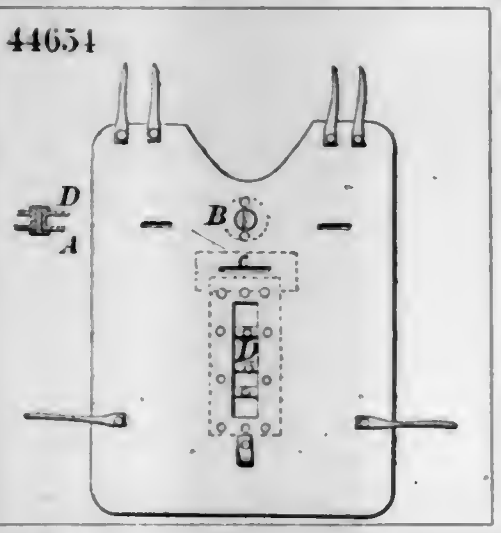

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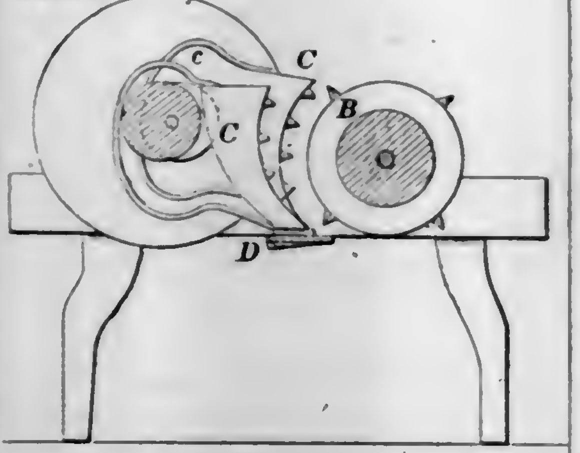

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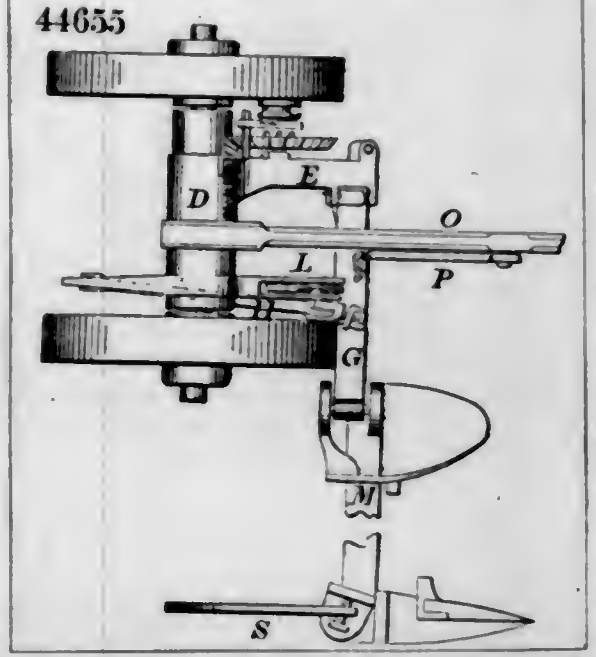

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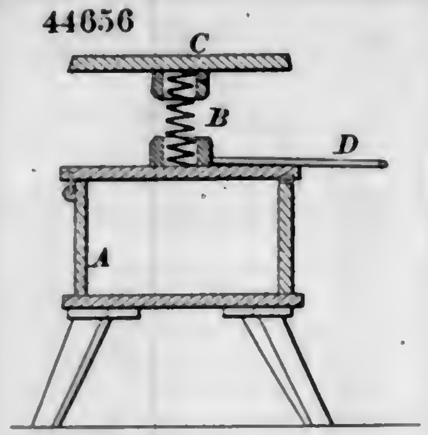

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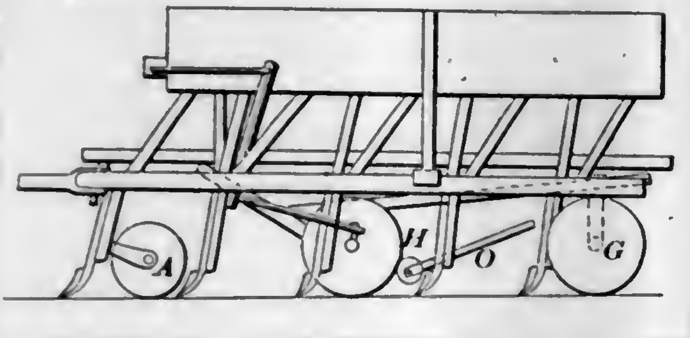

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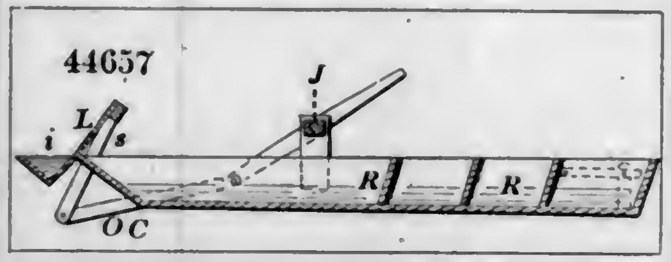

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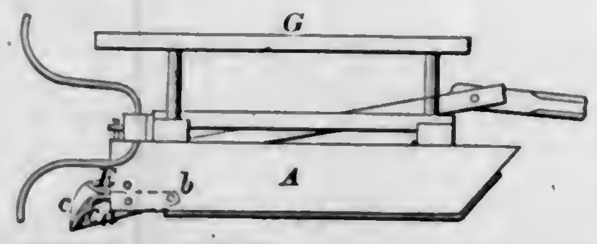

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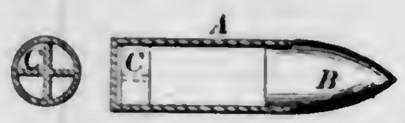

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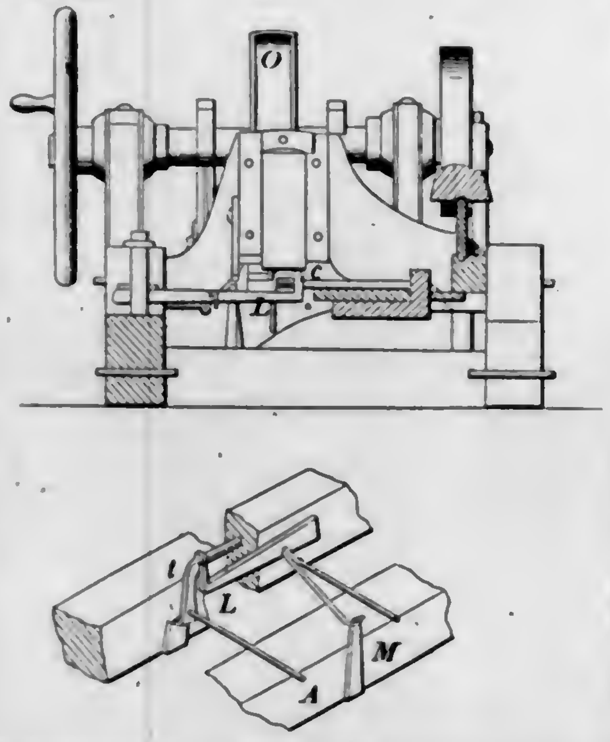

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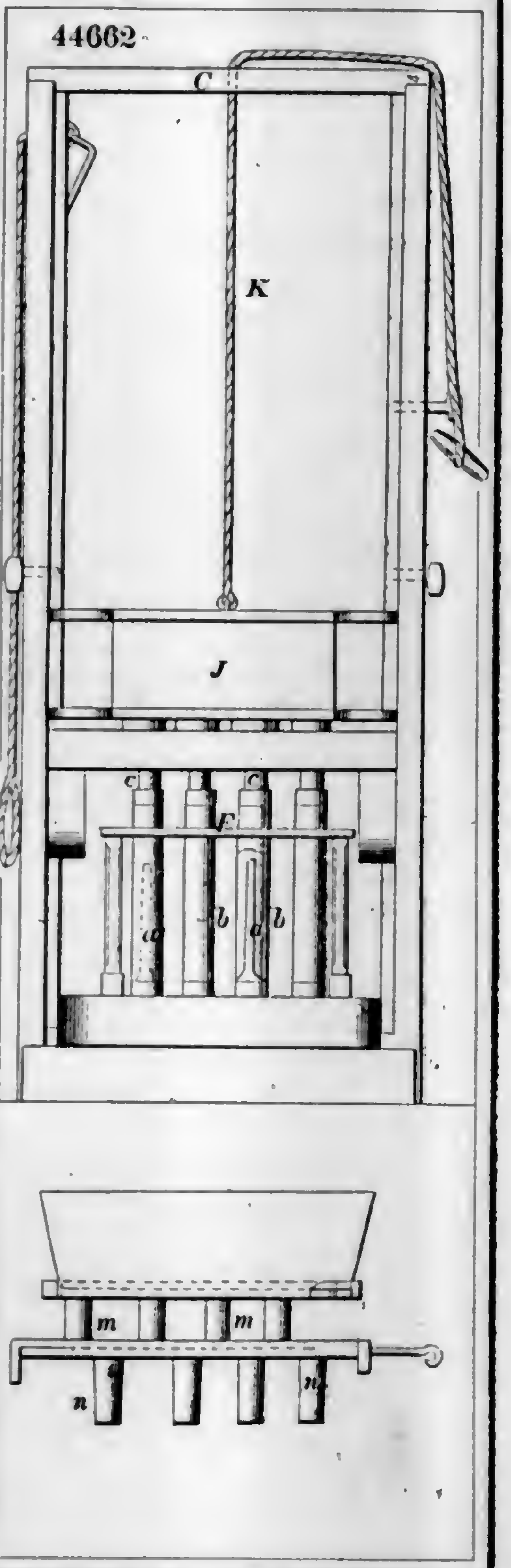

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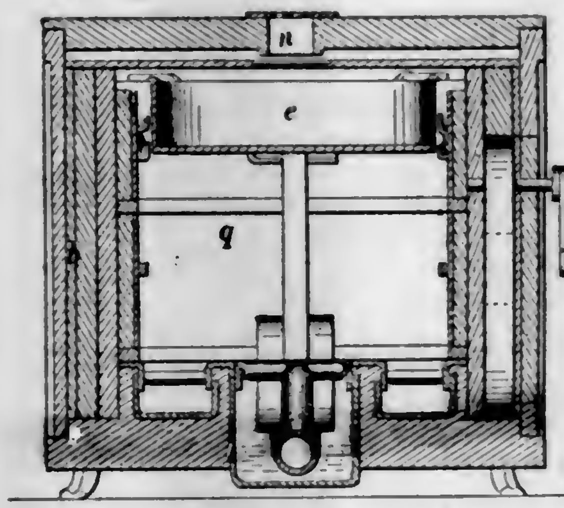

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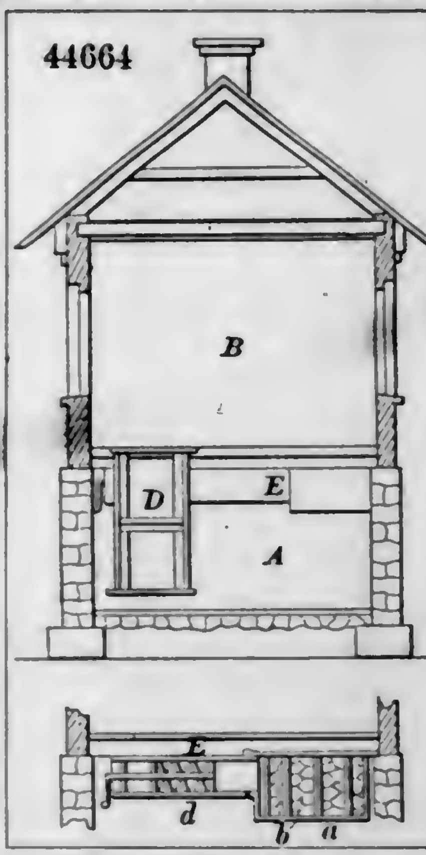

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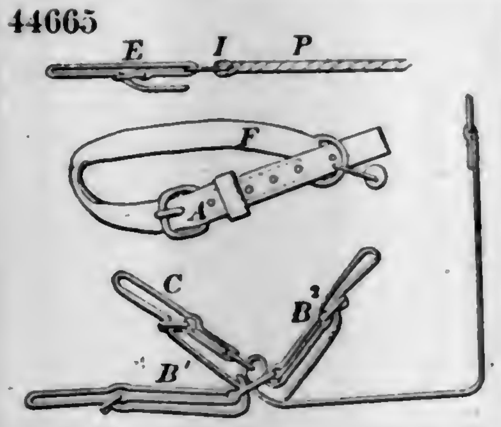

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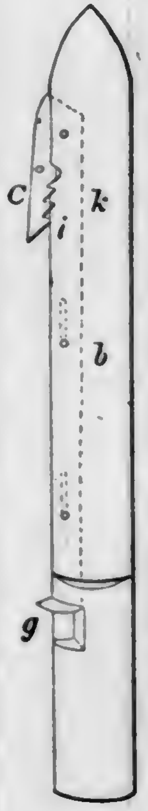

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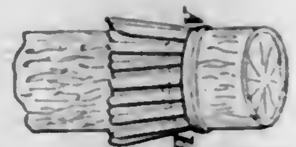

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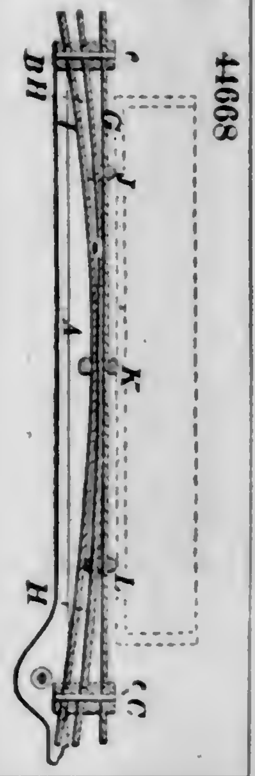

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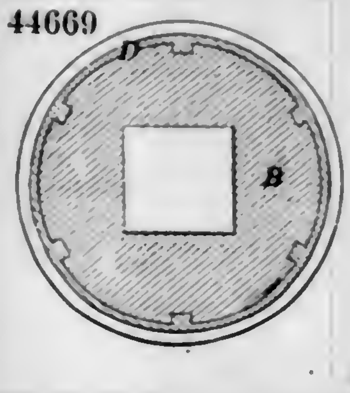

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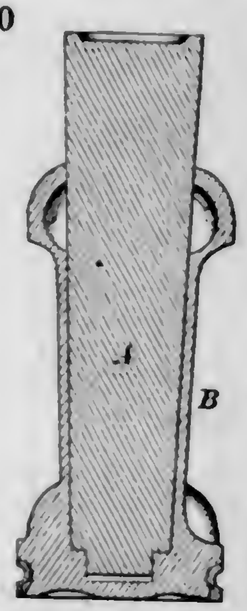

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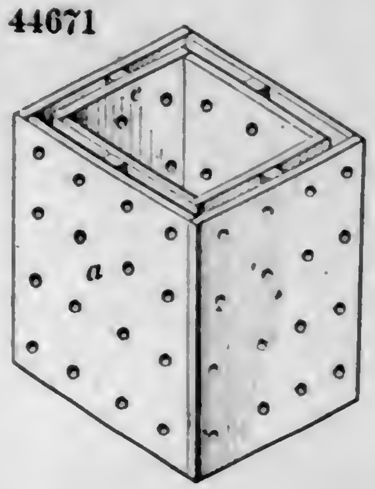

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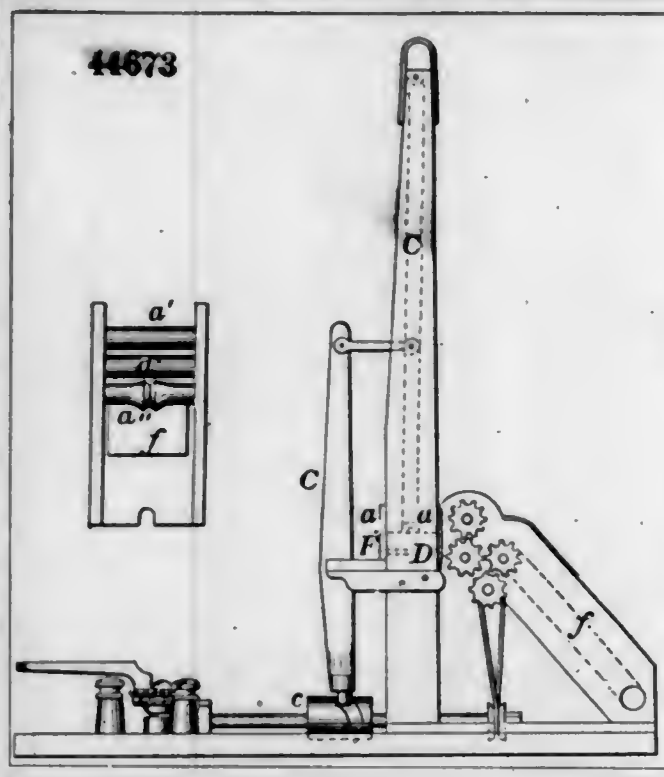

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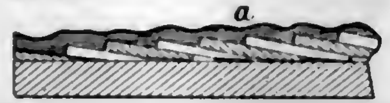

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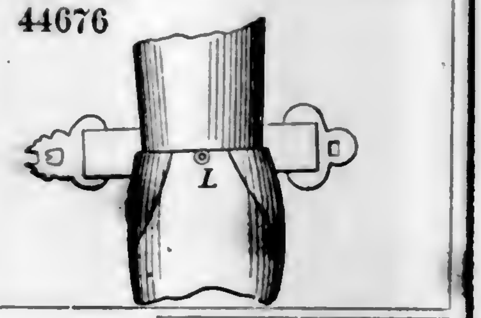

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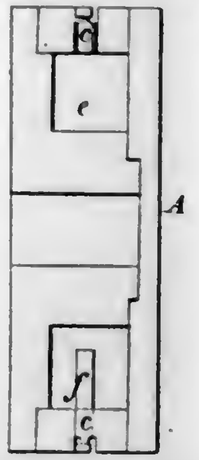

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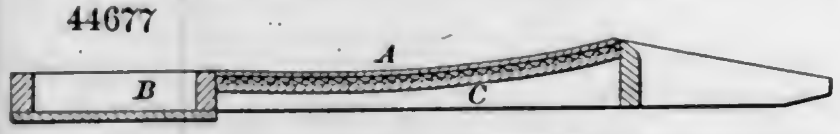

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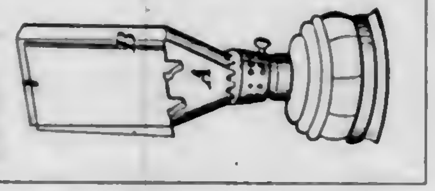

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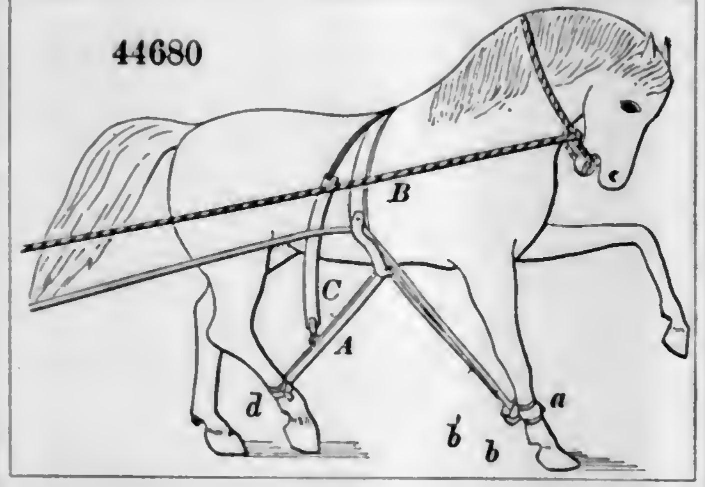

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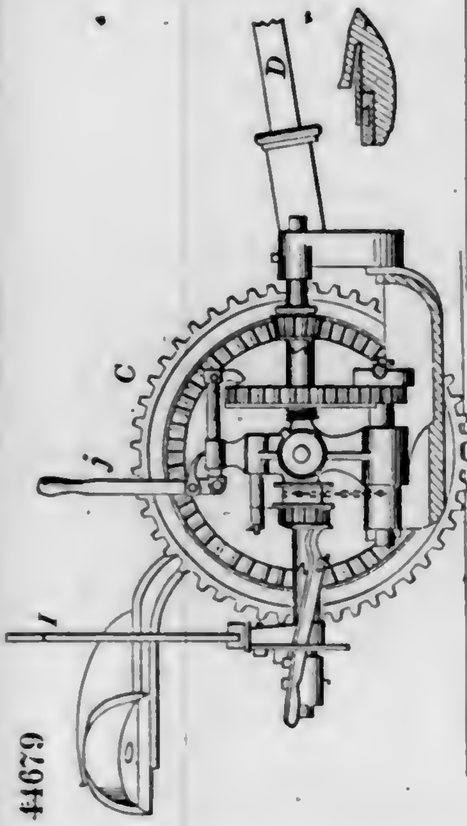

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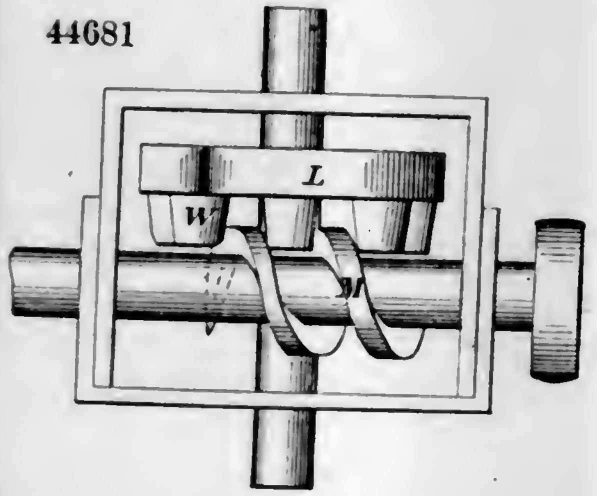

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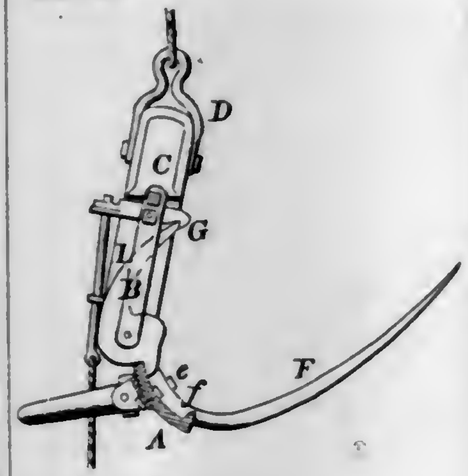

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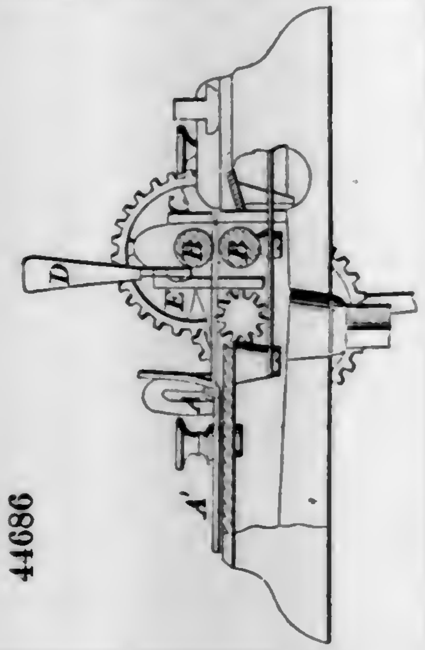

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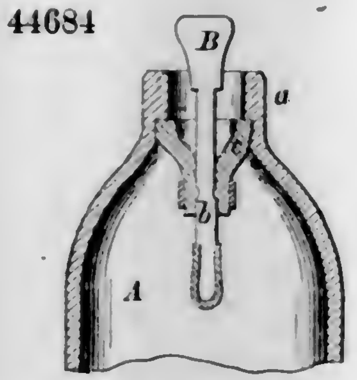

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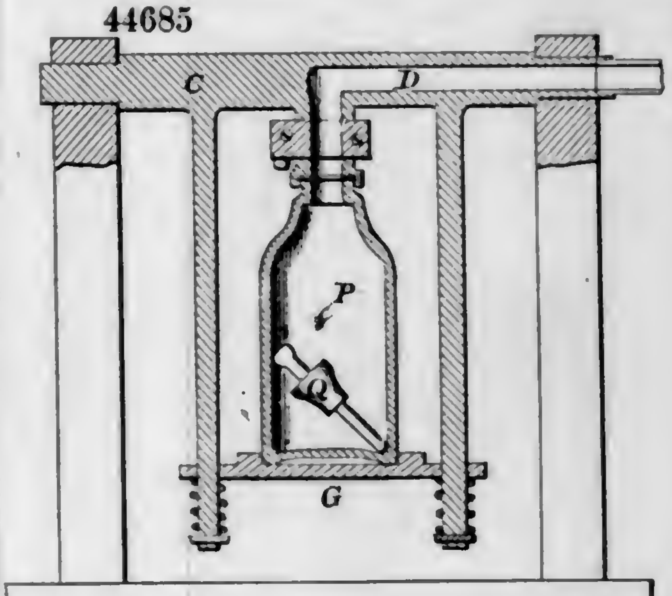

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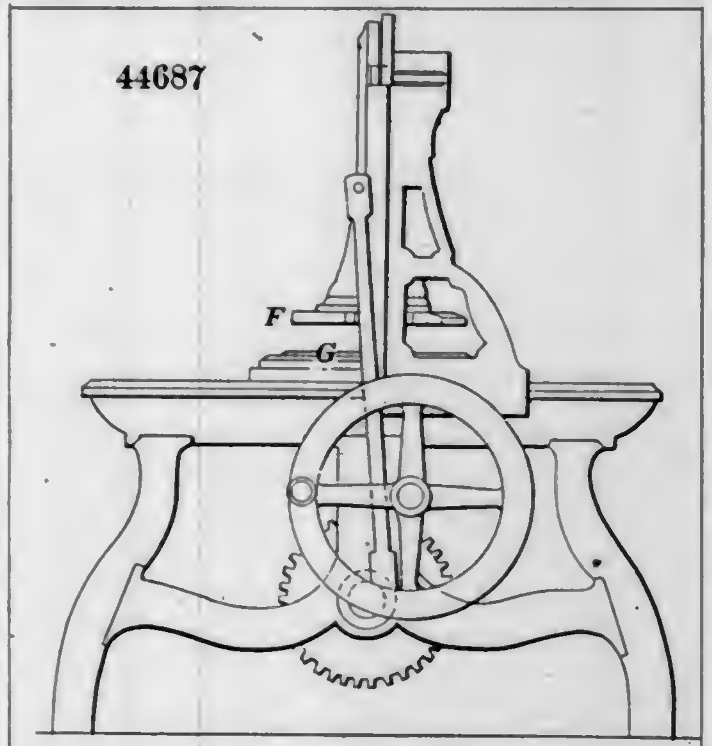

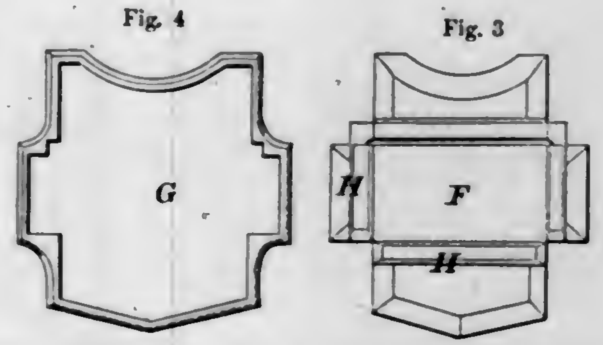
Fig. 4

Fig. 3

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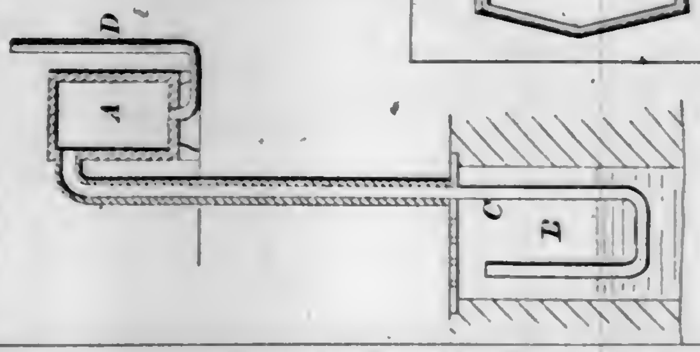

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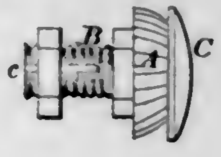

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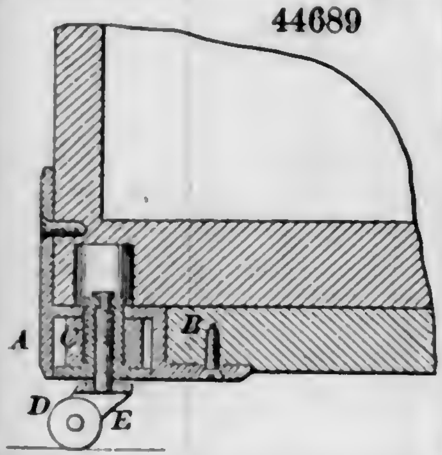

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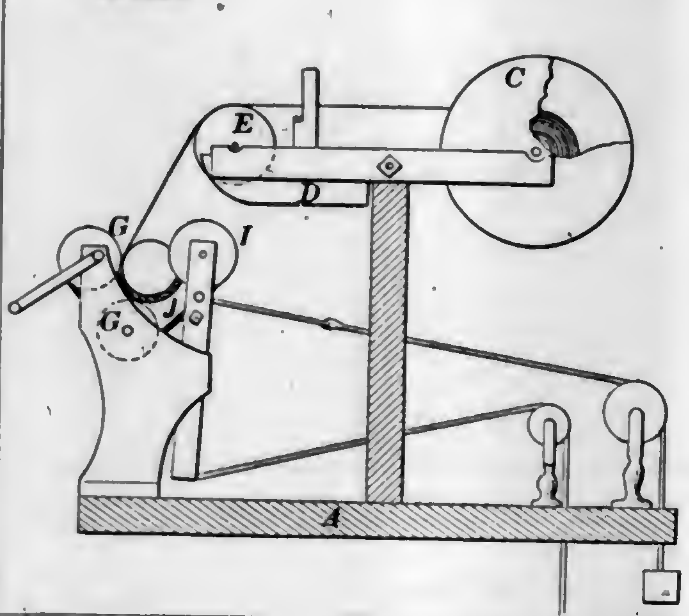

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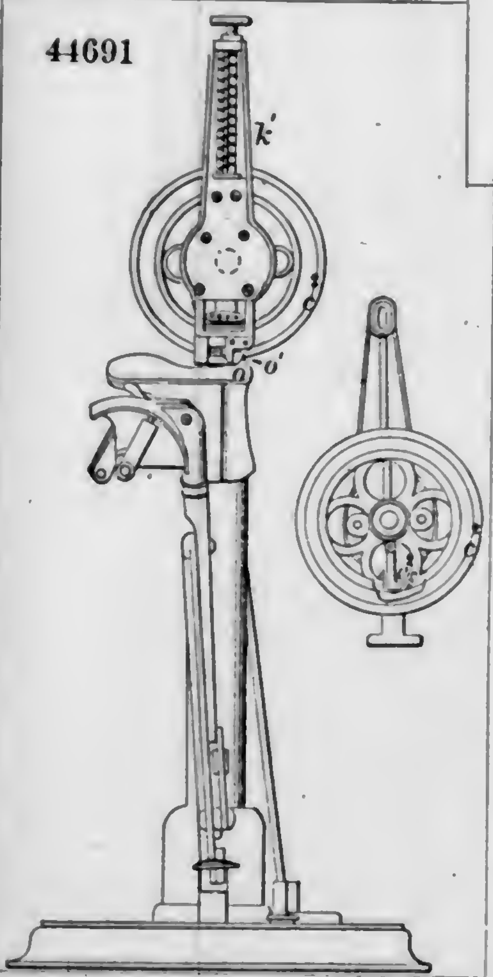

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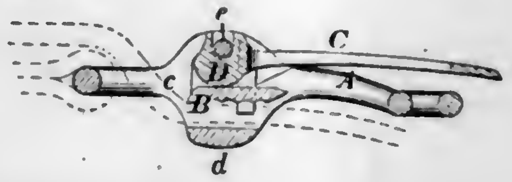

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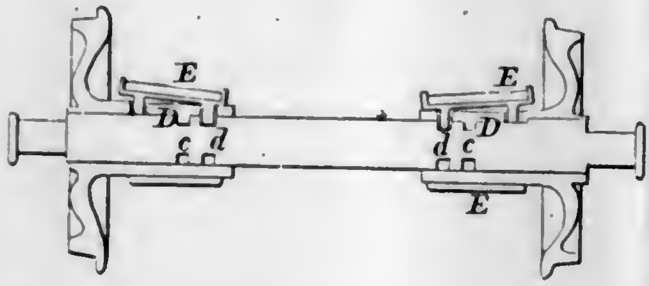

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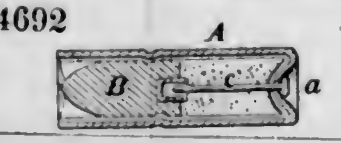

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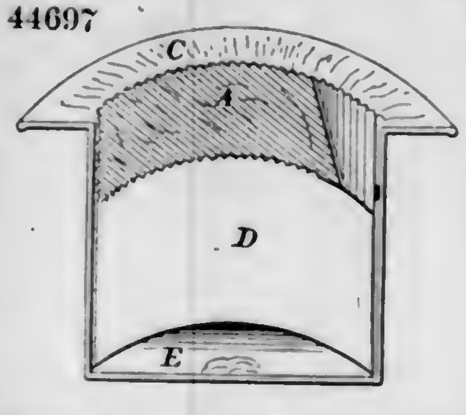

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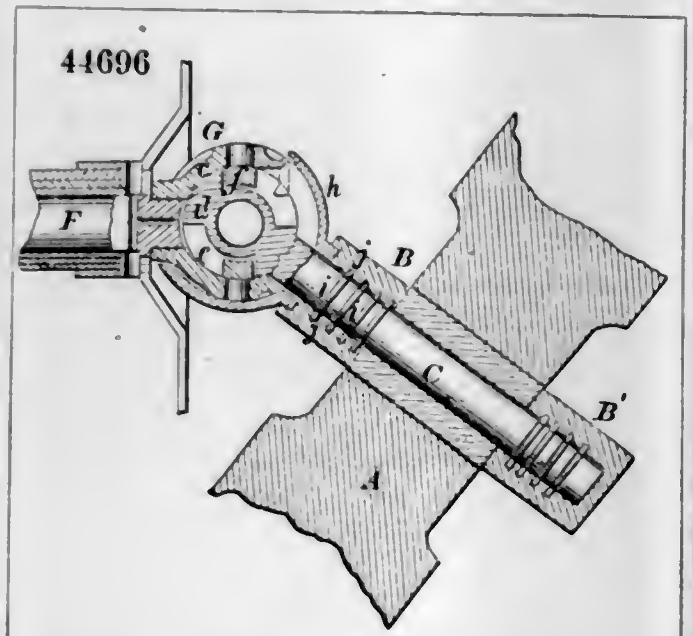

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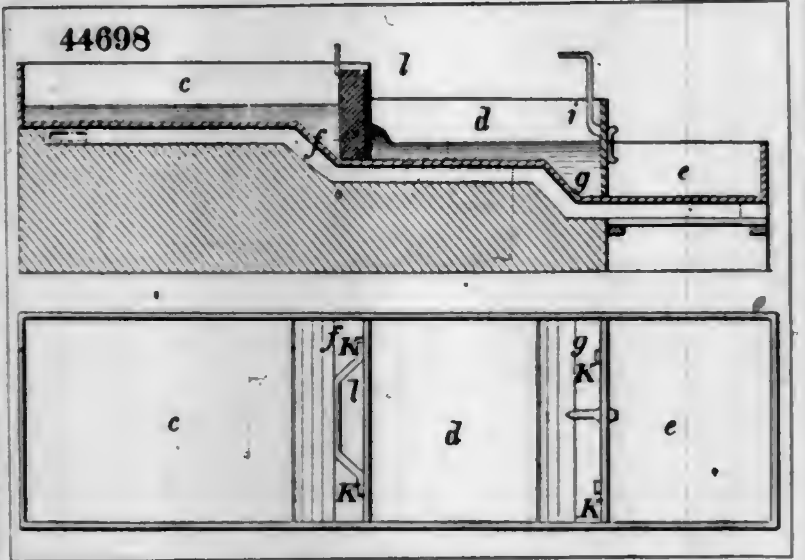

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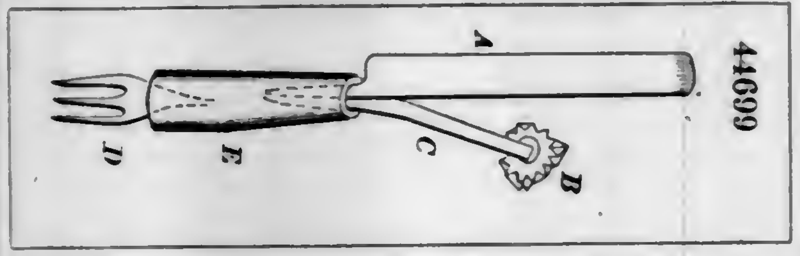

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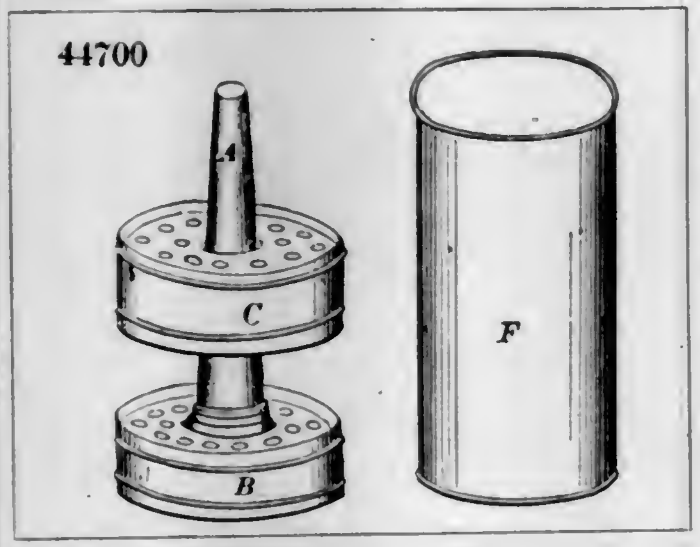

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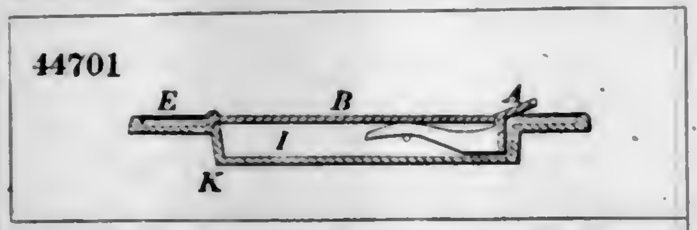

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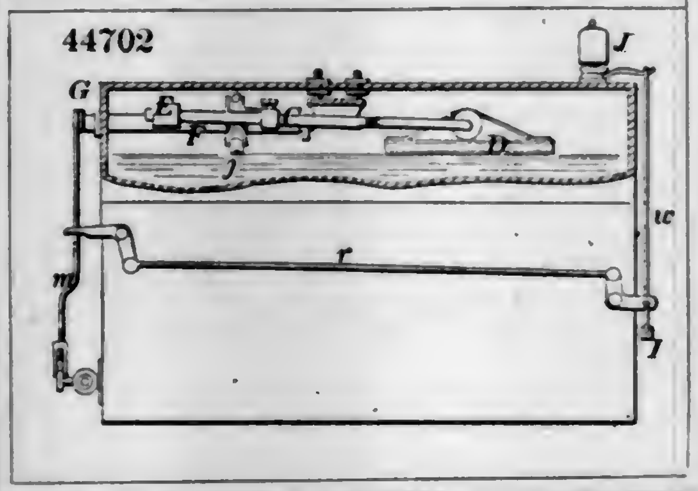

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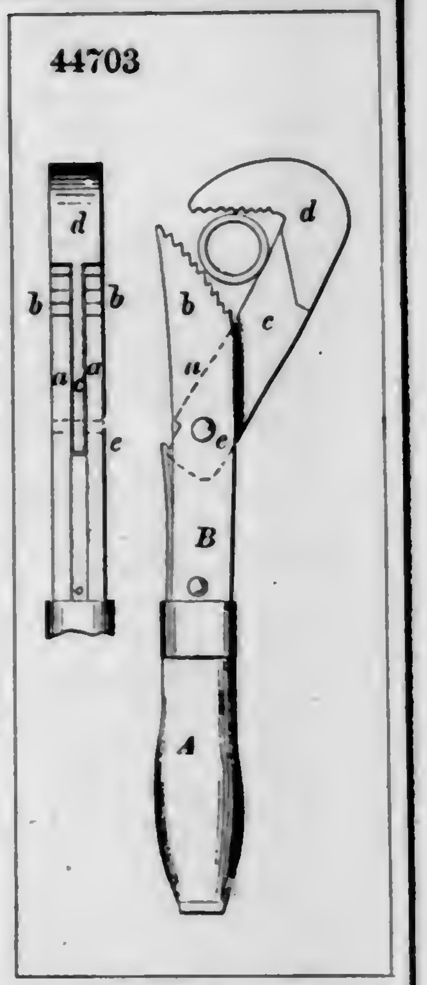

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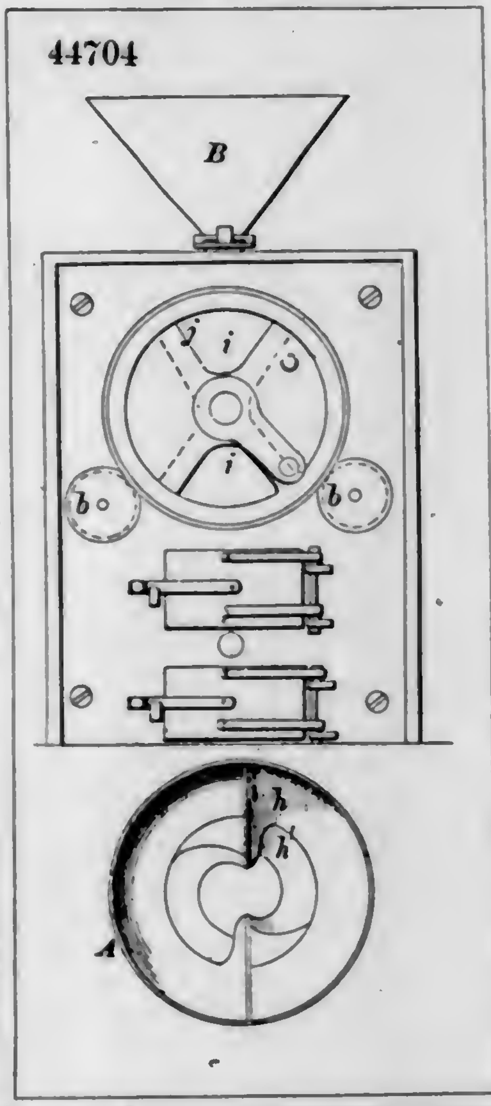

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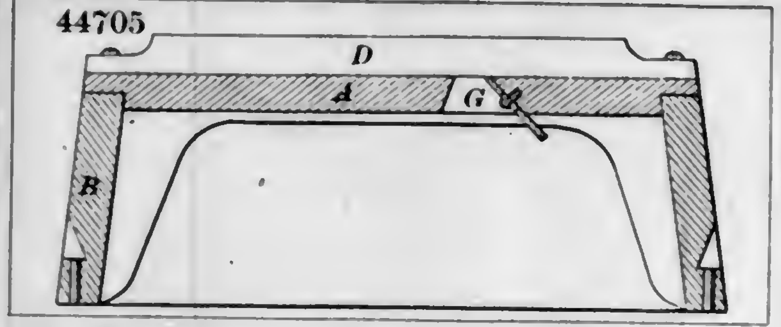

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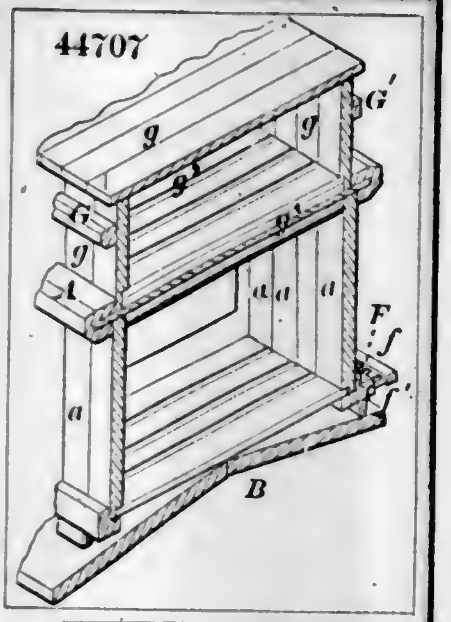

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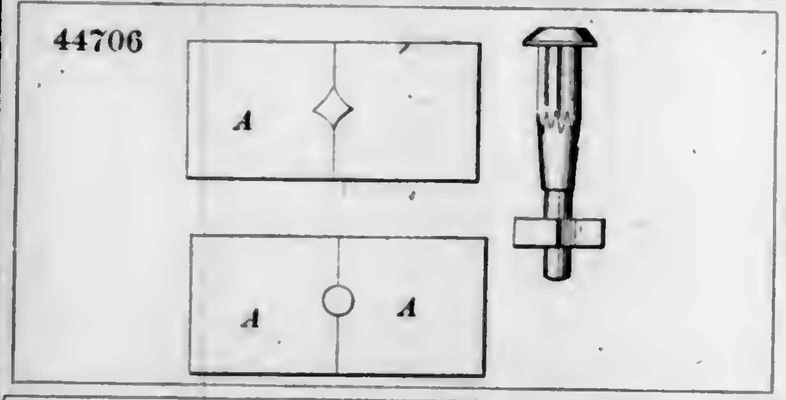

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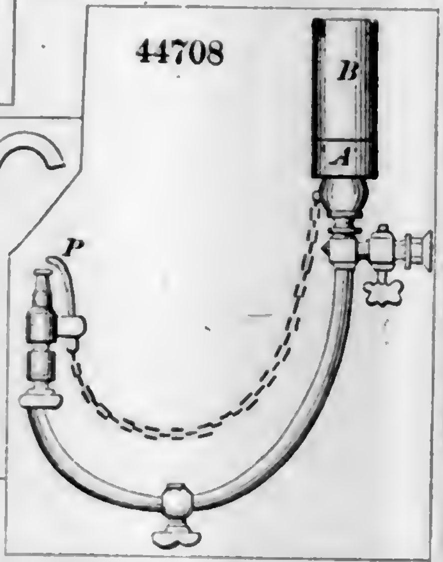

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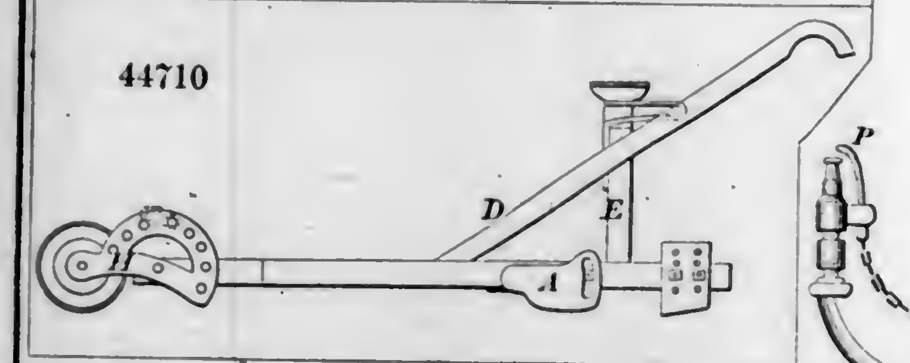

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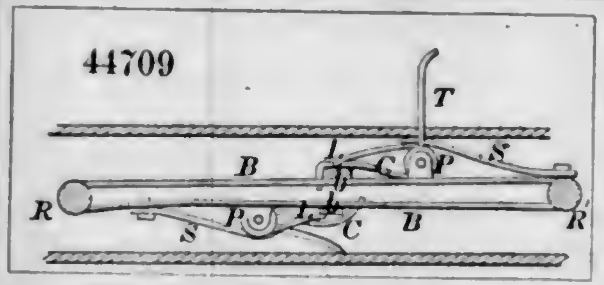

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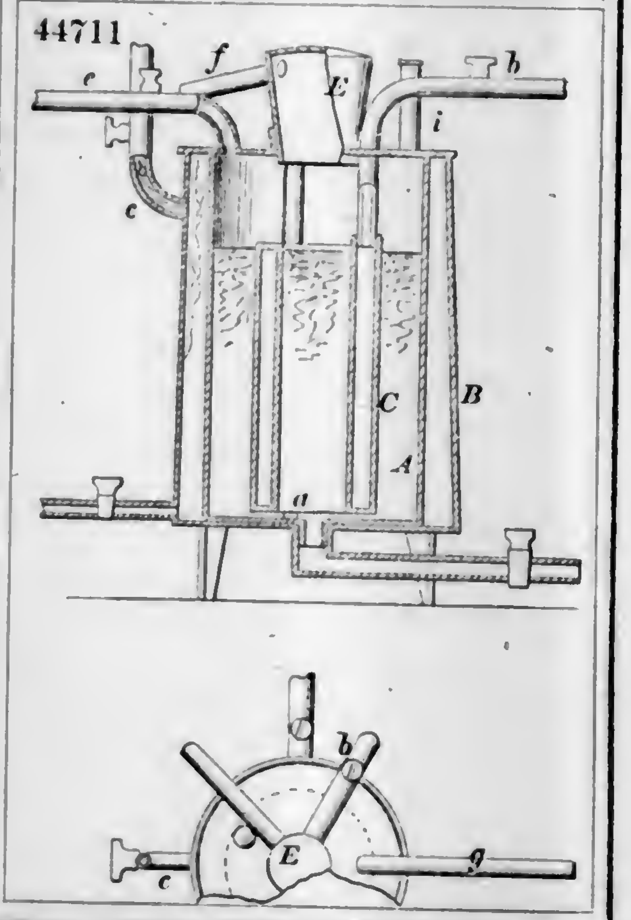

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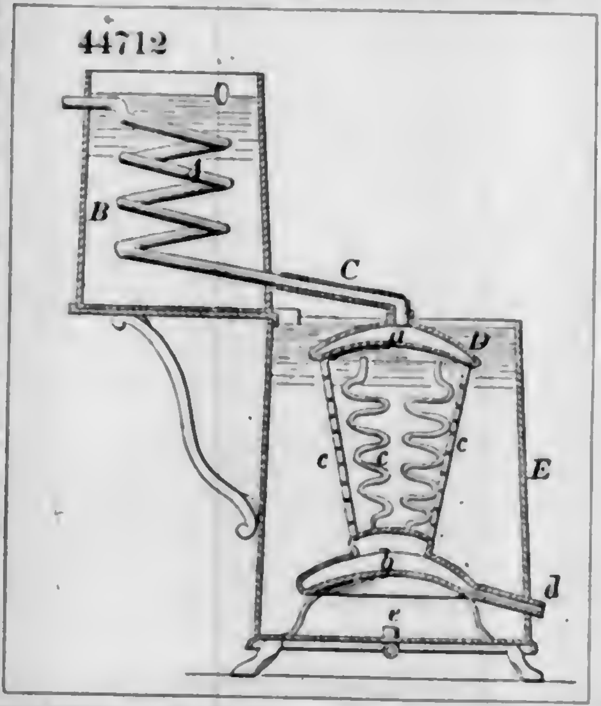

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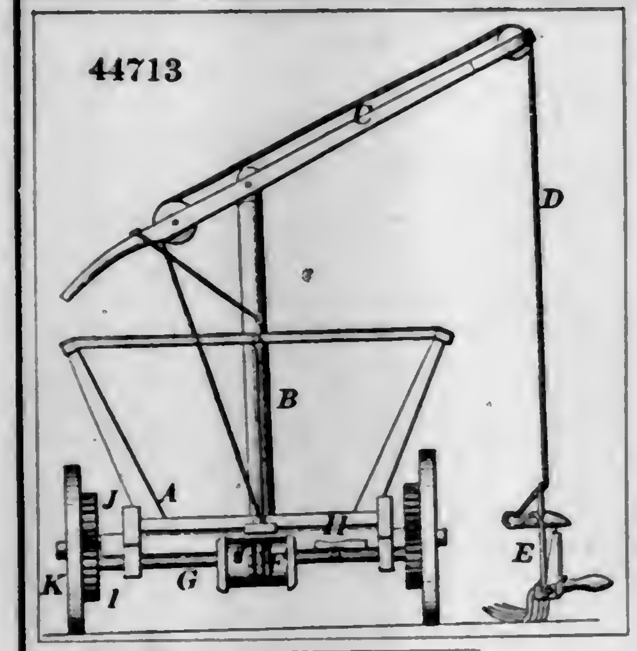

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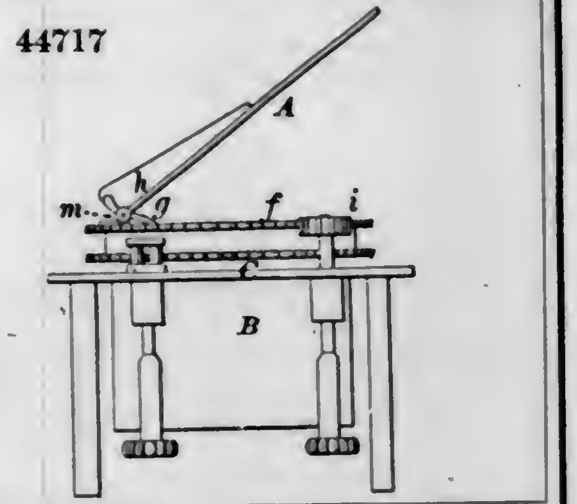

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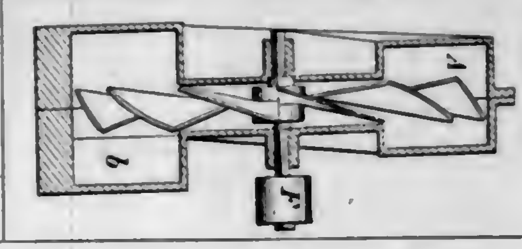

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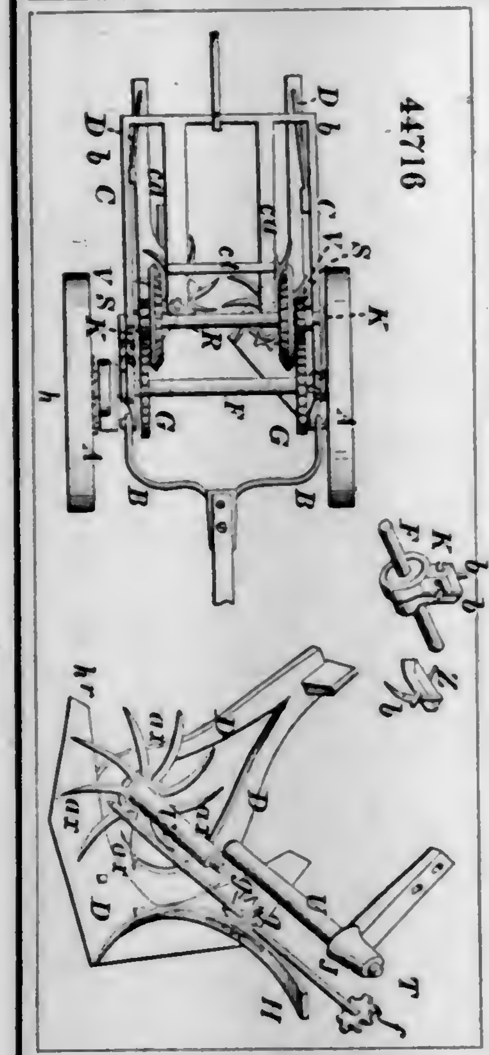

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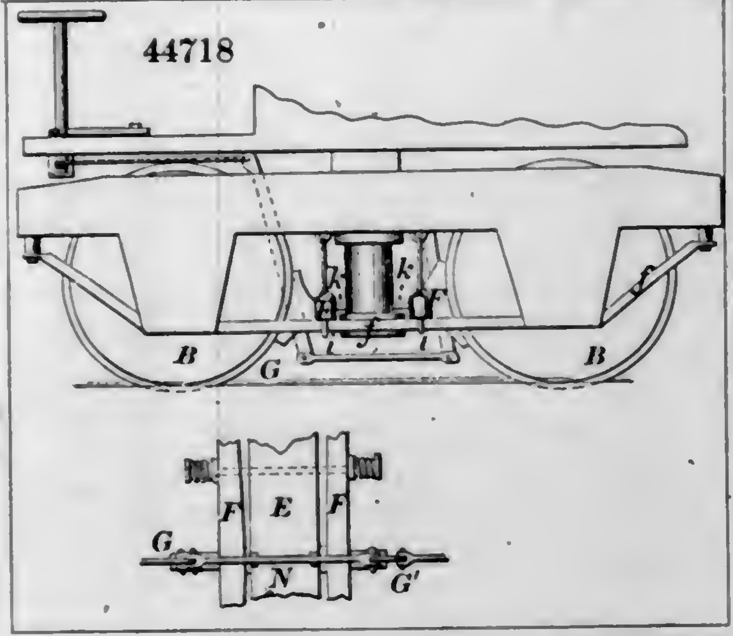

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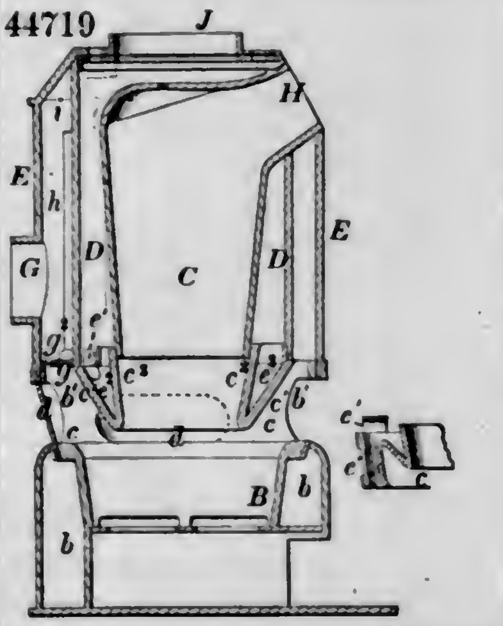

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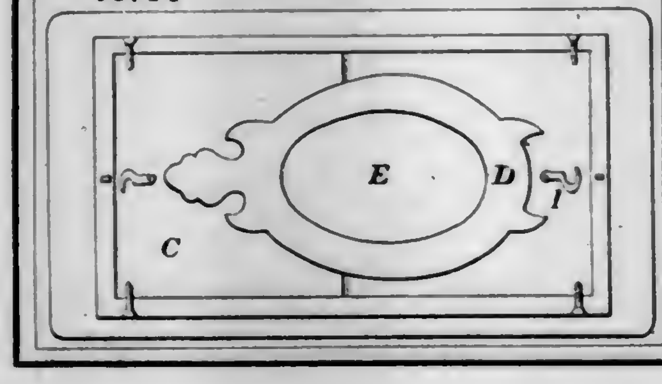

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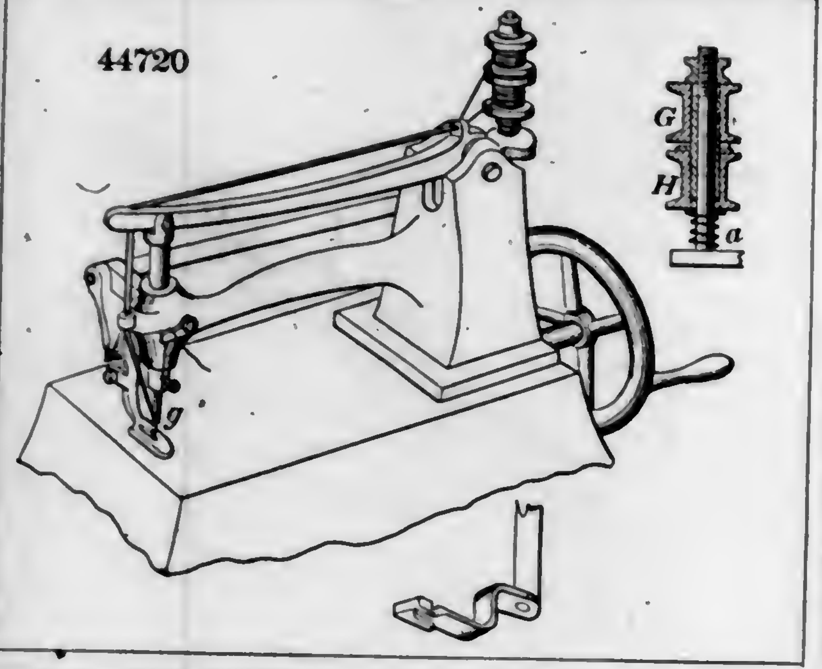

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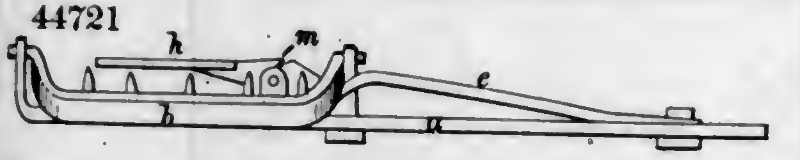

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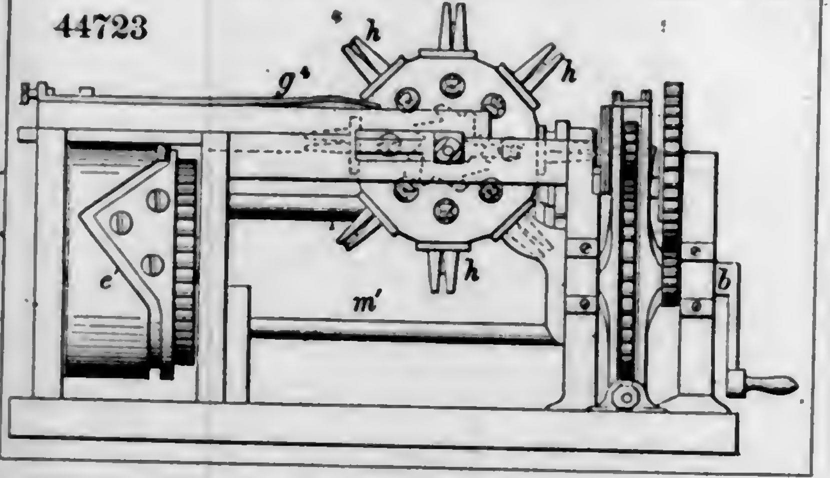

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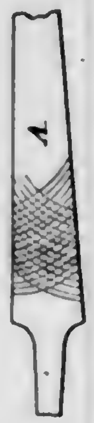

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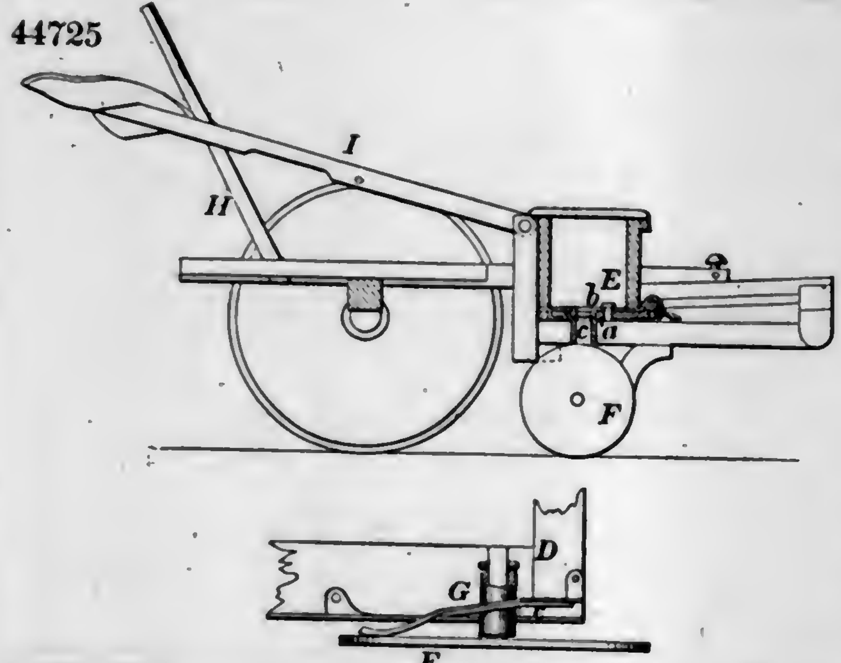

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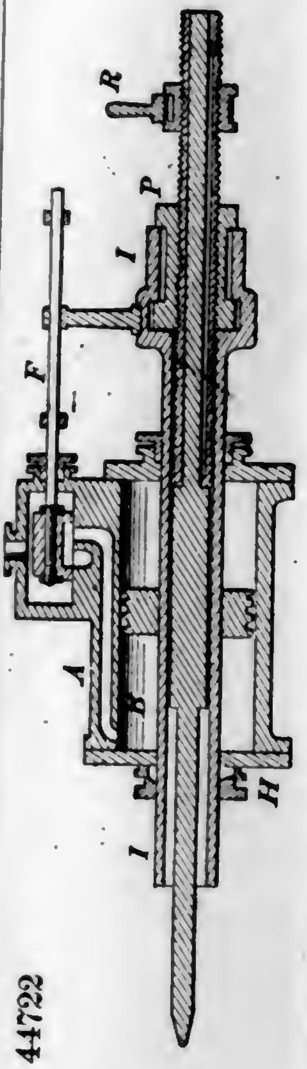

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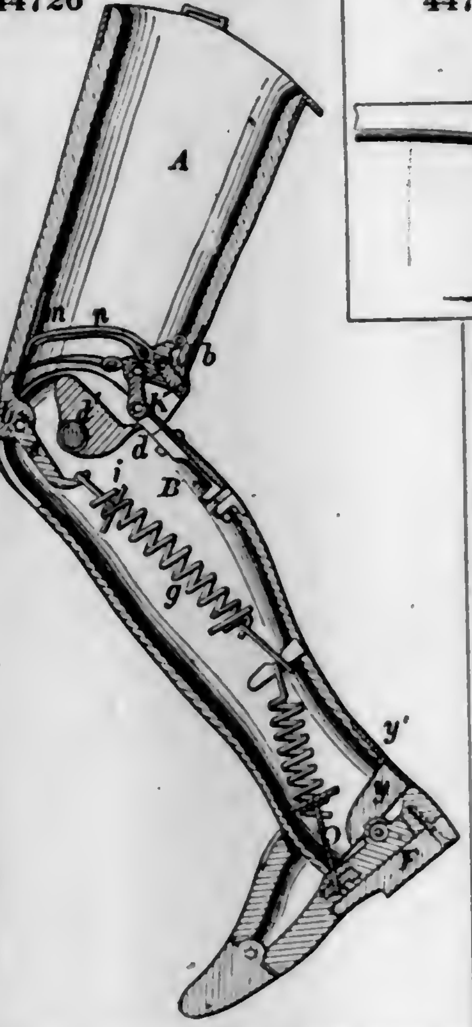

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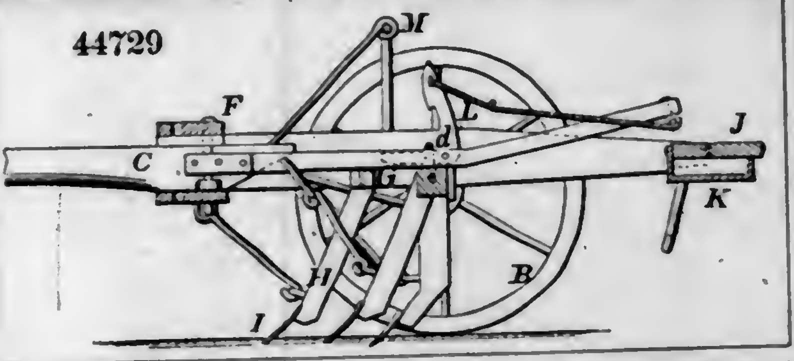

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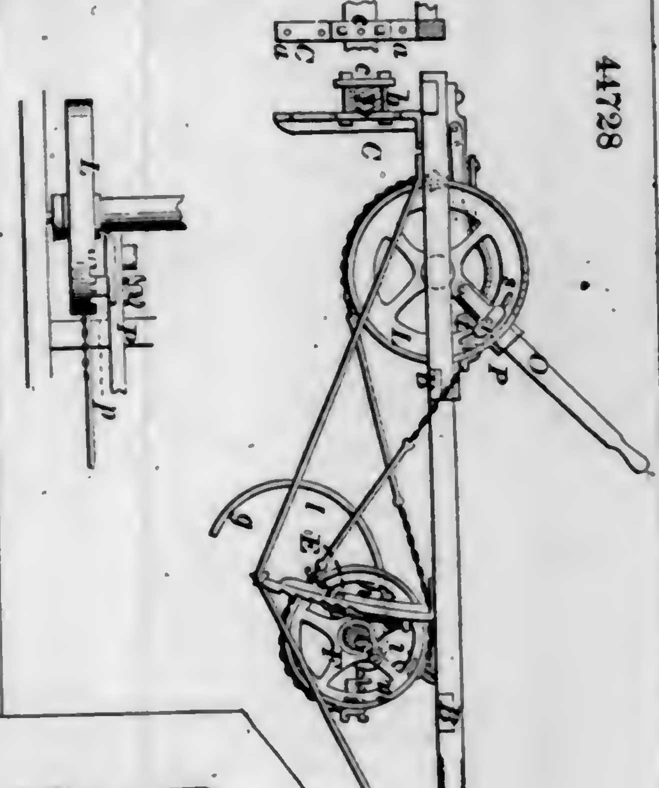

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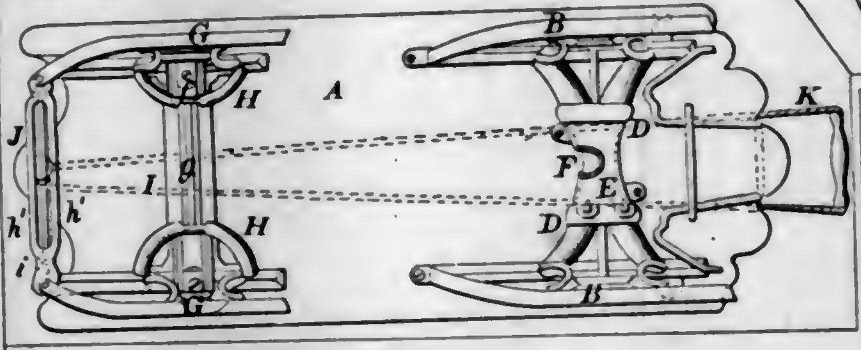

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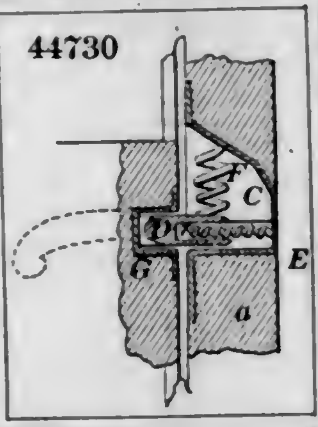

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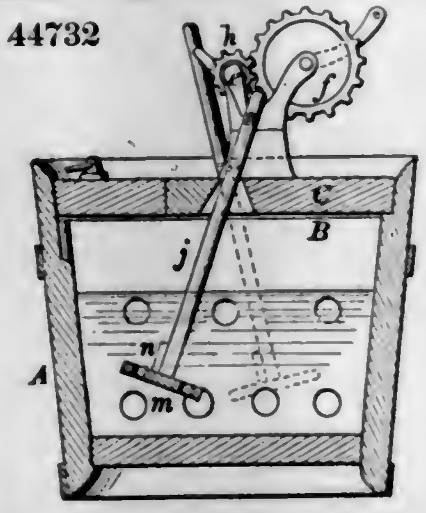

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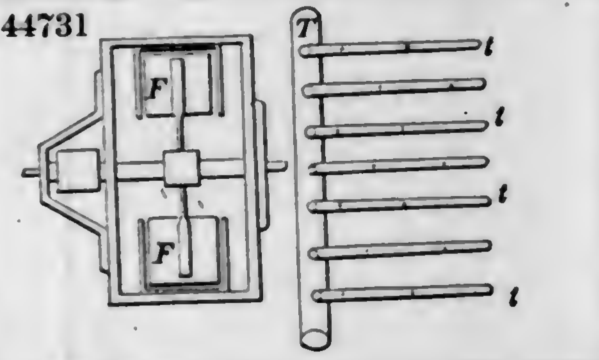

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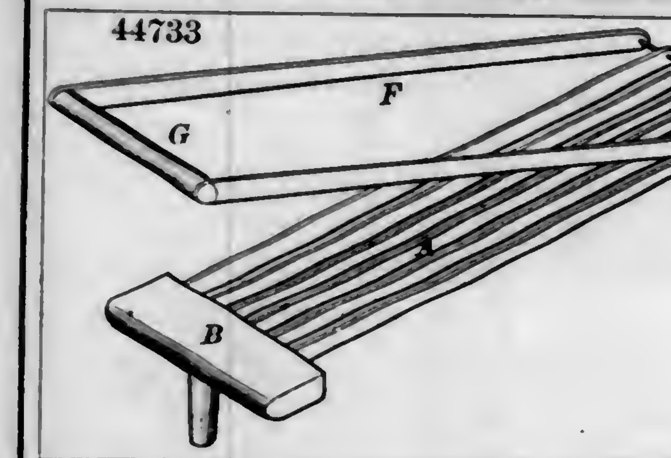

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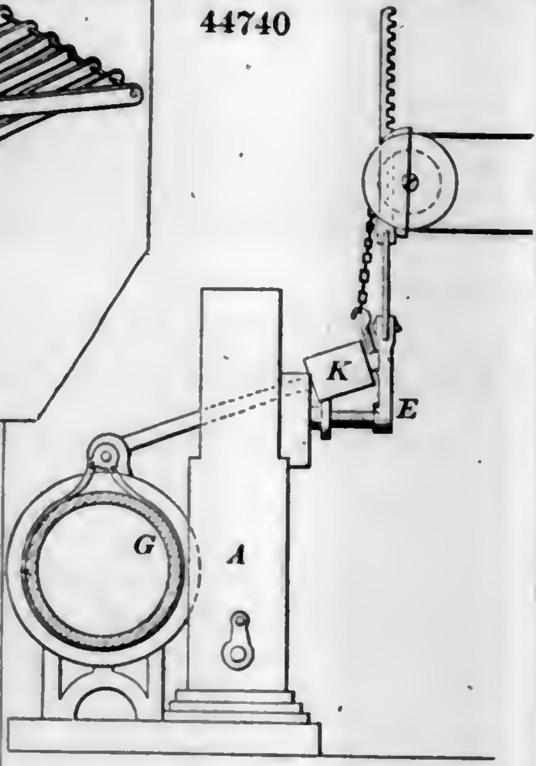

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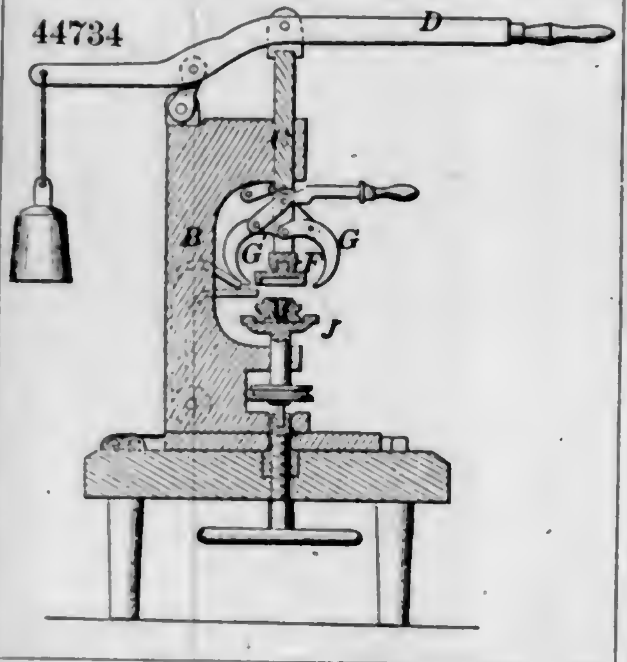

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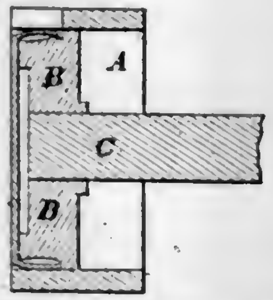

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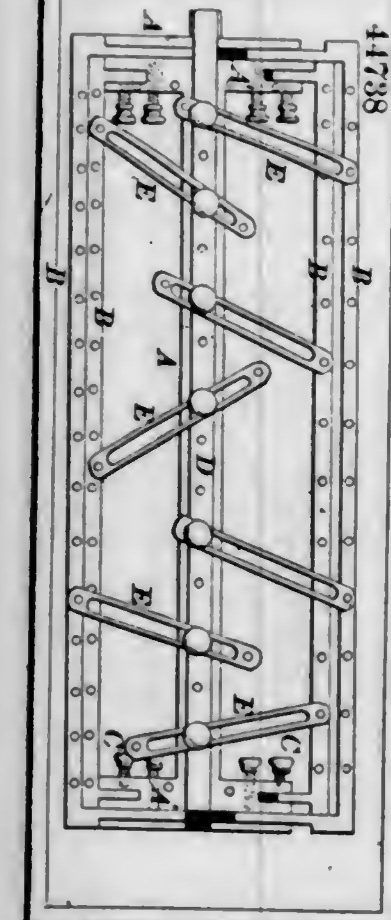

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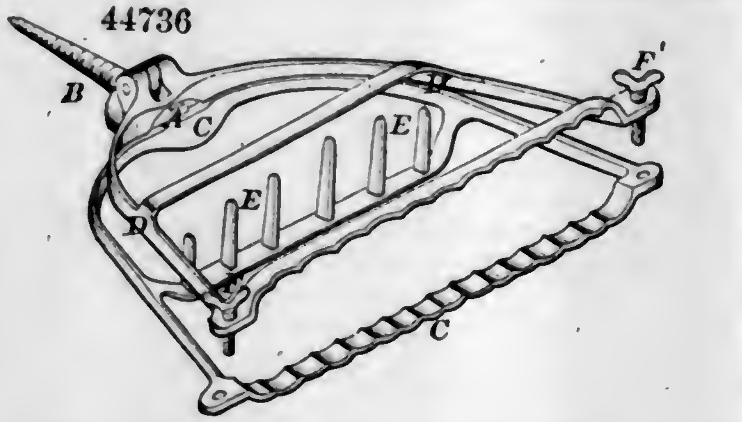

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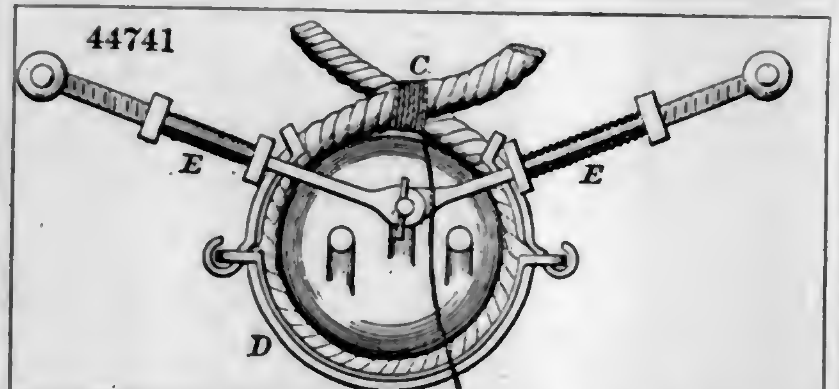

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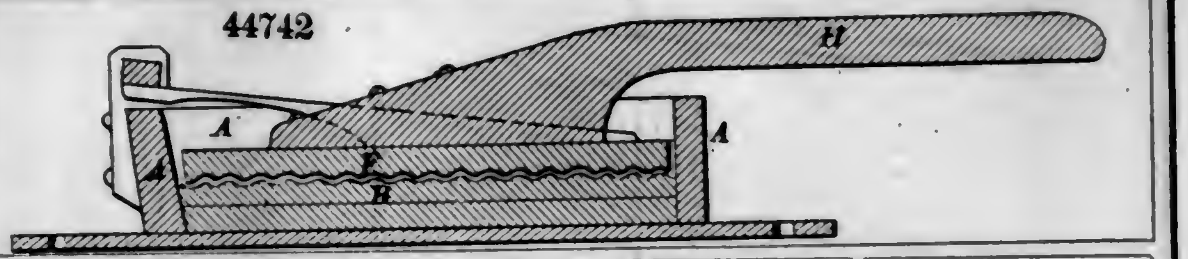

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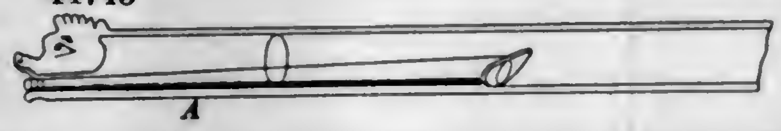

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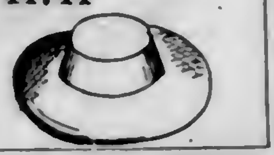

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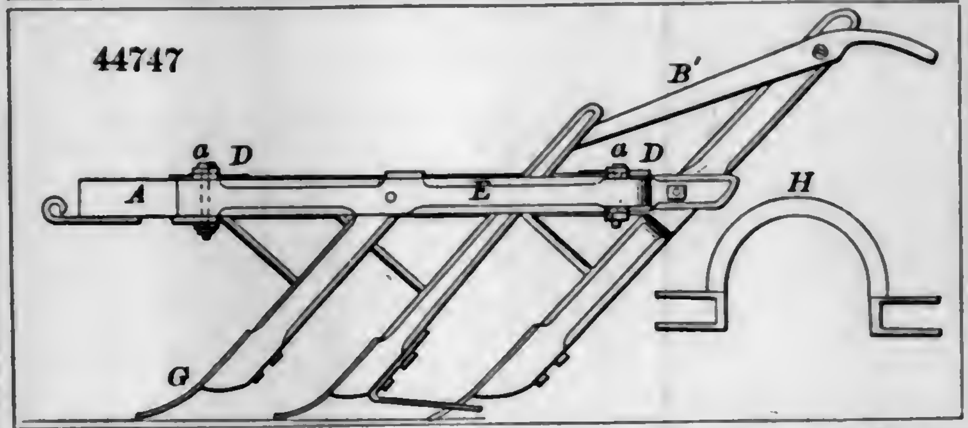

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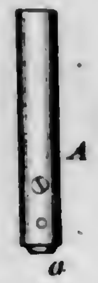

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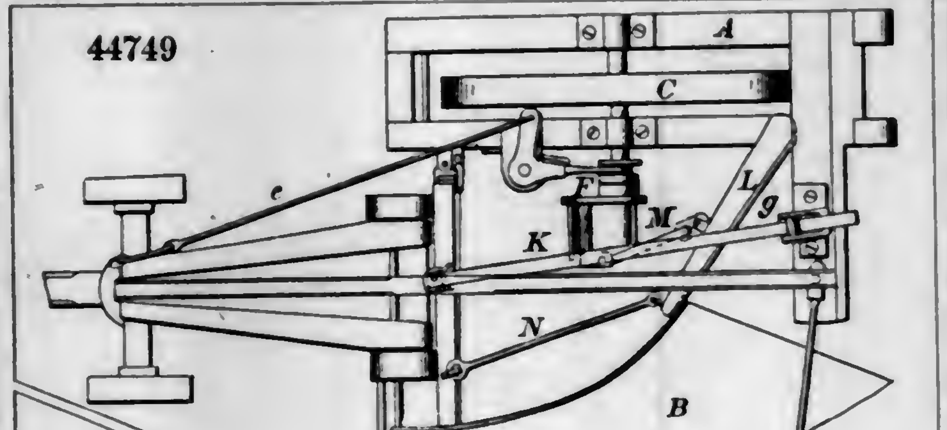

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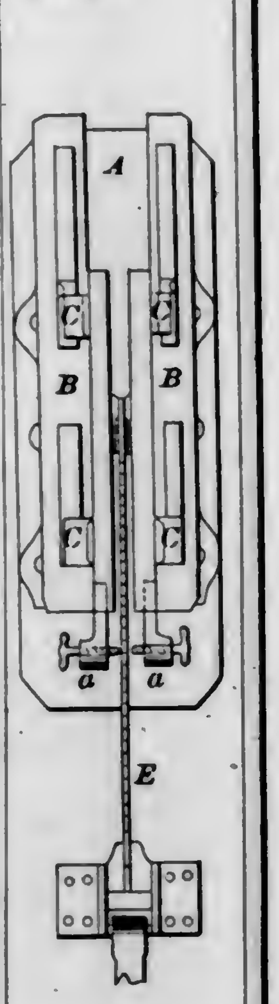

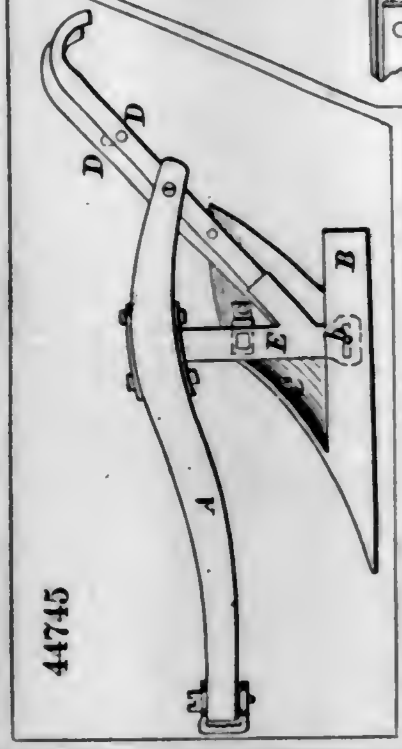

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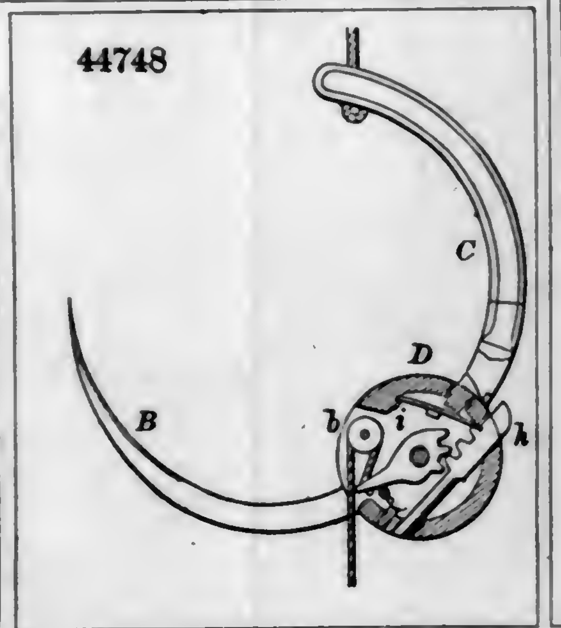

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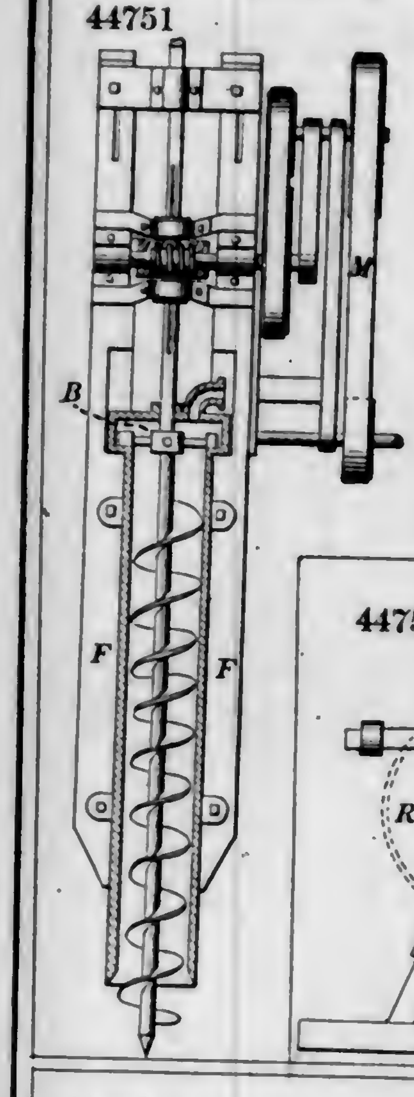

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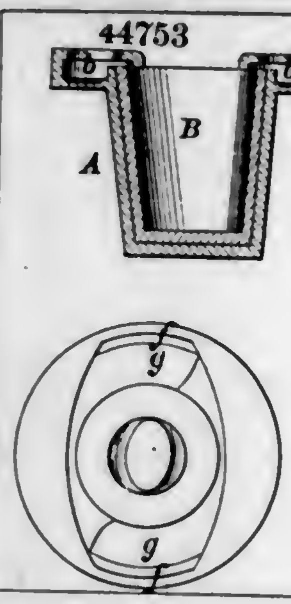

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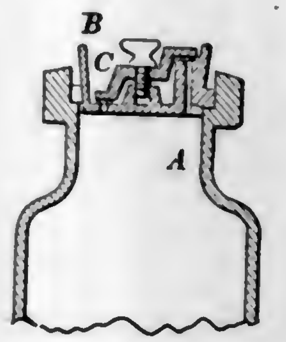

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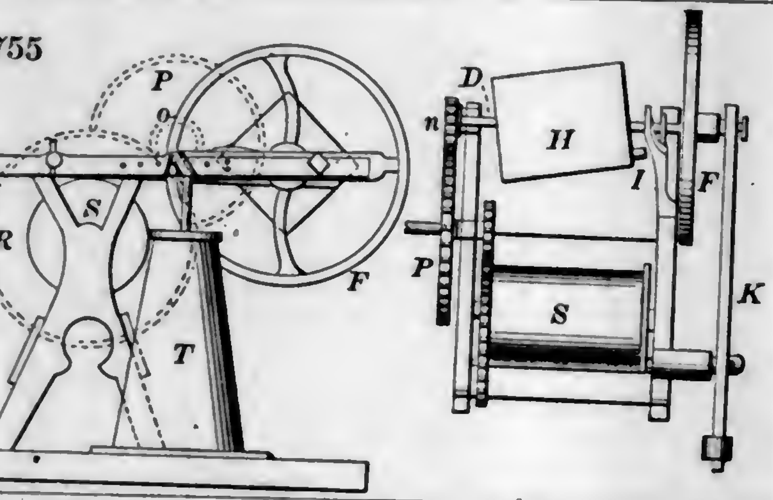

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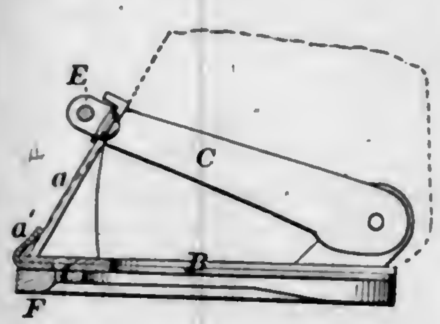

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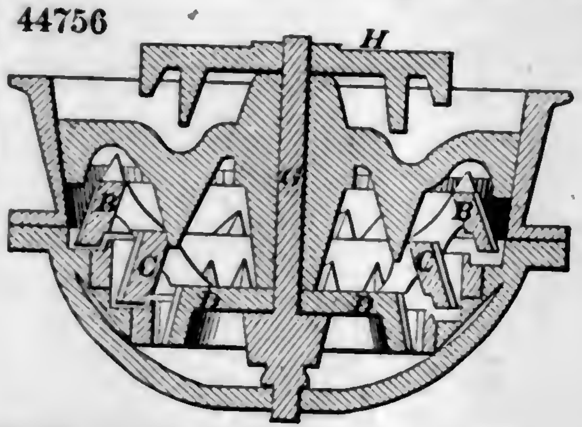

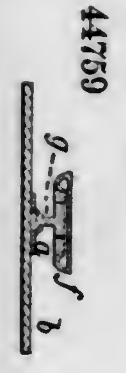

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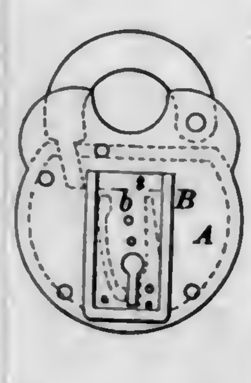

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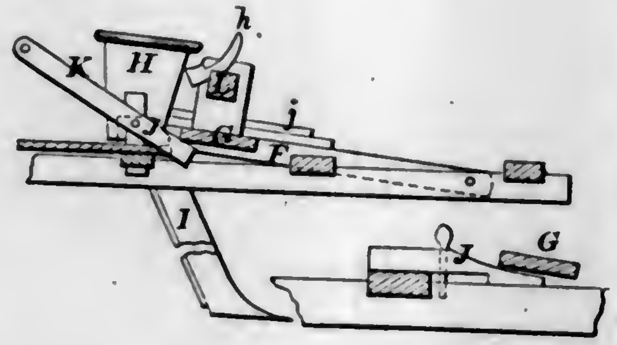

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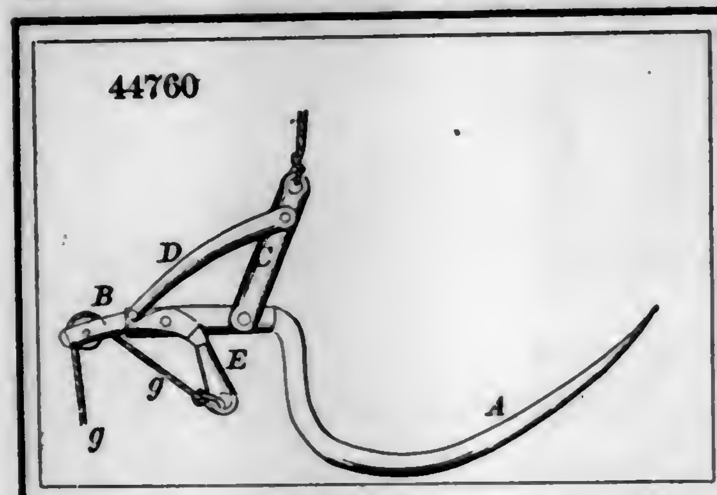

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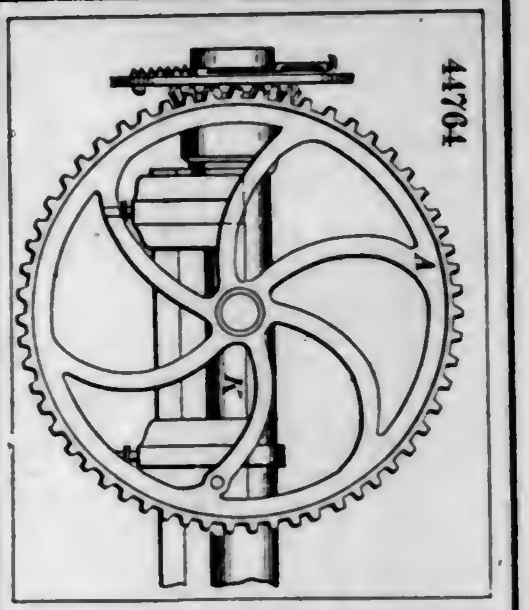

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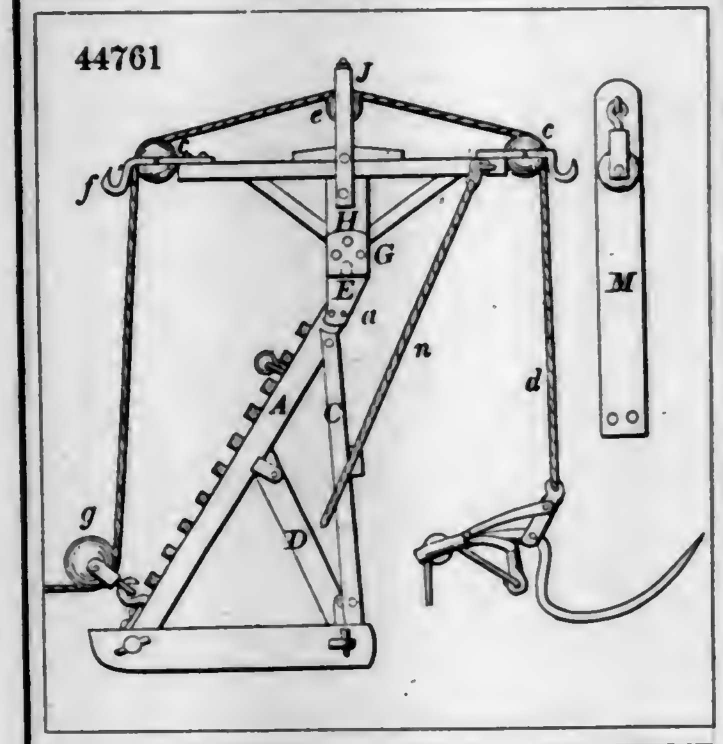

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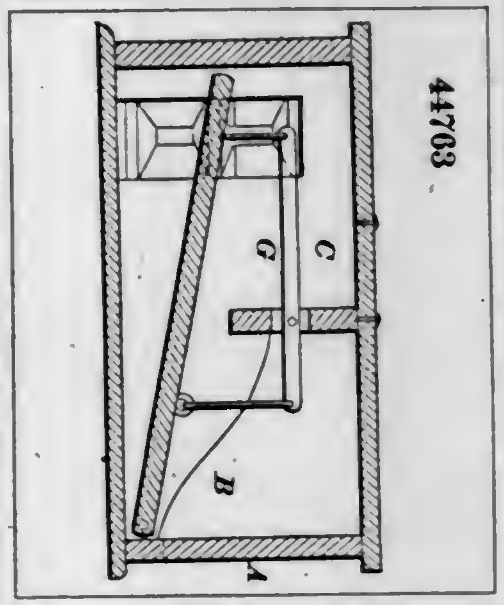

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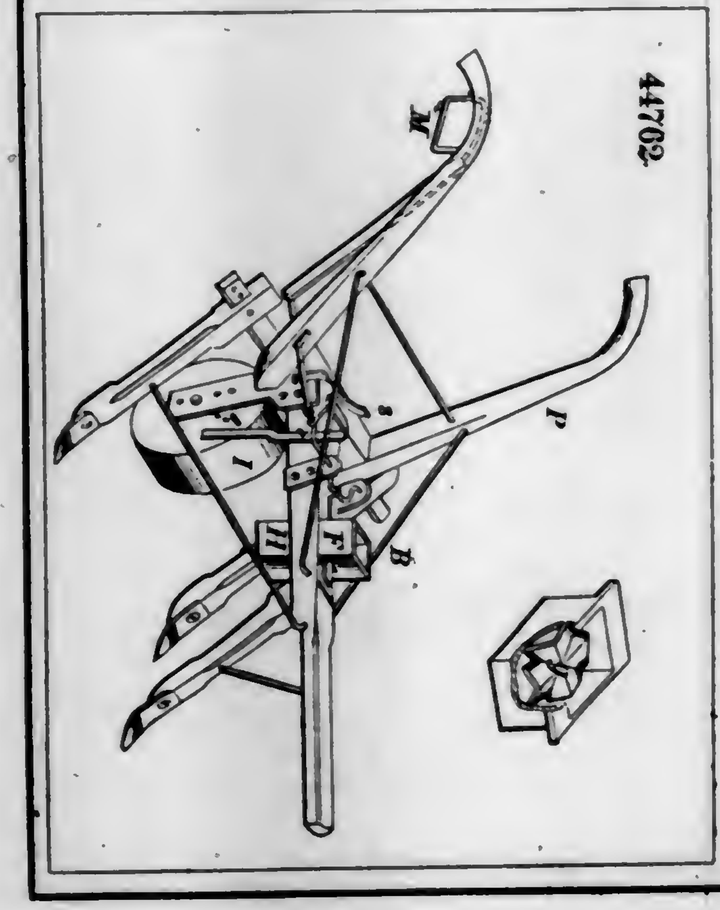

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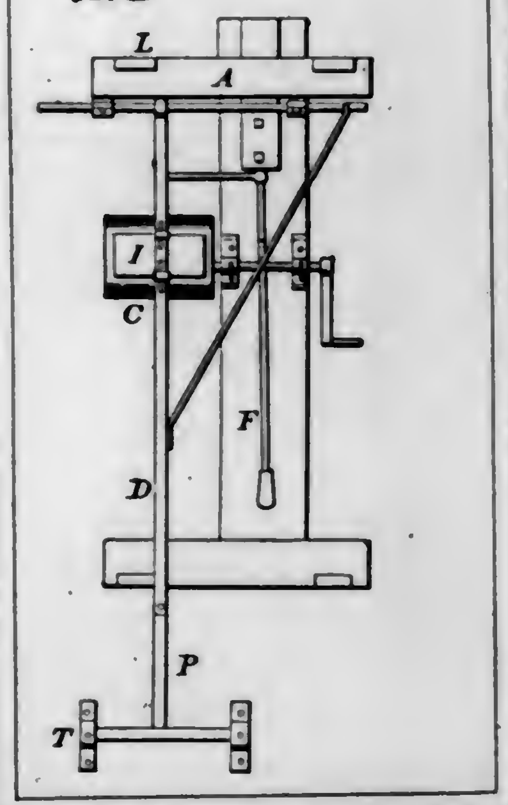

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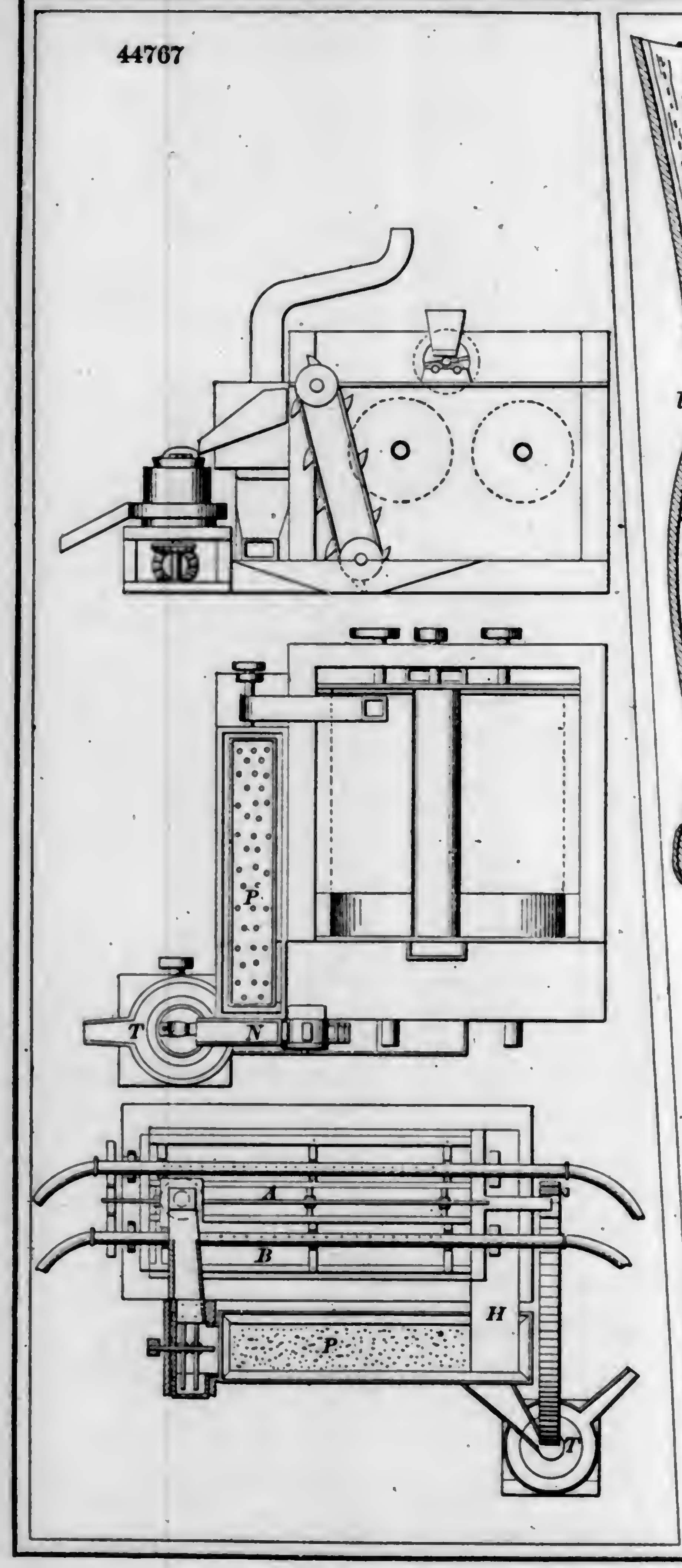

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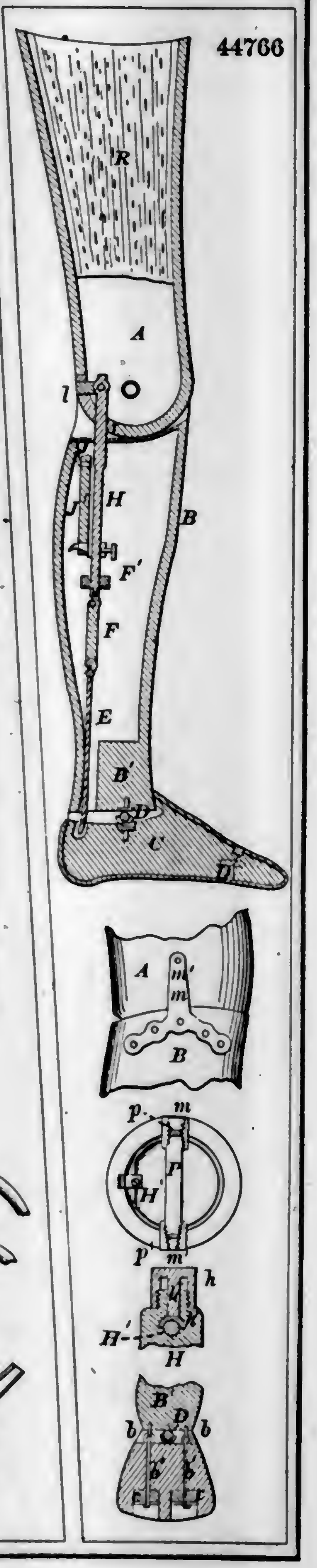

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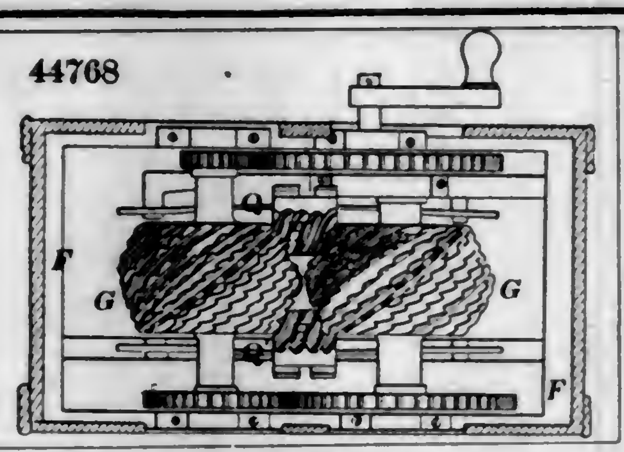

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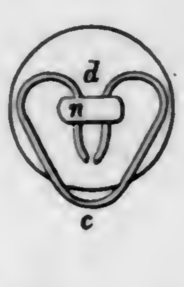

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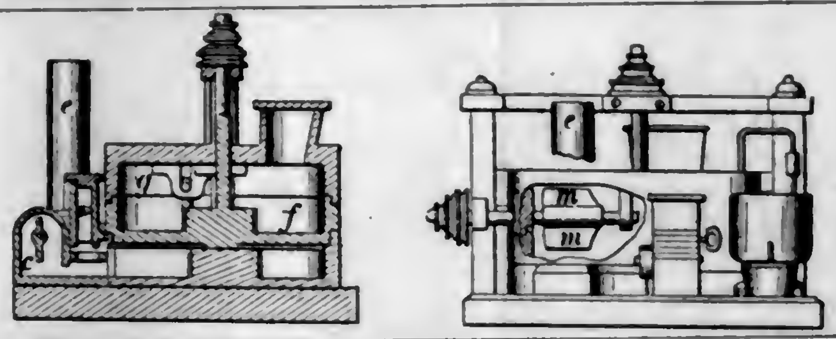

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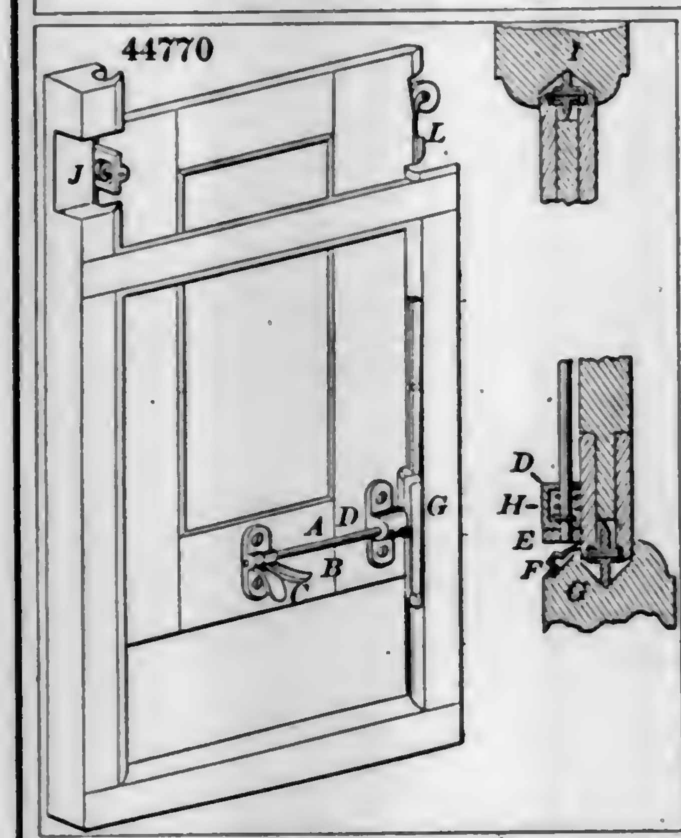

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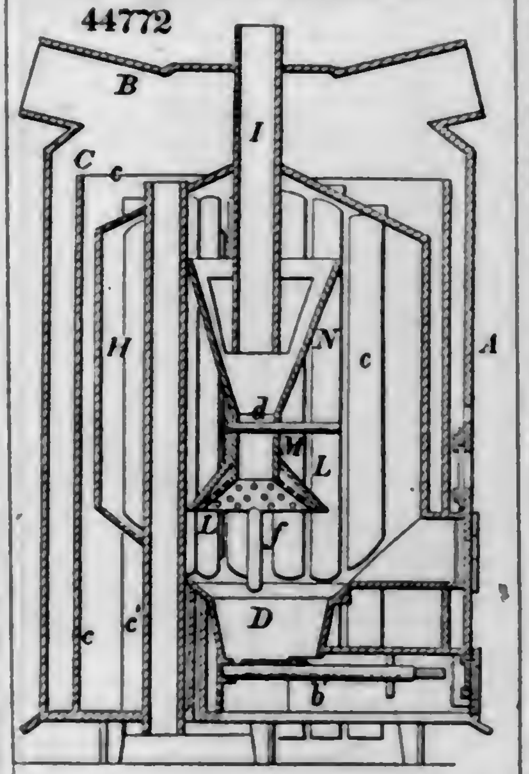

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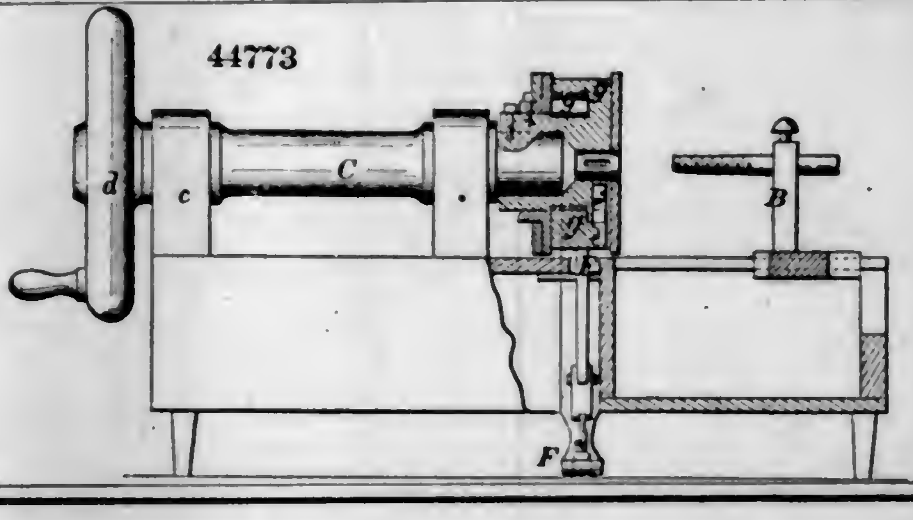

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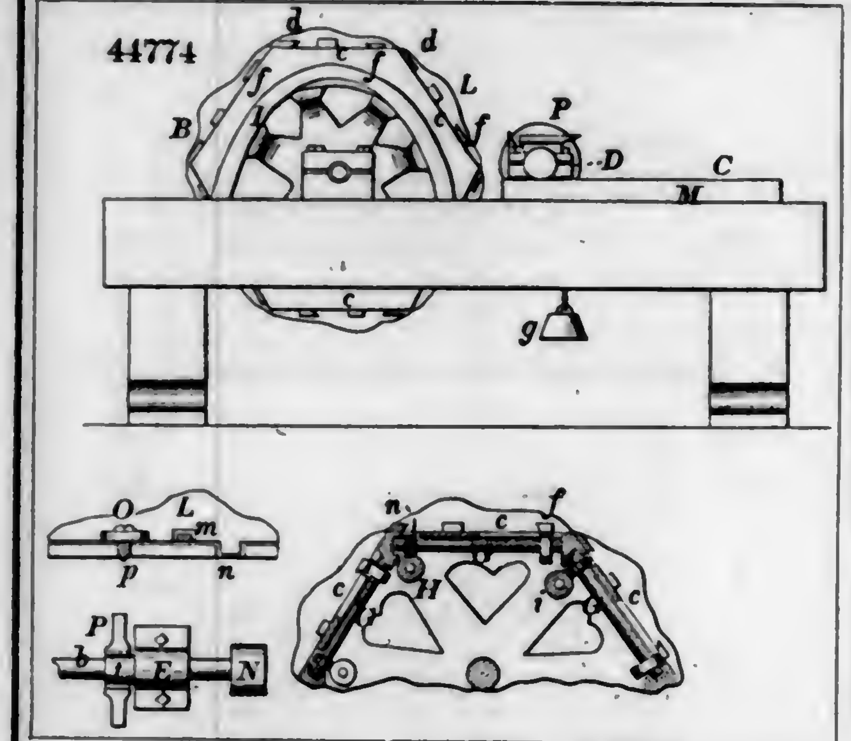

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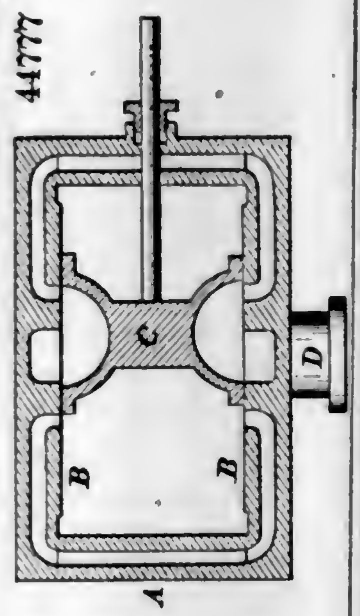

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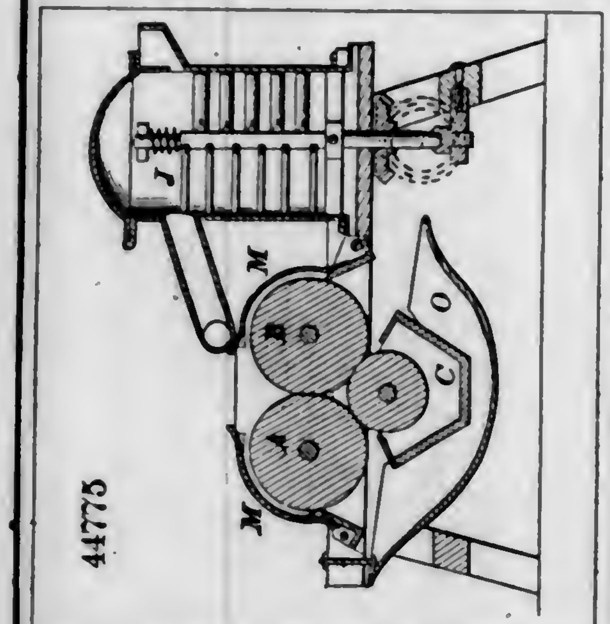

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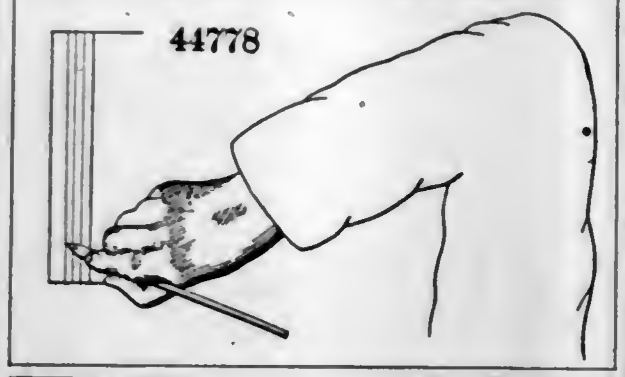

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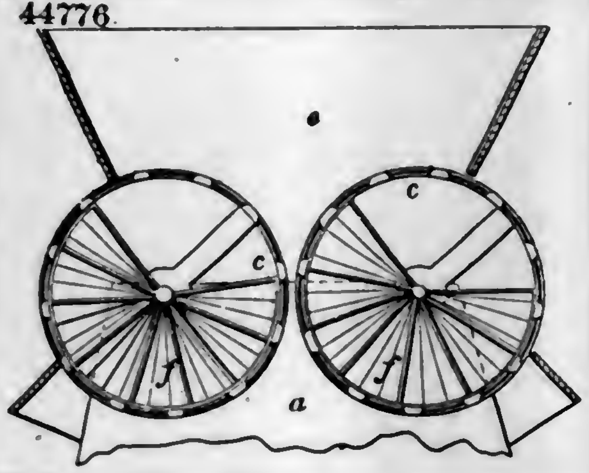

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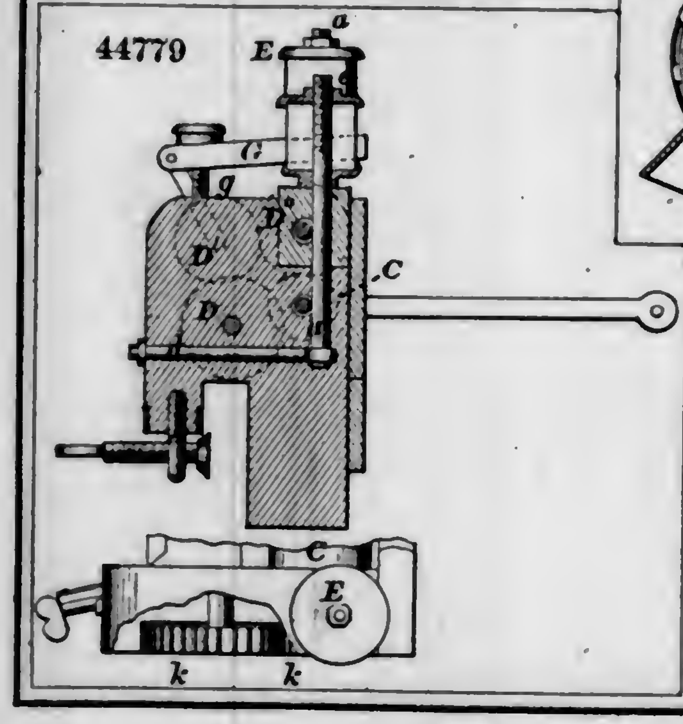

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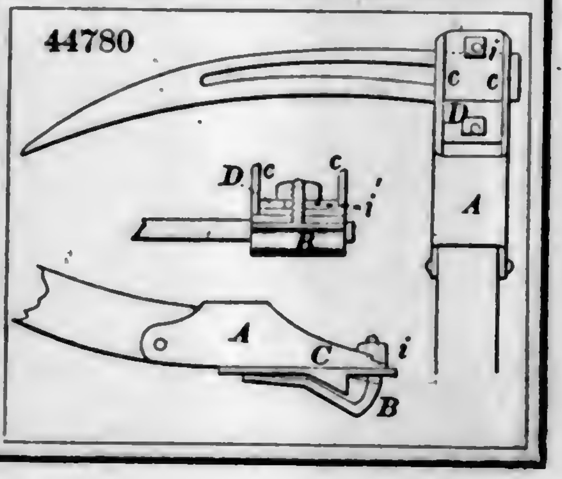

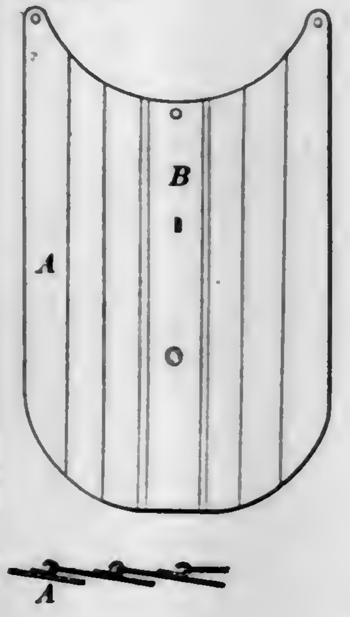
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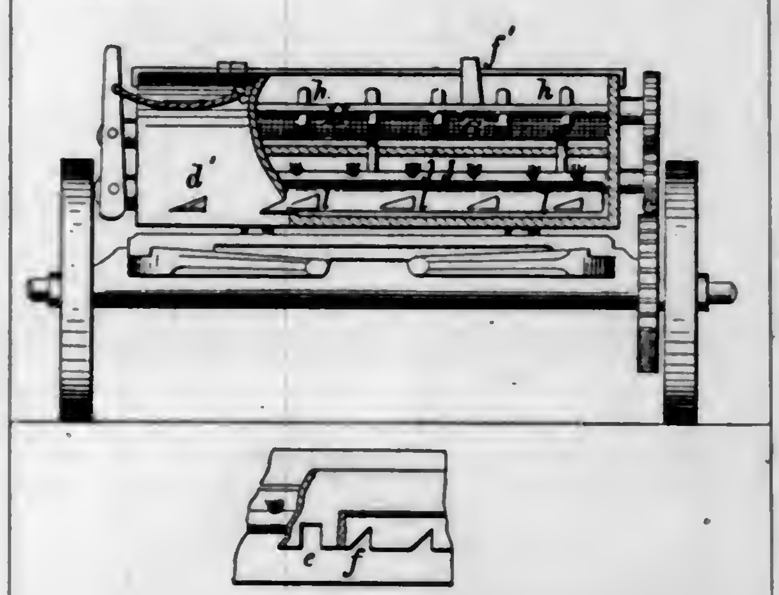
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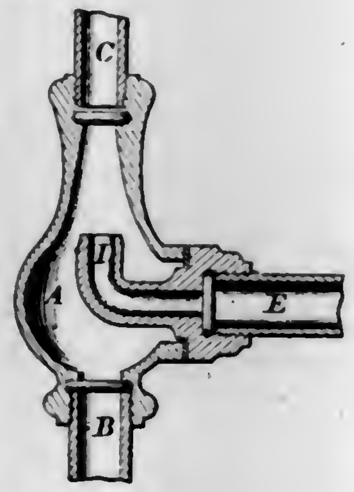
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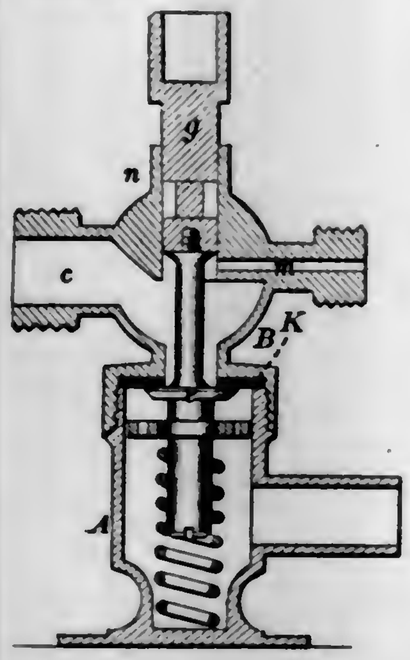
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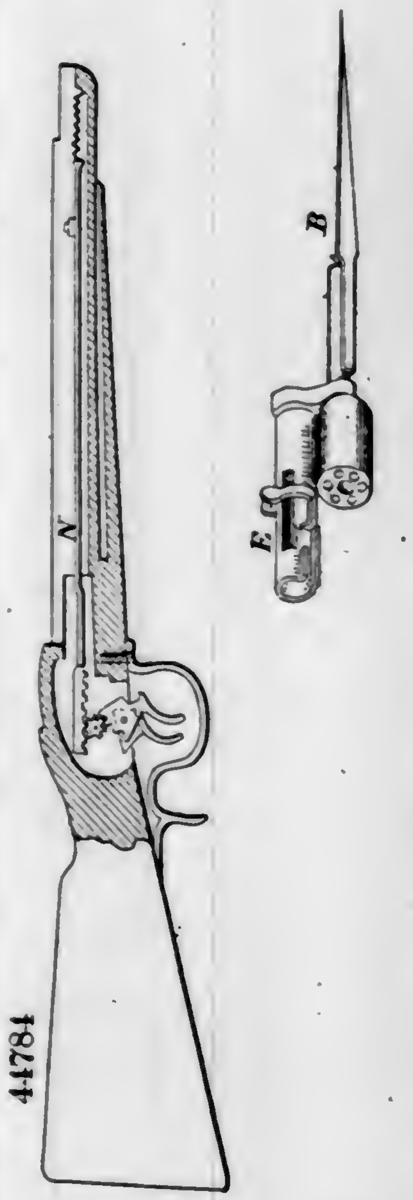
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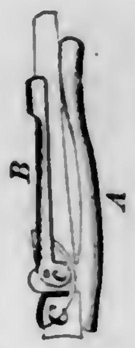
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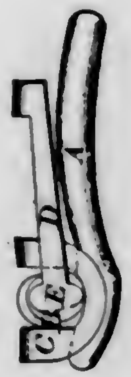
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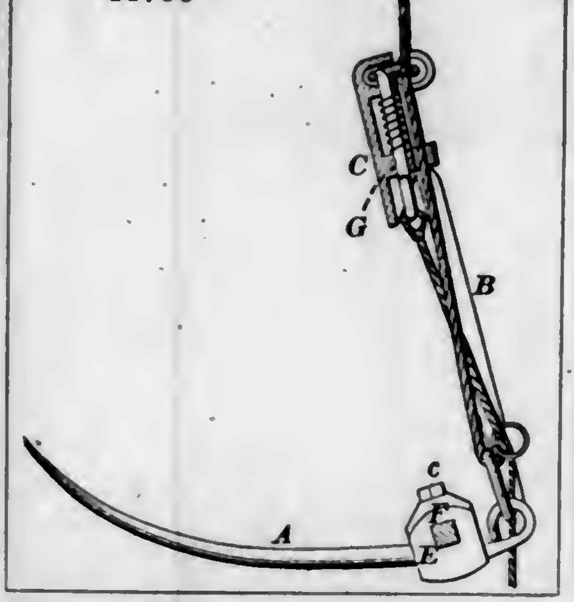
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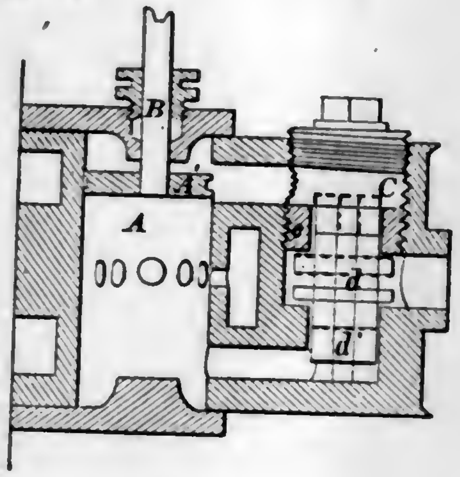
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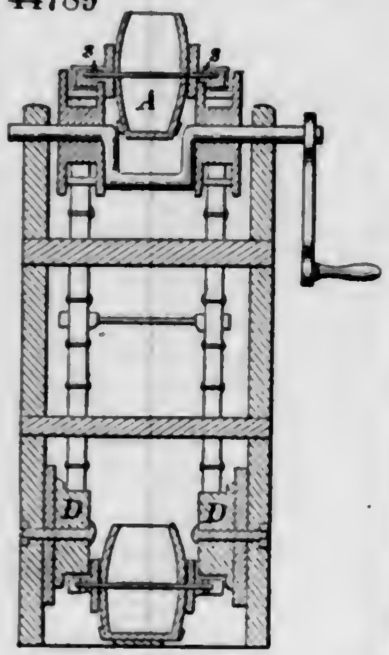
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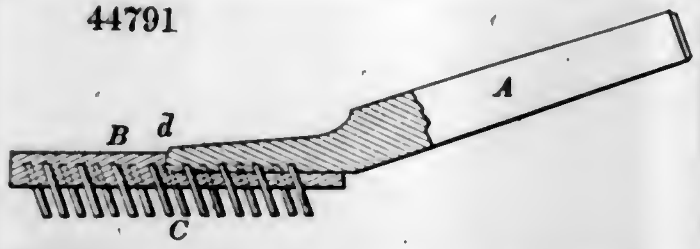
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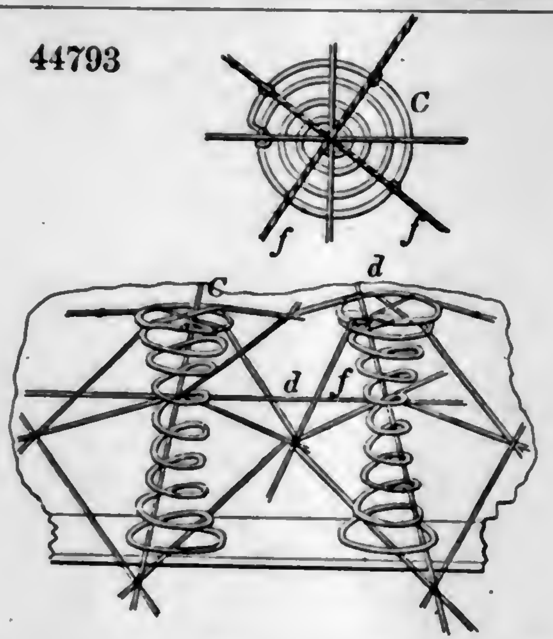
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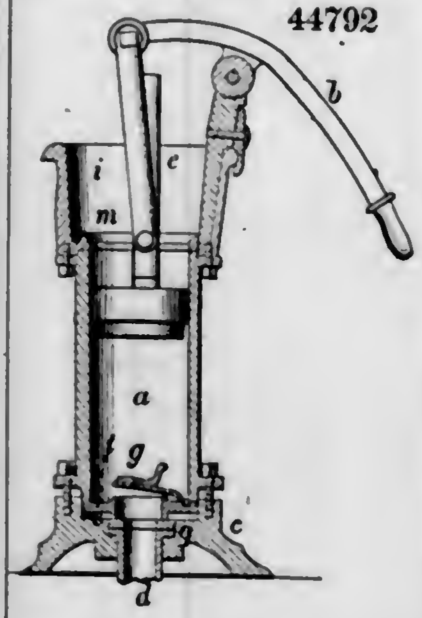
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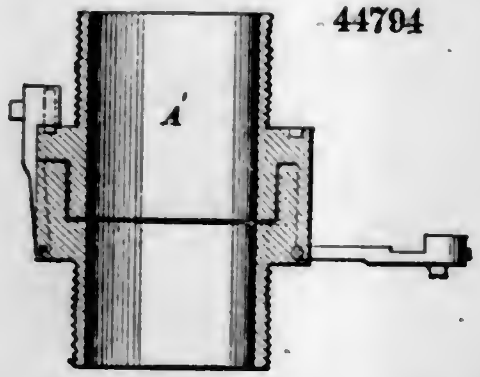
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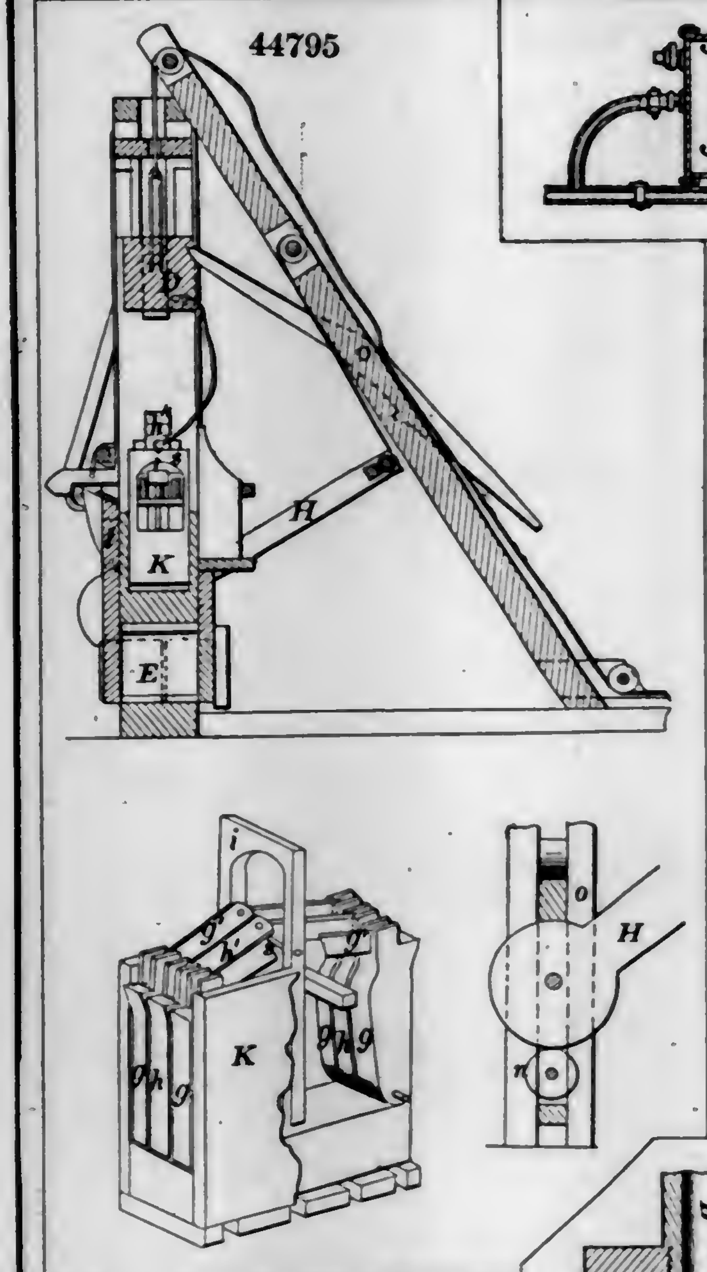

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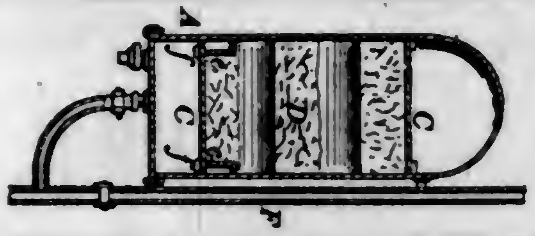

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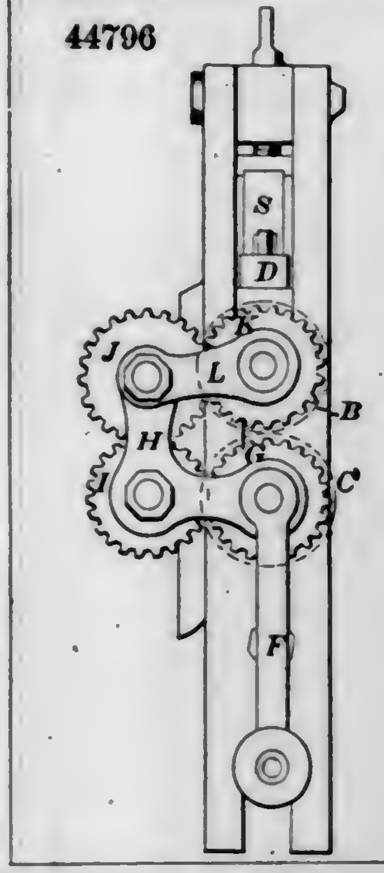

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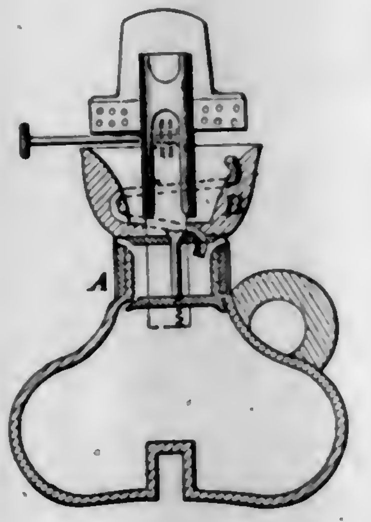

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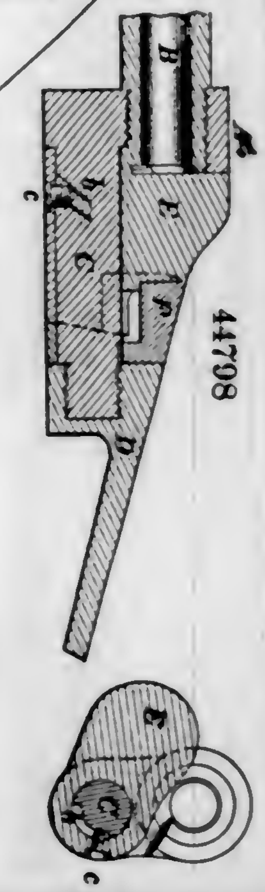

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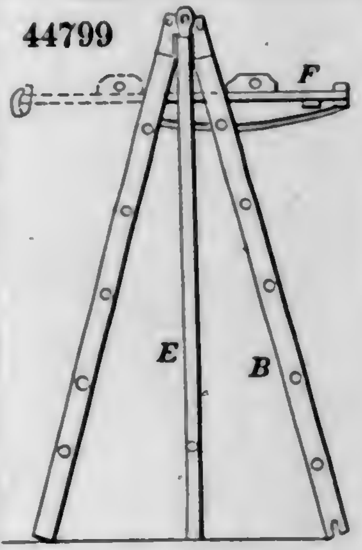
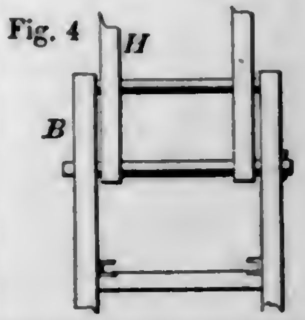


Fig. 4



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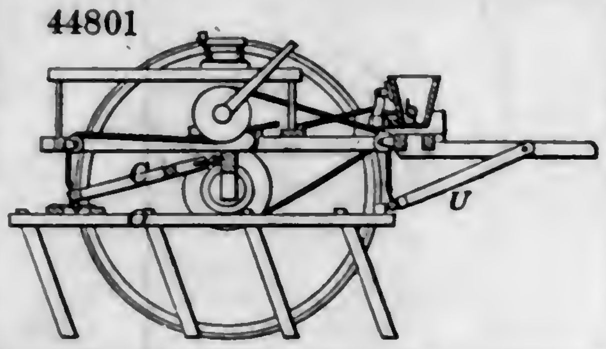

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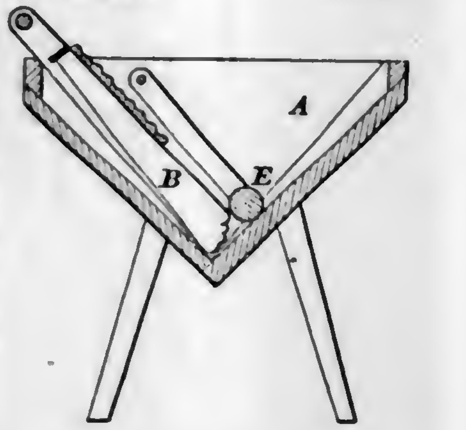

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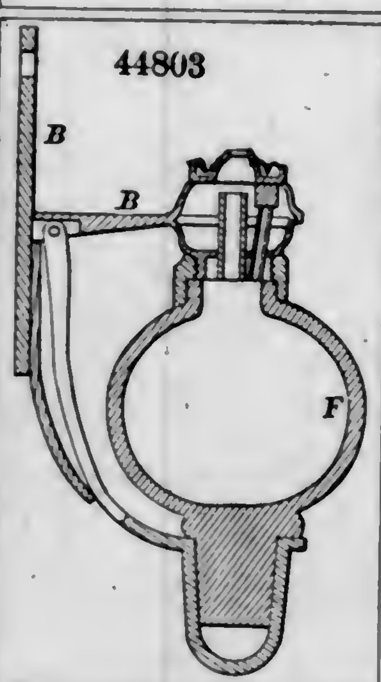

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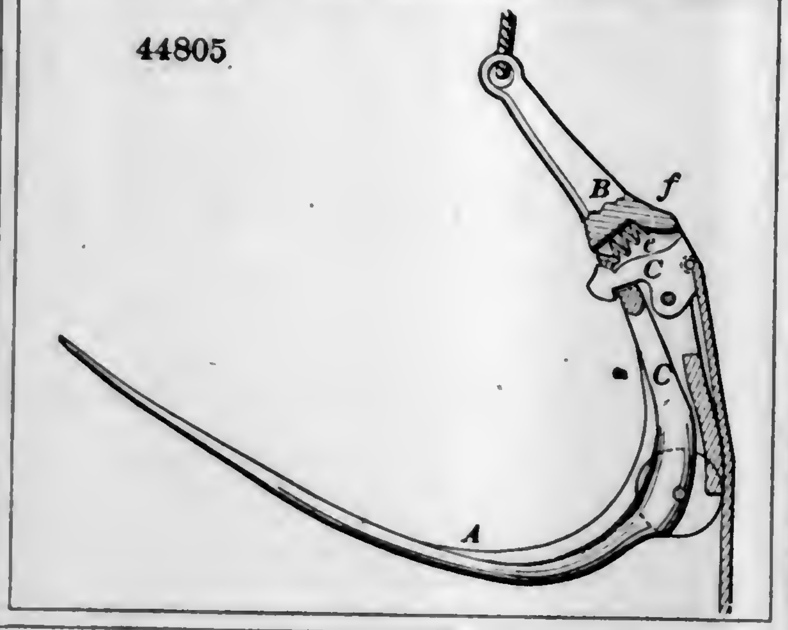

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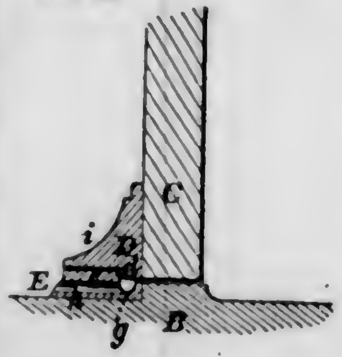

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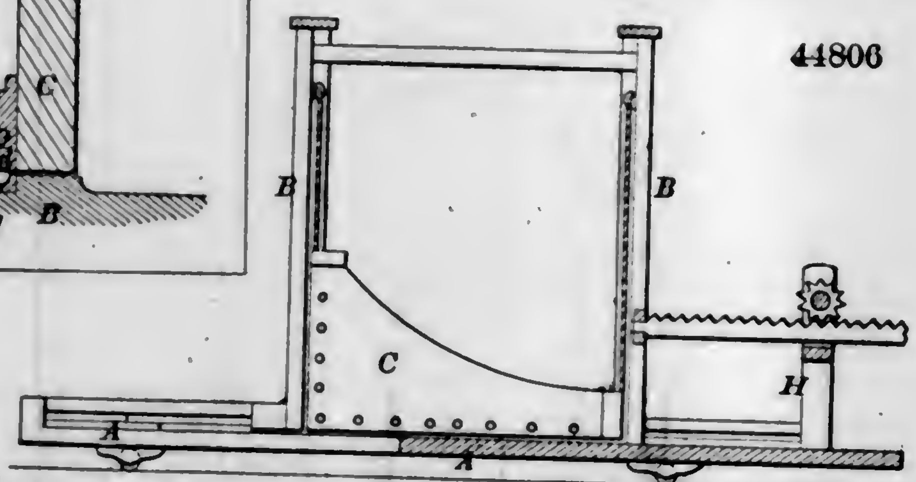

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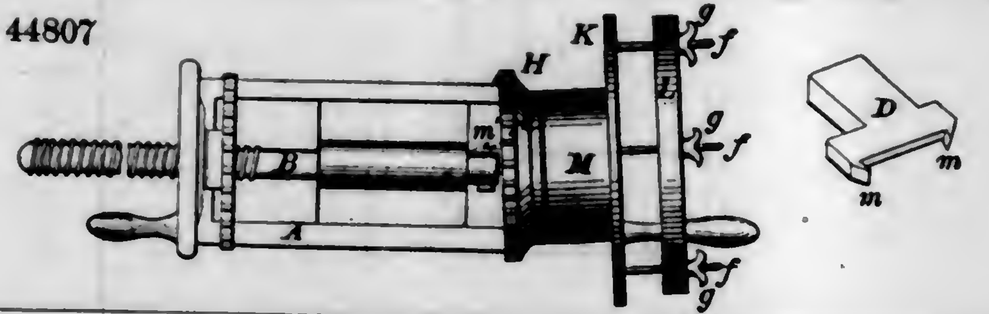

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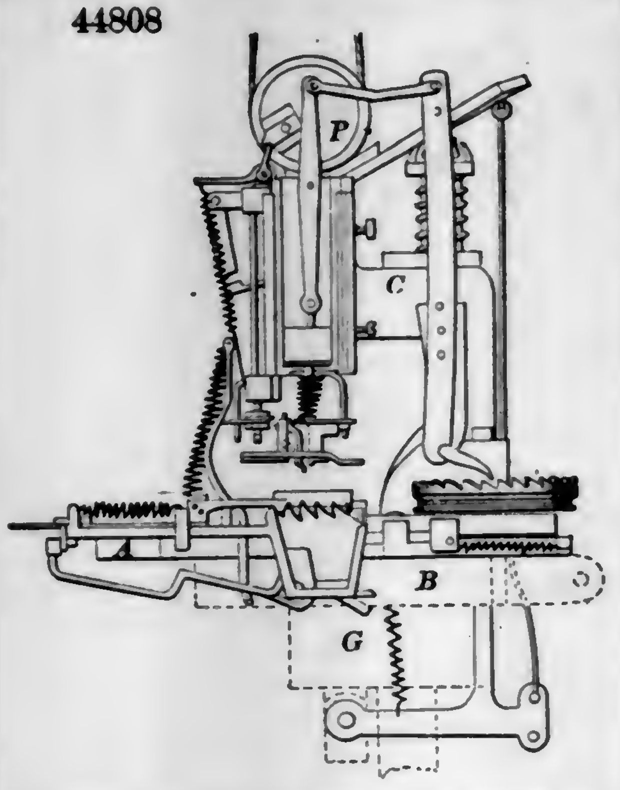

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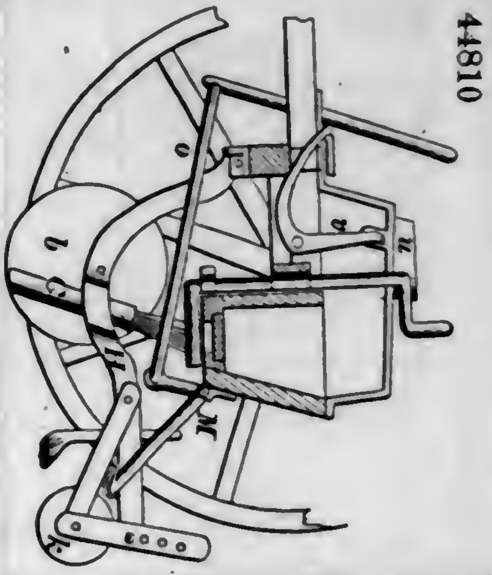

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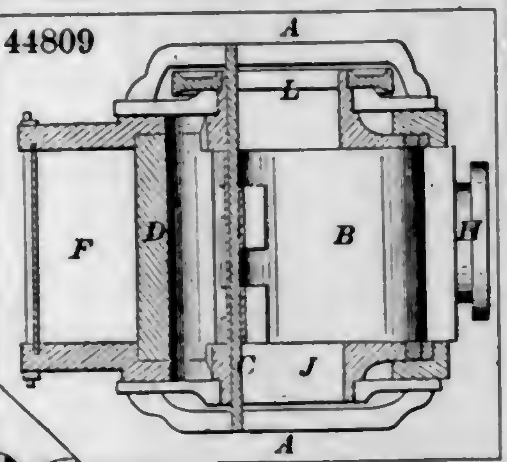

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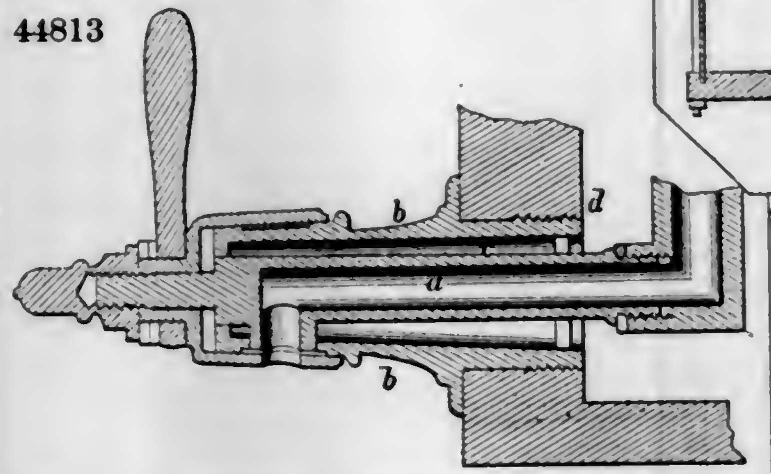

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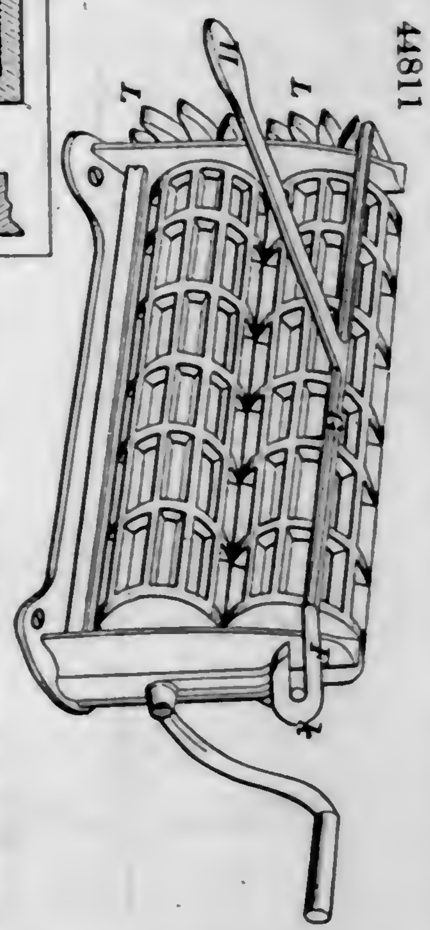

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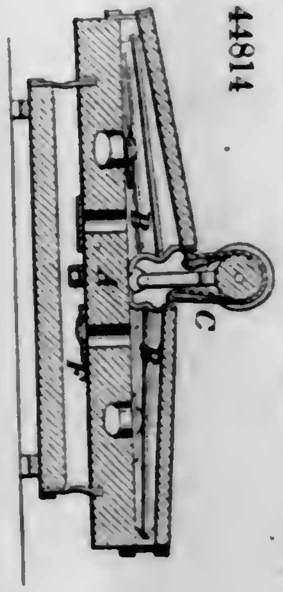

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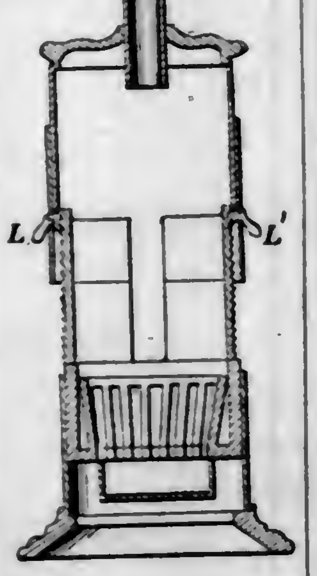

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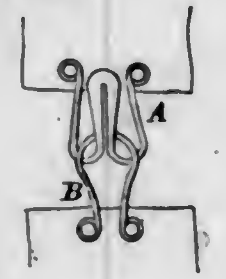

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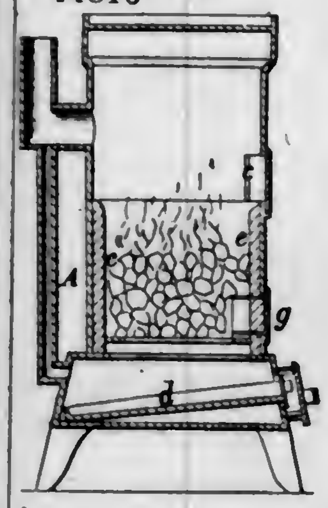

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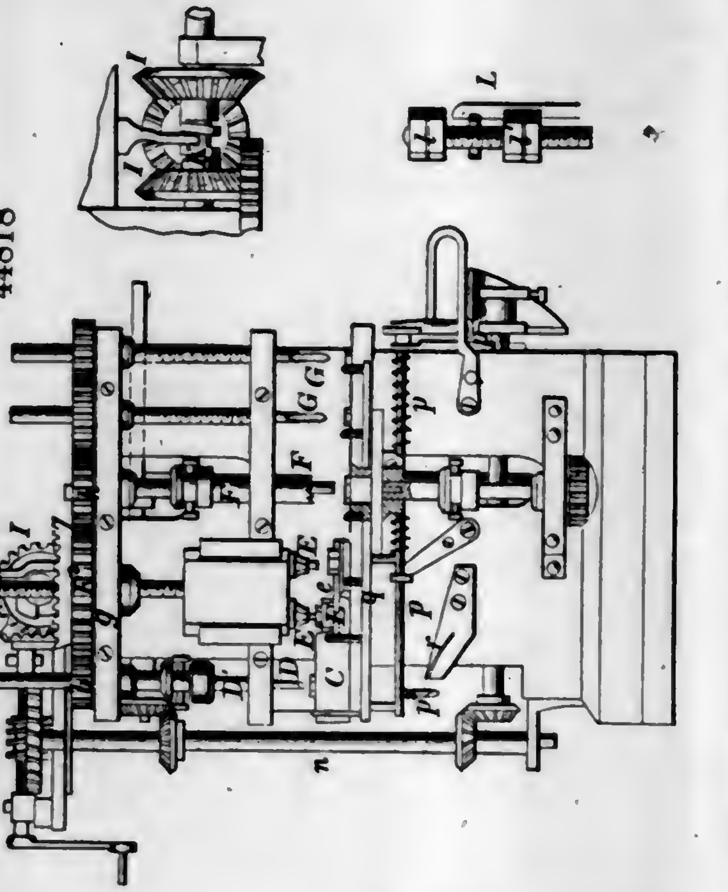

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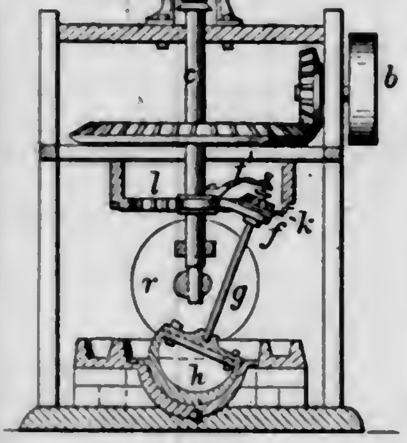

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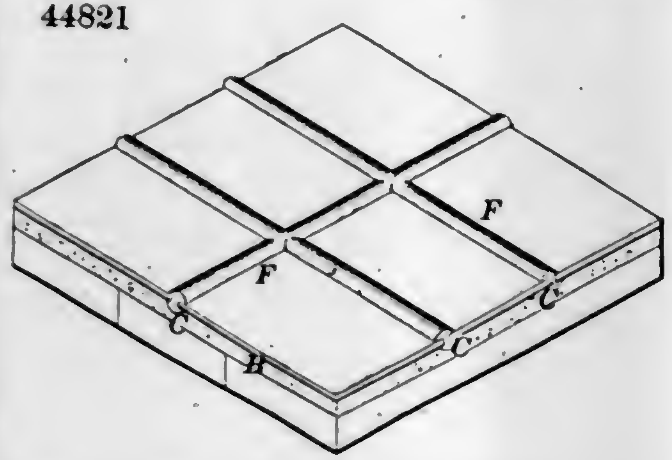

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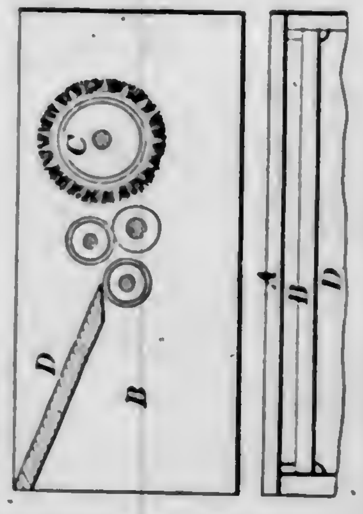

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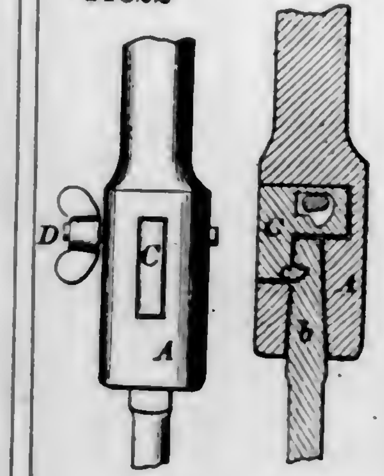

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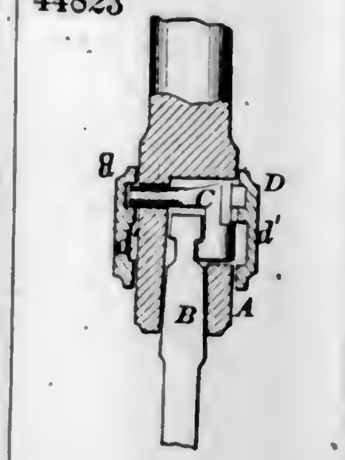

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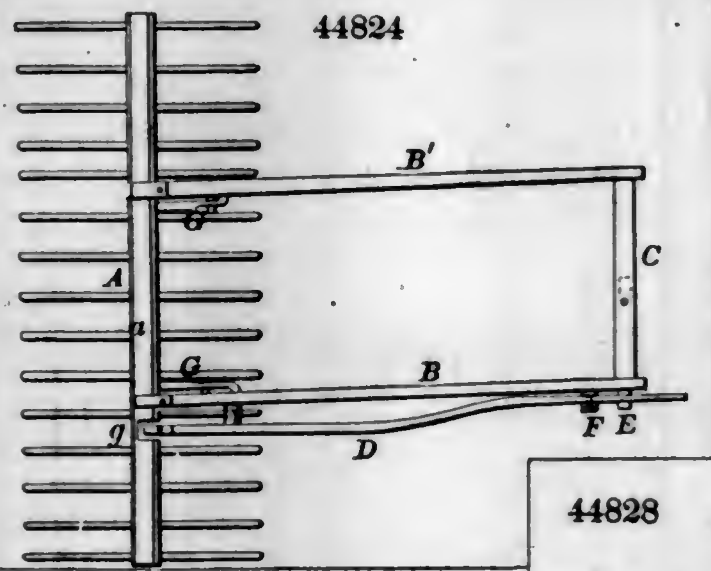

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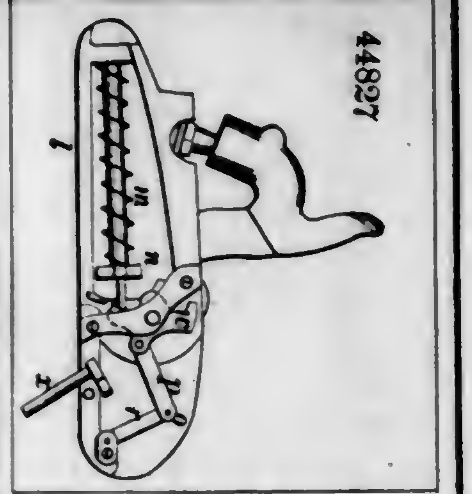

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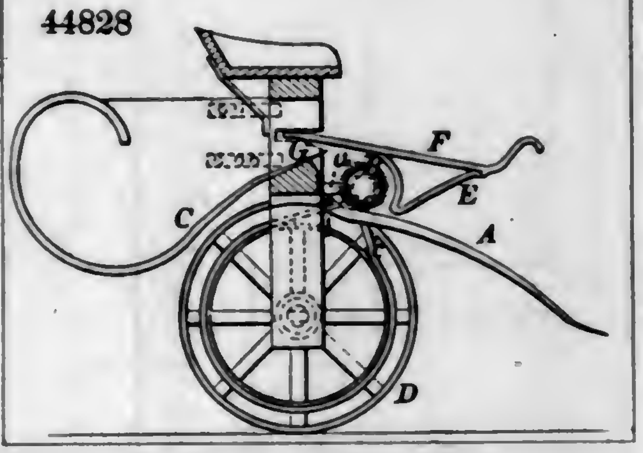

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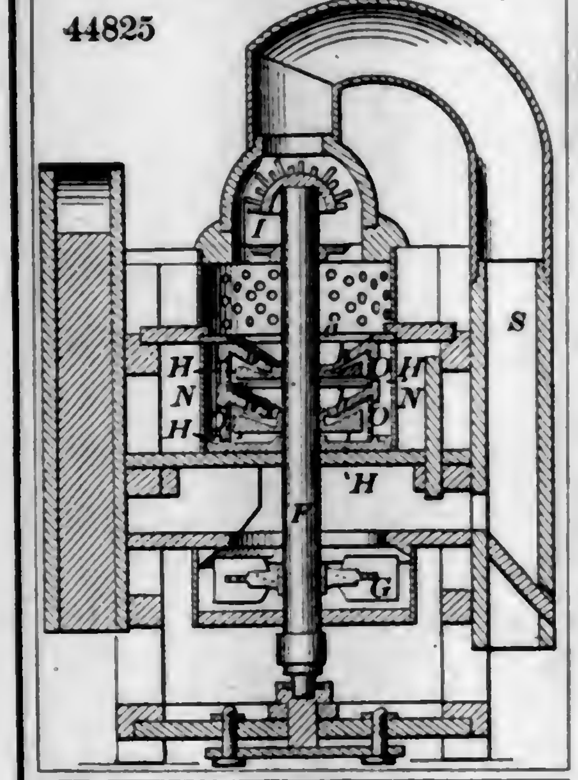

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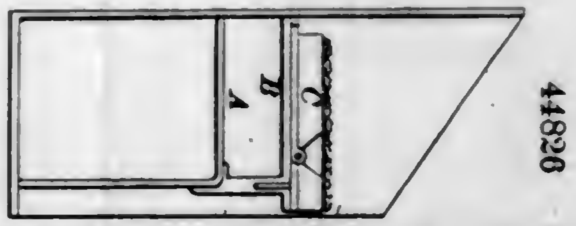

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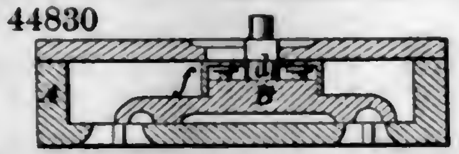

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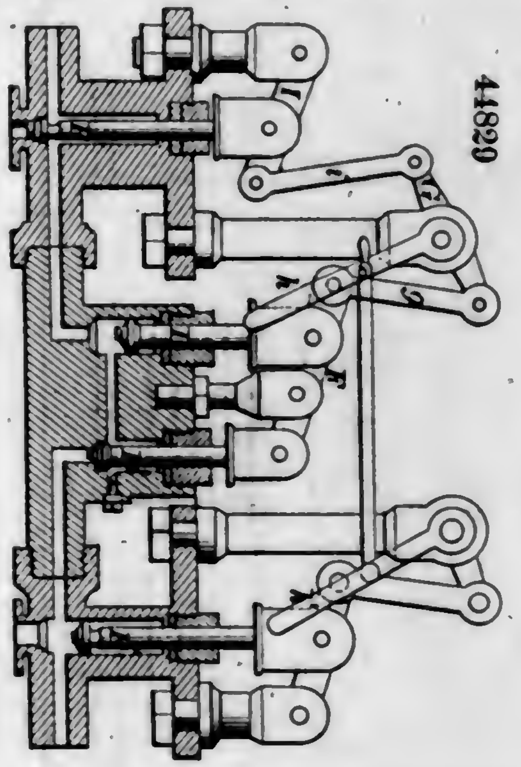

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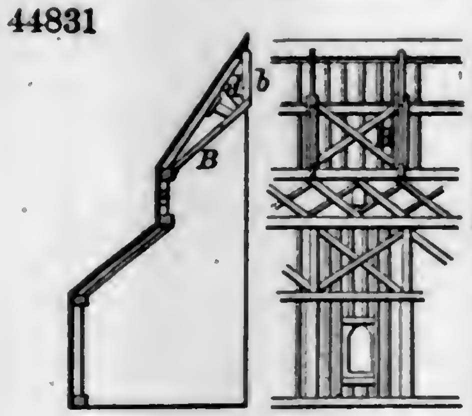

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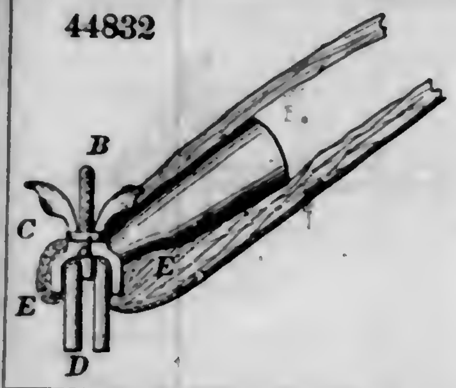

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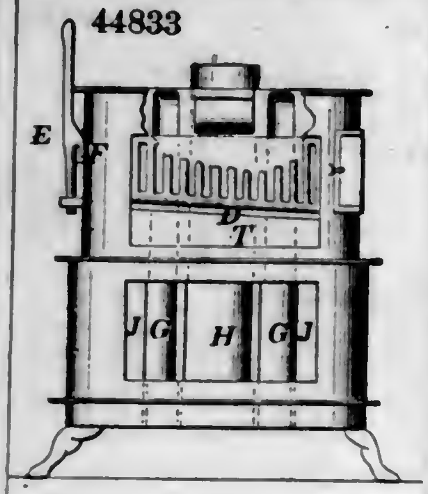

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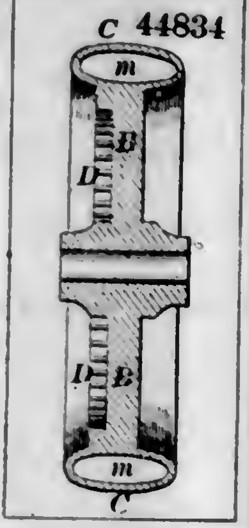

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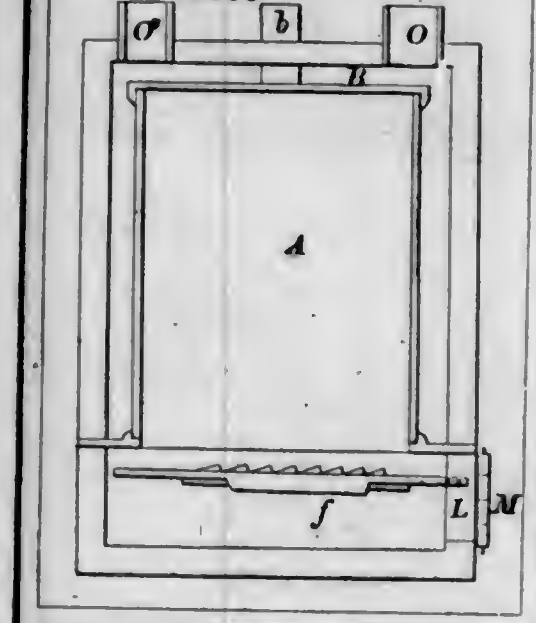

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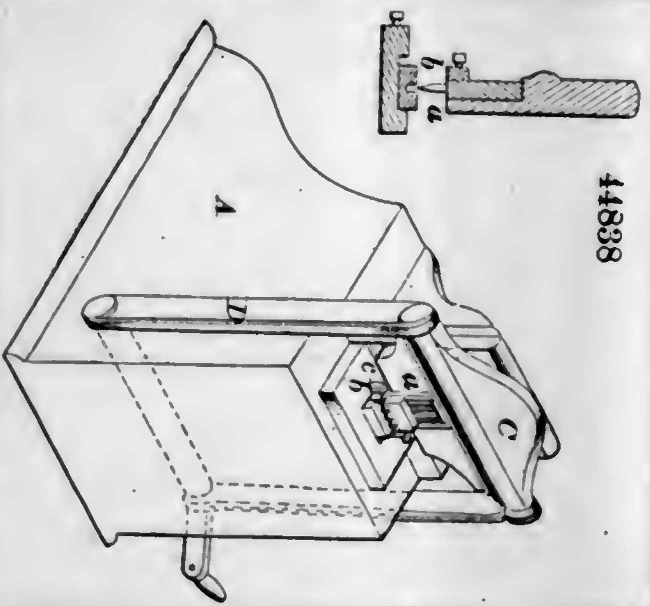

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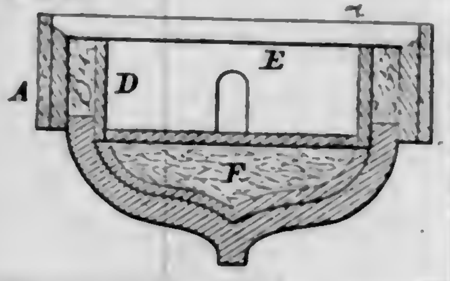

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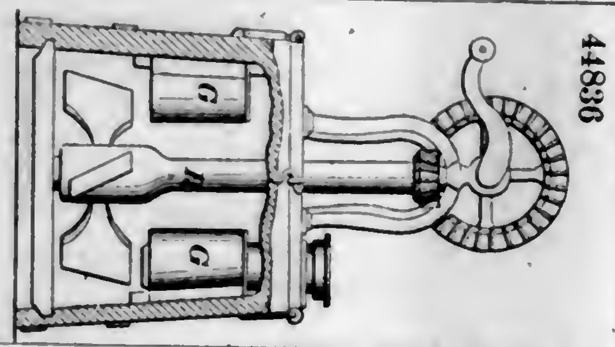

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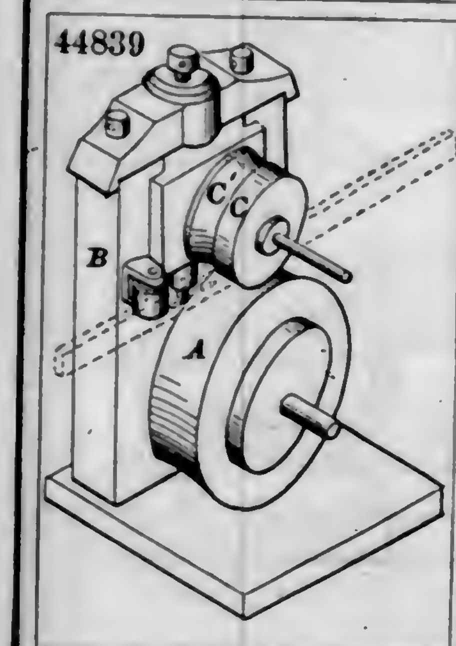

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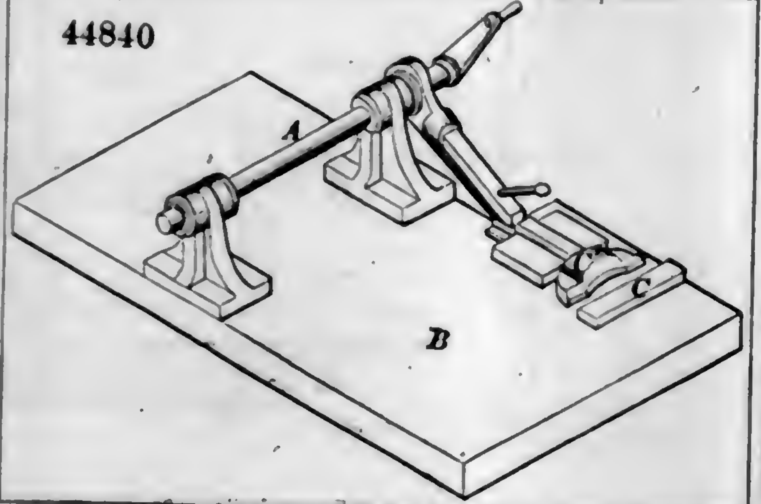

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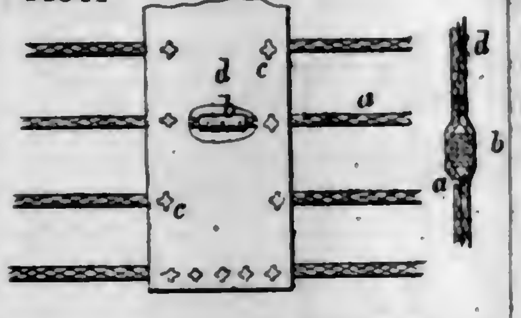

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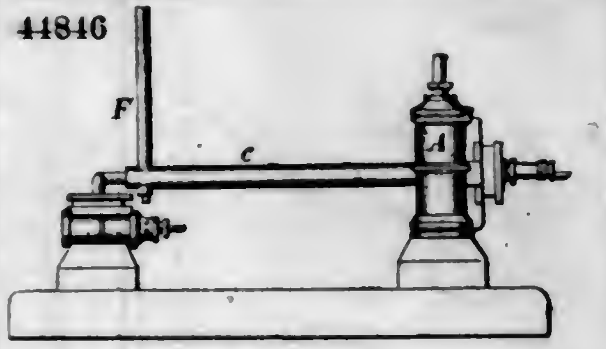

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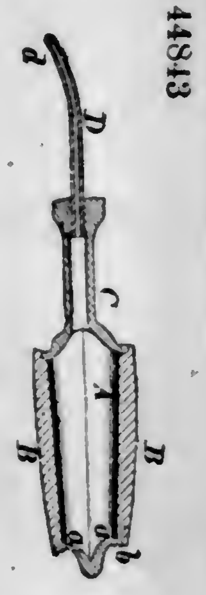

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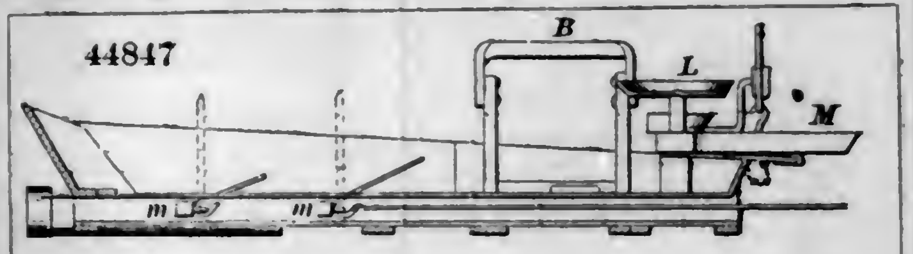

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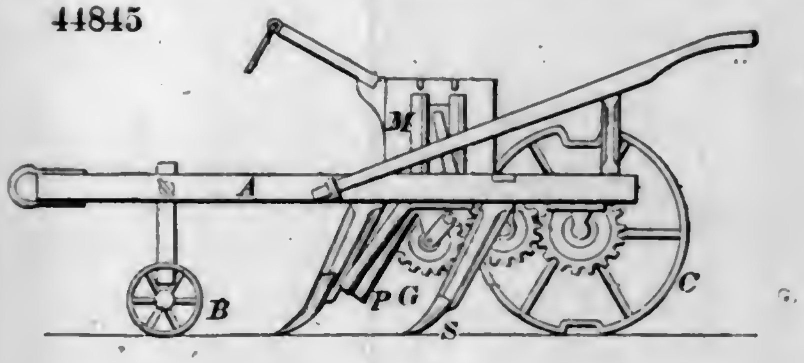

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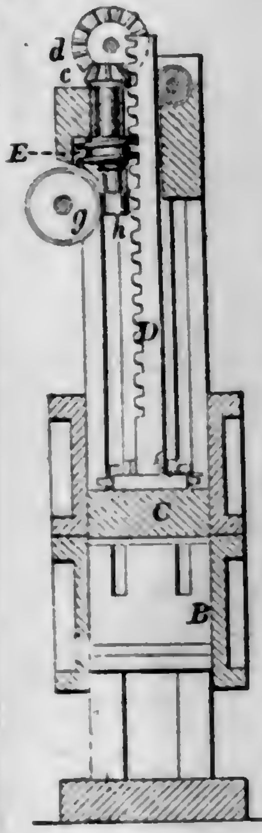

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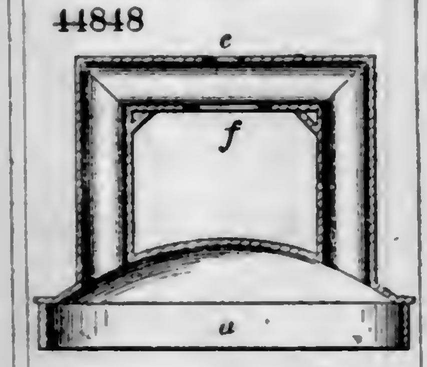

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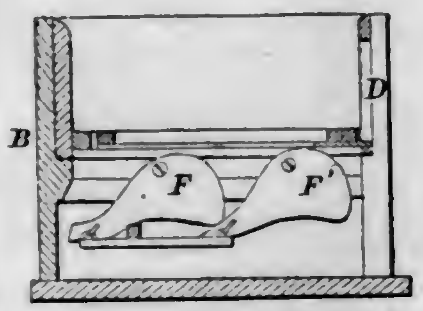

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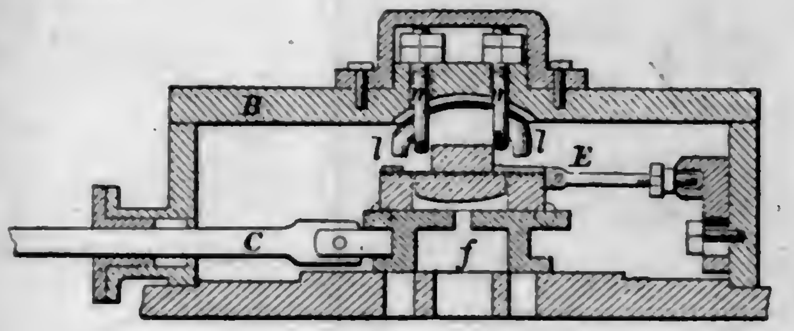

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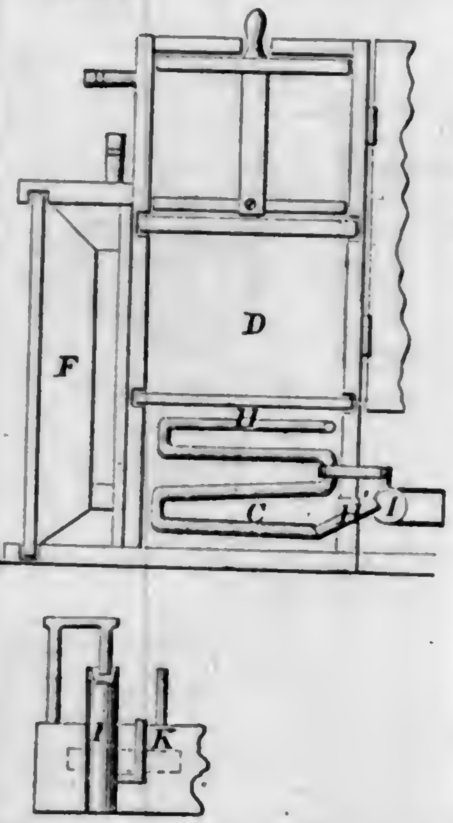

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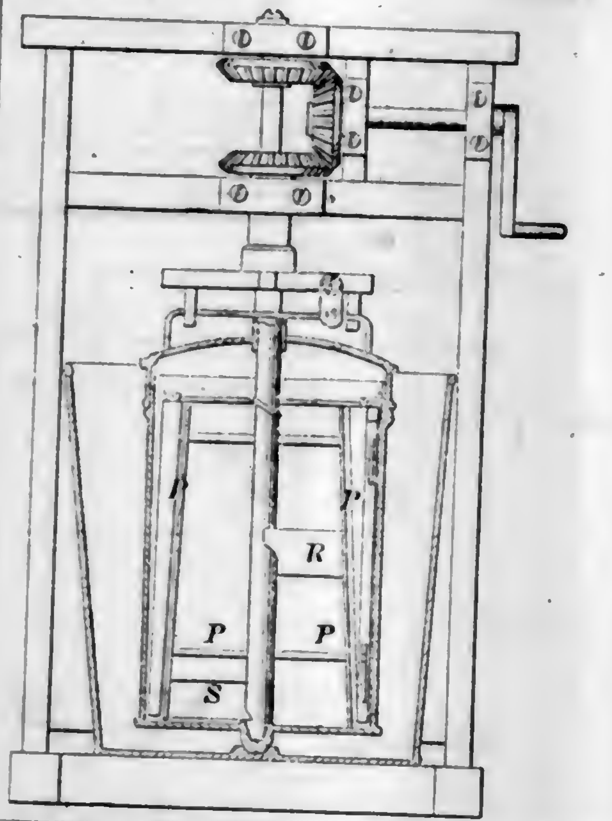

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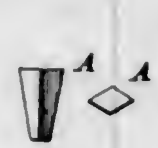

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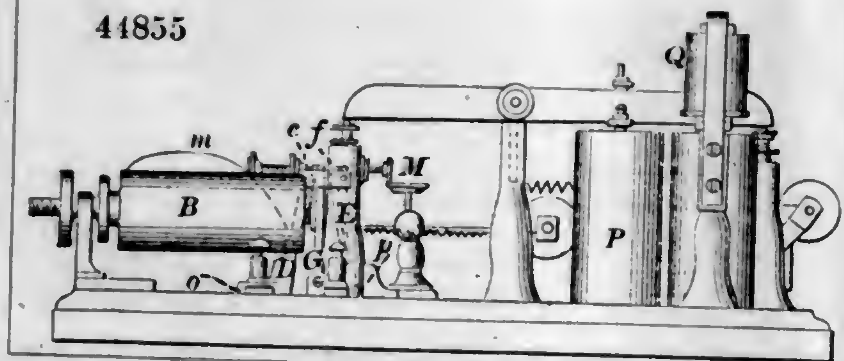

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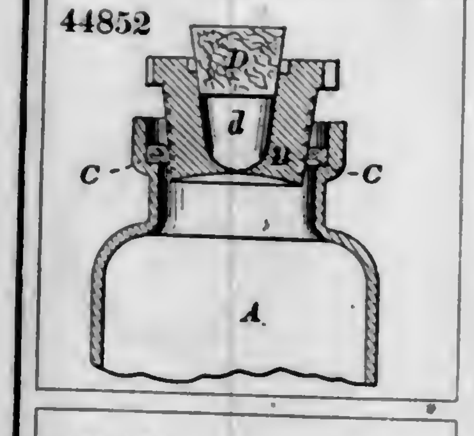

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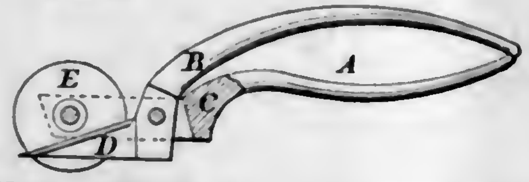

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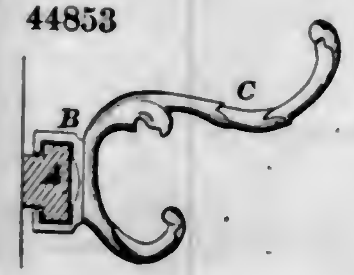

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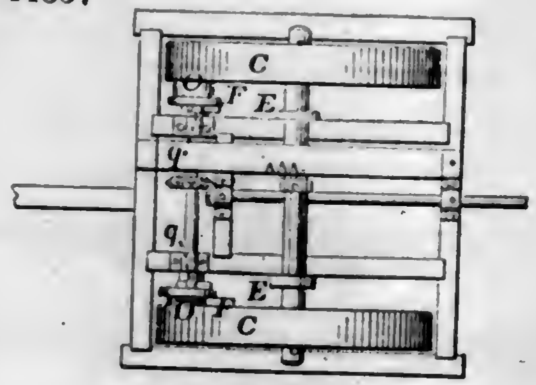

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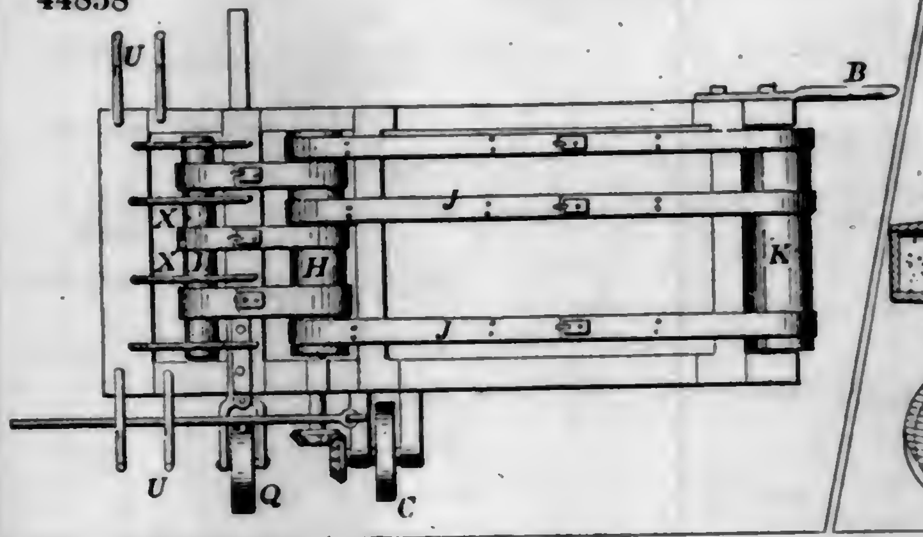

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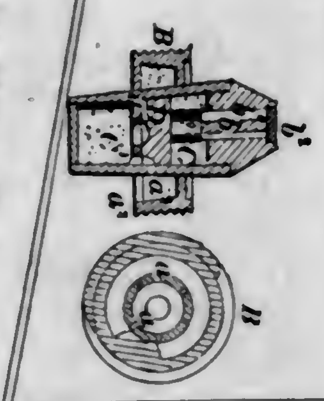

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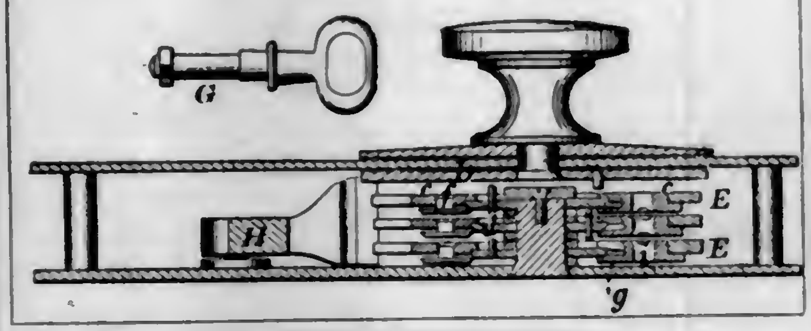

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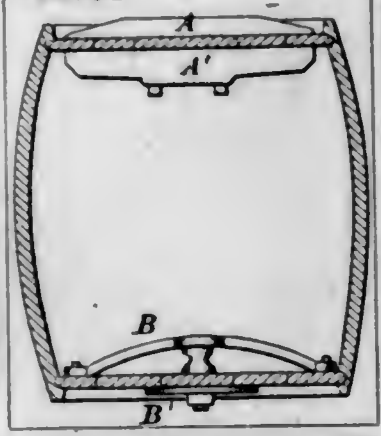

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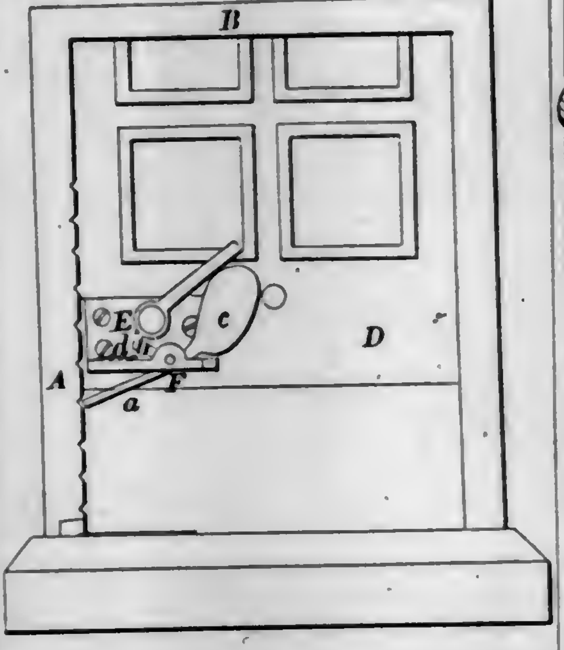

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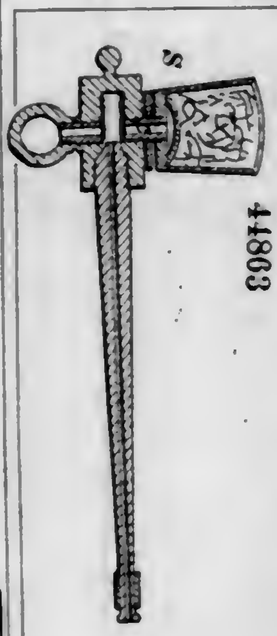

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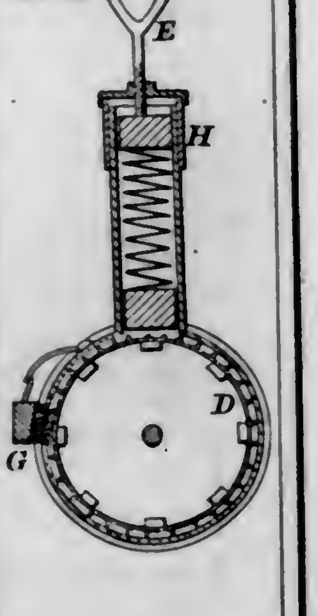

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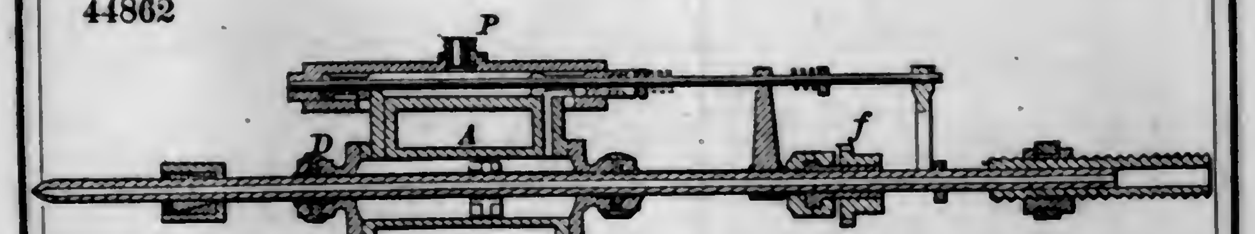

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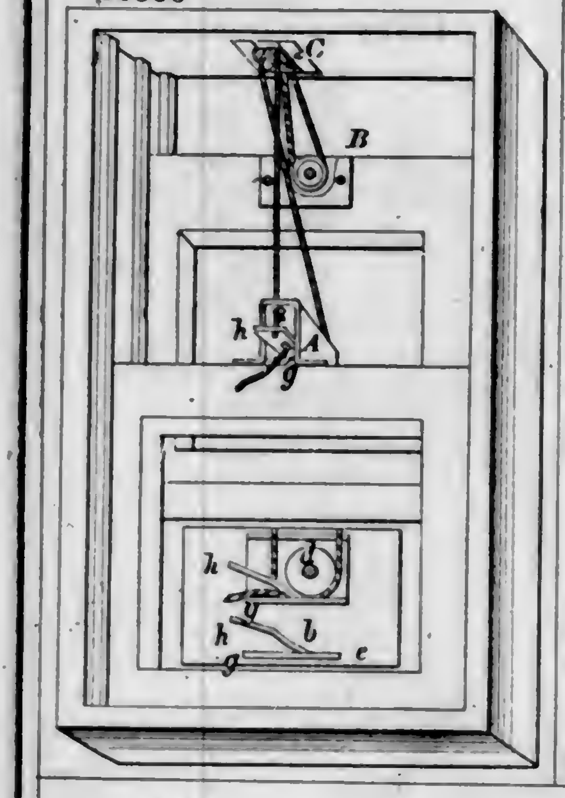

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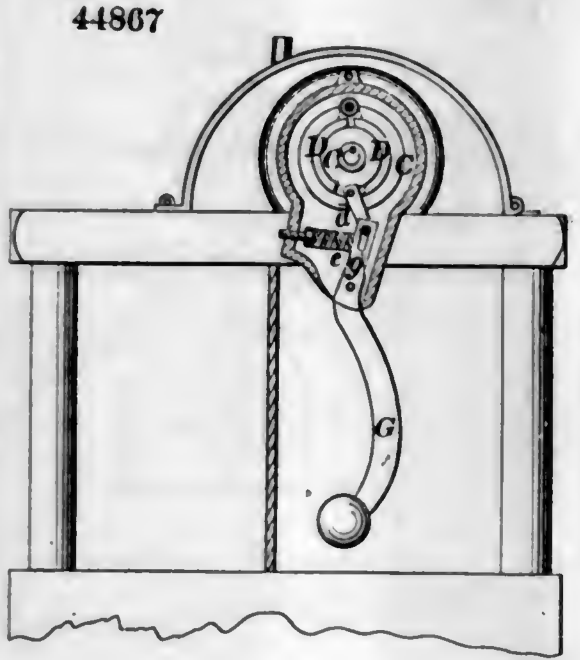

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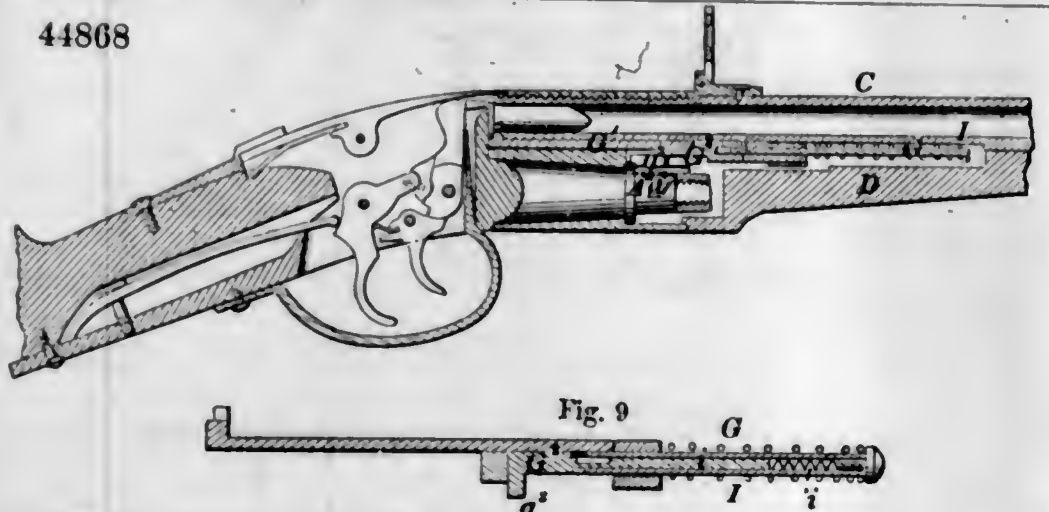

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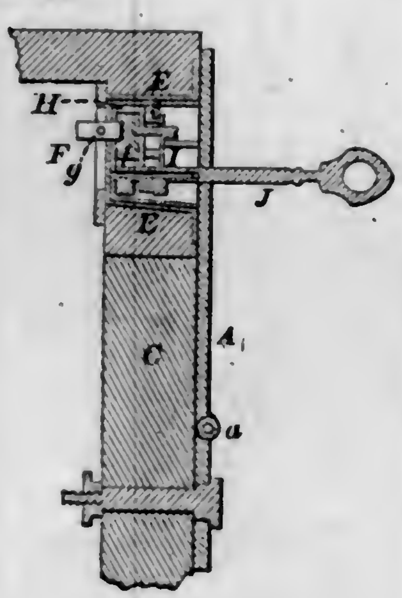

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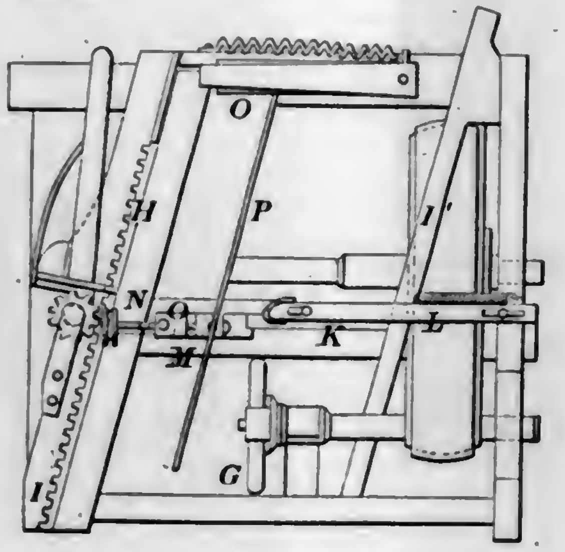

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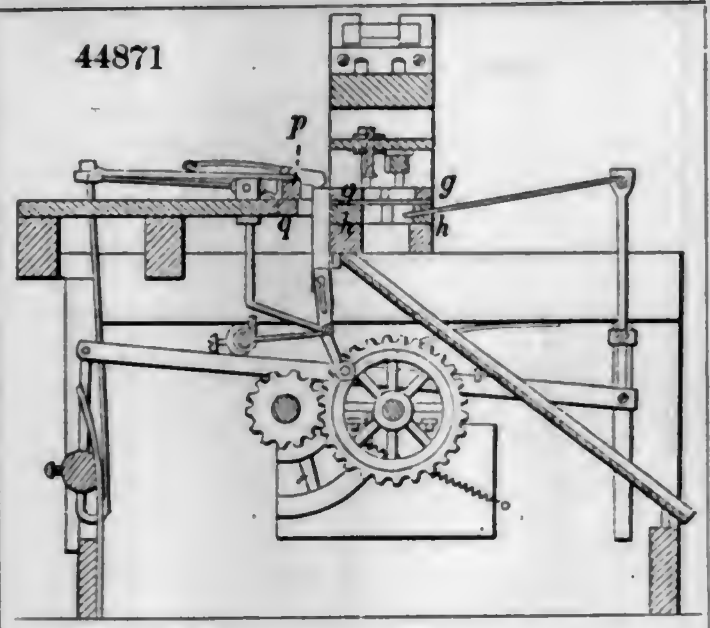

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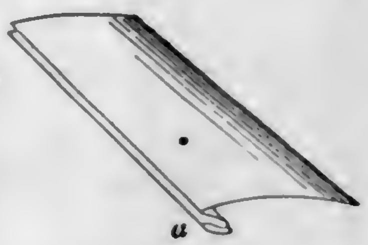

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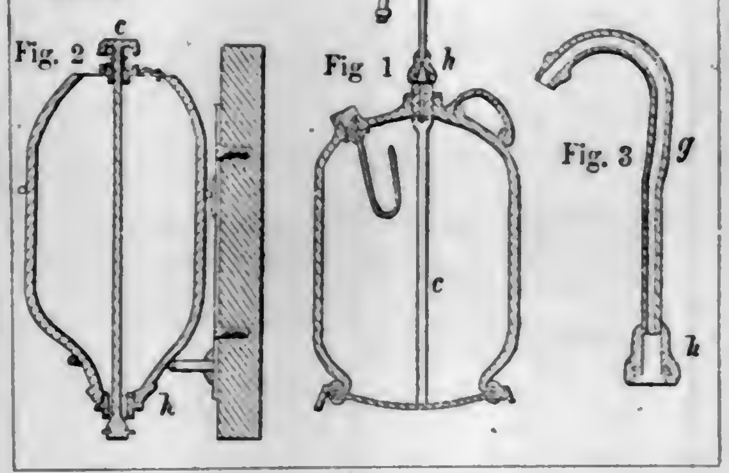

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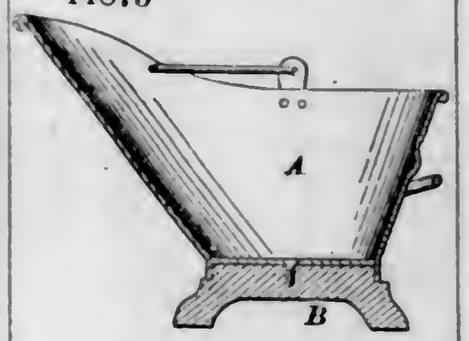

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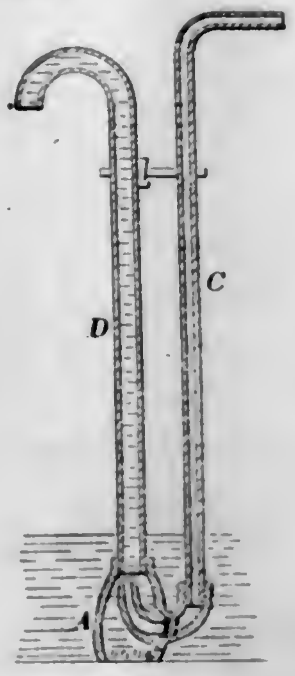

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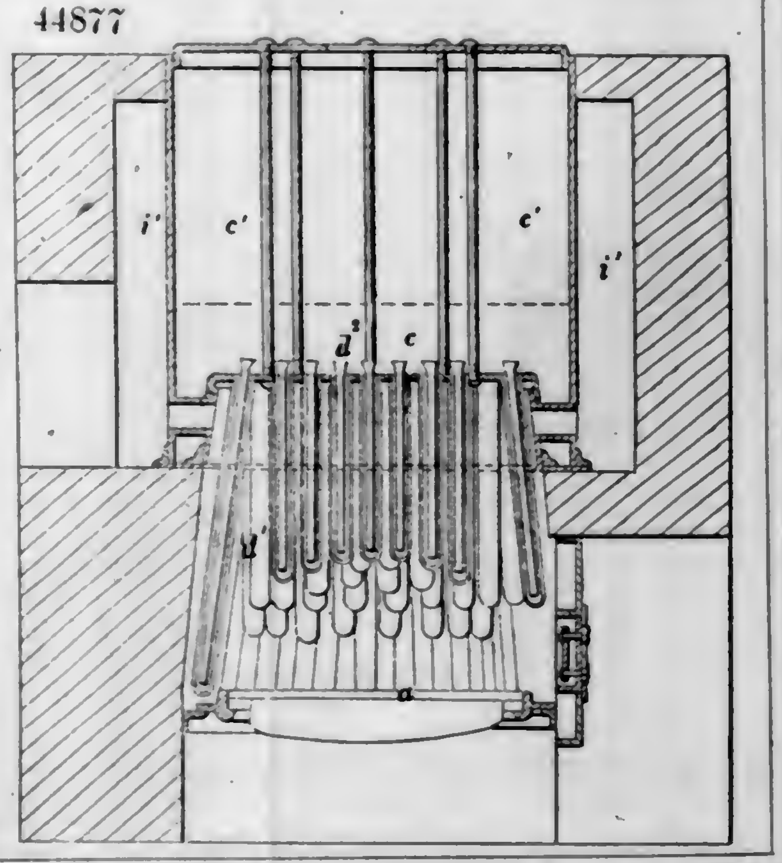

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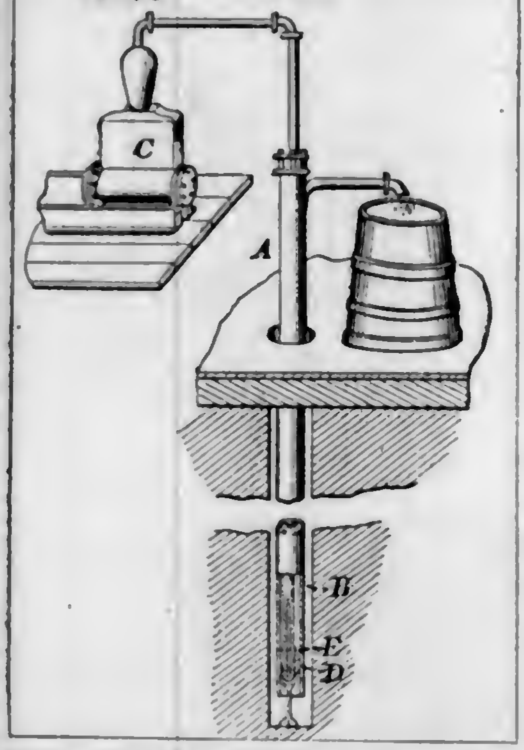

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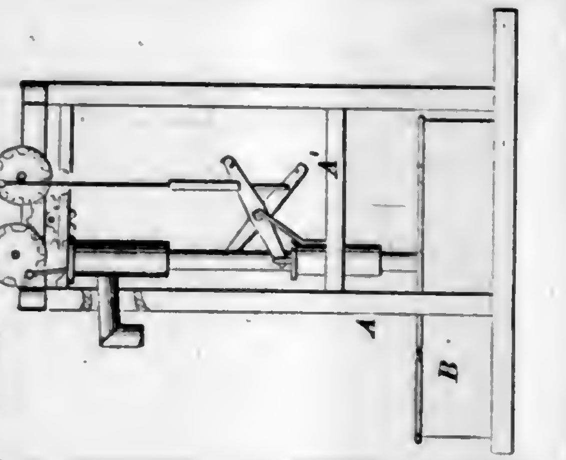

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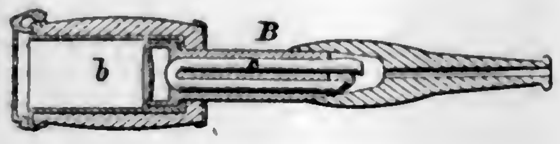

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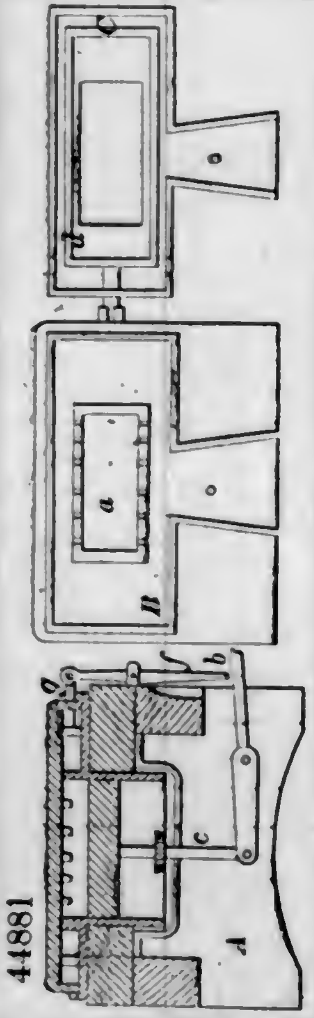

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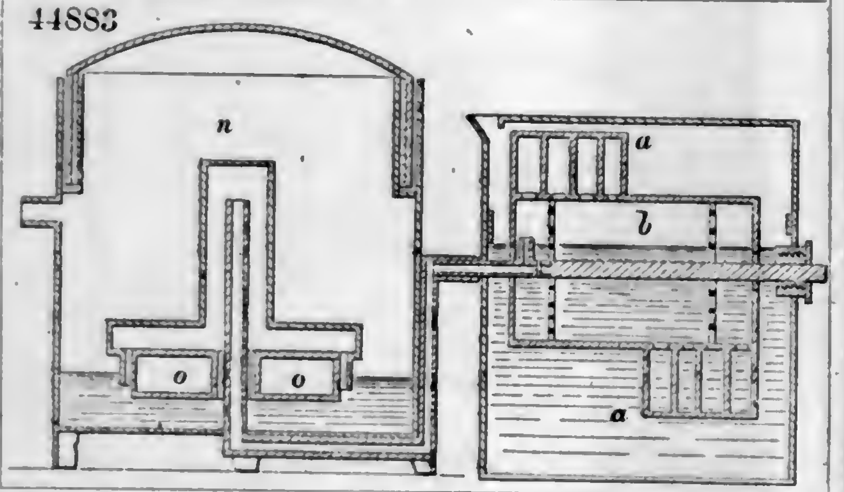

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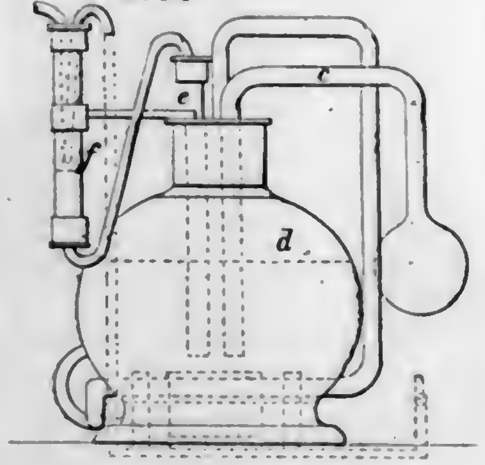

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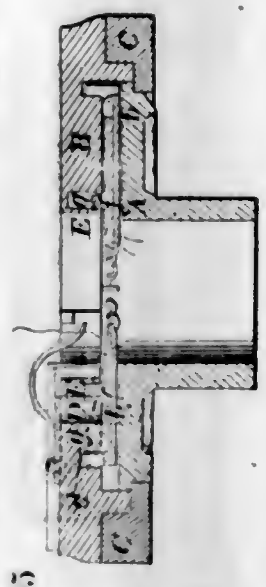

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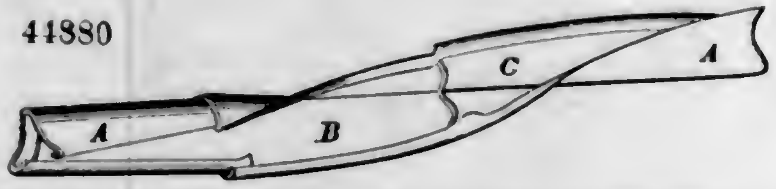

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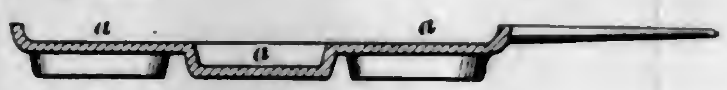

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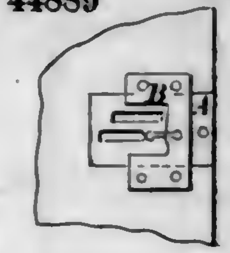

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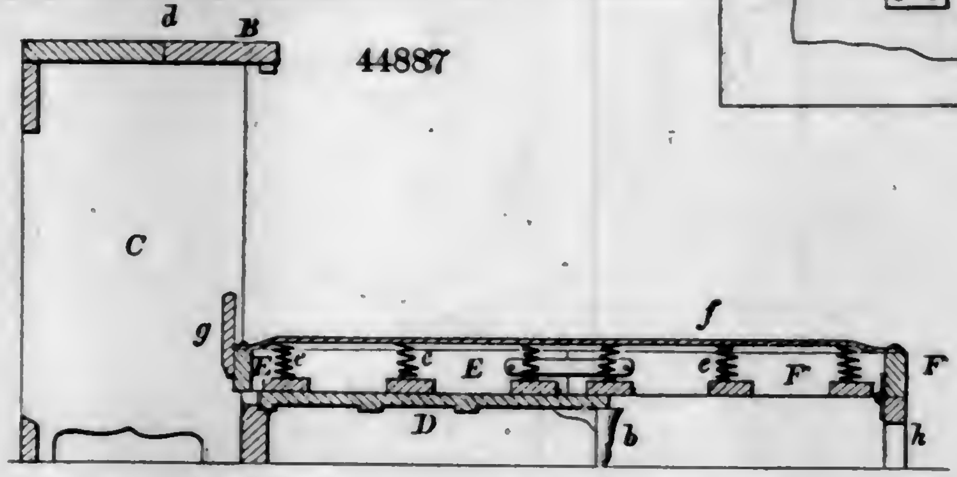

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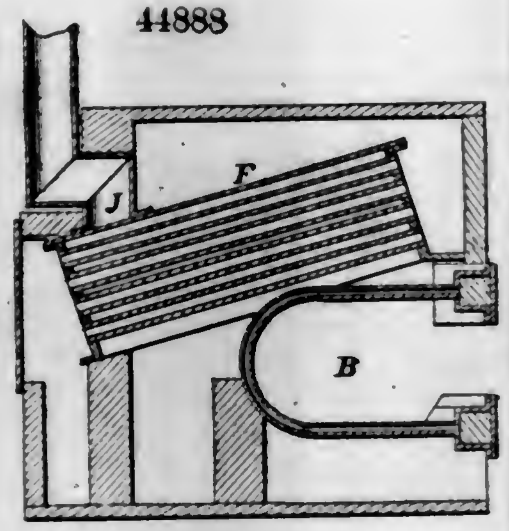

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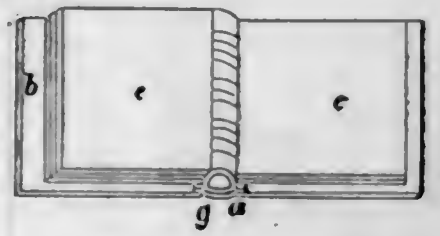

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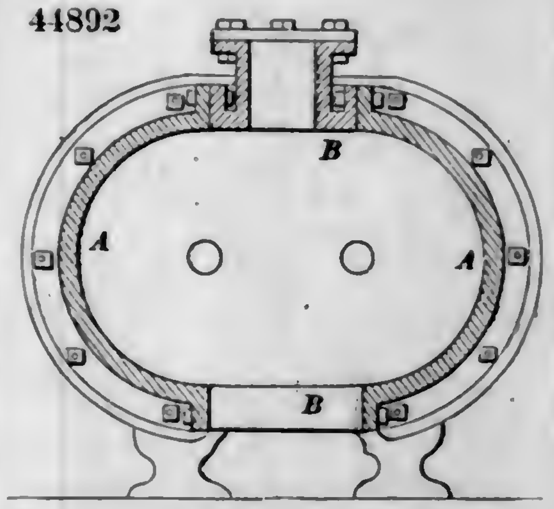

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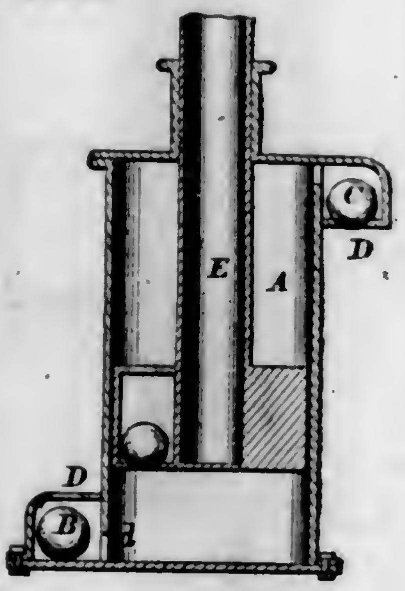

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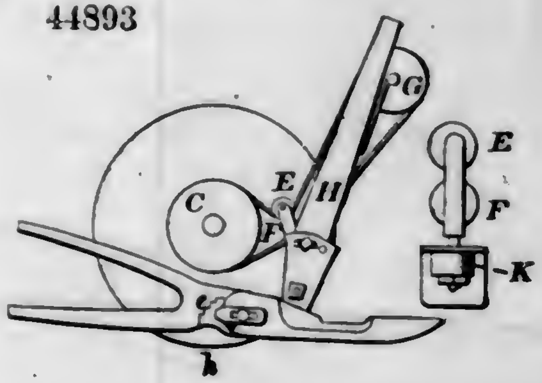

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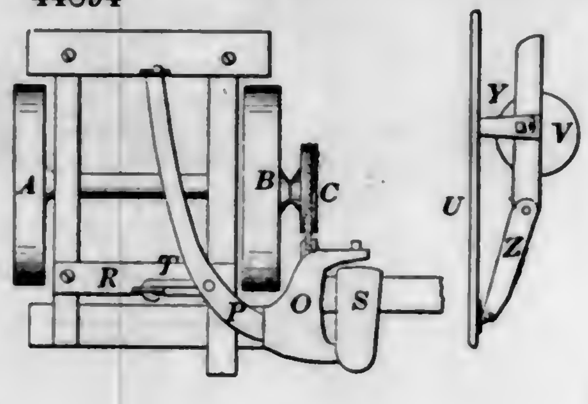

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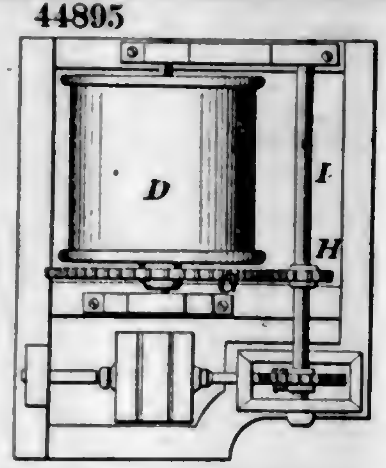

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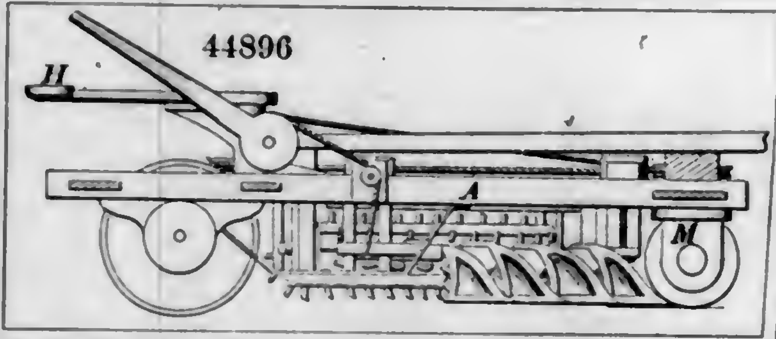

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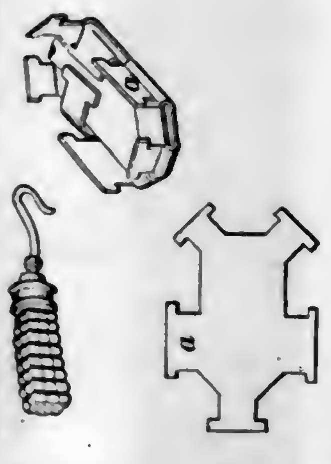

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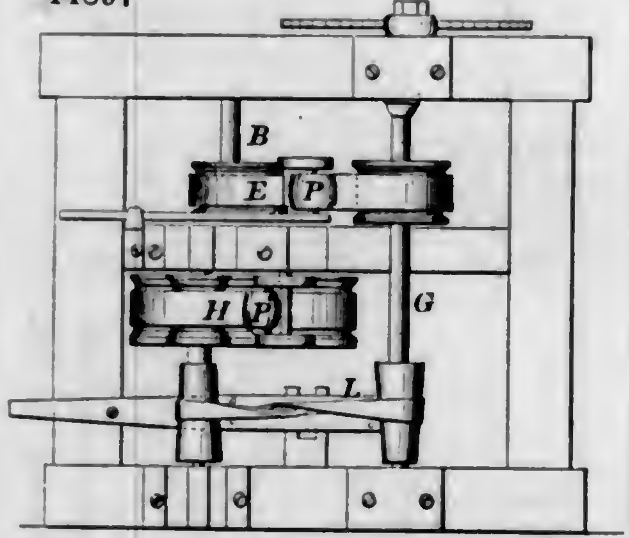

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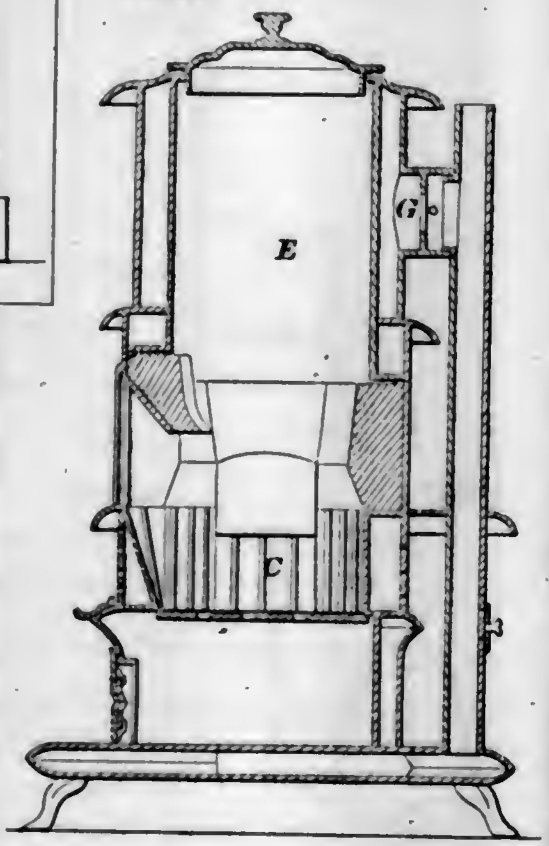

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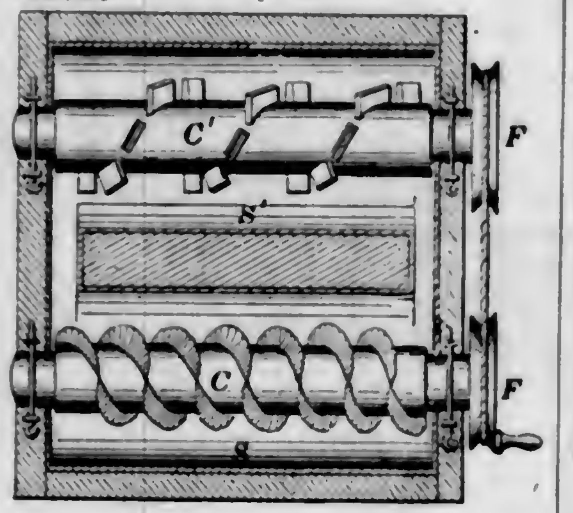

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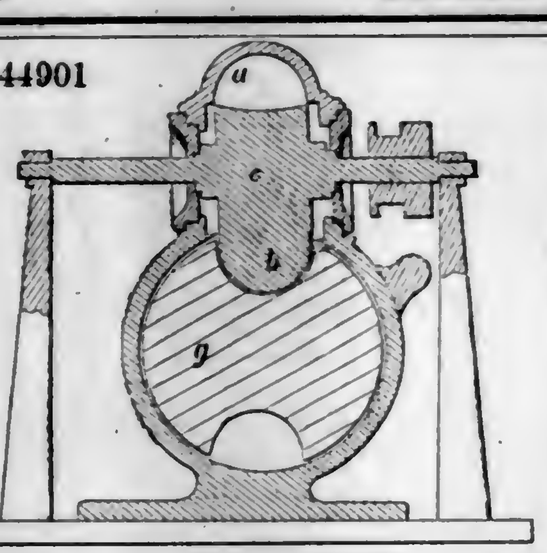

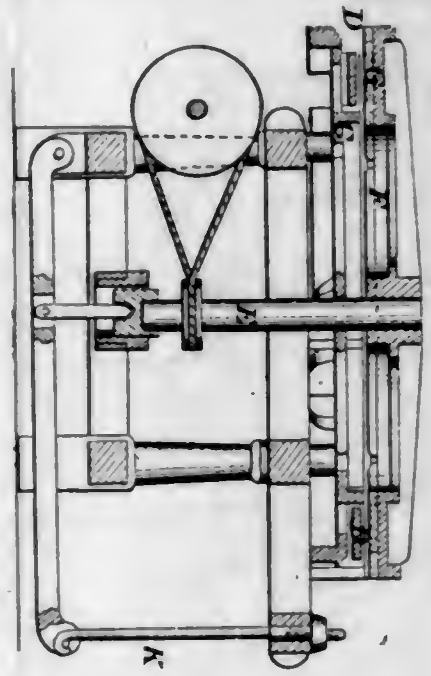

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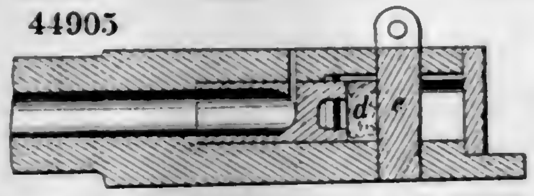

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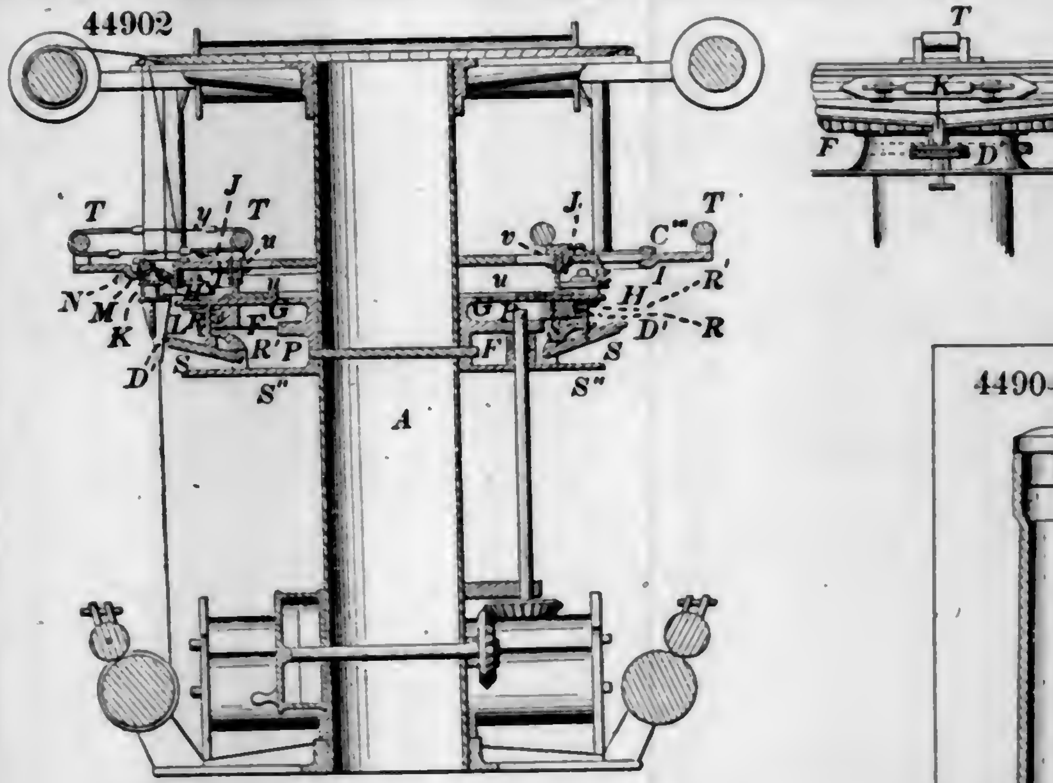

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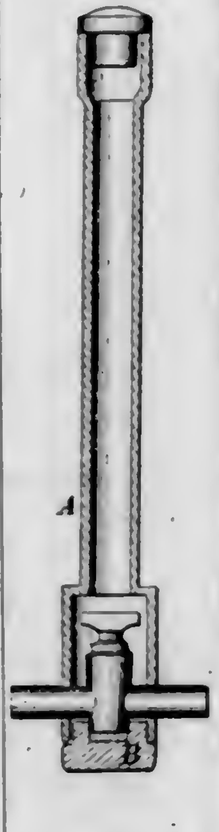

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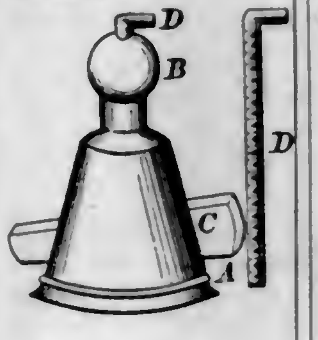

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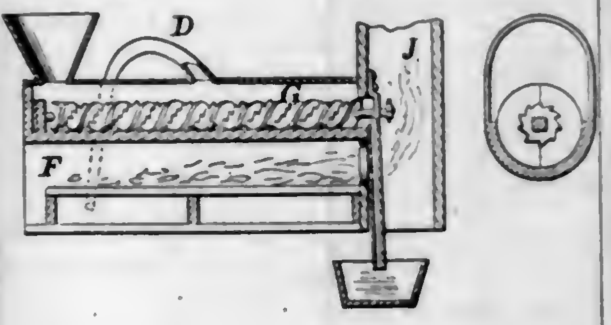

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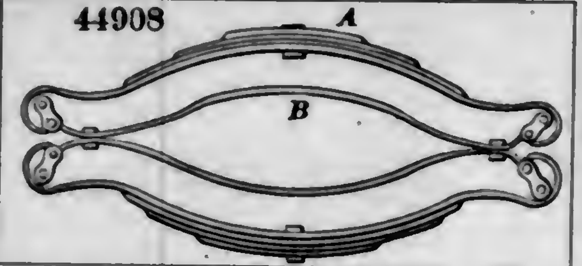

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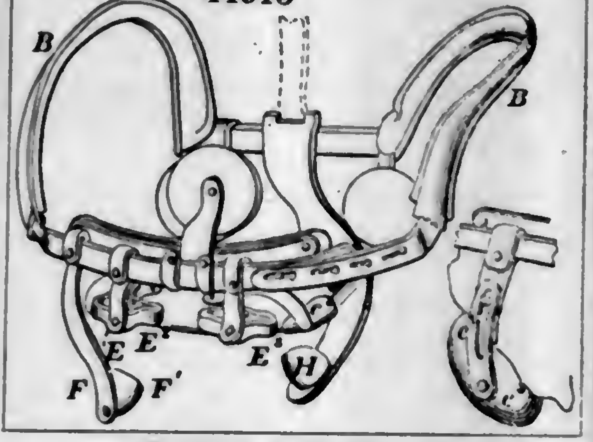

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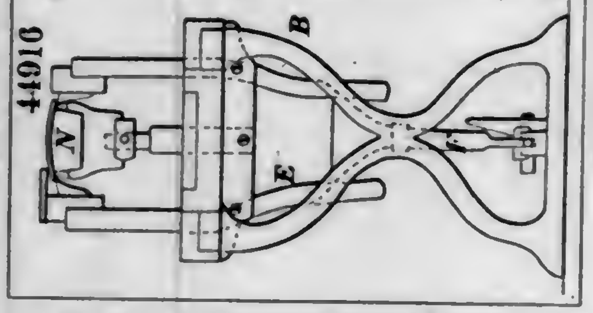

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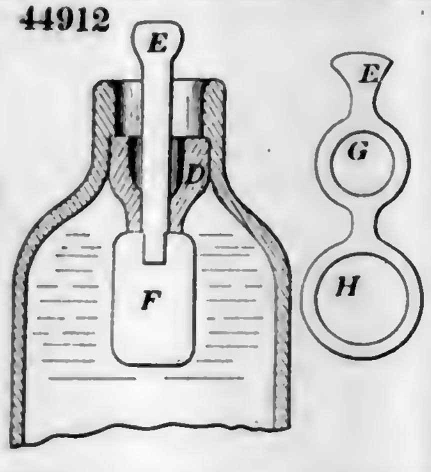

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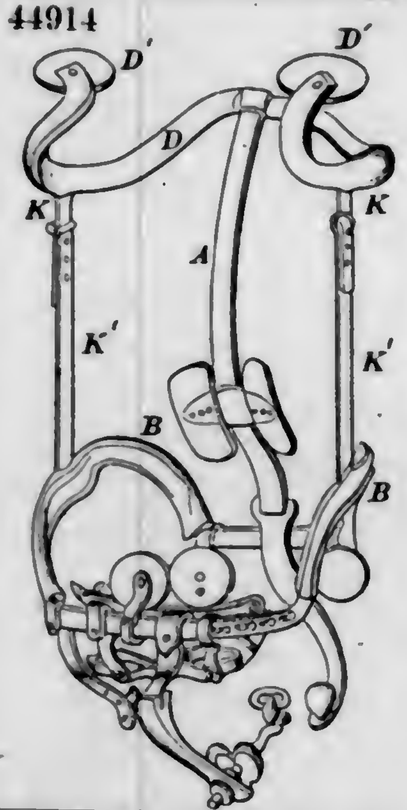

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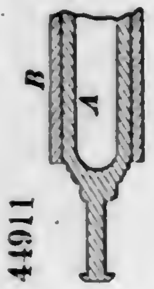

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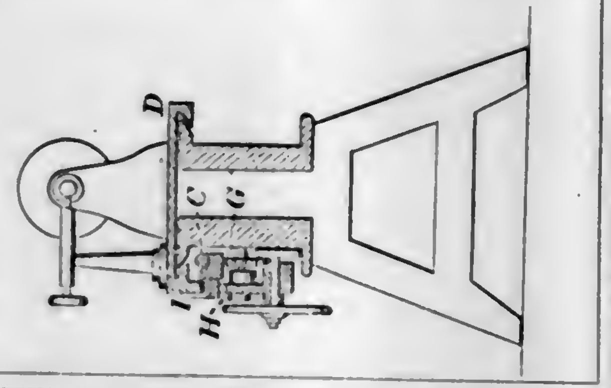

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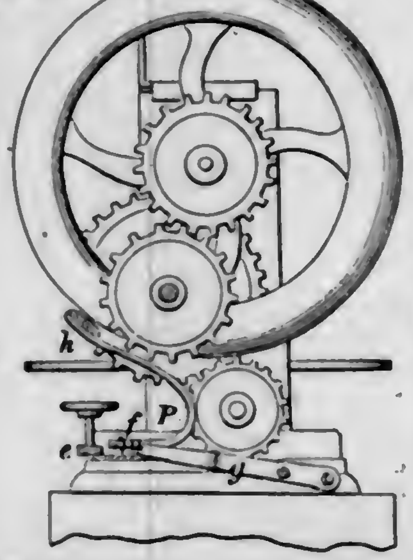

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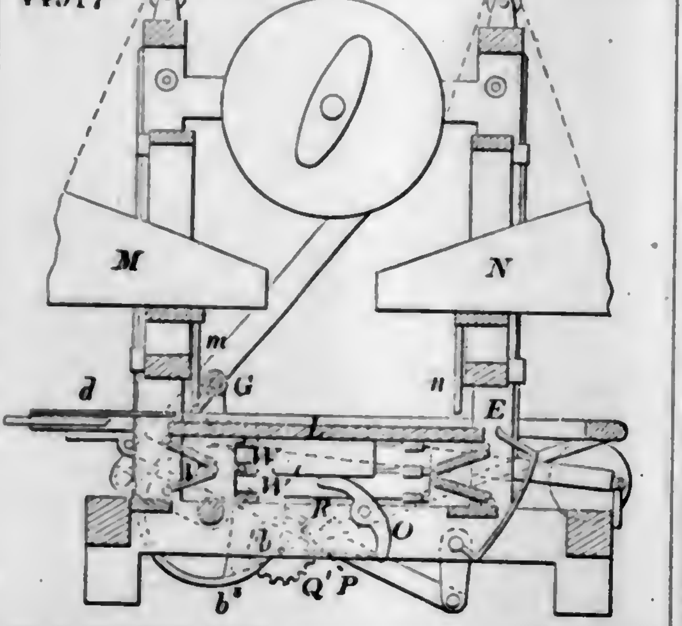

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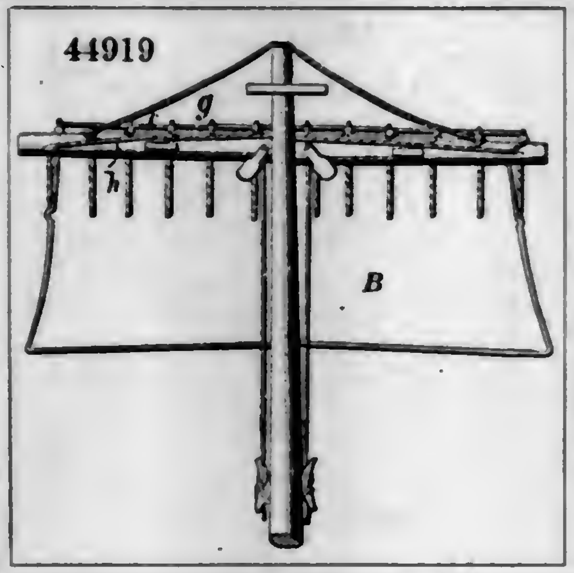

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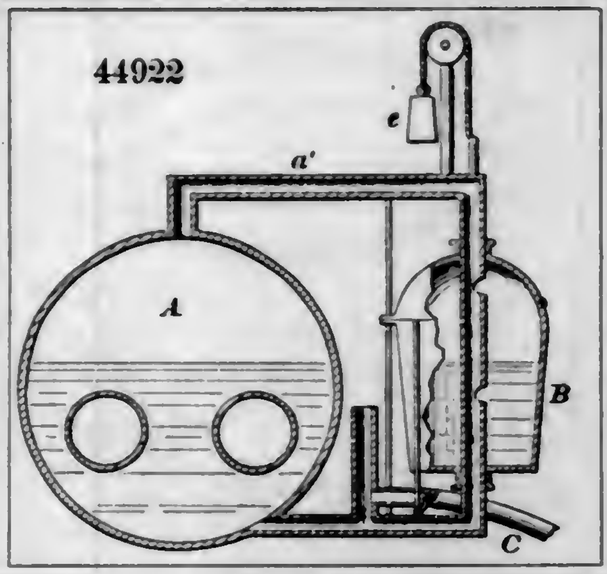

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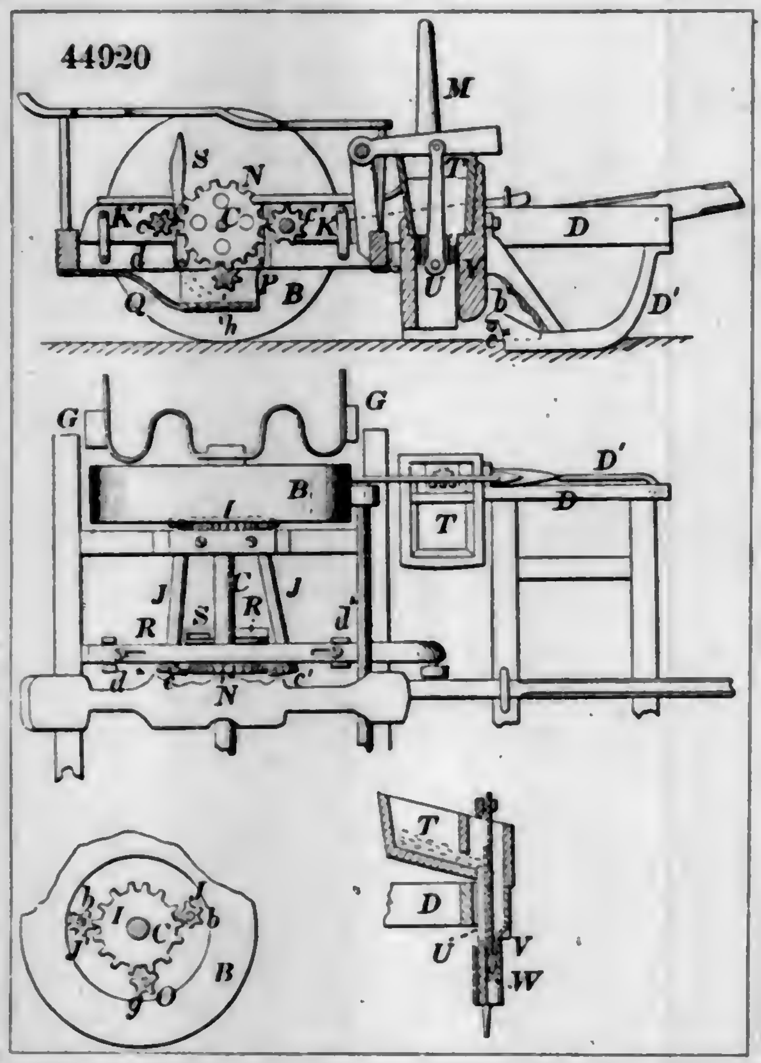

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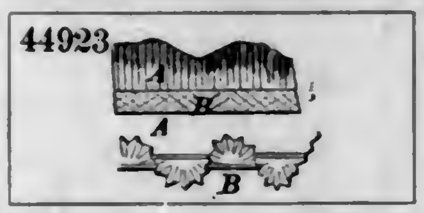

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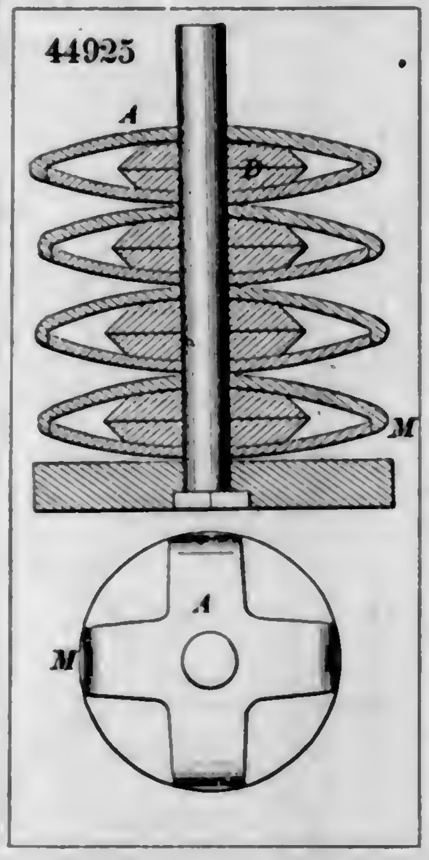

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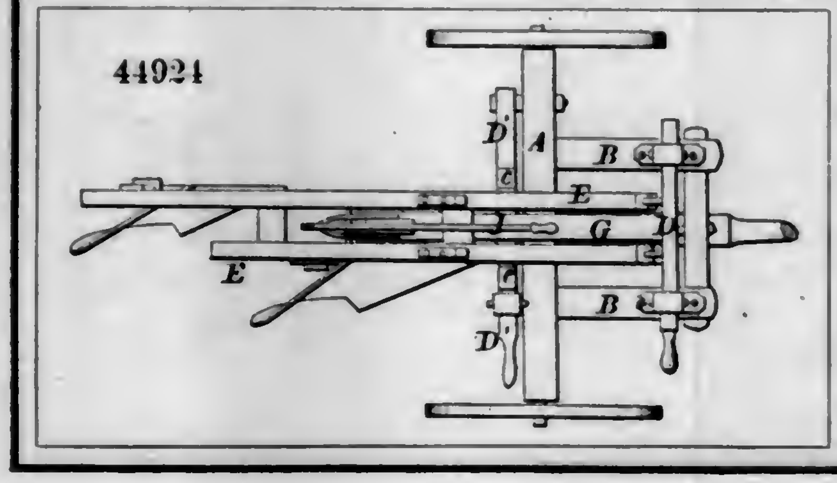

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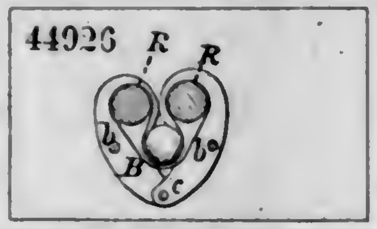

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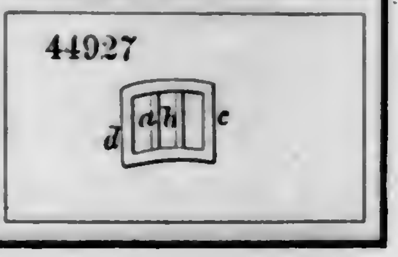

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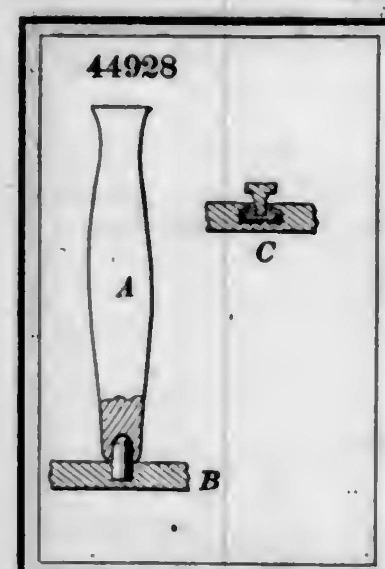

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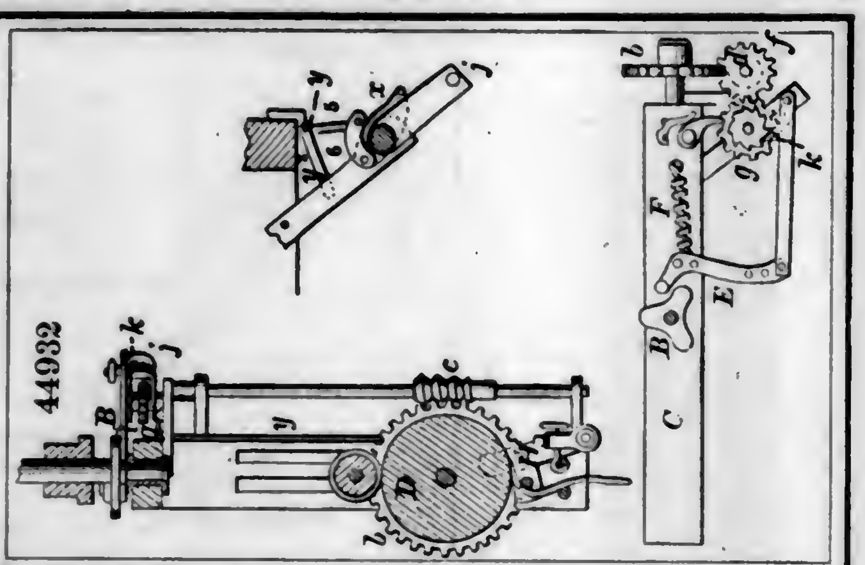

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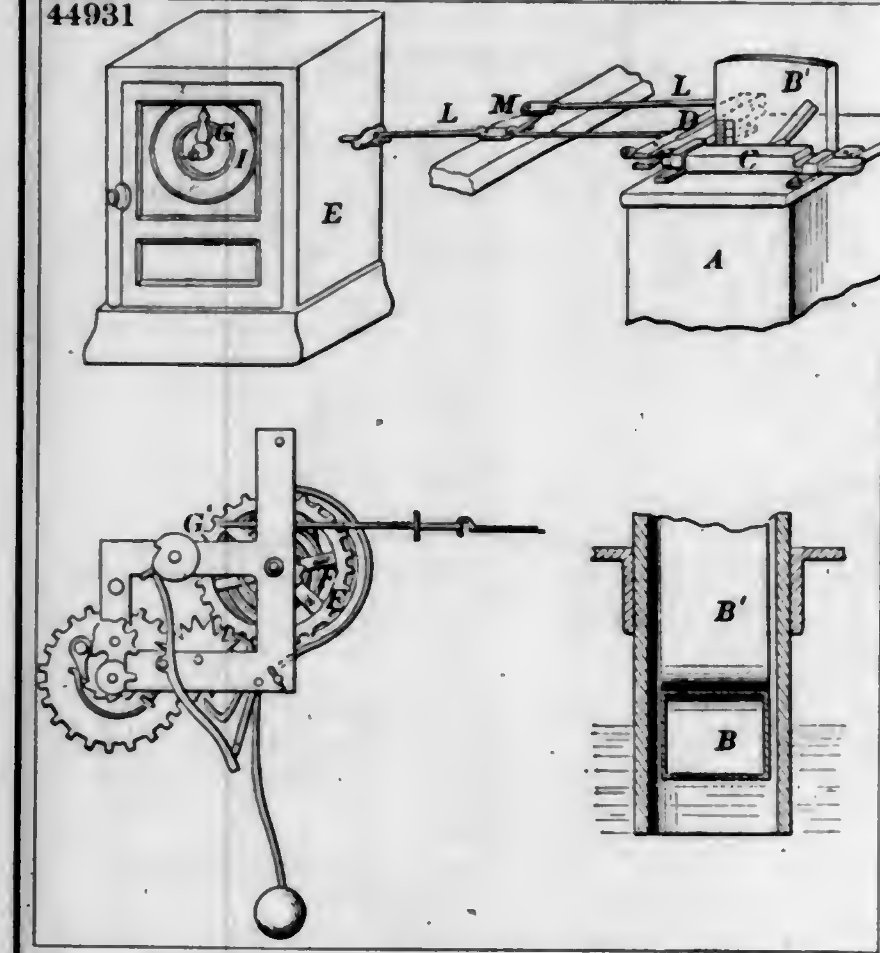

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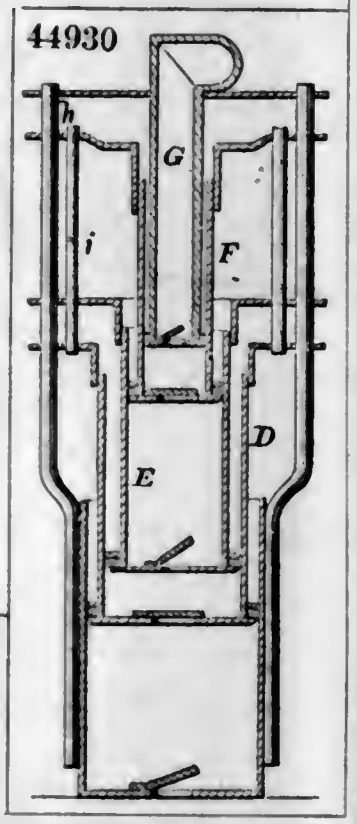

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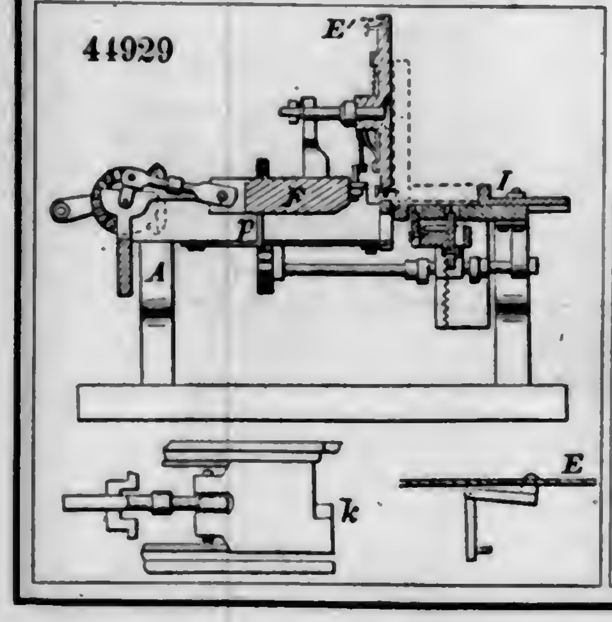

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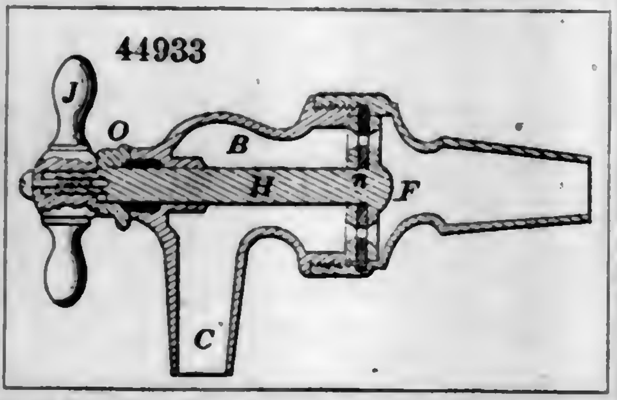

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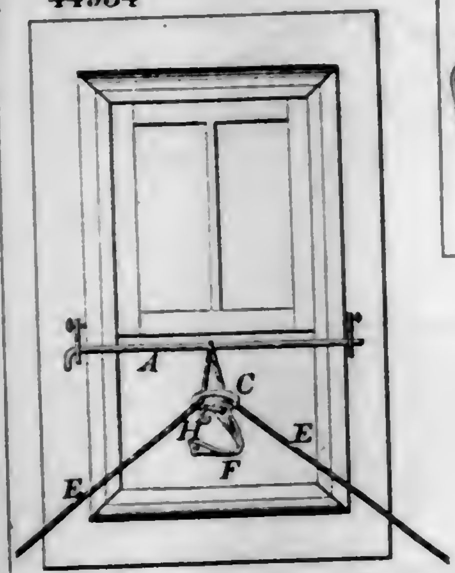

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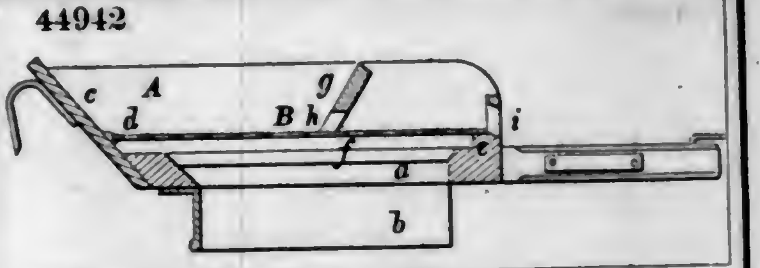

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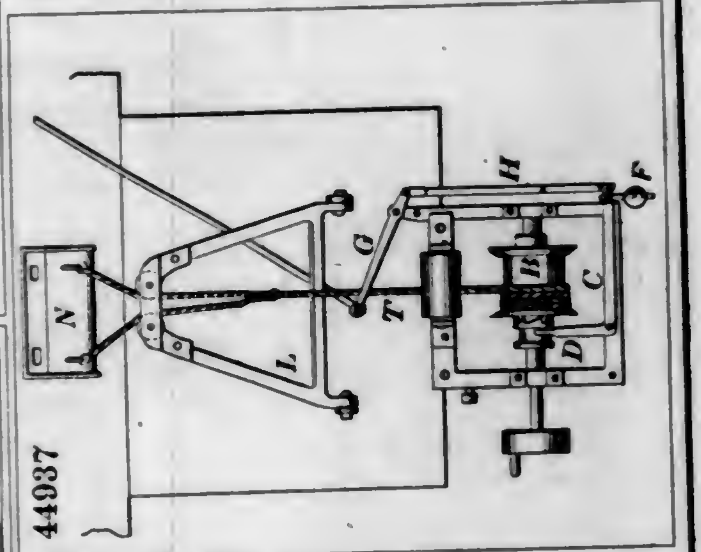

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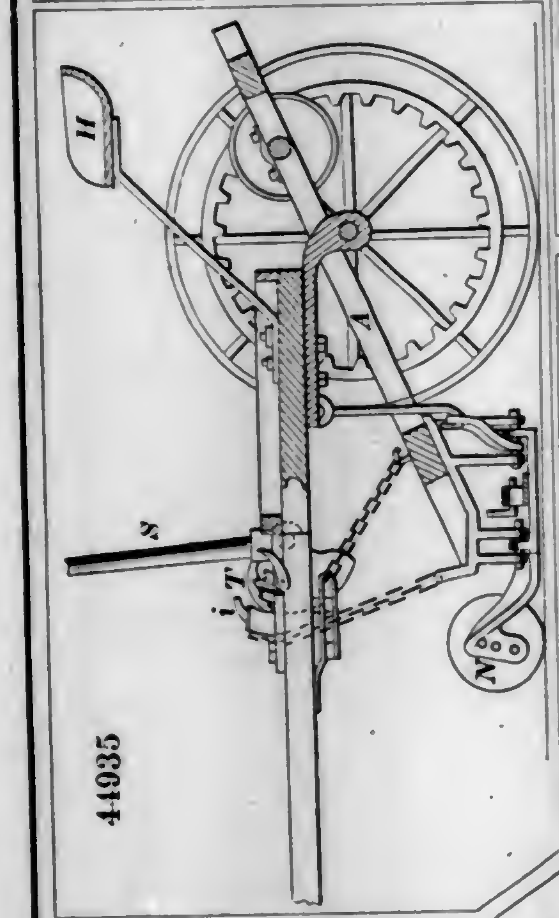

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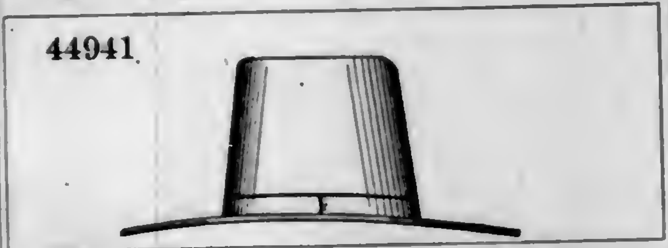

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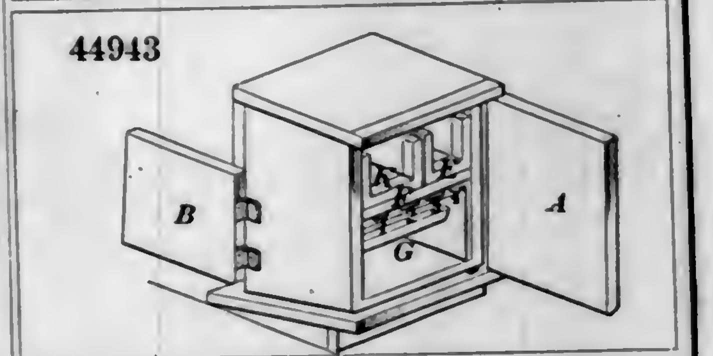

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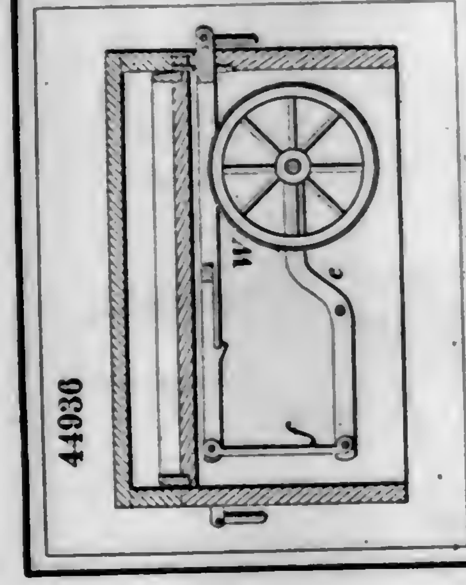

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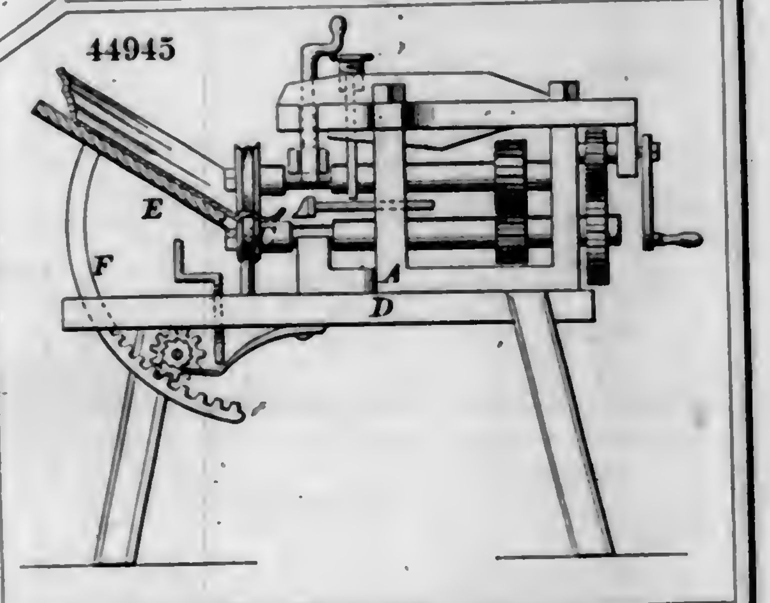

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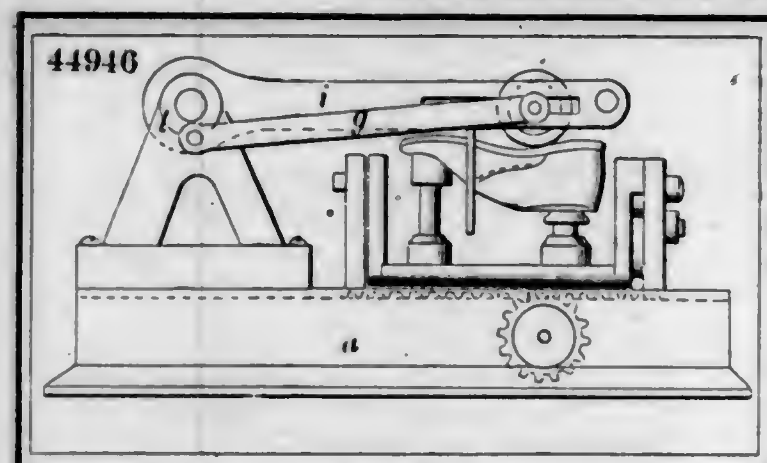

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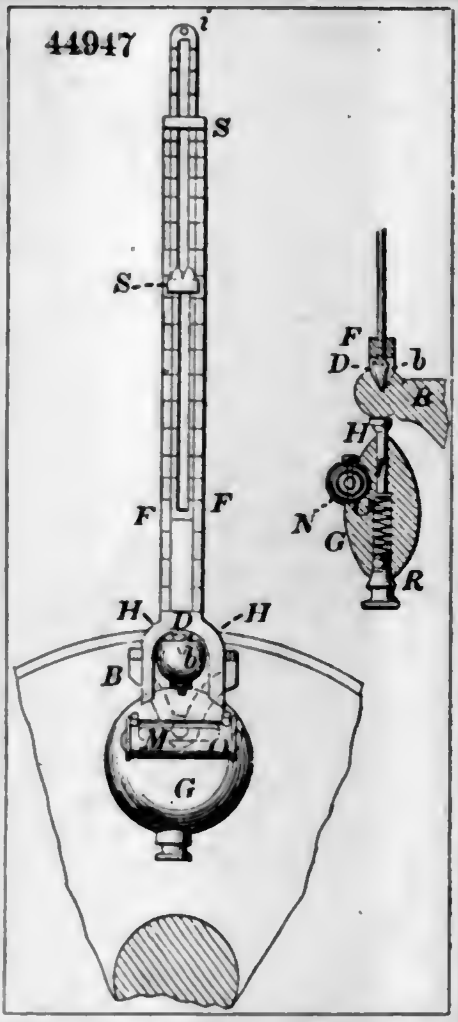

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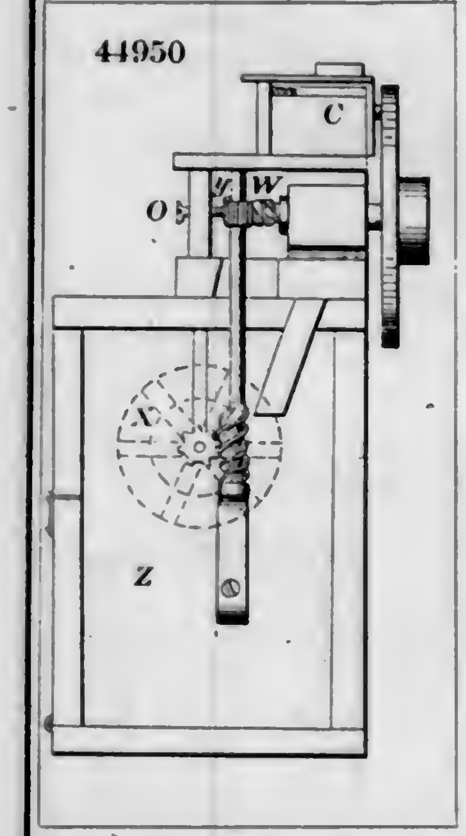

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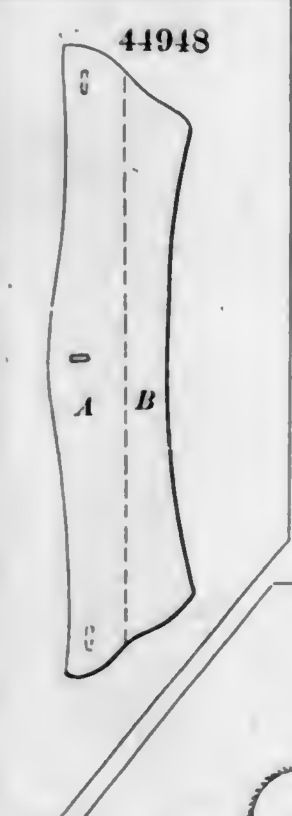

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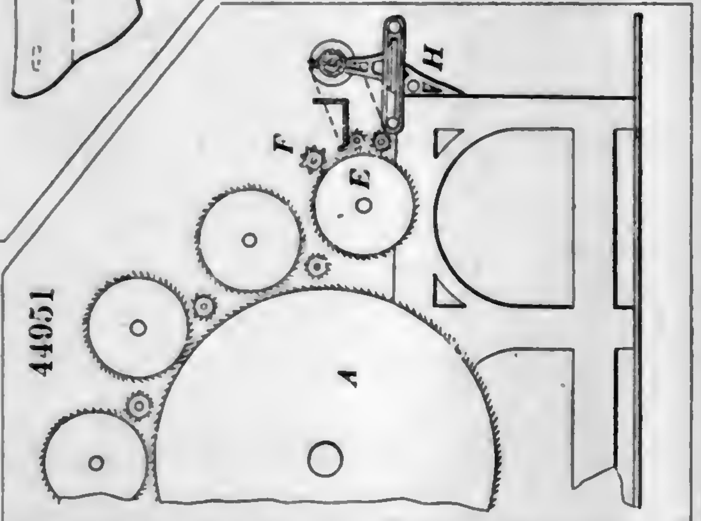

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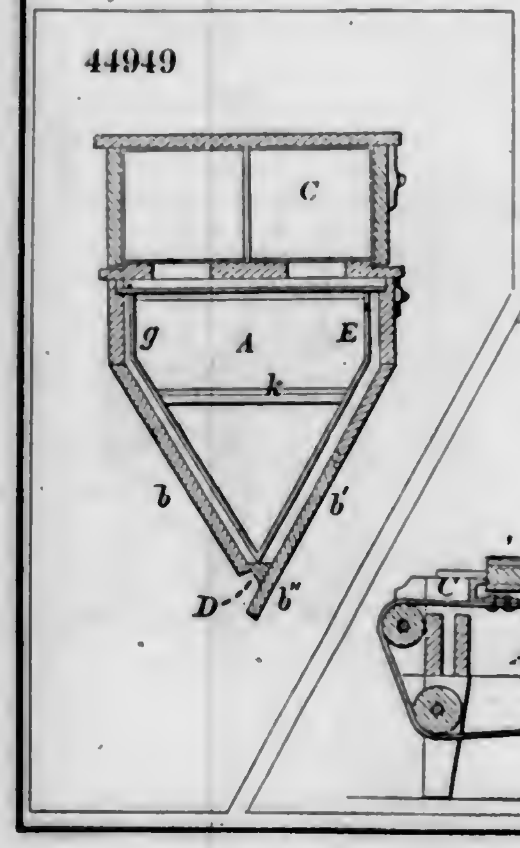

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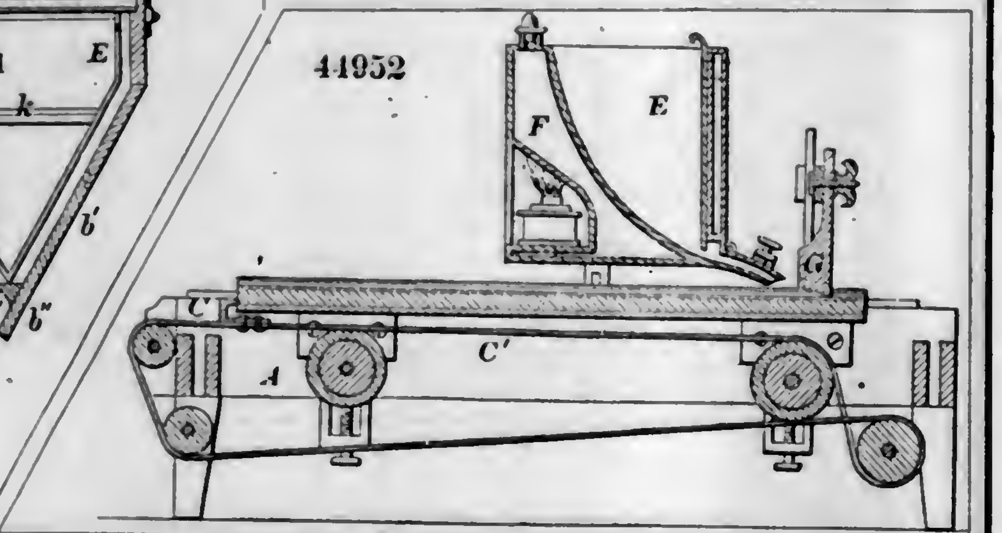

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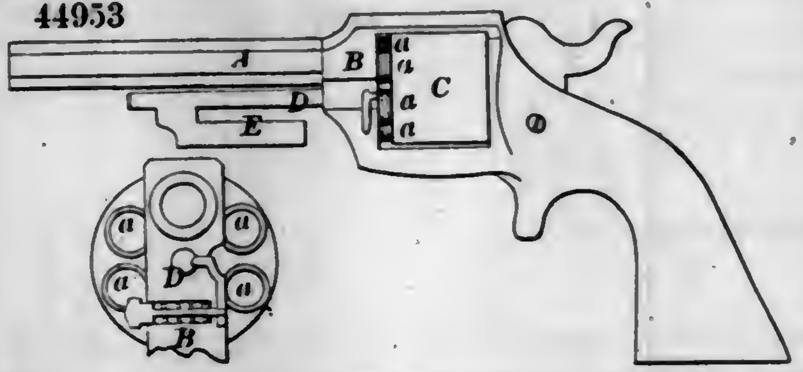

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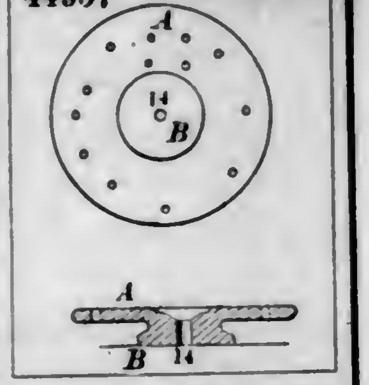

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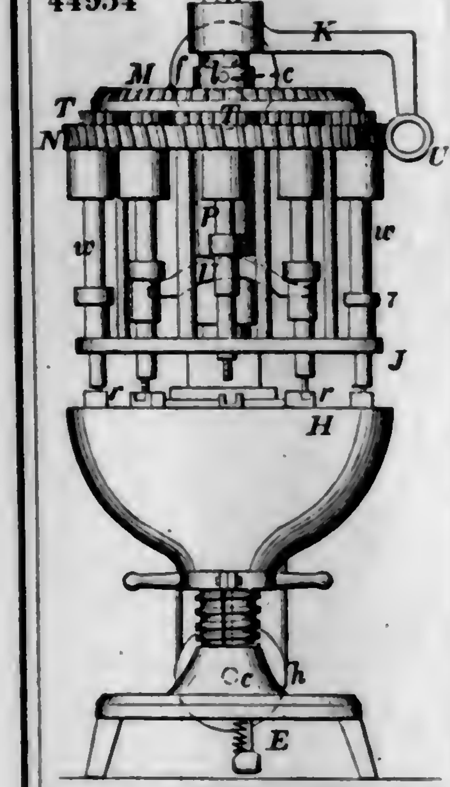

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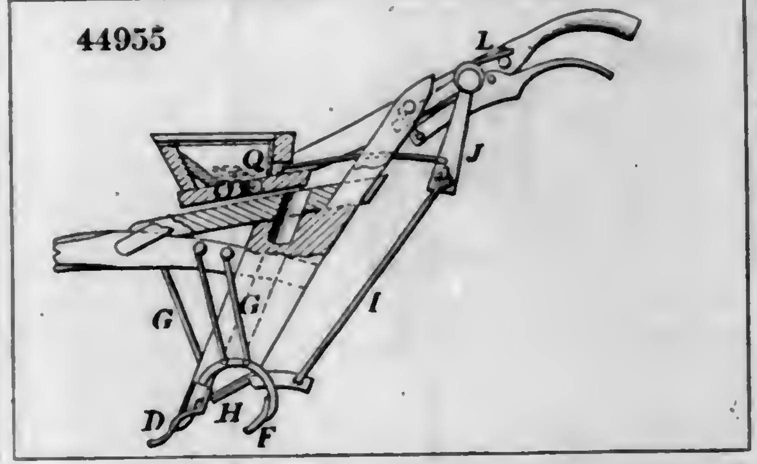

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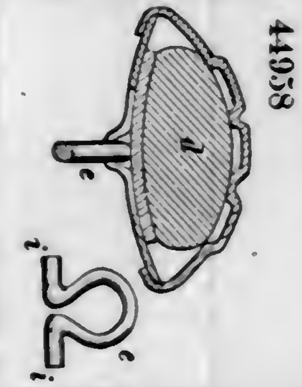

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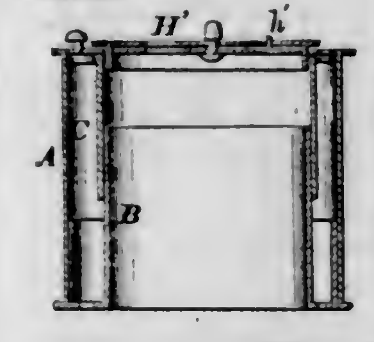

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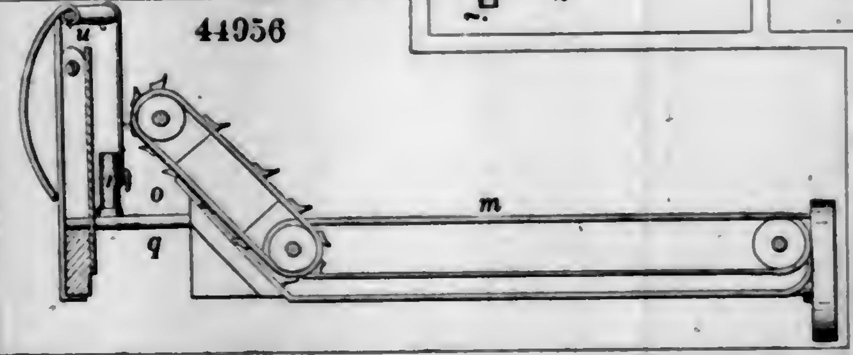

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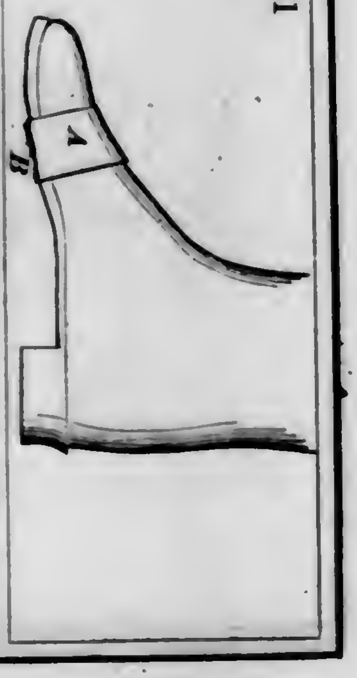

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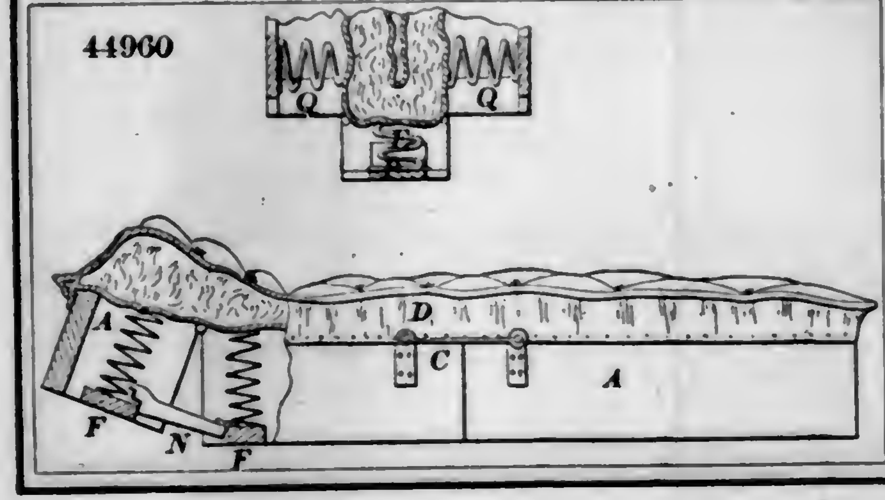

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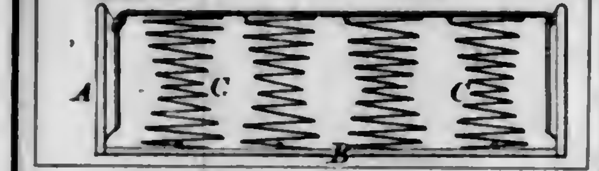

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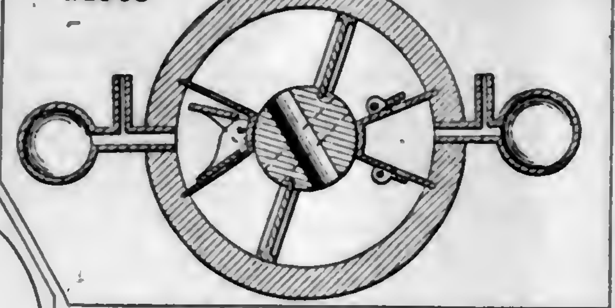

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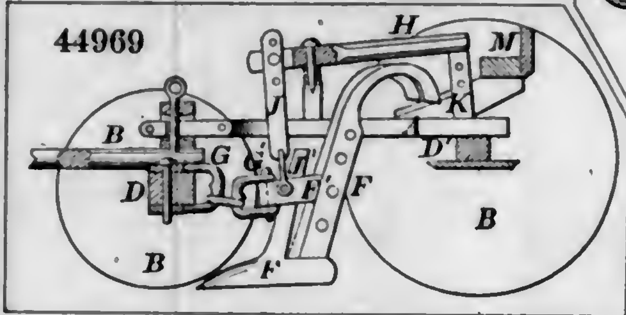

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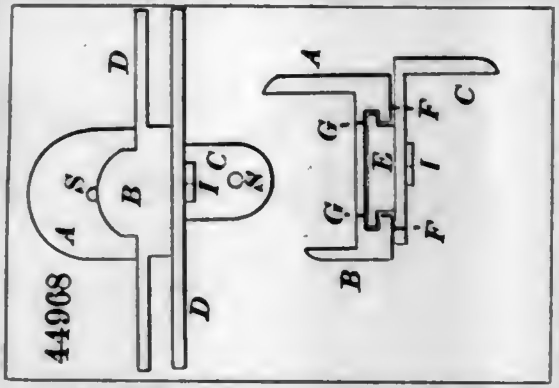

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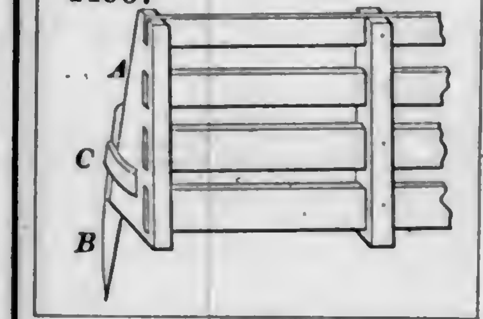

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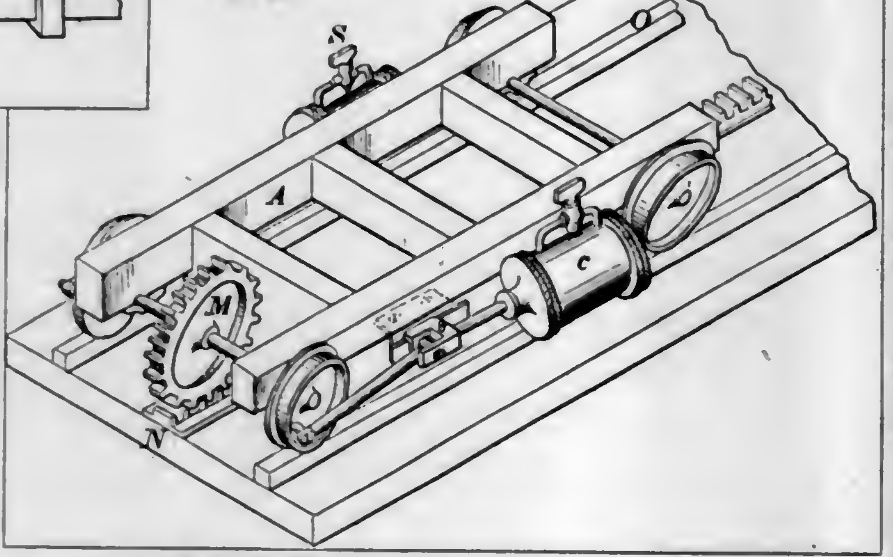

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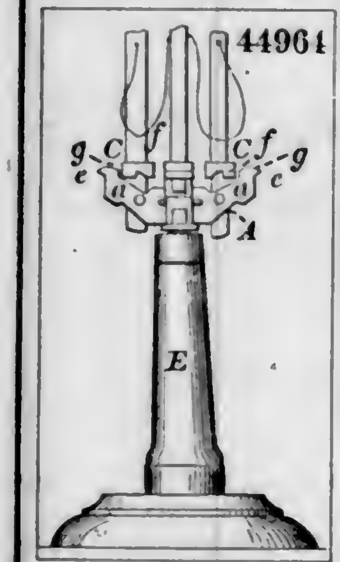

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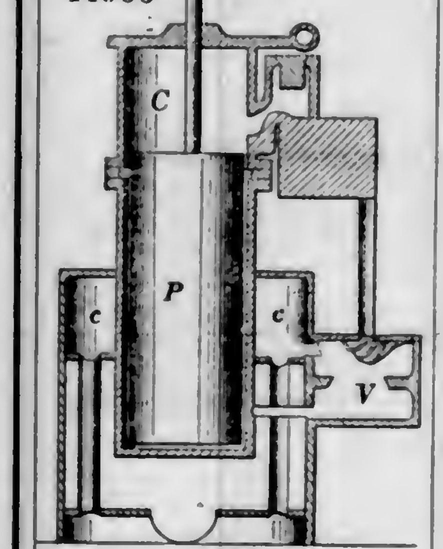

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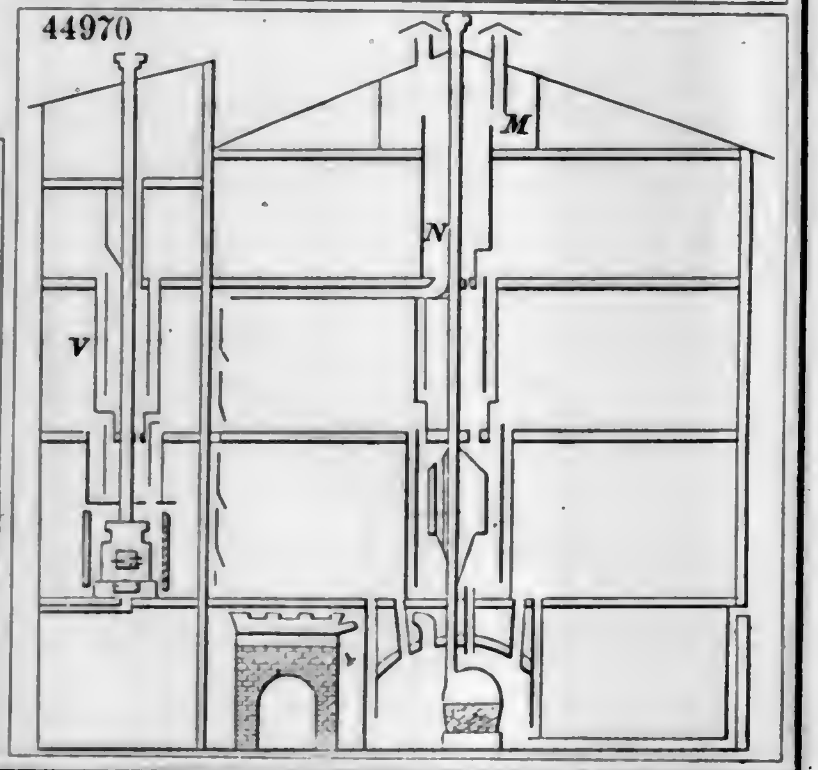

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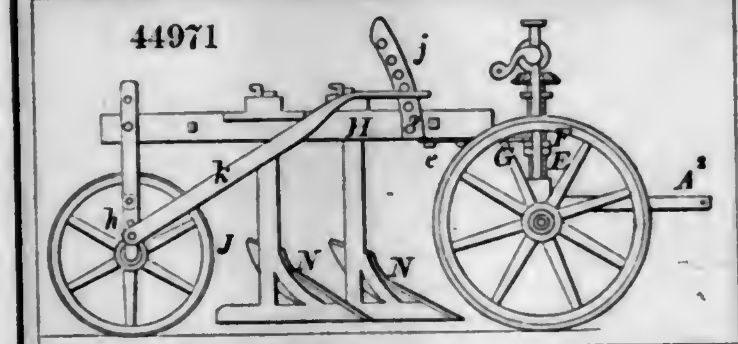

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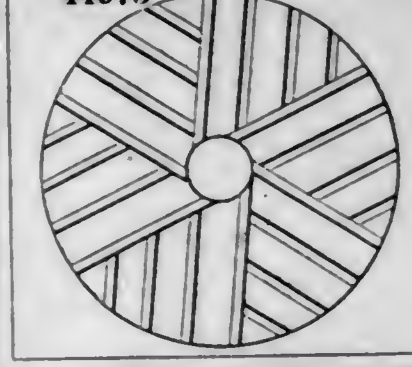

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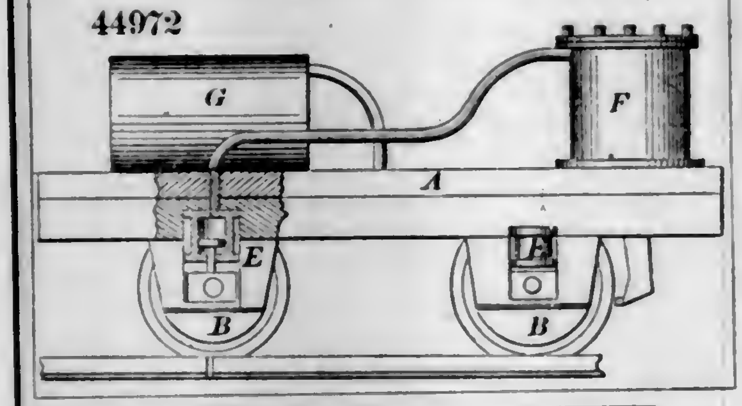

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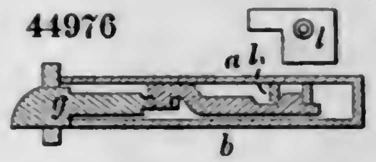

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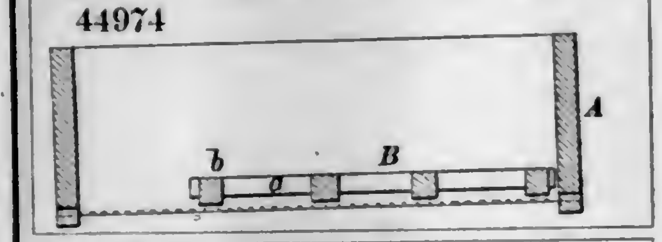

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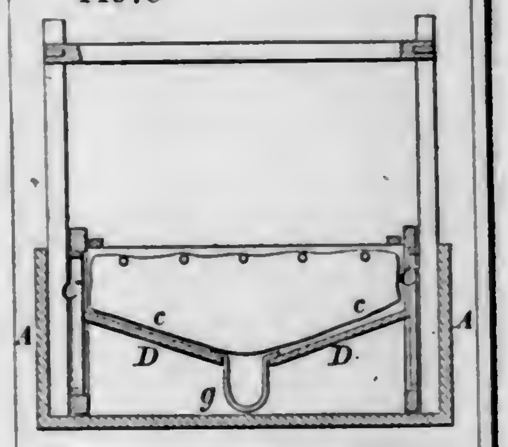

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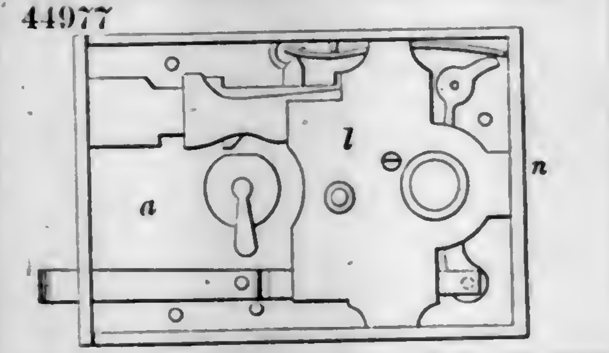

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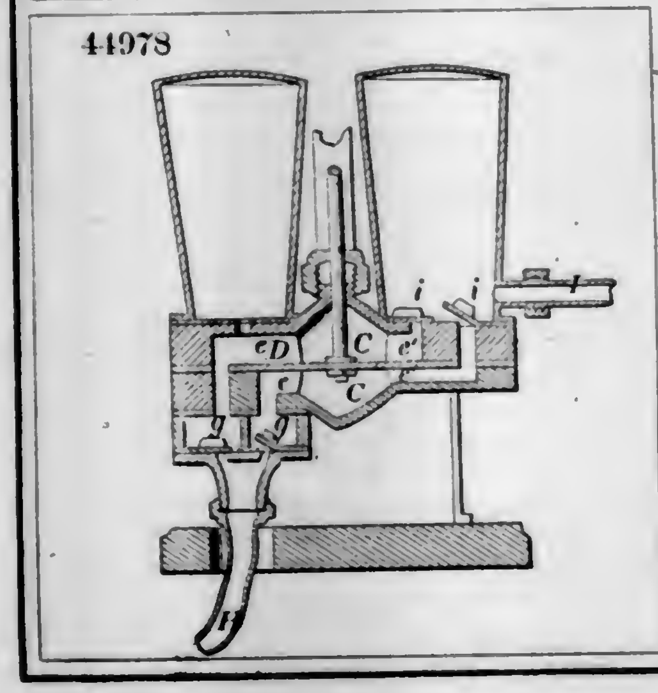

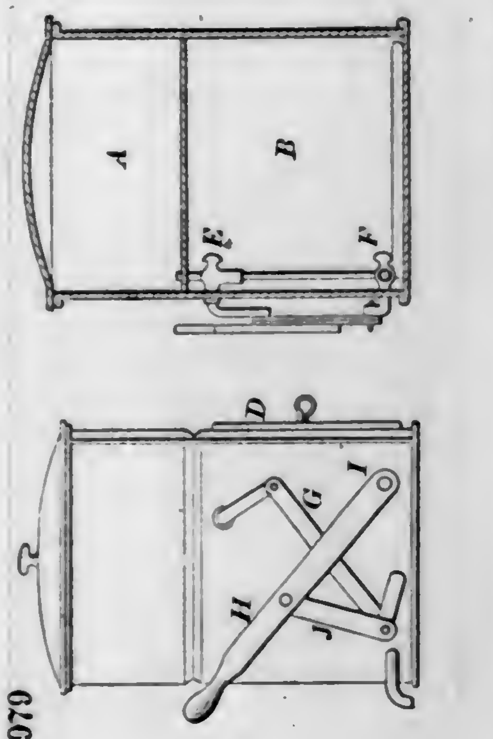

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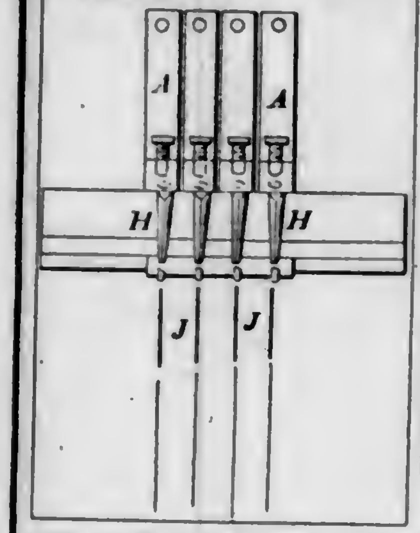

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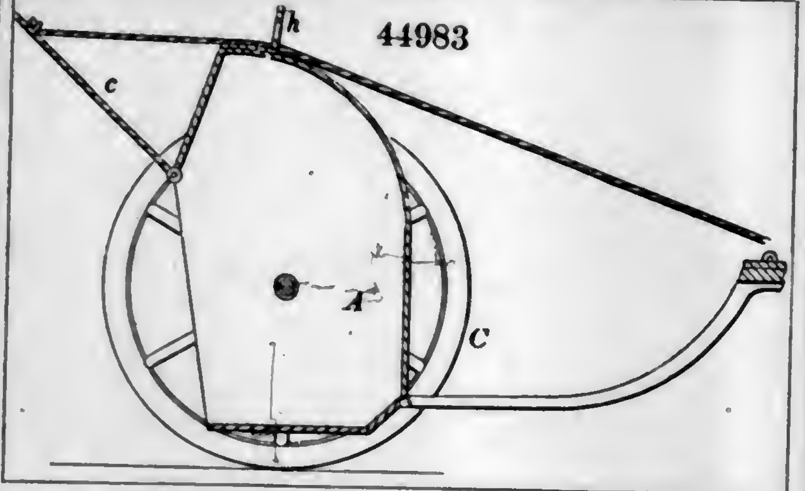

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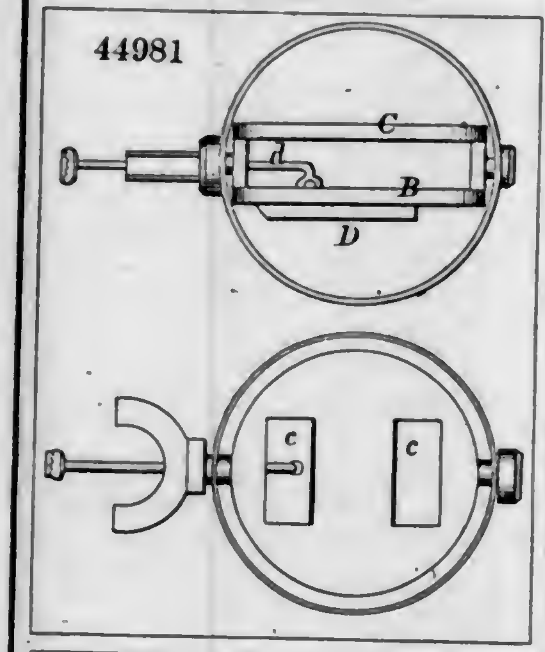

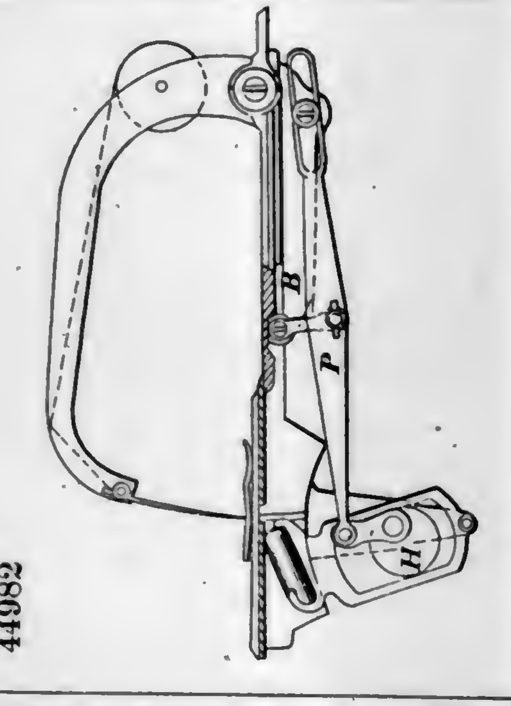

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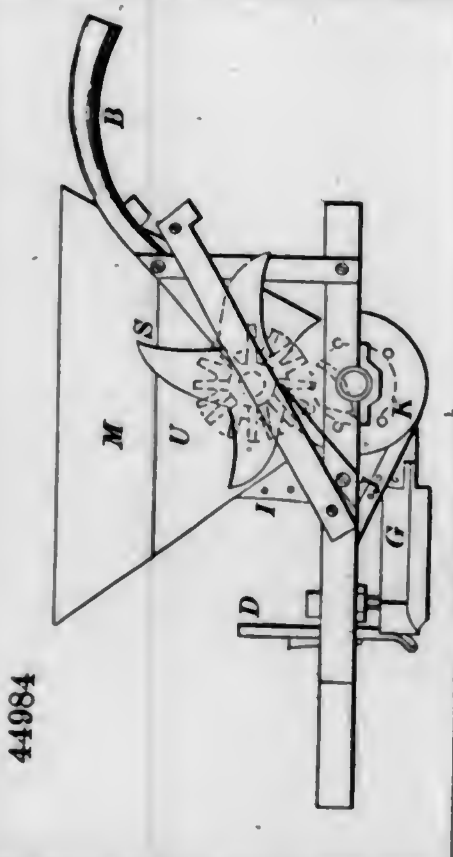

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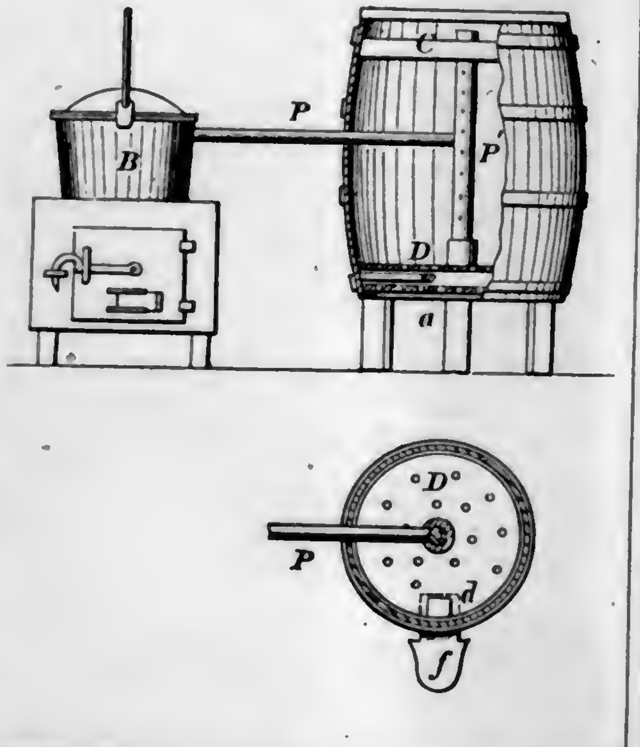

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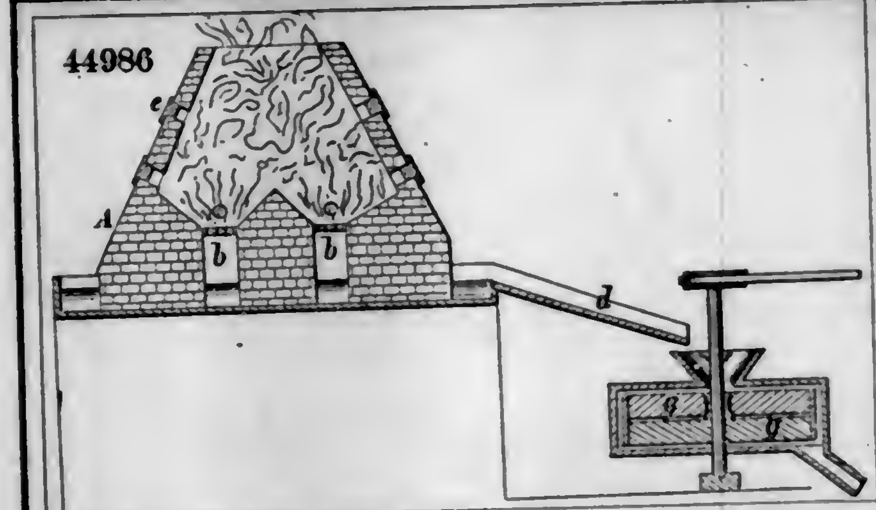

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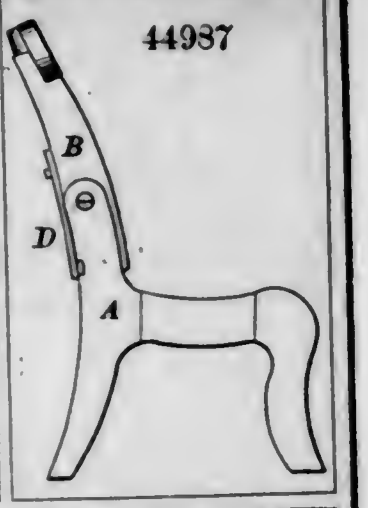

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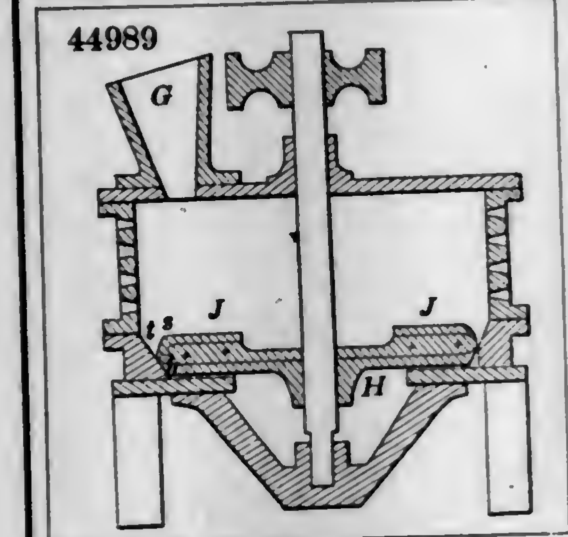

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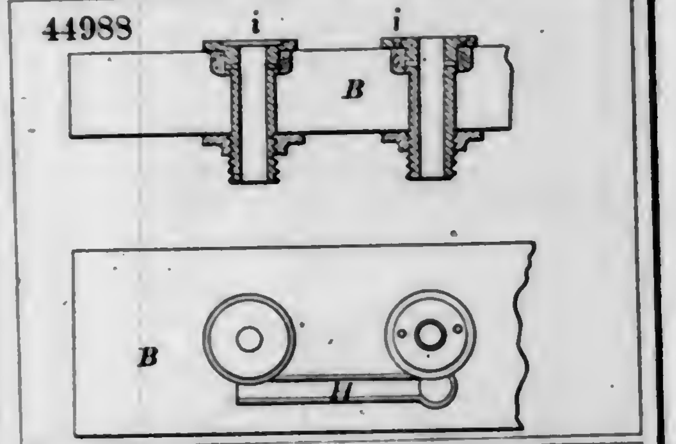

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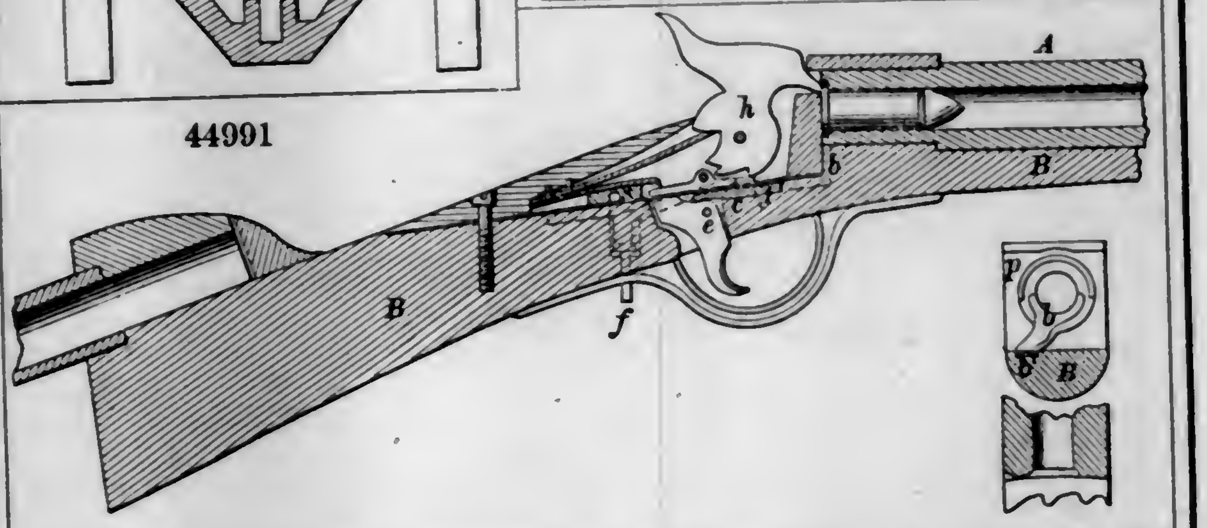

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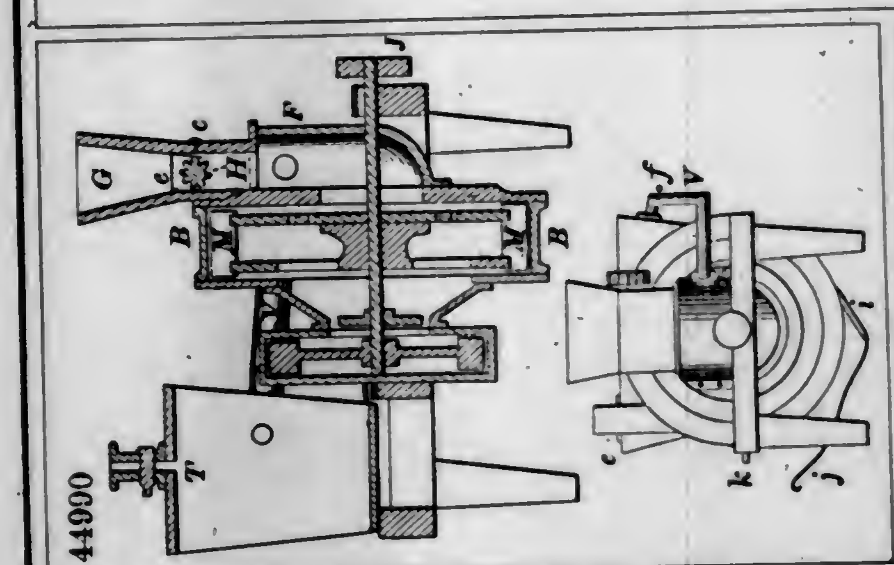

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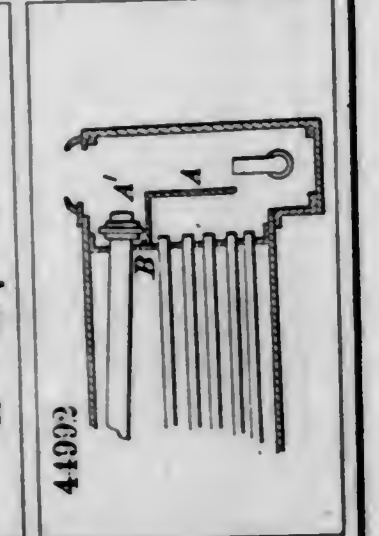

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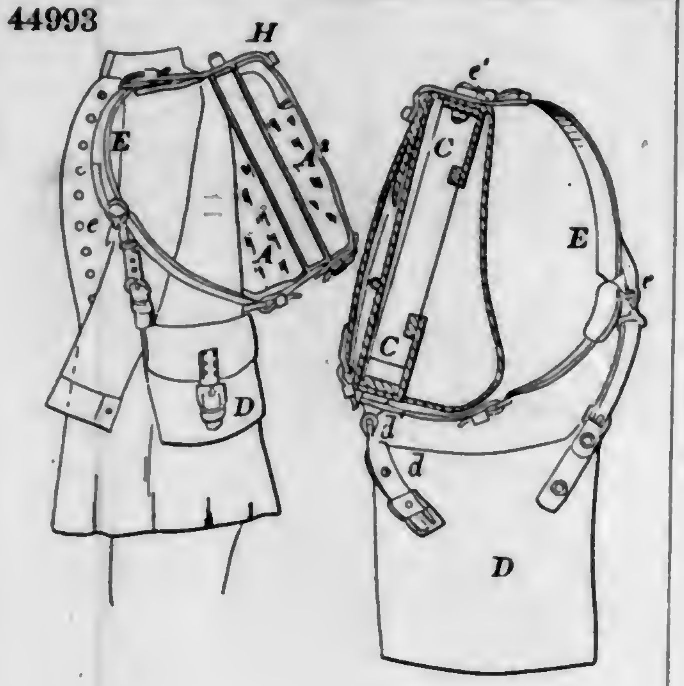

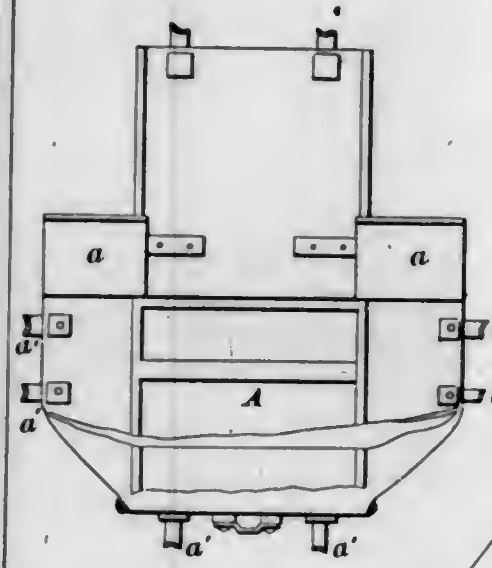

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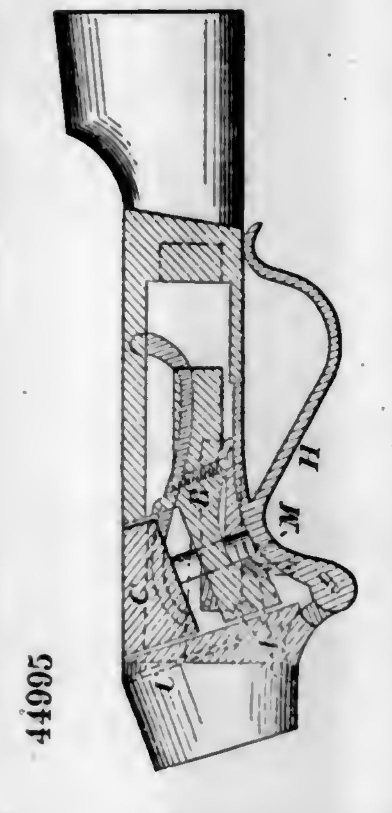

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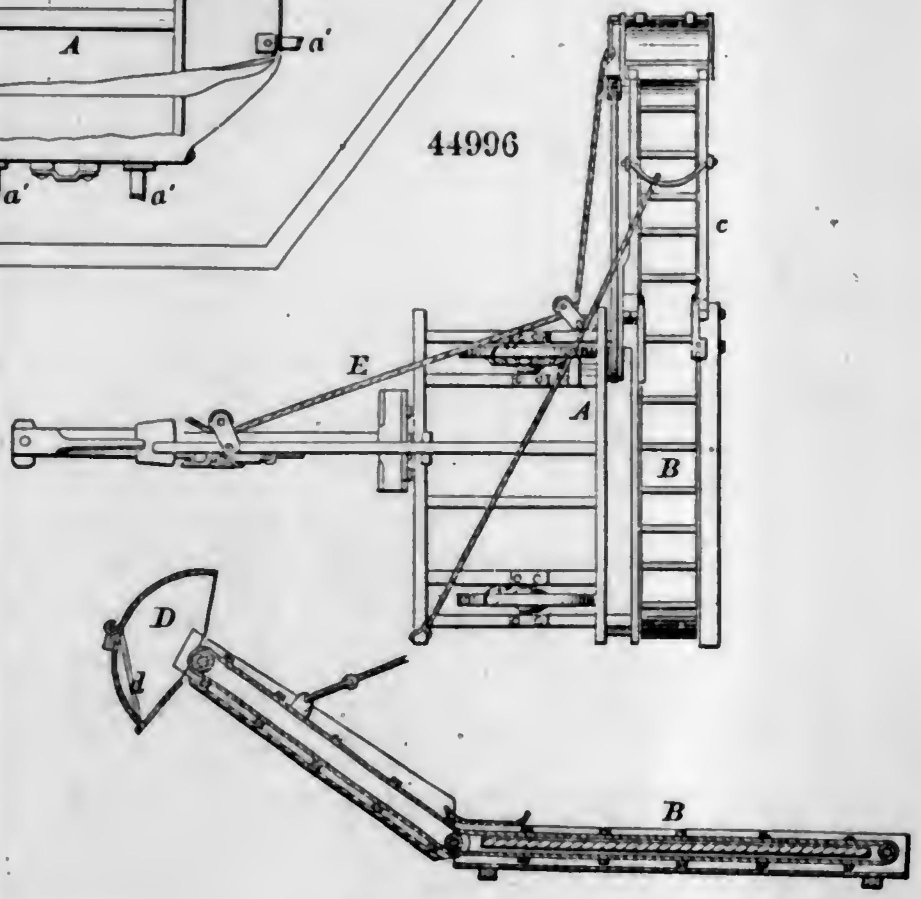

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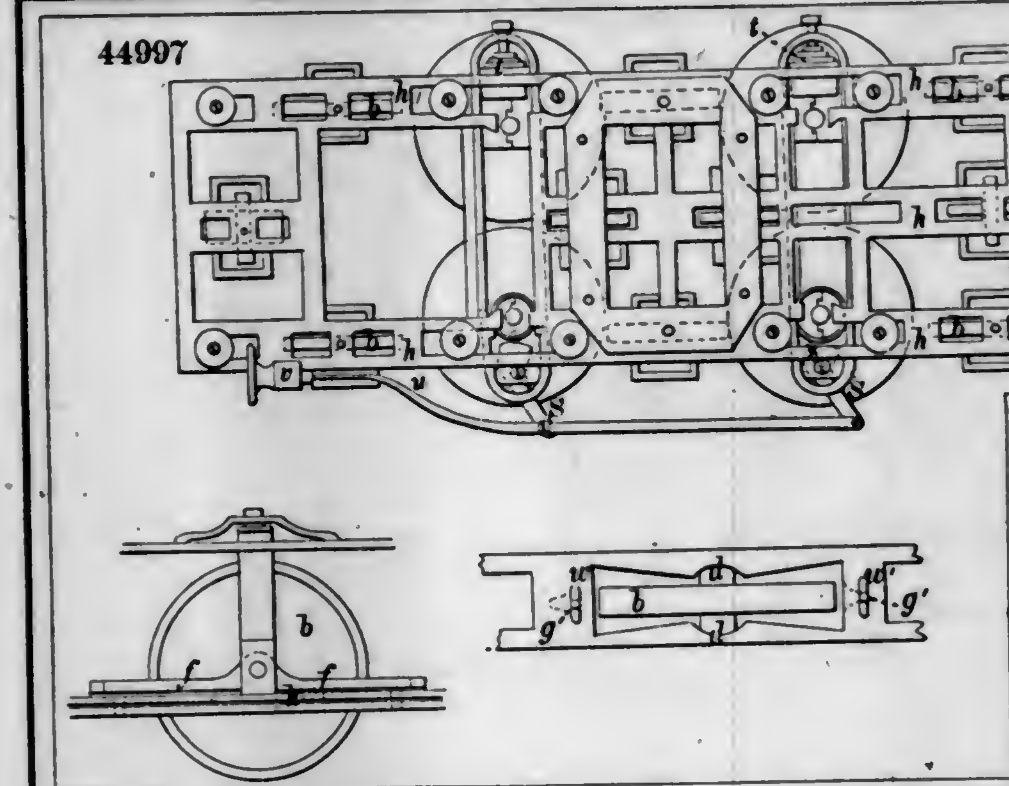

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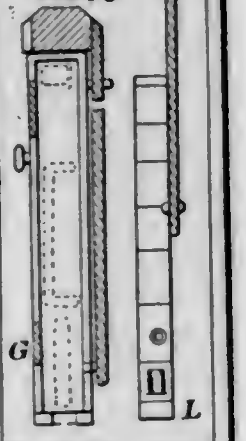

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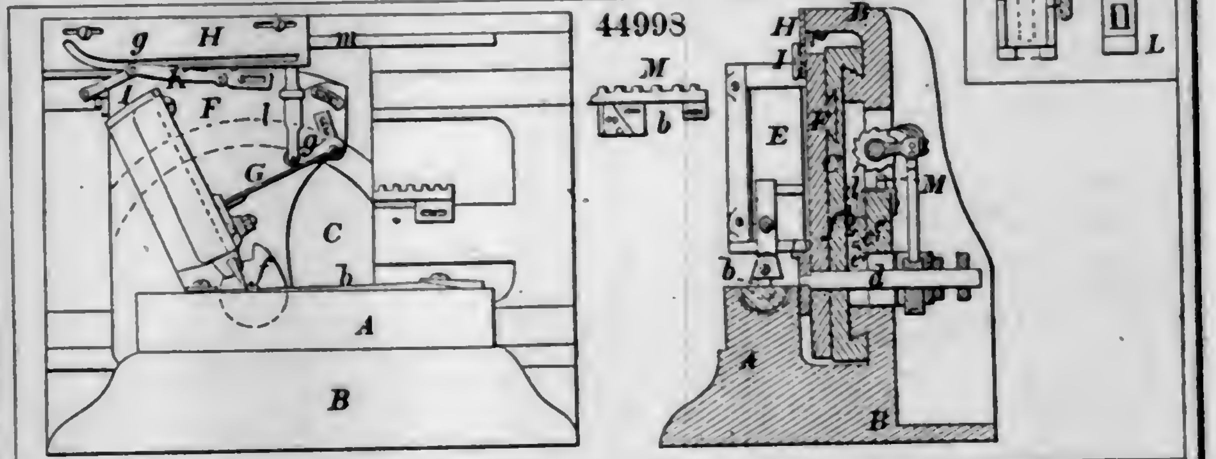

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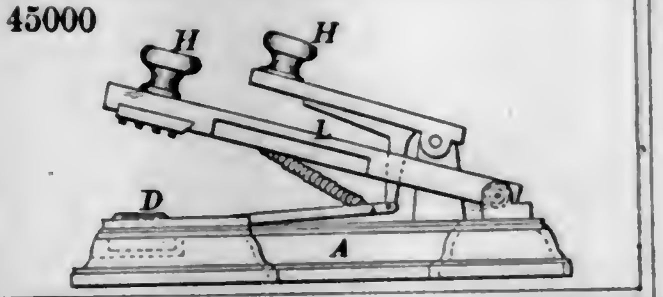

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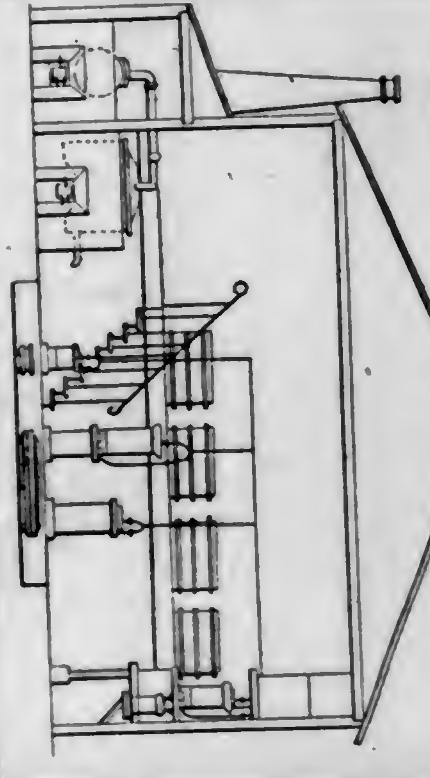

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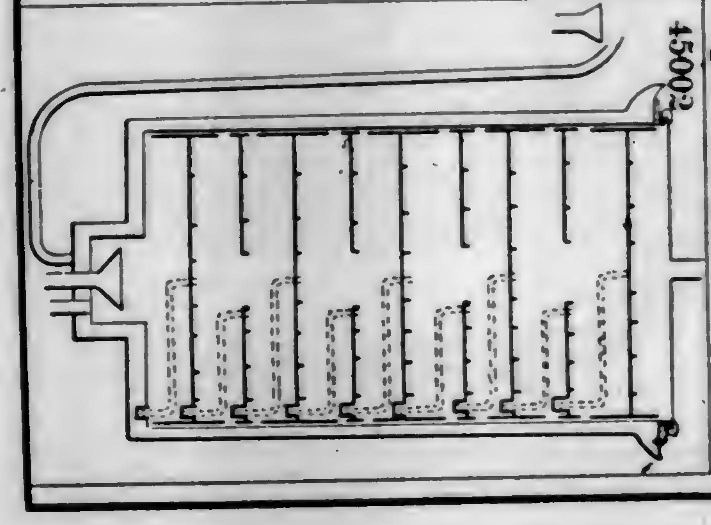

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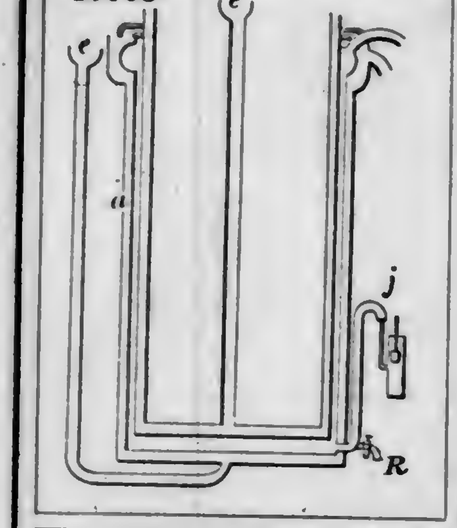

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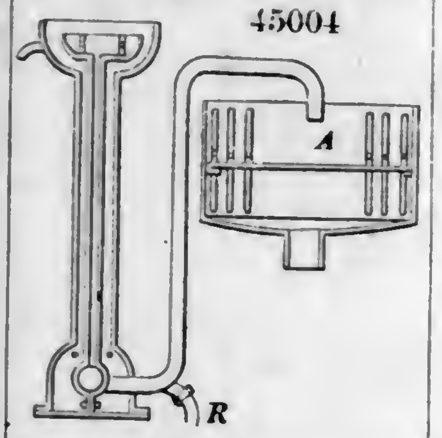

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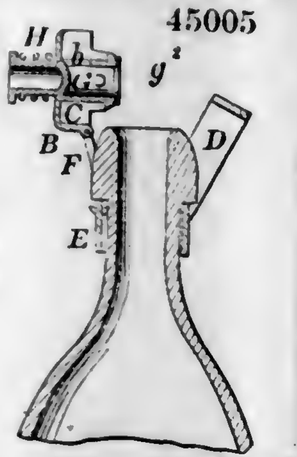

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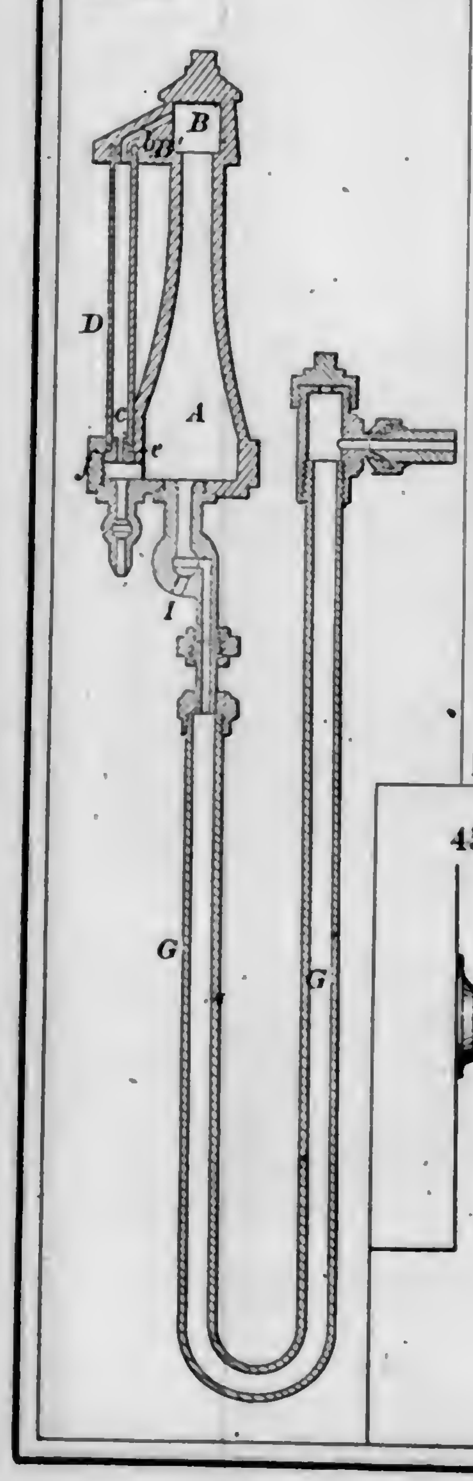

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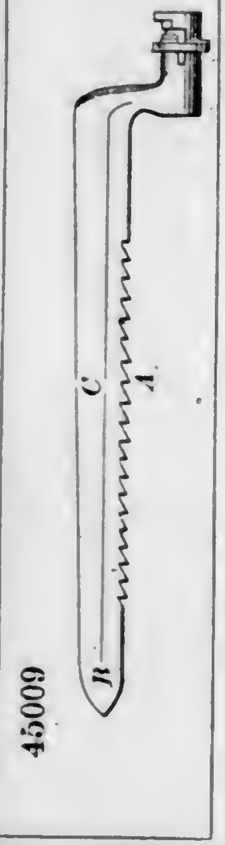

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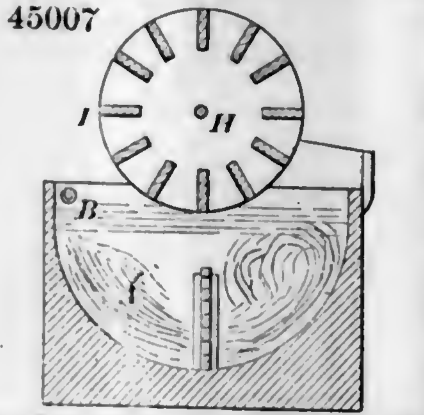

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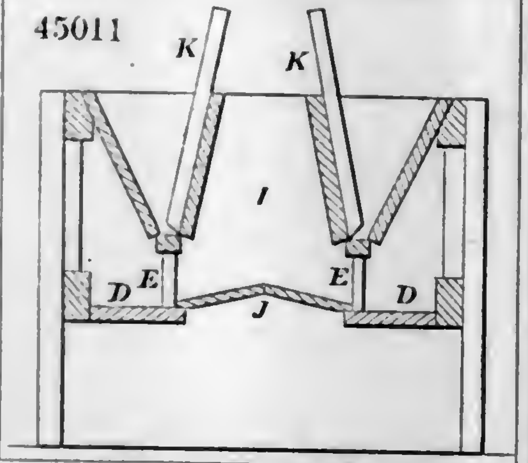

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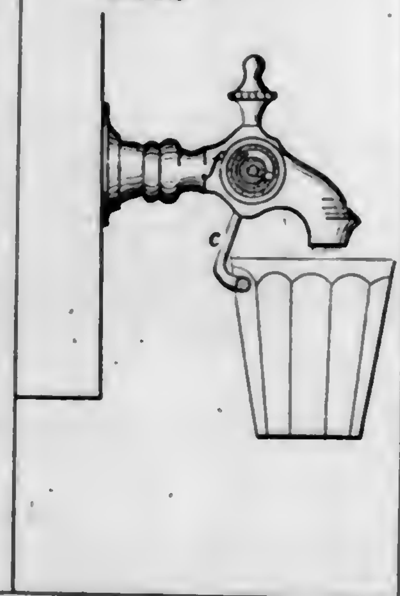

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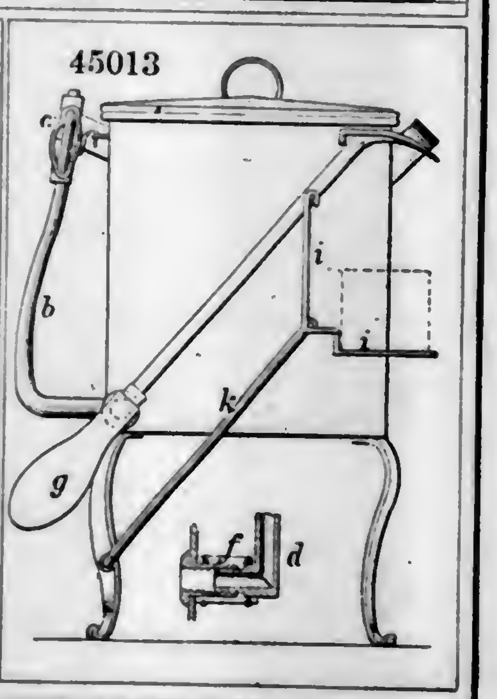

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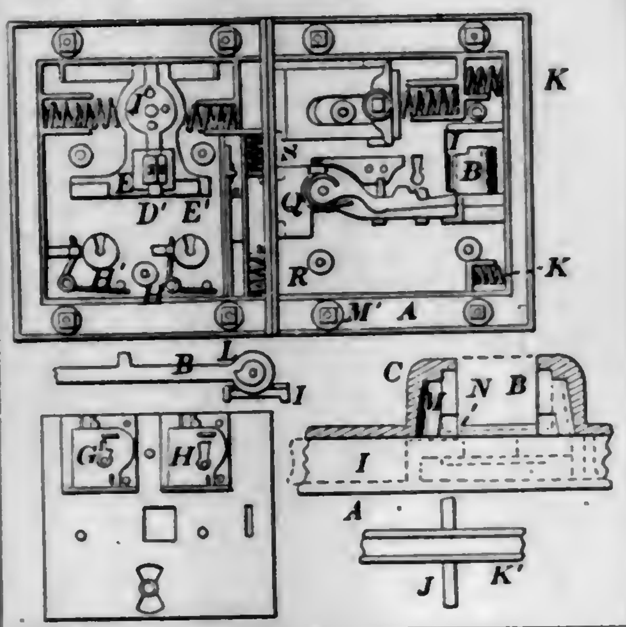

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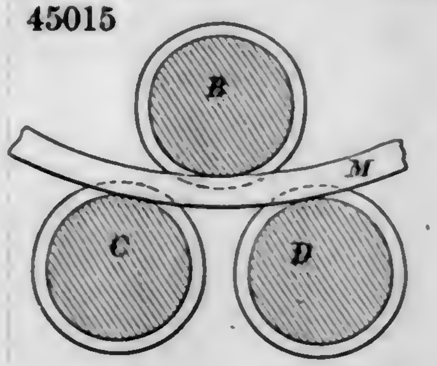

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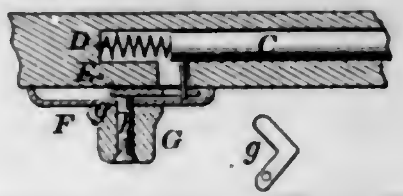

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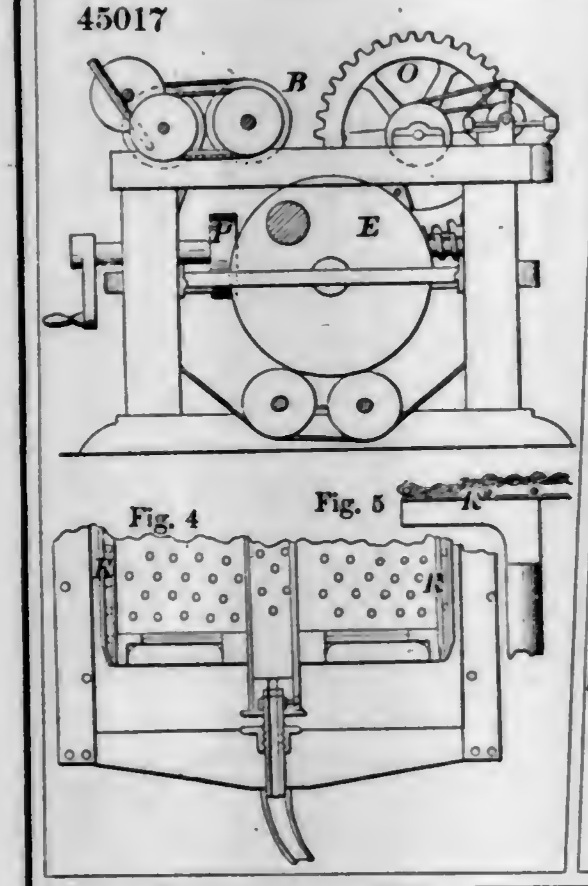

Fig. 4 Fig. 5

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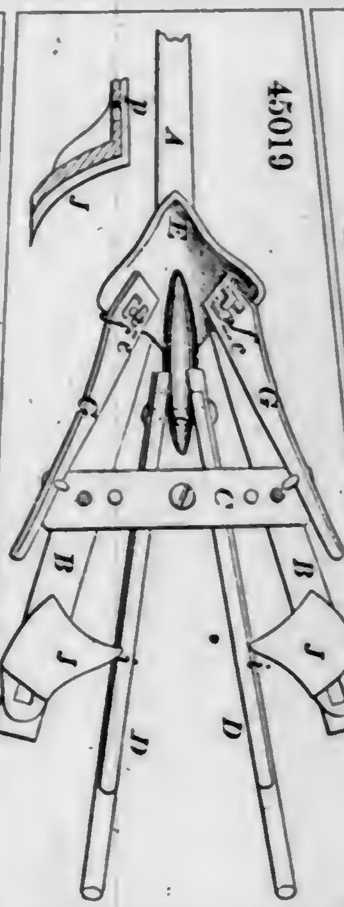

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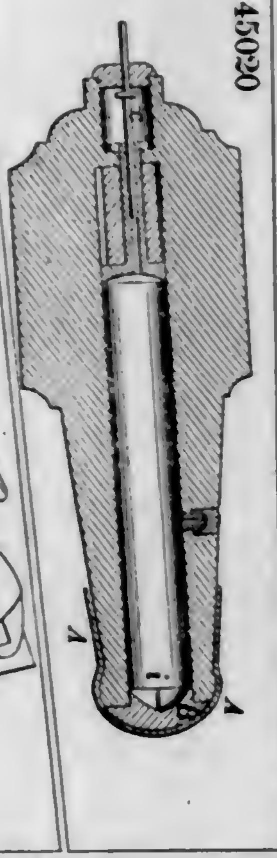

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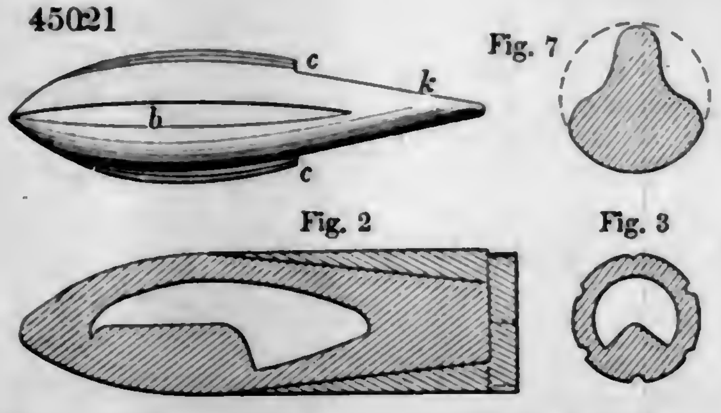
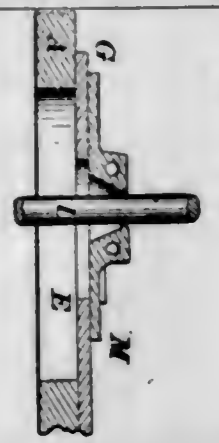


Fig. 7

Fig. 2

Fig. 3

45018



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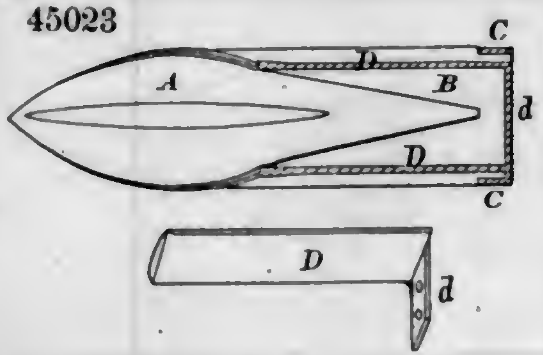

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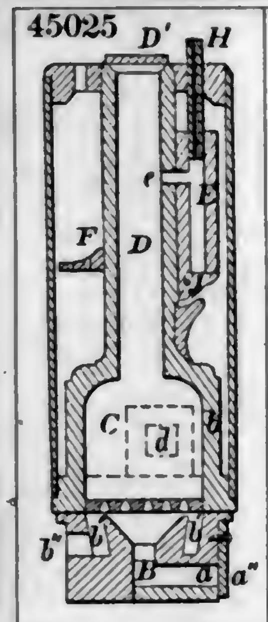

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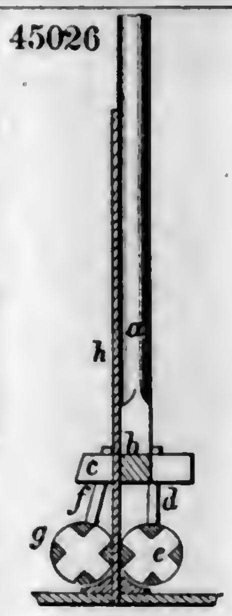

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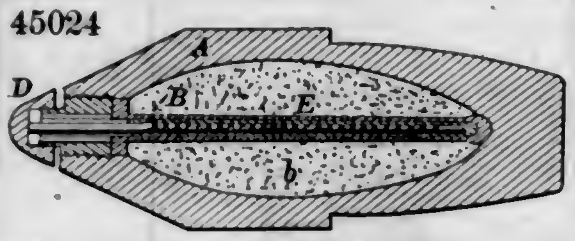

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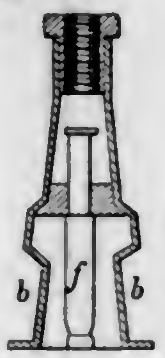

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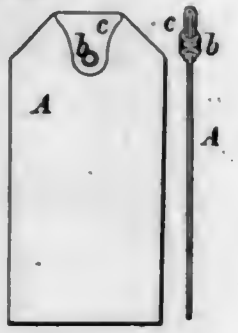

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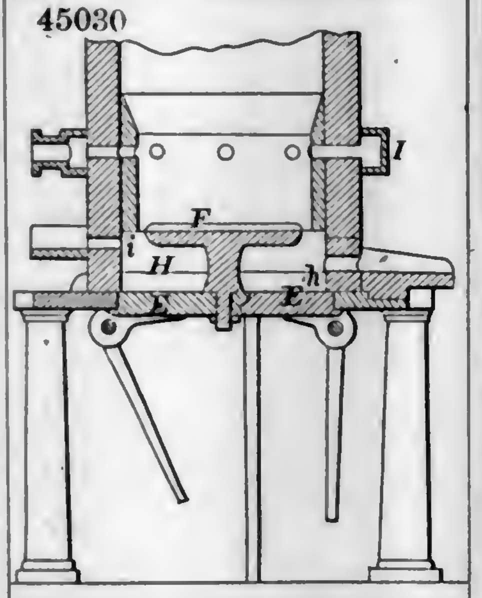

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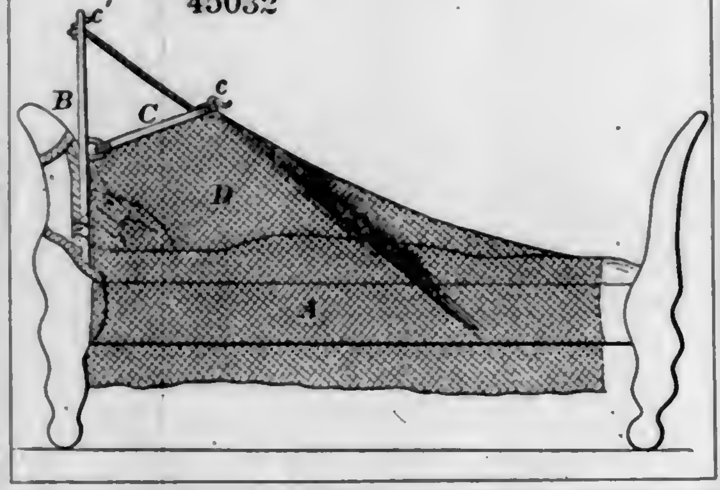

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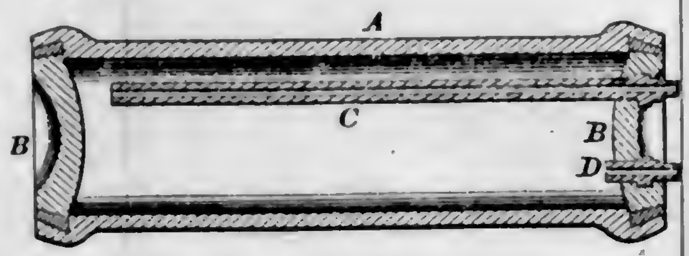

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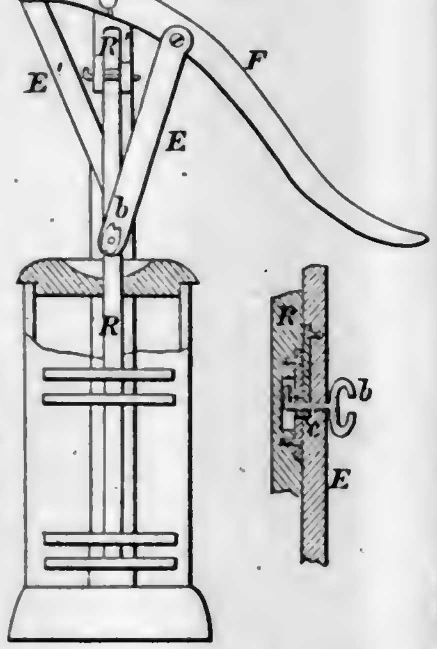

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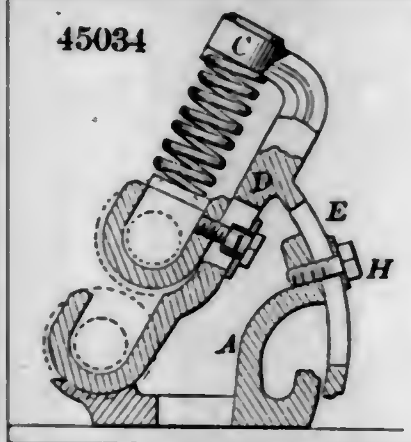

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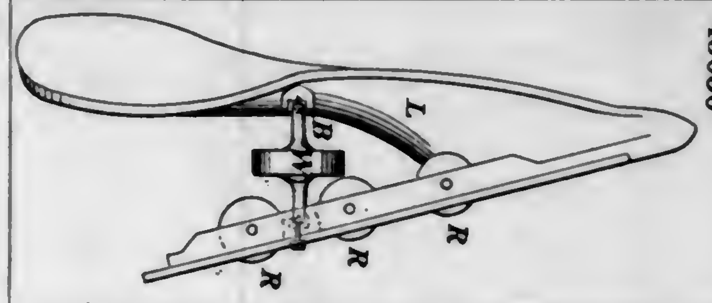

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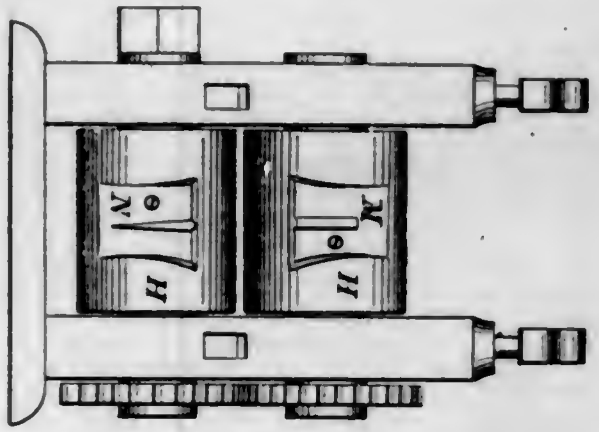

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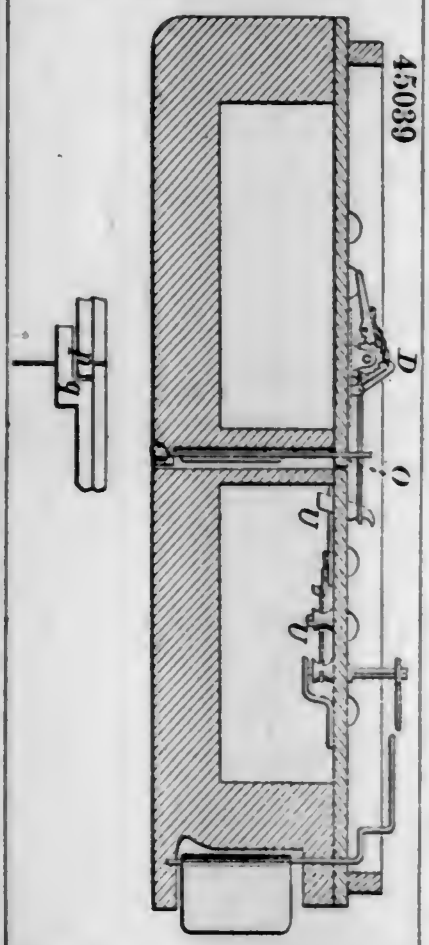

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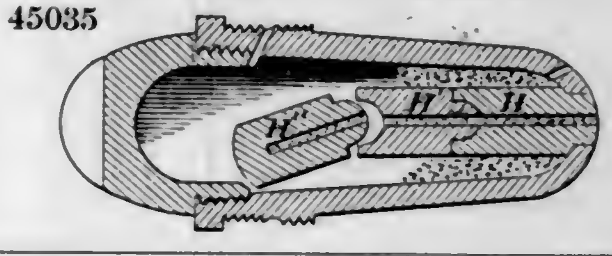

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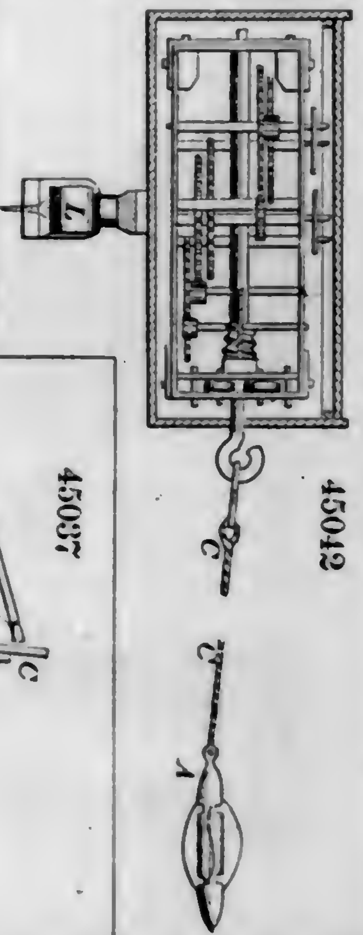

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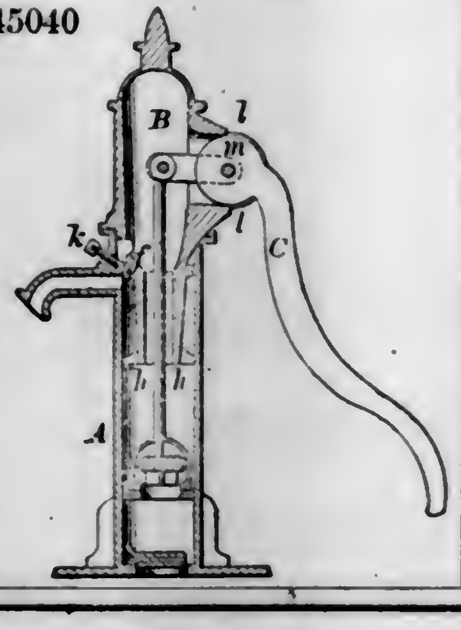

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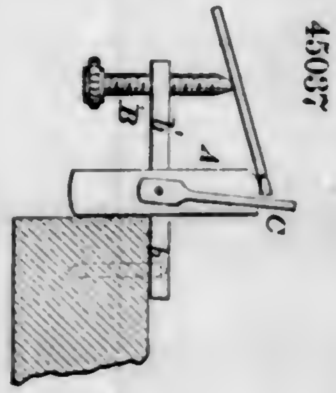

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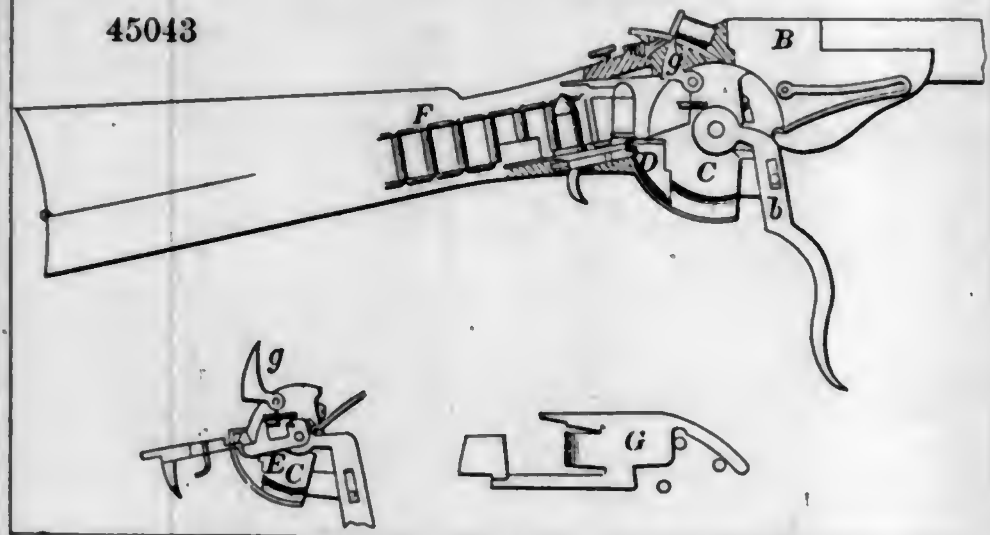

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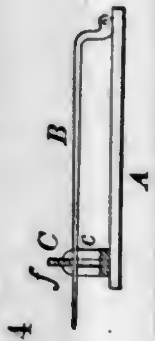

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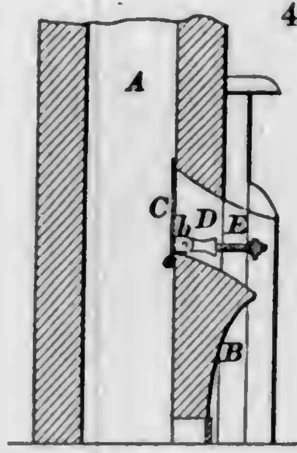

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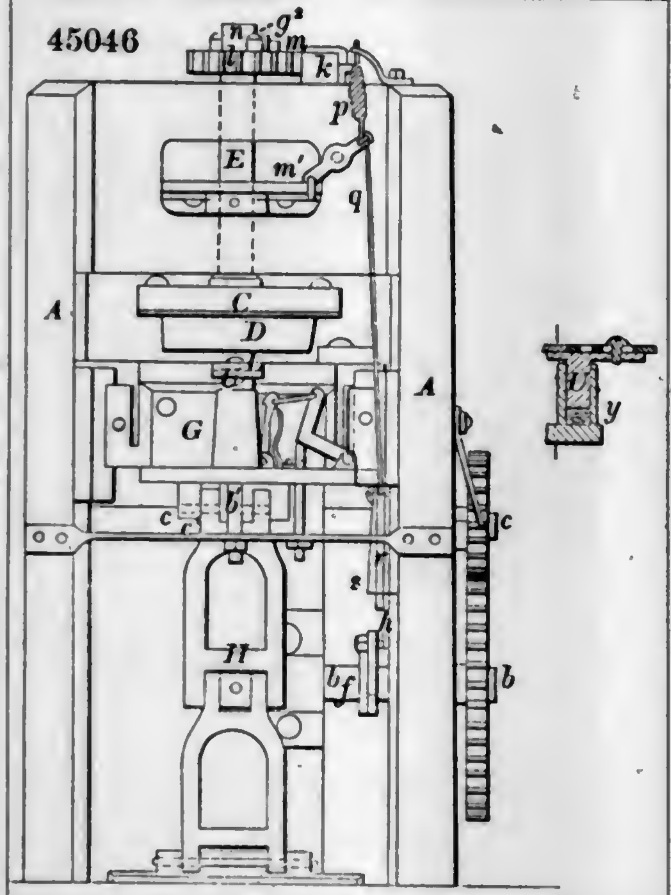

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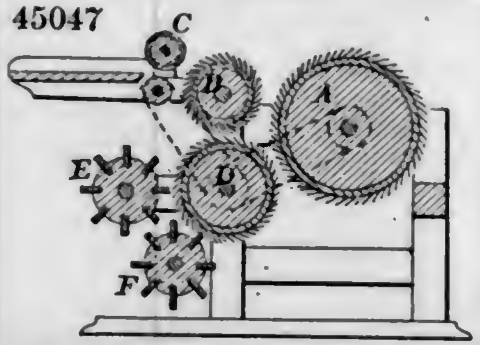

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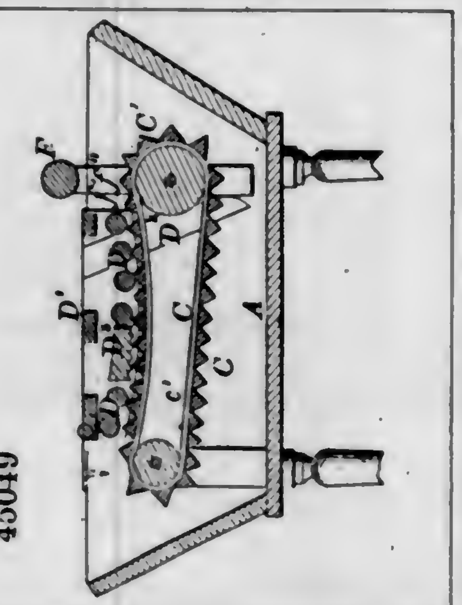

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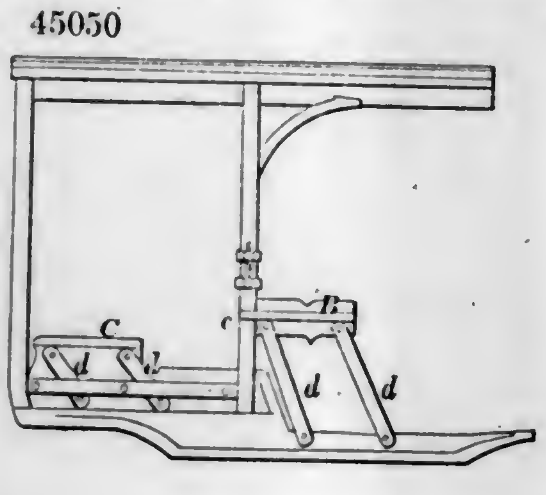

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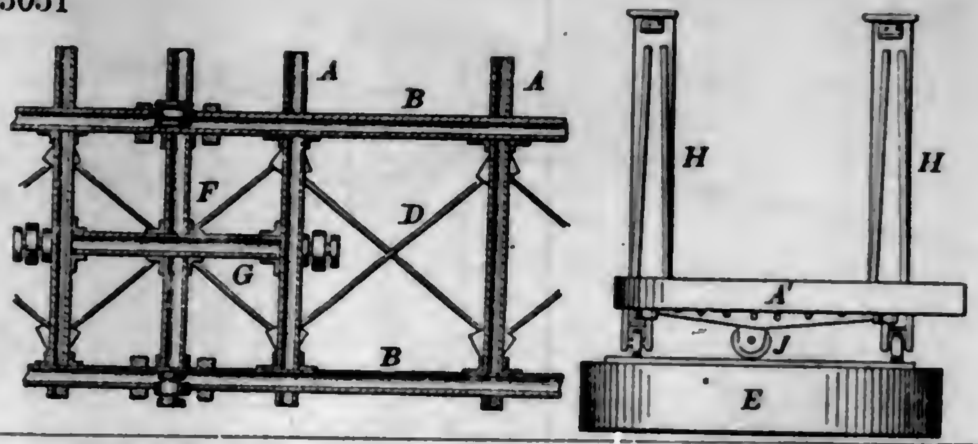

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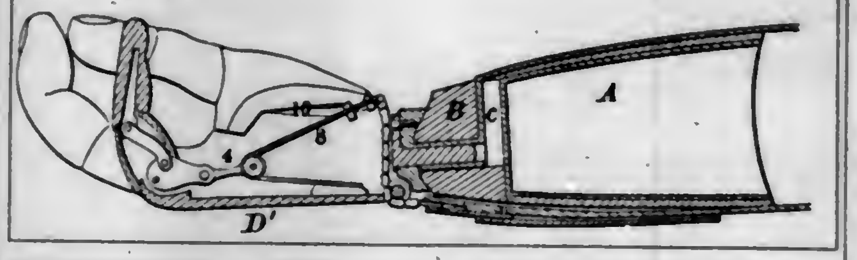

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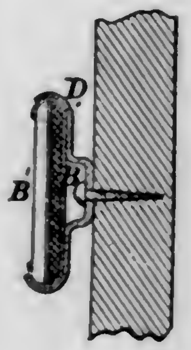

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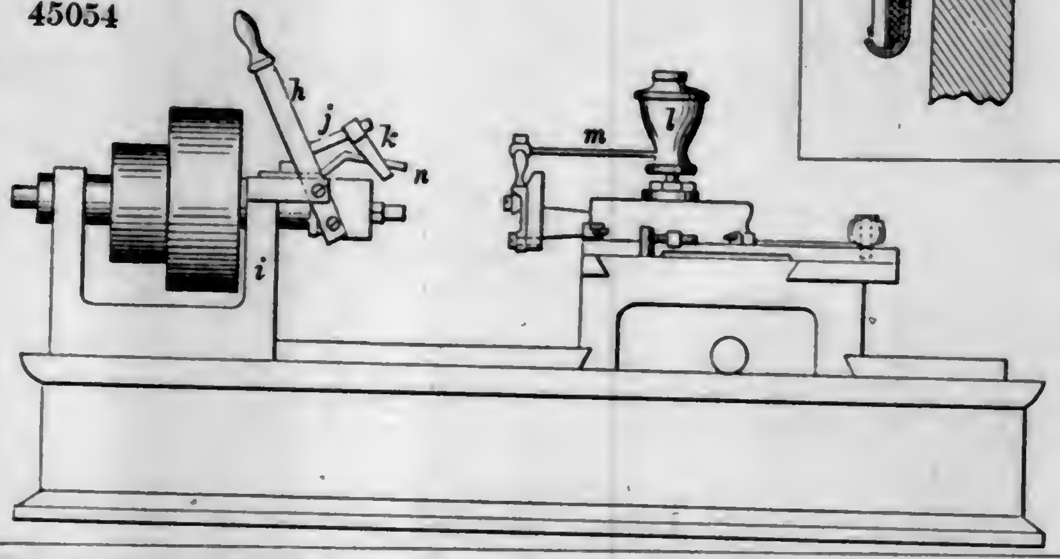

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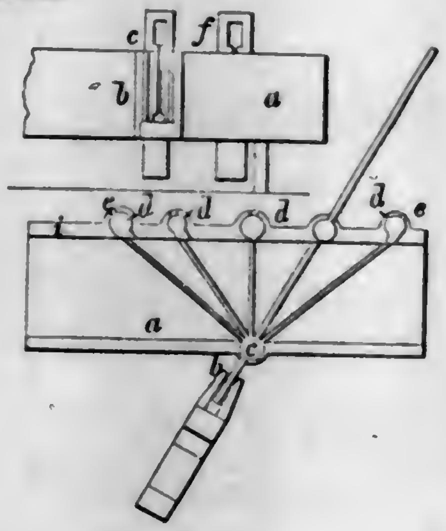

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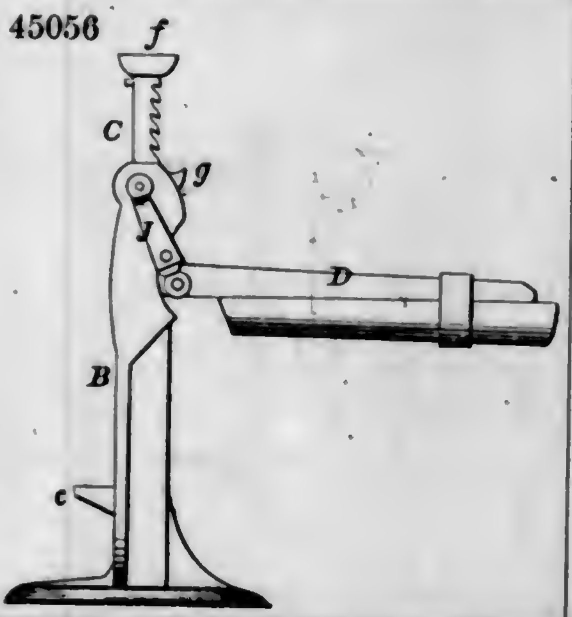

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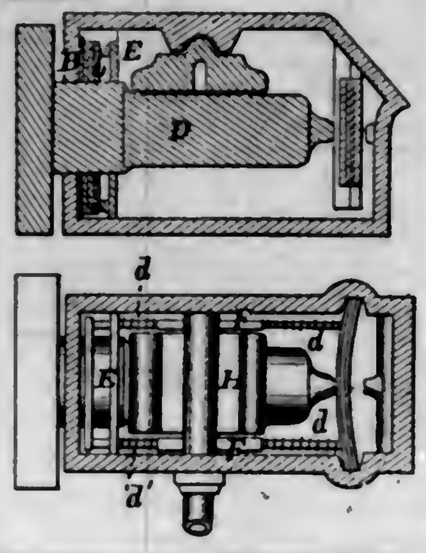

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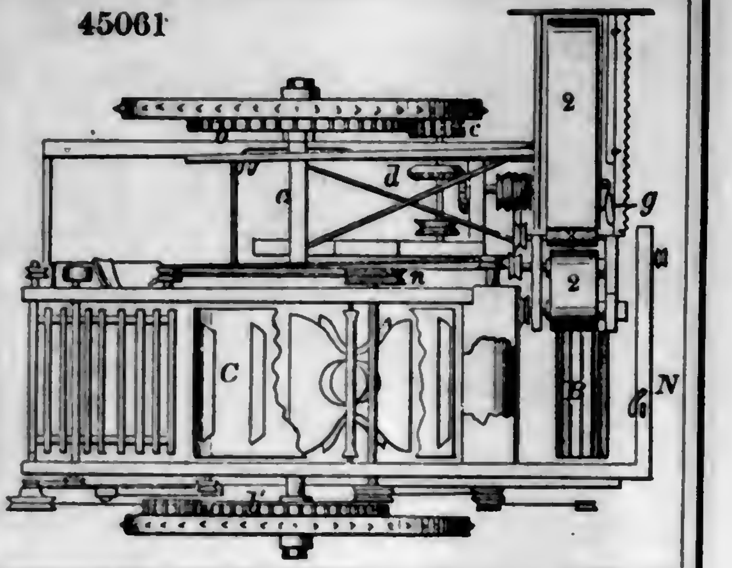

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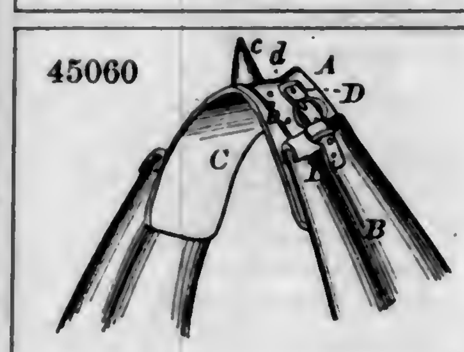

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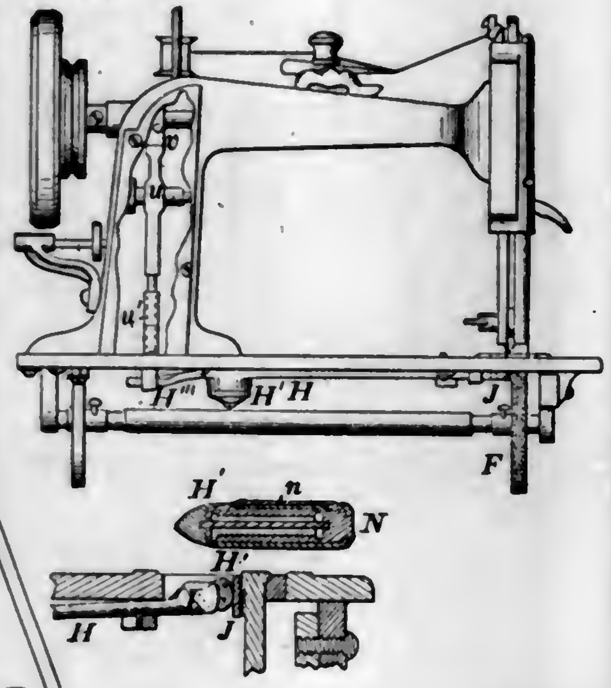

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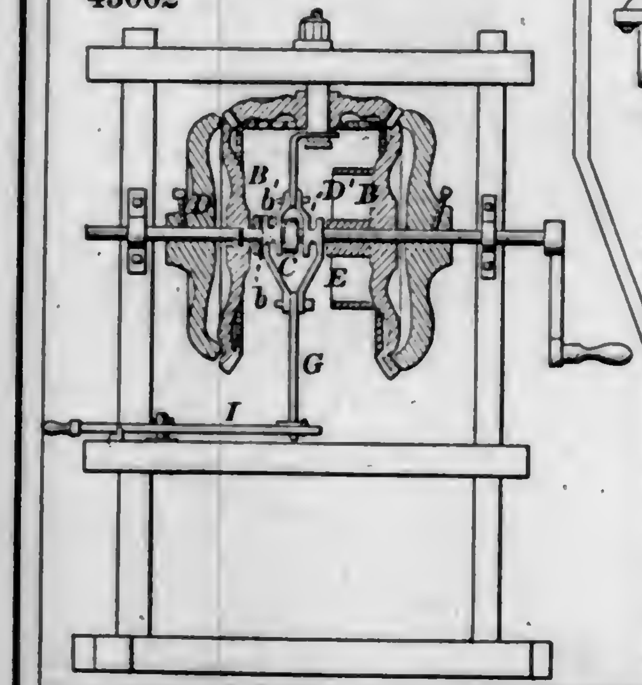

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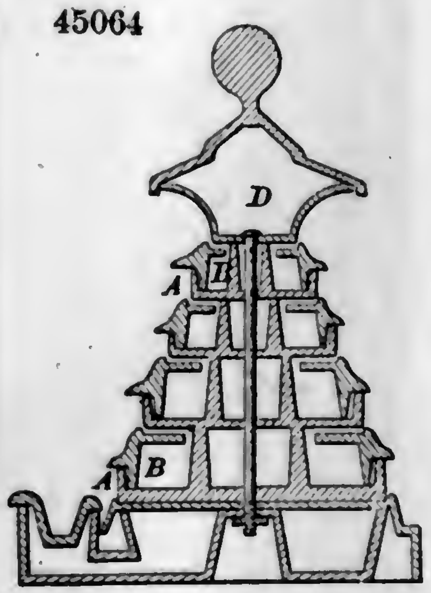

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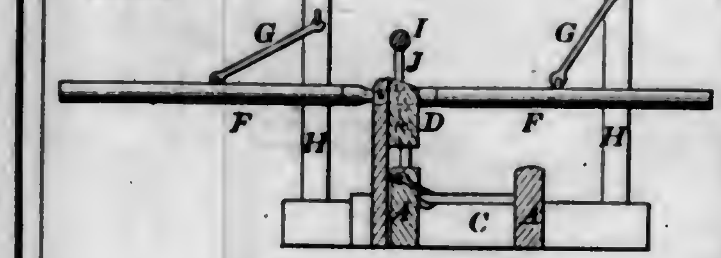

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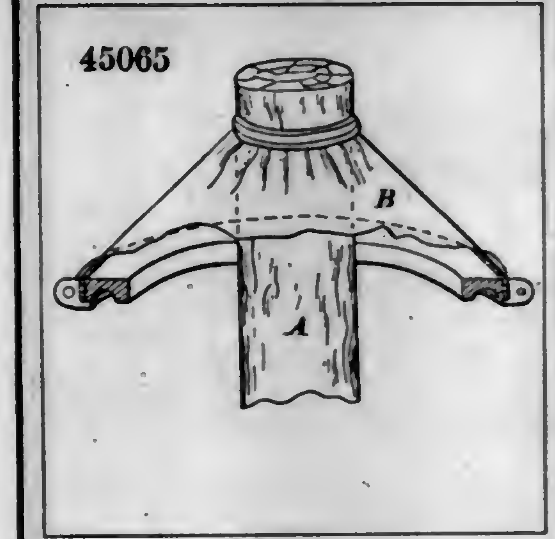

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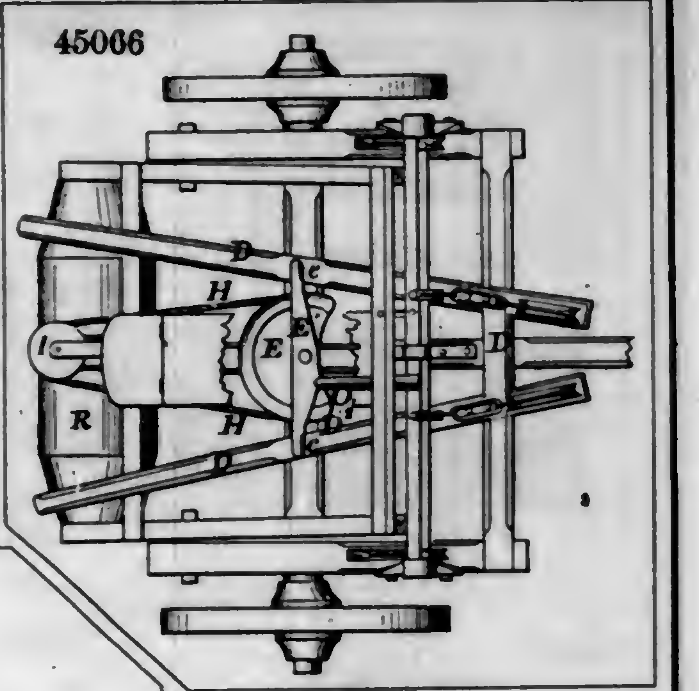

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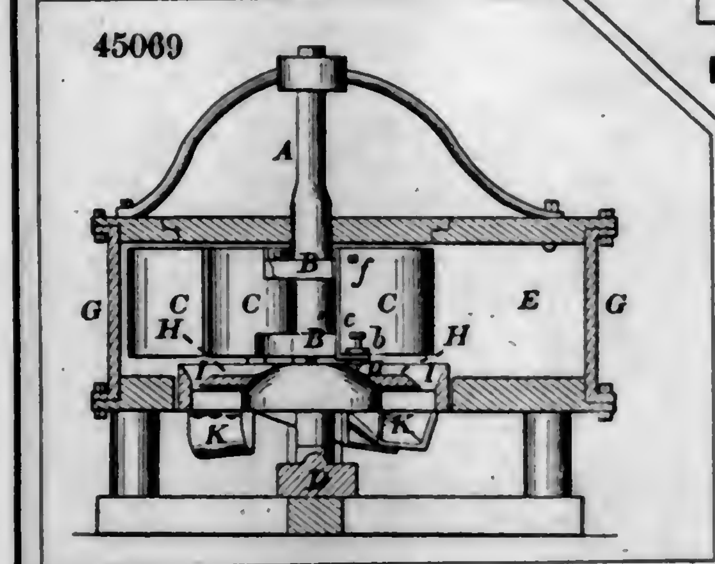

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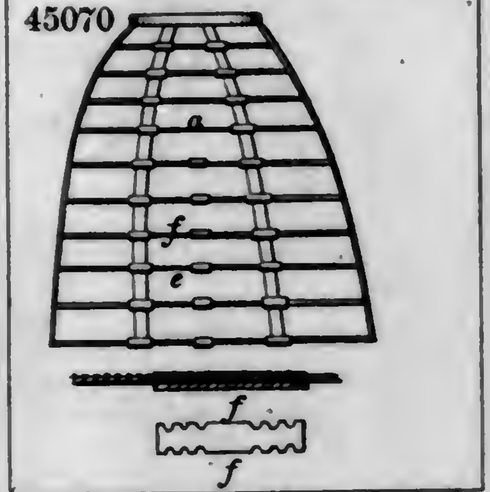

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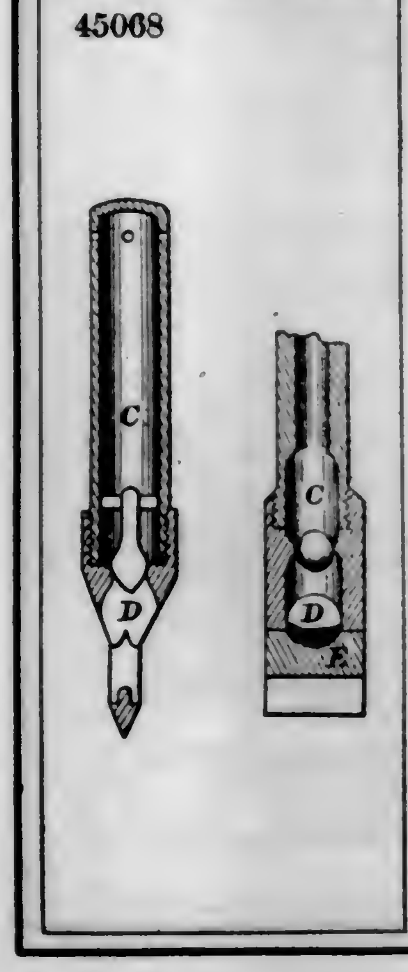

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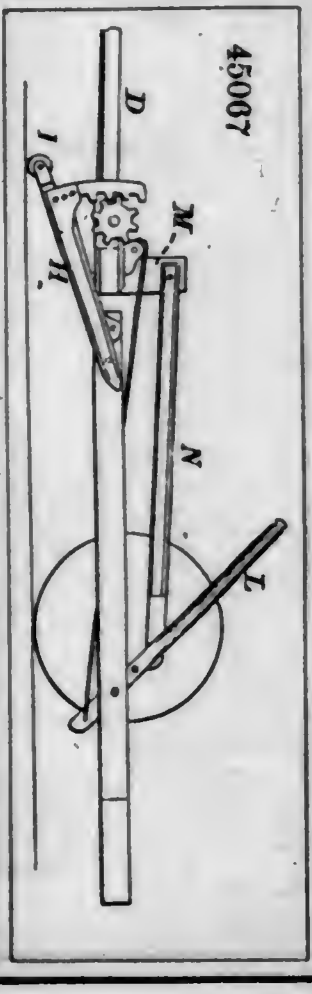

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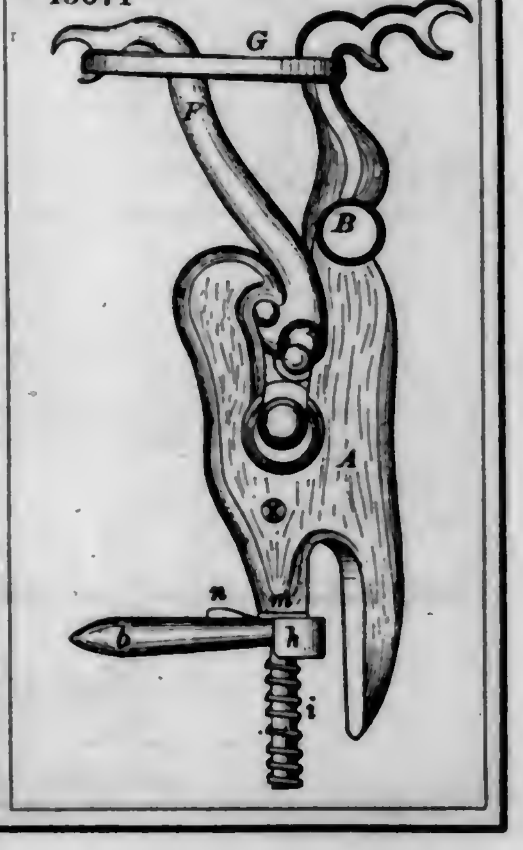

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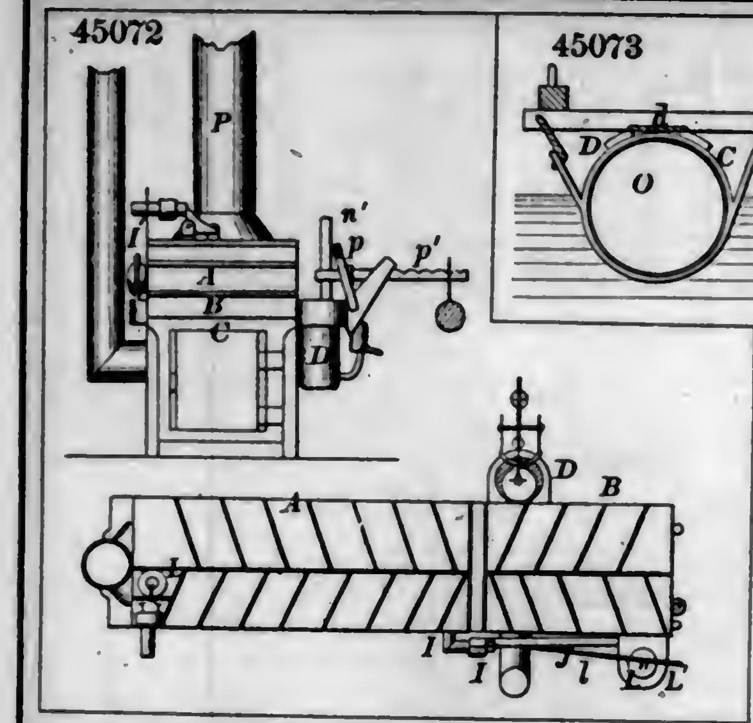

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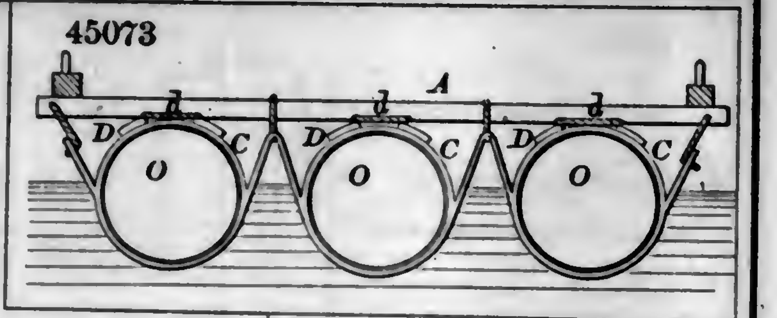

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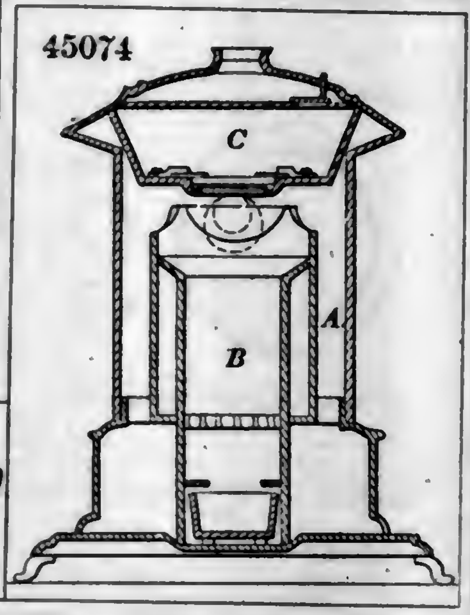

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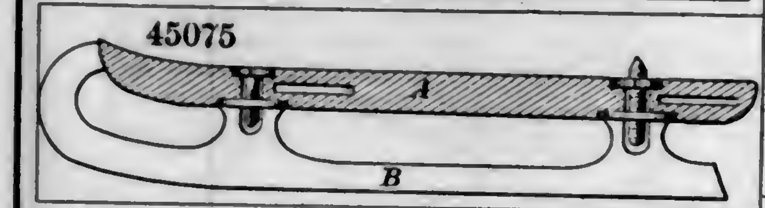

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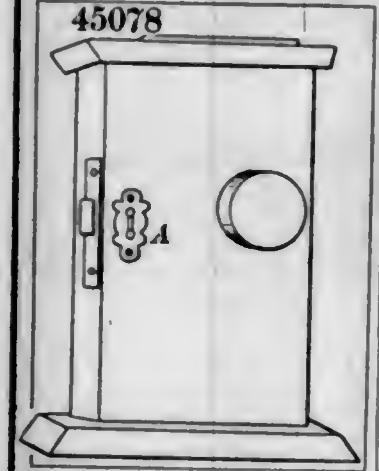

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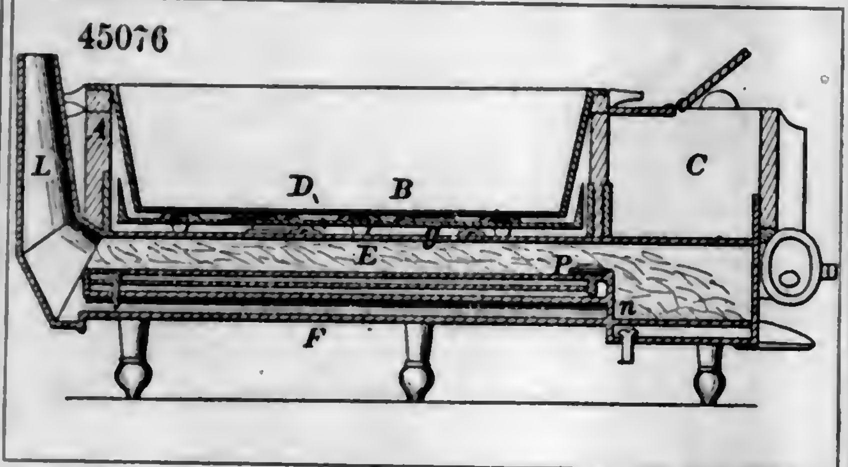

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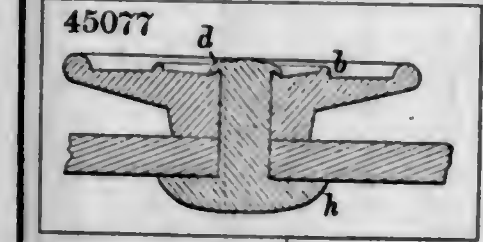

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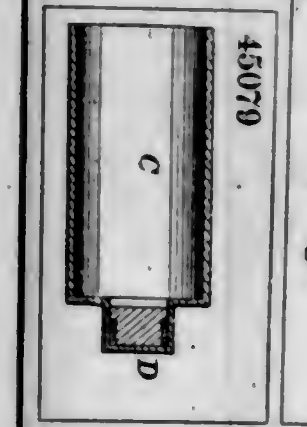

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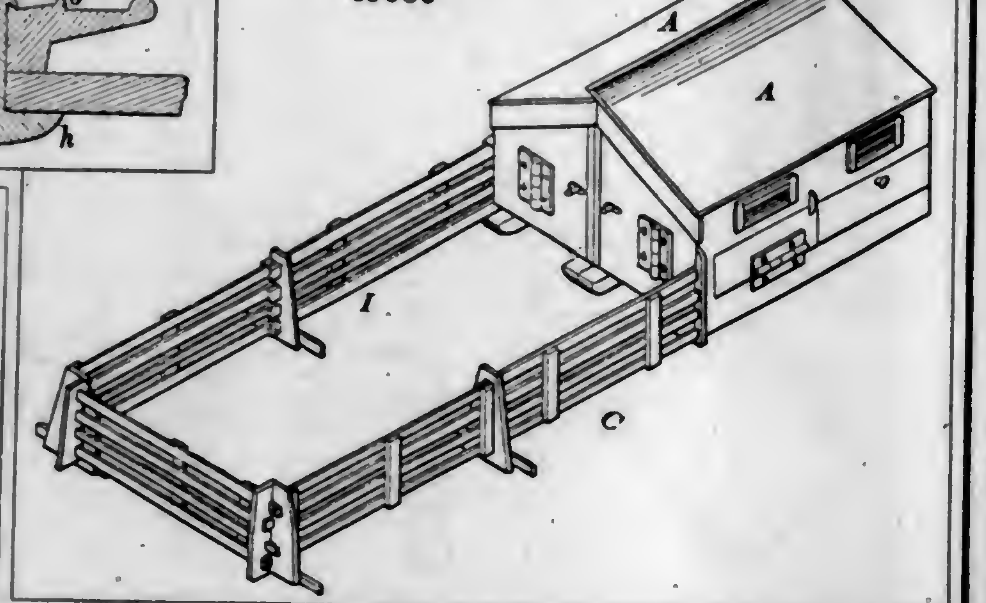

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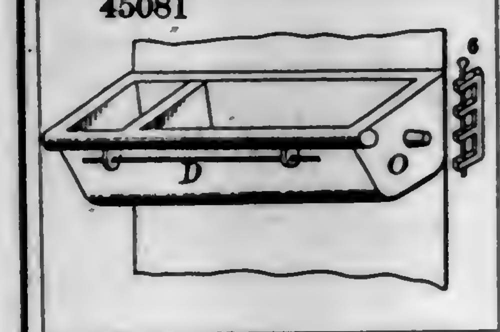

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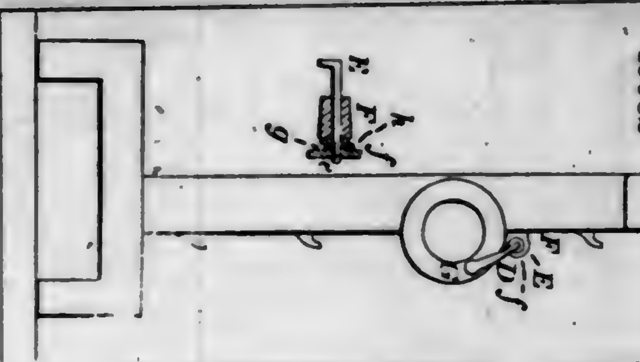

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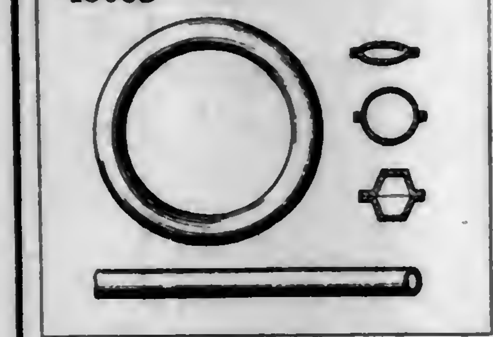

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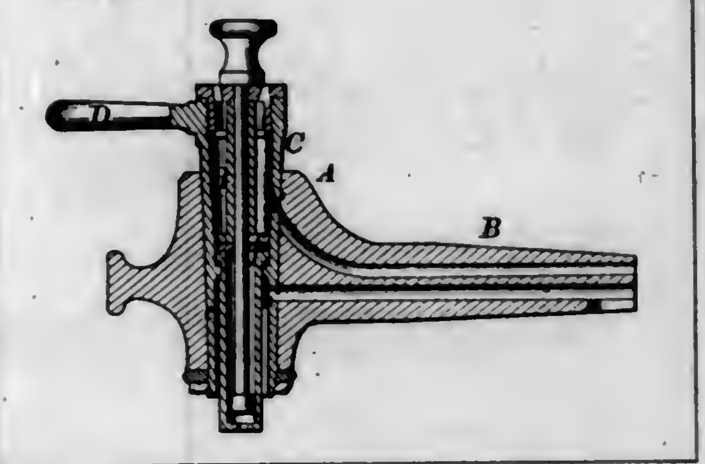

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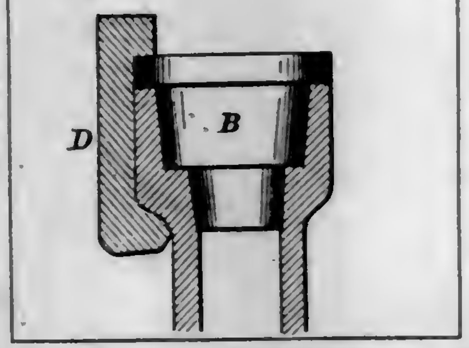

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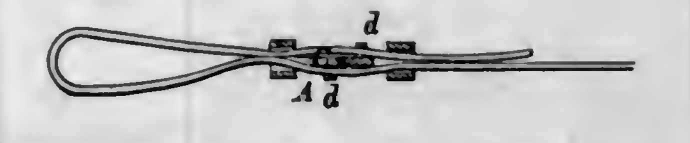

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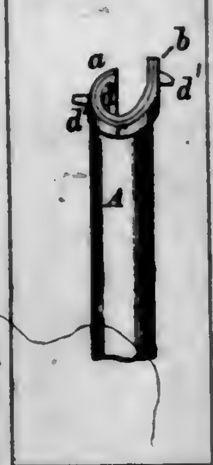

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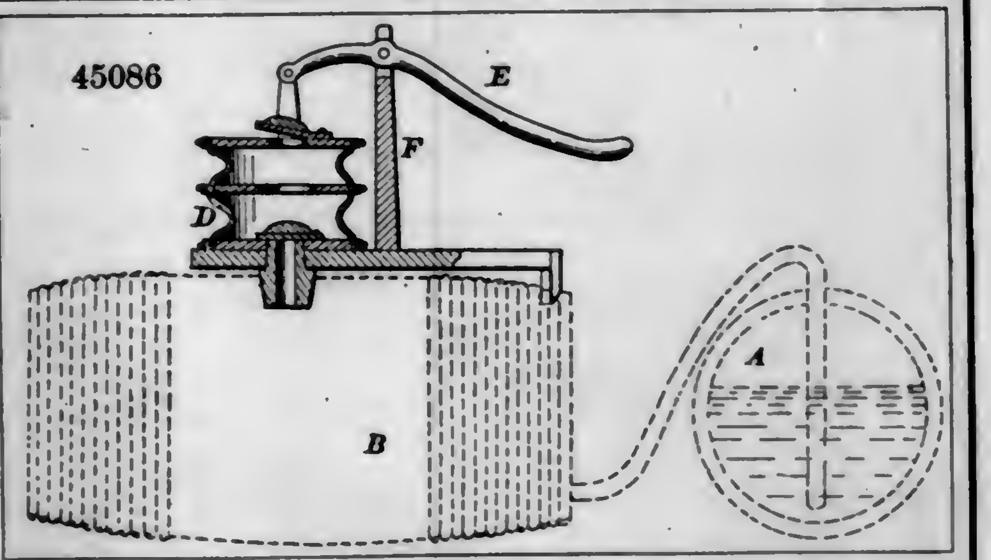

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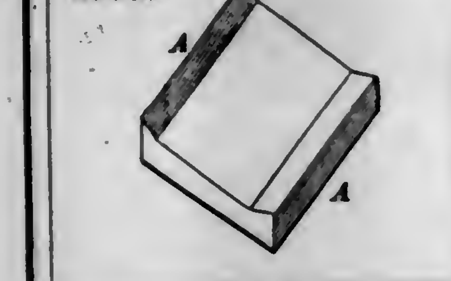

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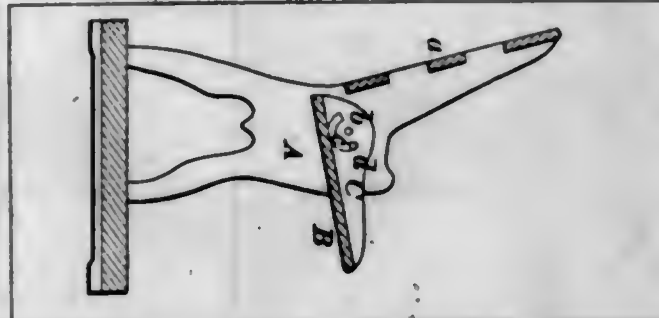

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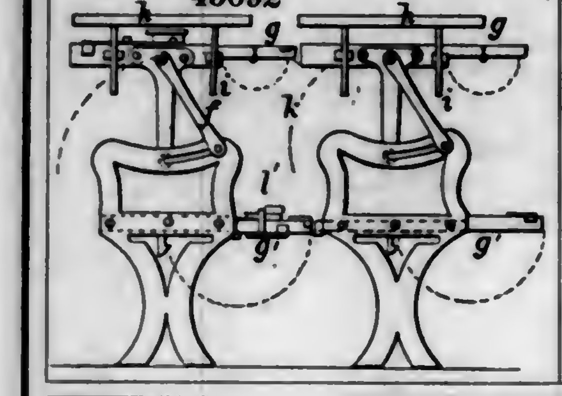

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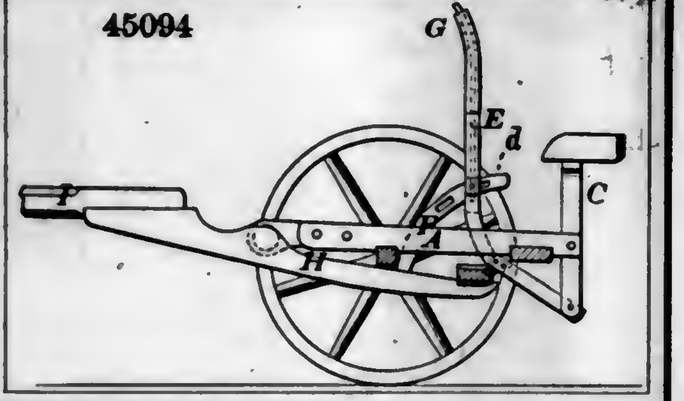

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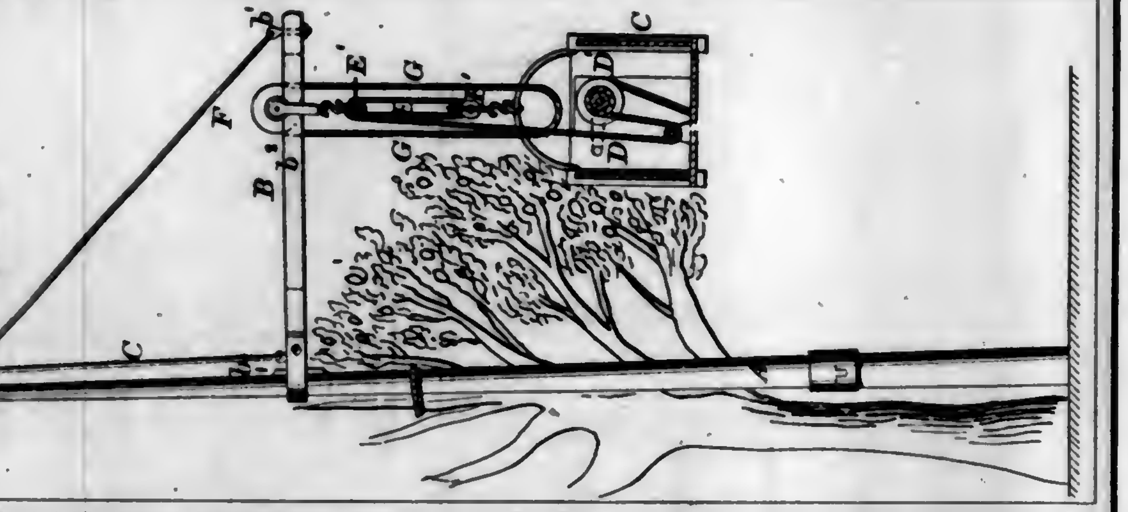

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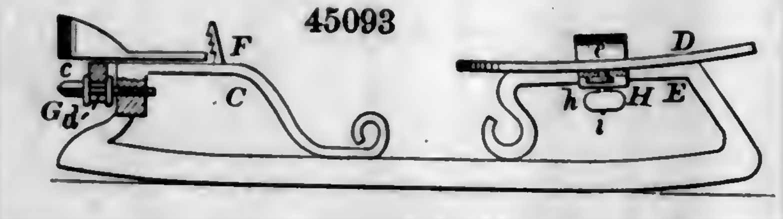

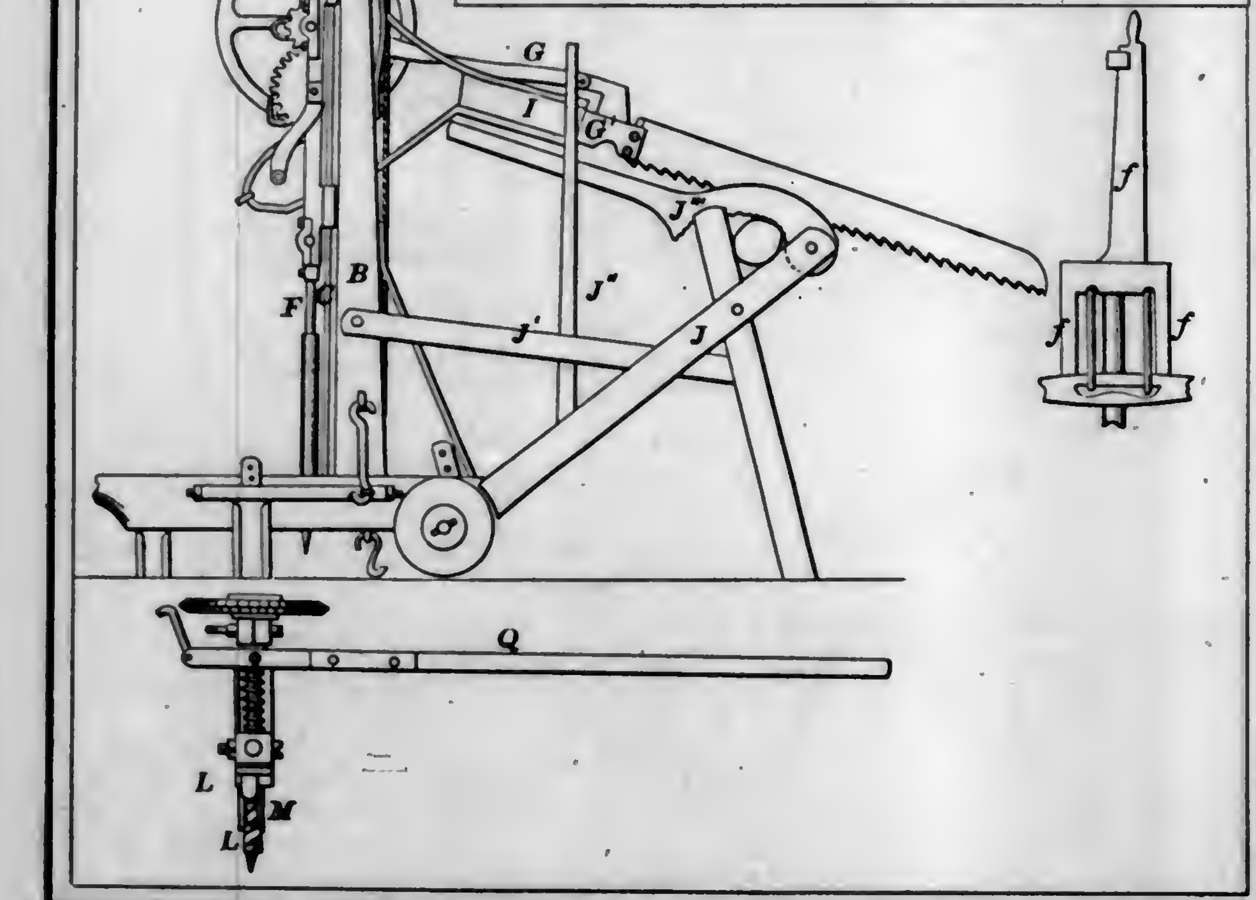

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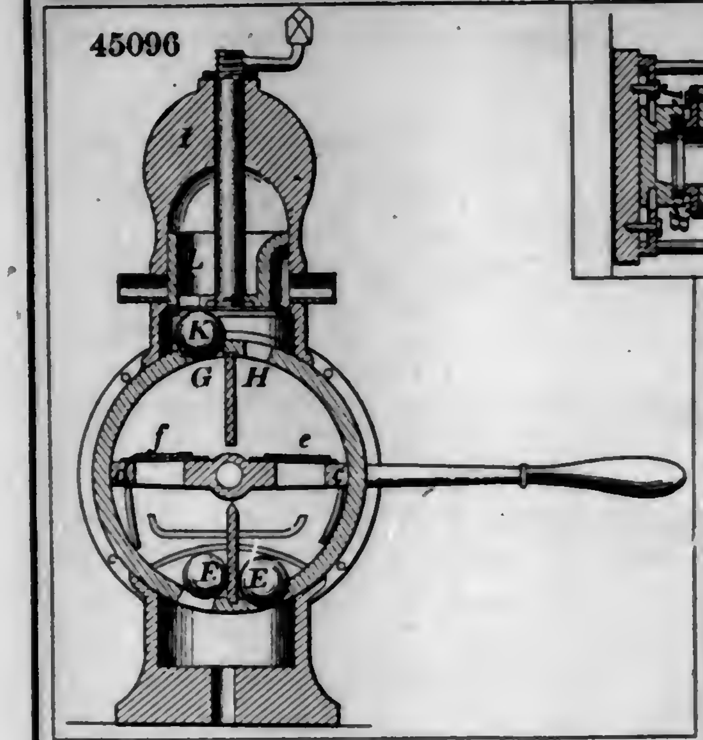

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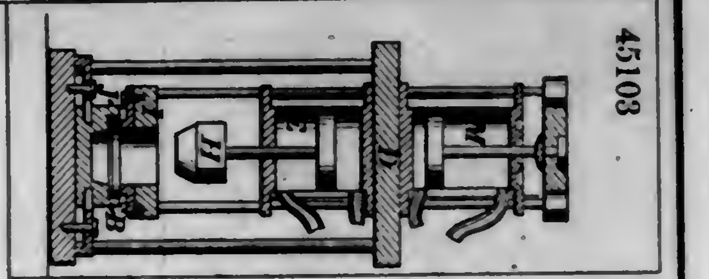

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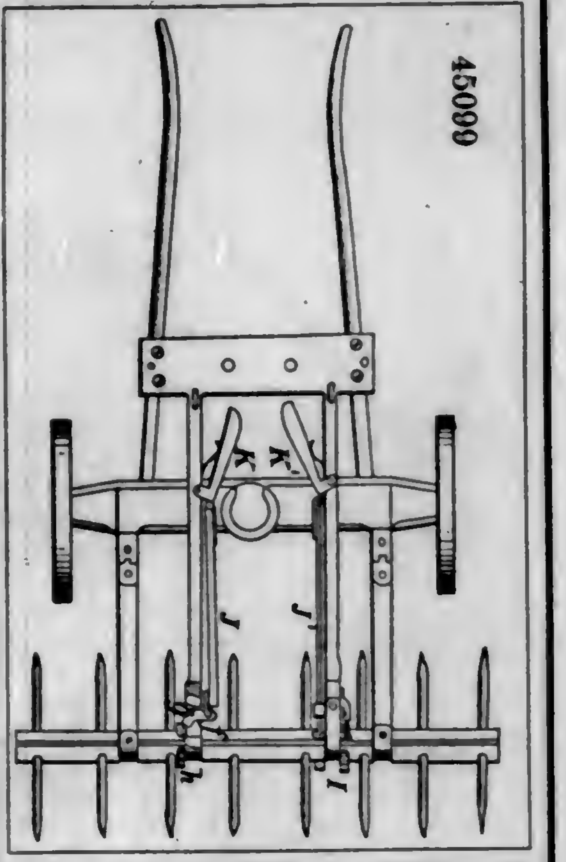

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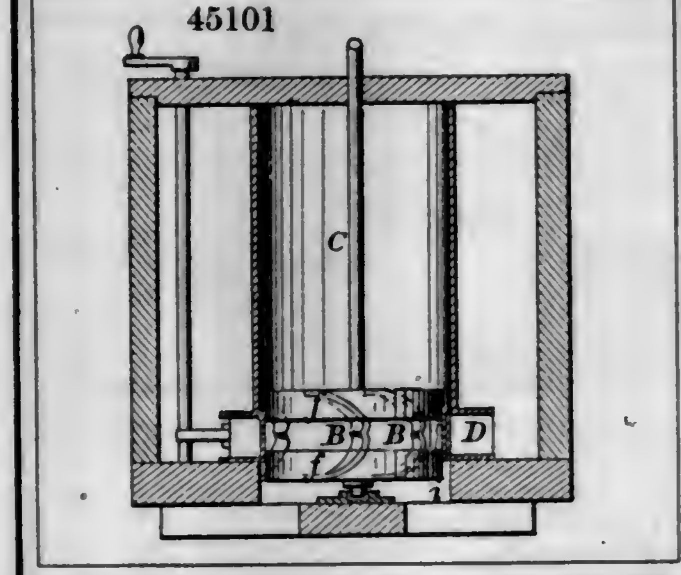

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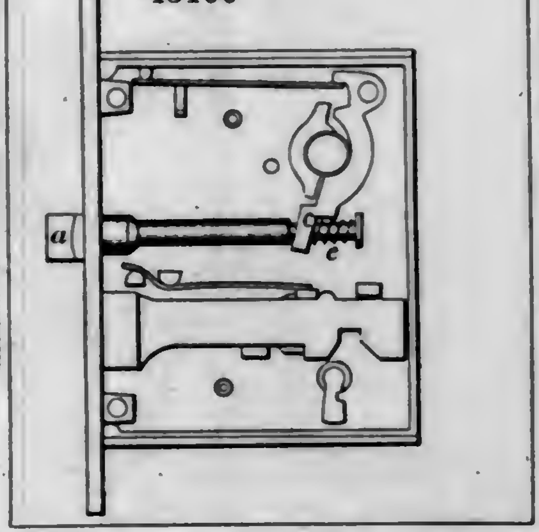

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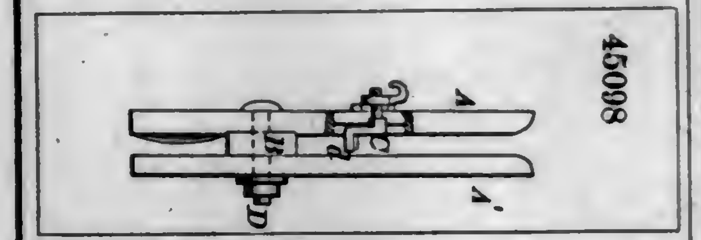

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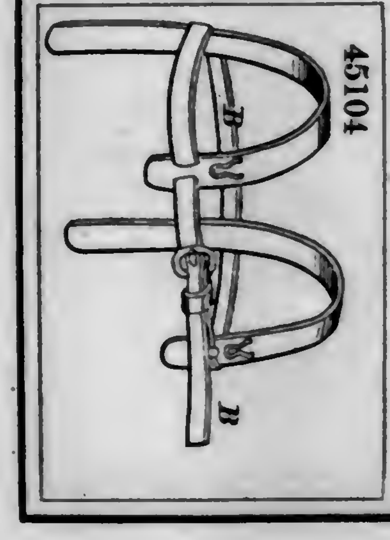

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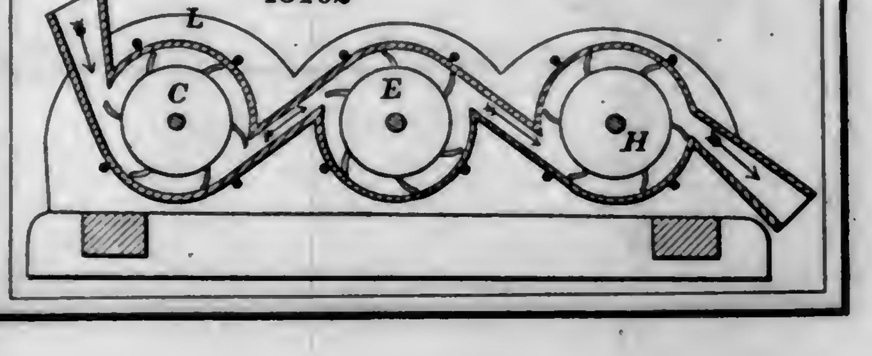

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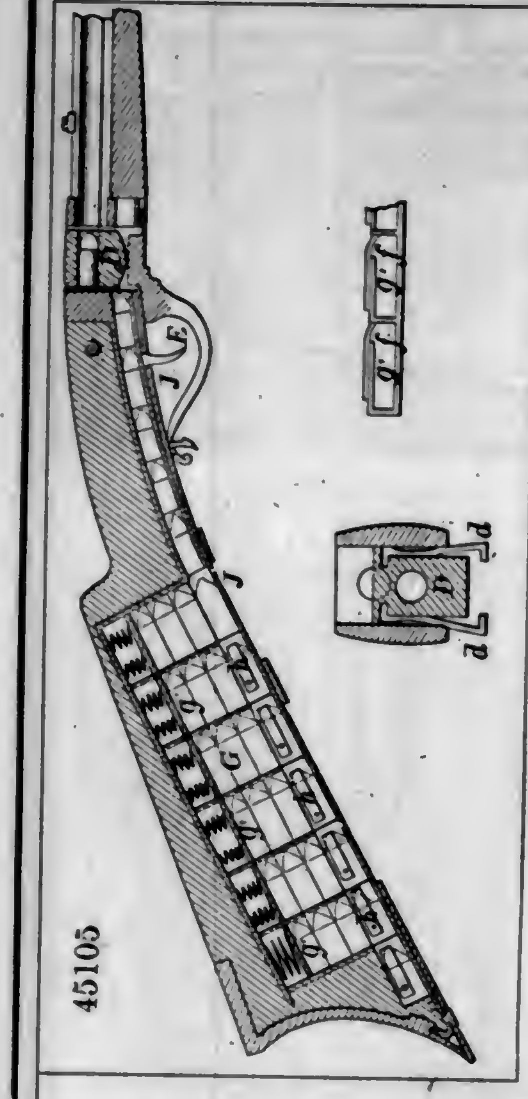

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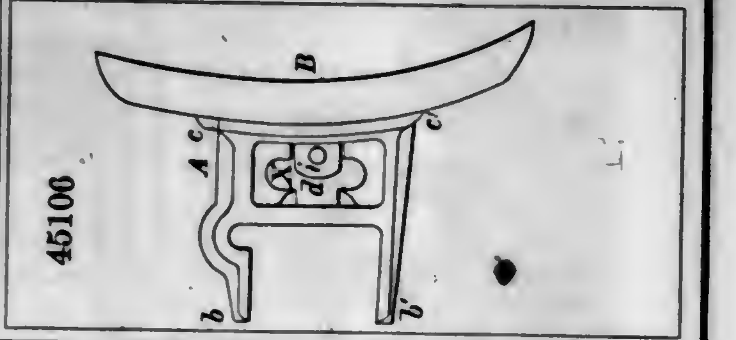

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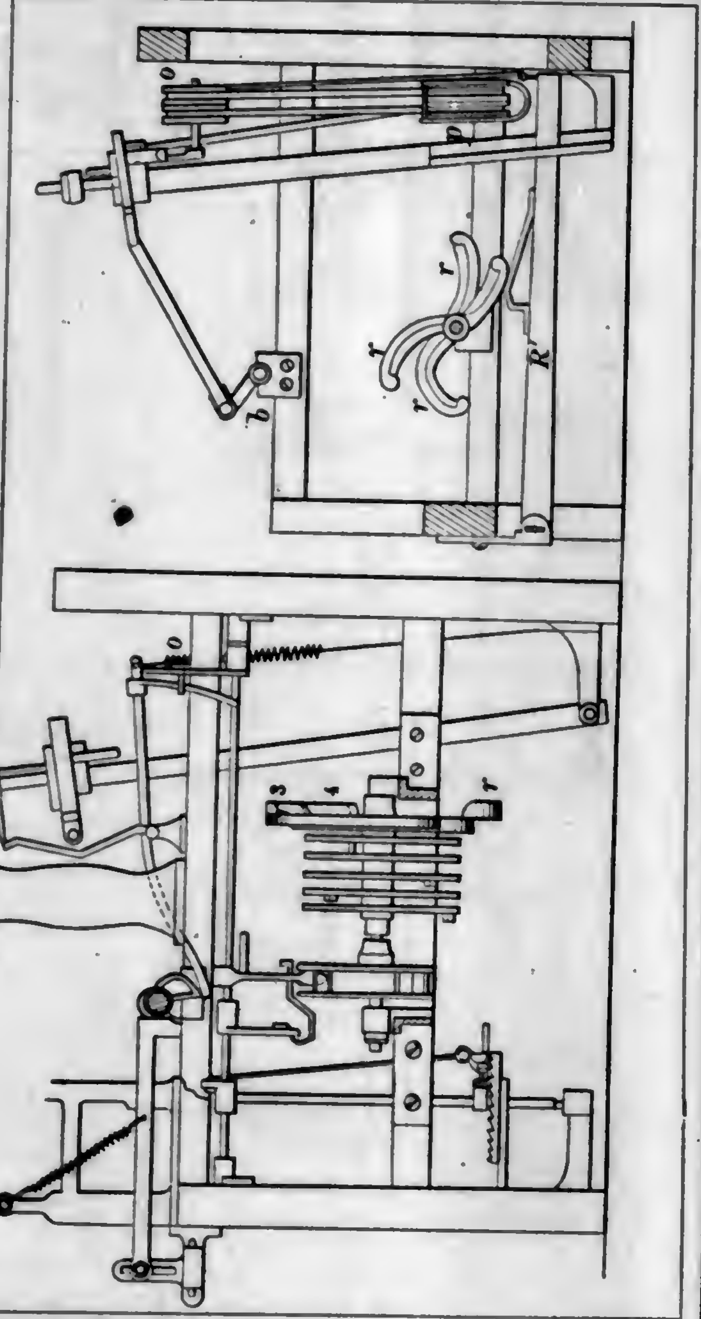

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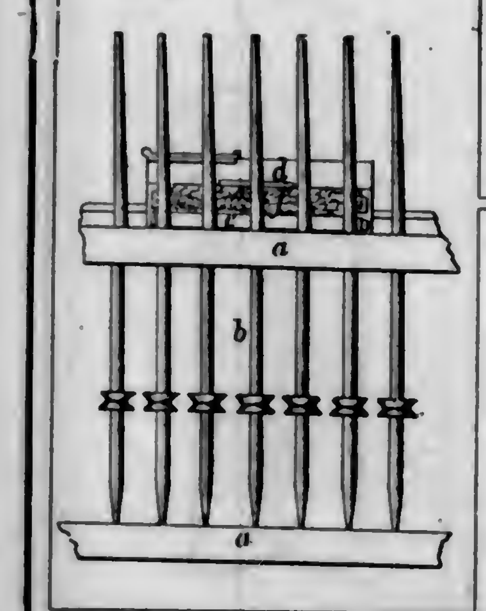

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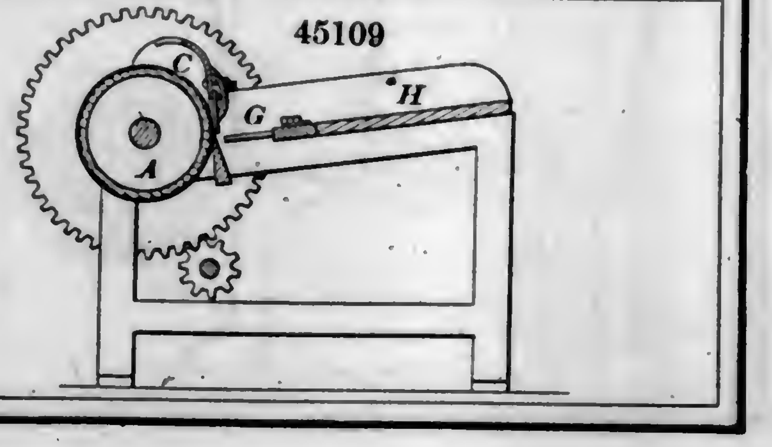

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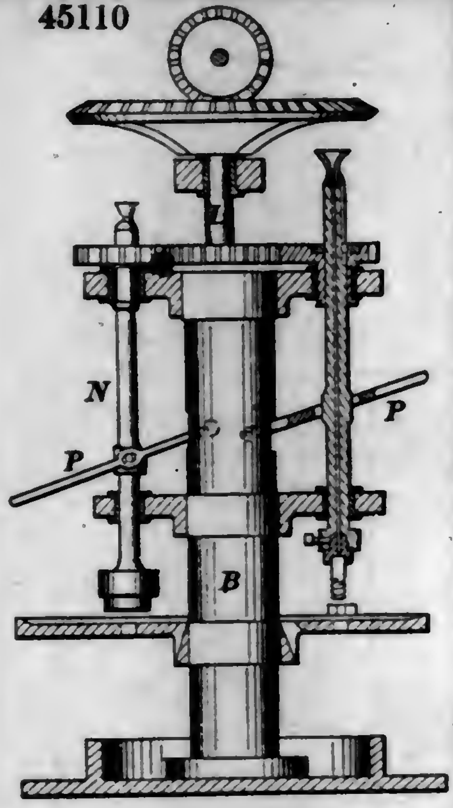

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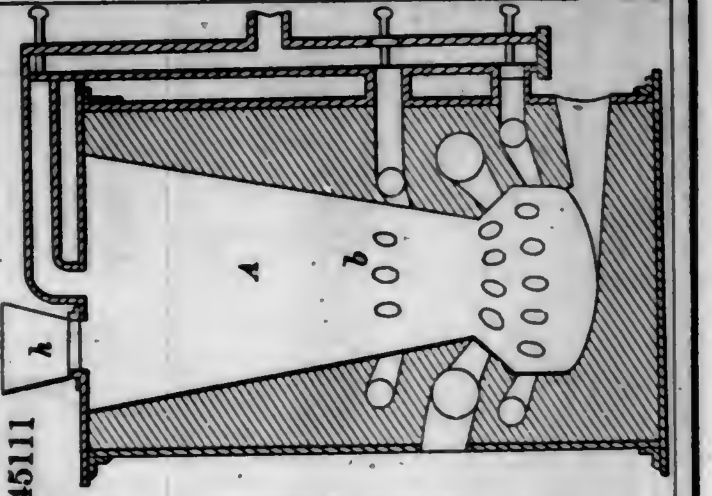

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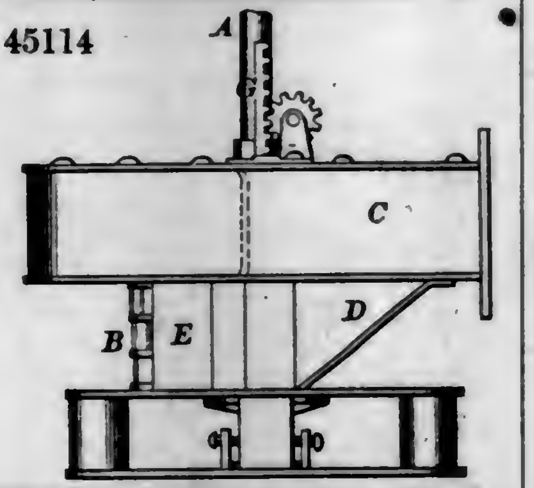

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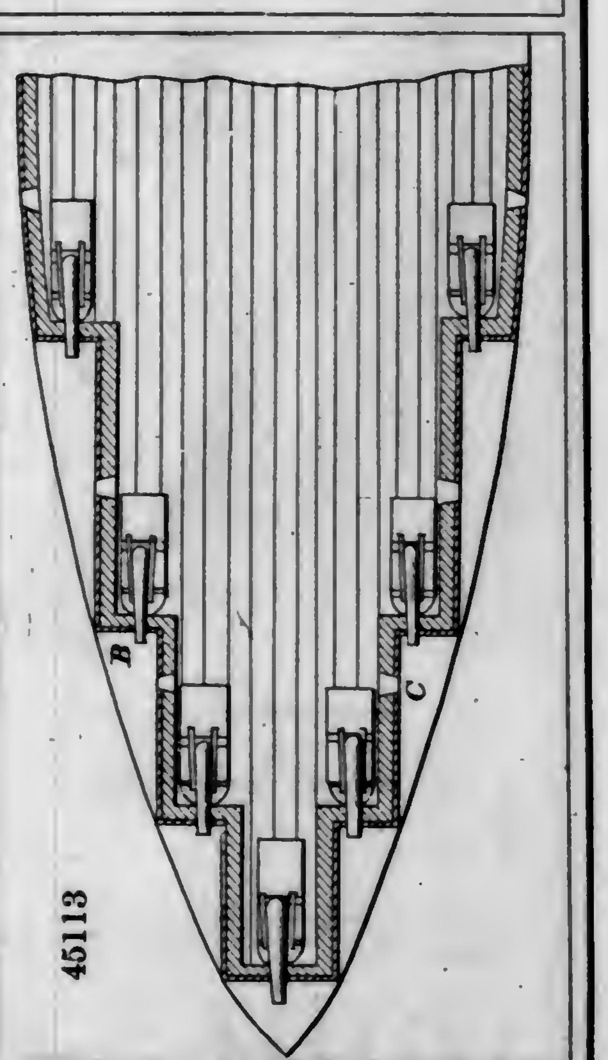

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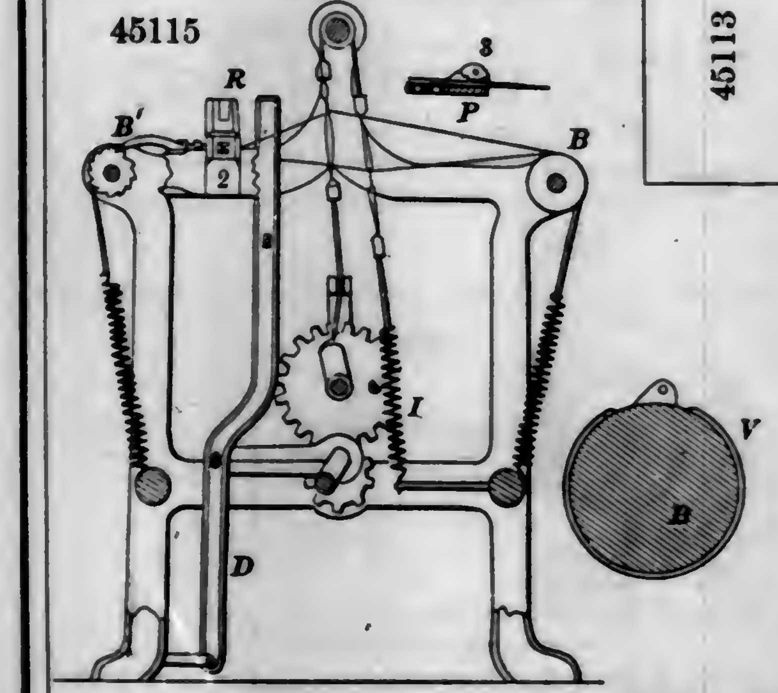

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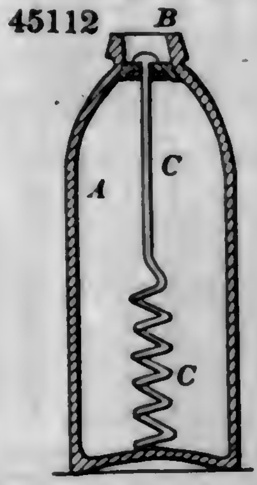

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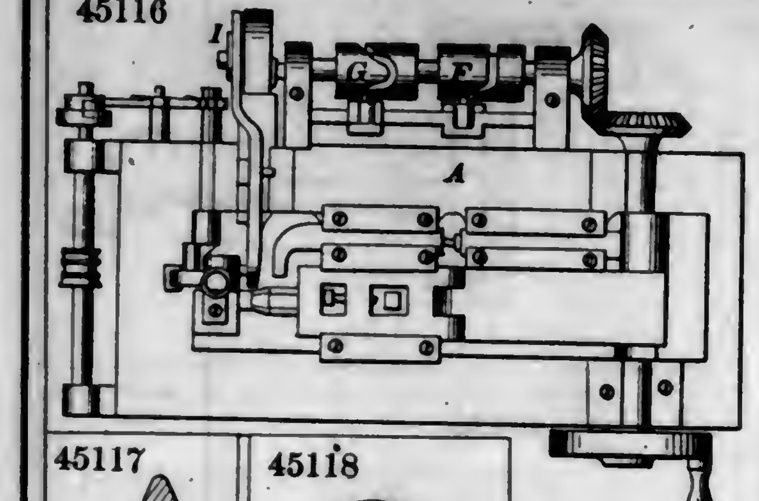

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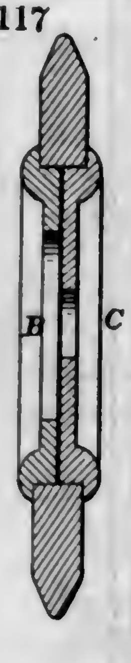

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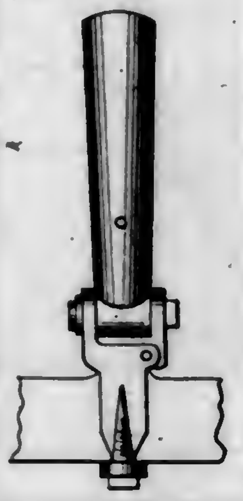

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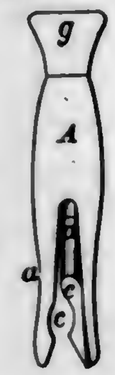

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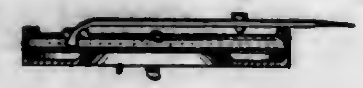

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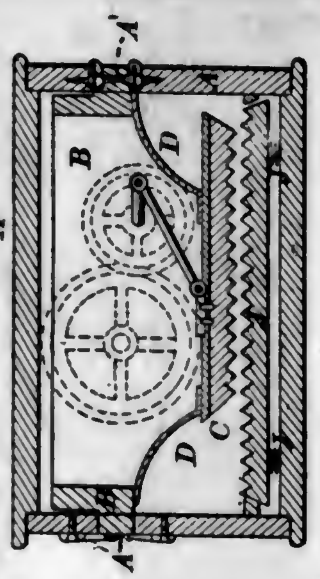

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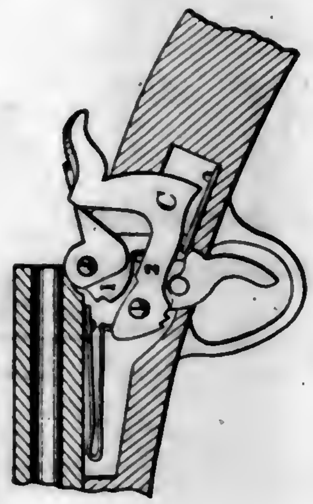

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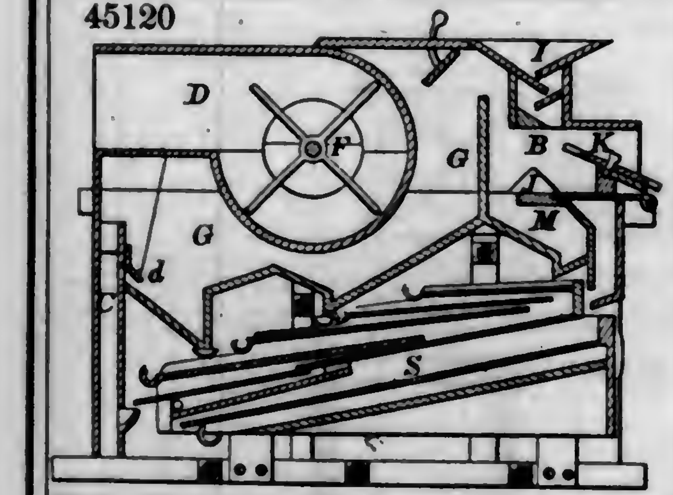

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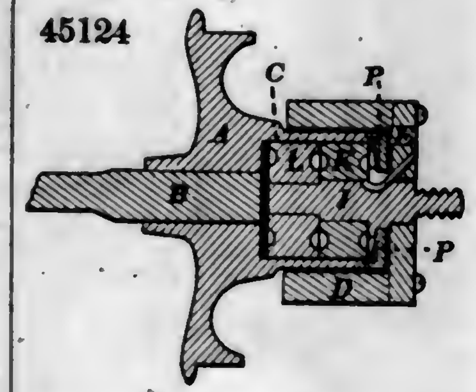

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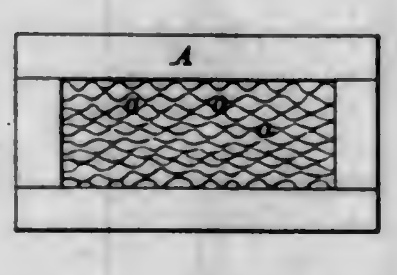

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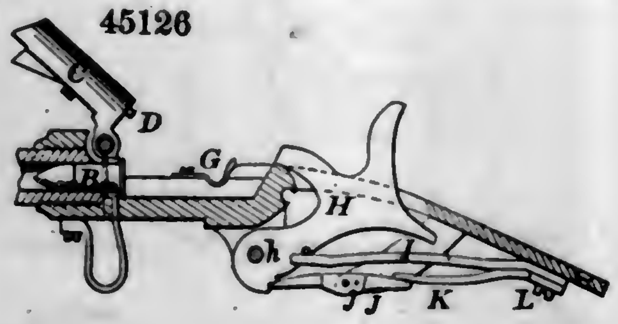

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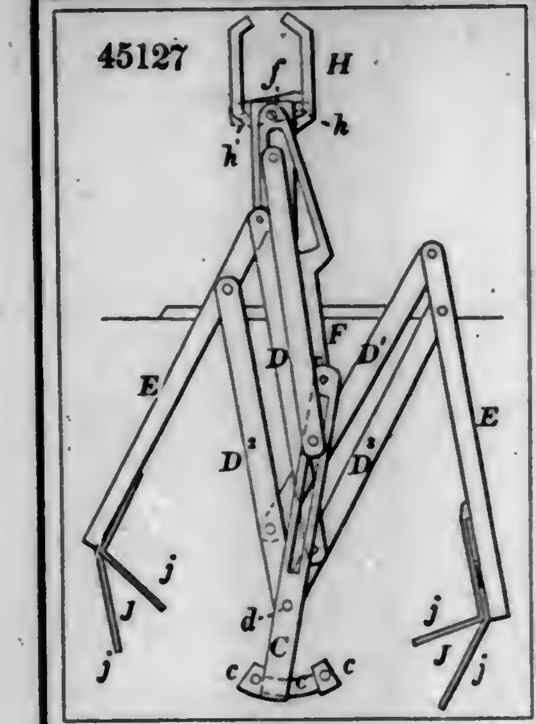

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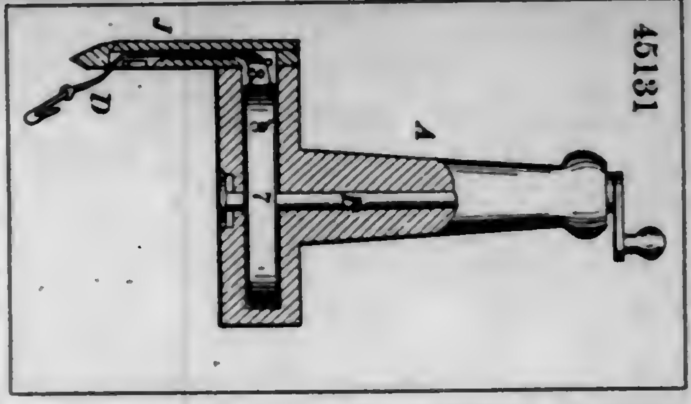

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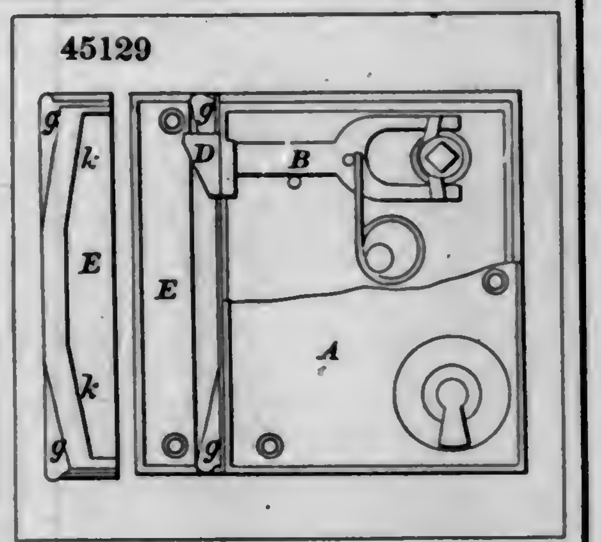

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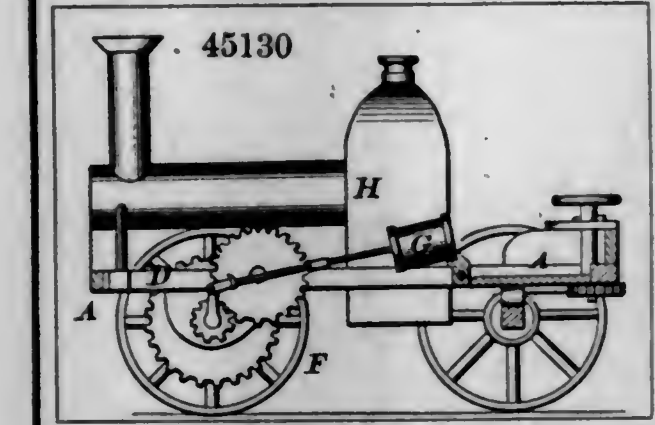

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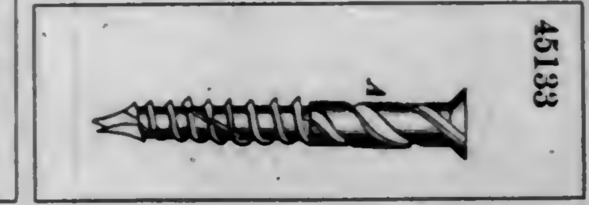

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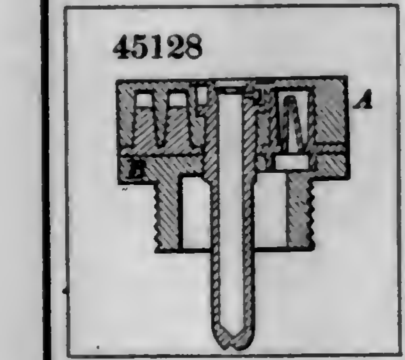

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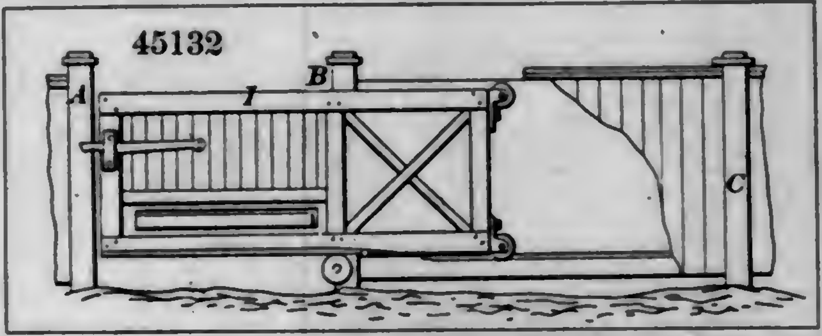

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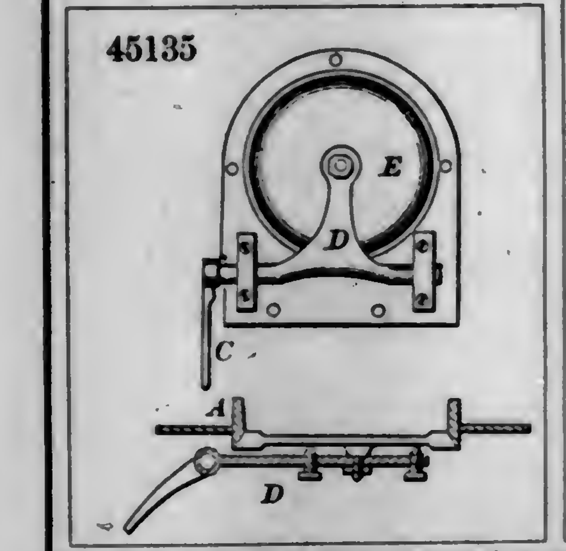

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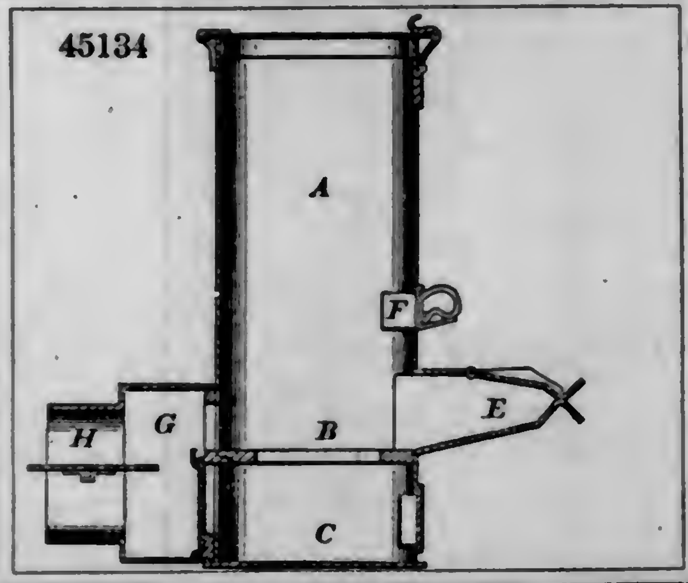

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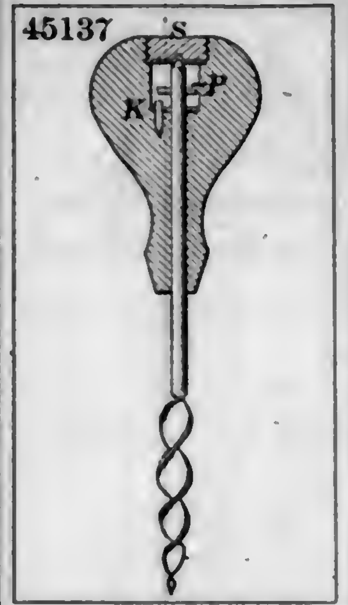

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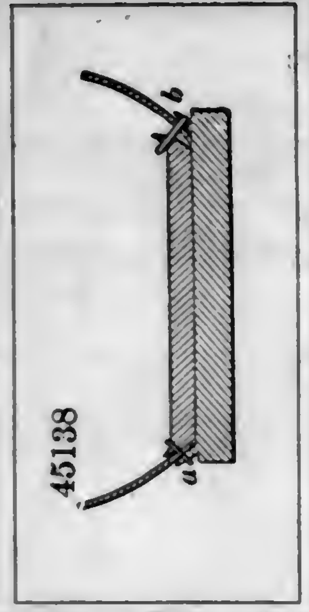

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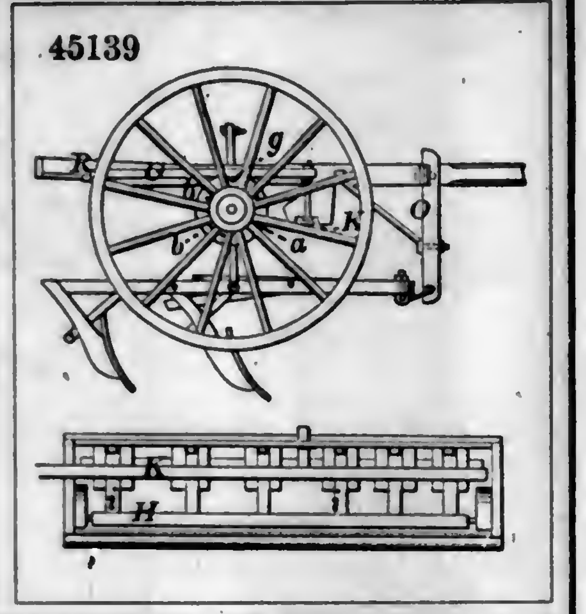

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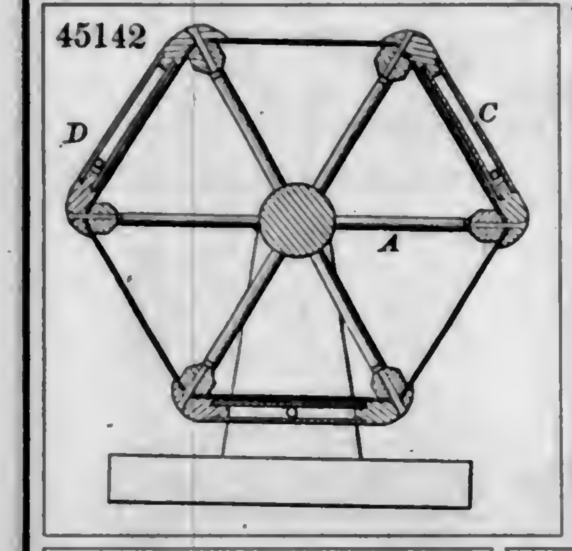

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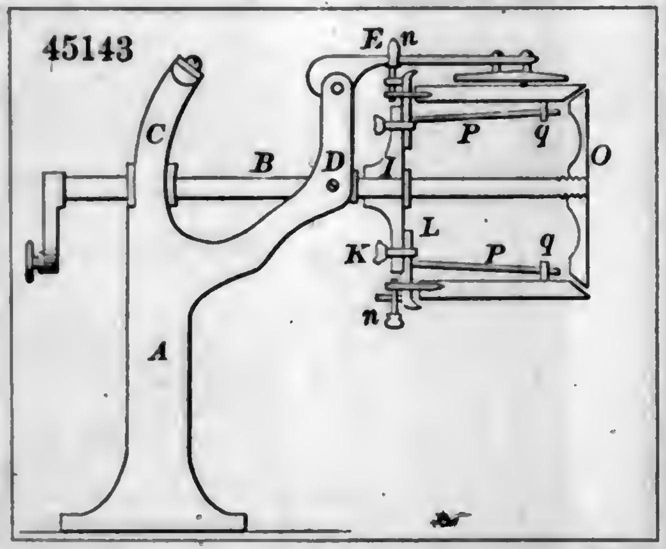

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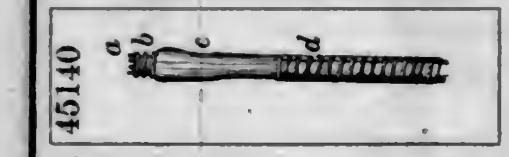

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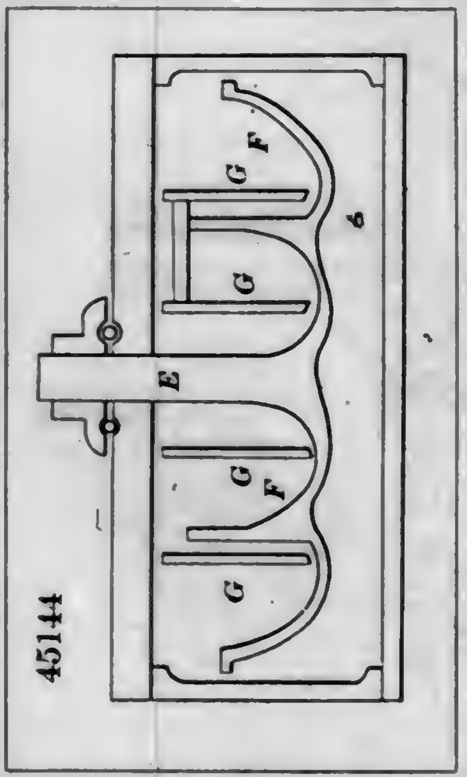

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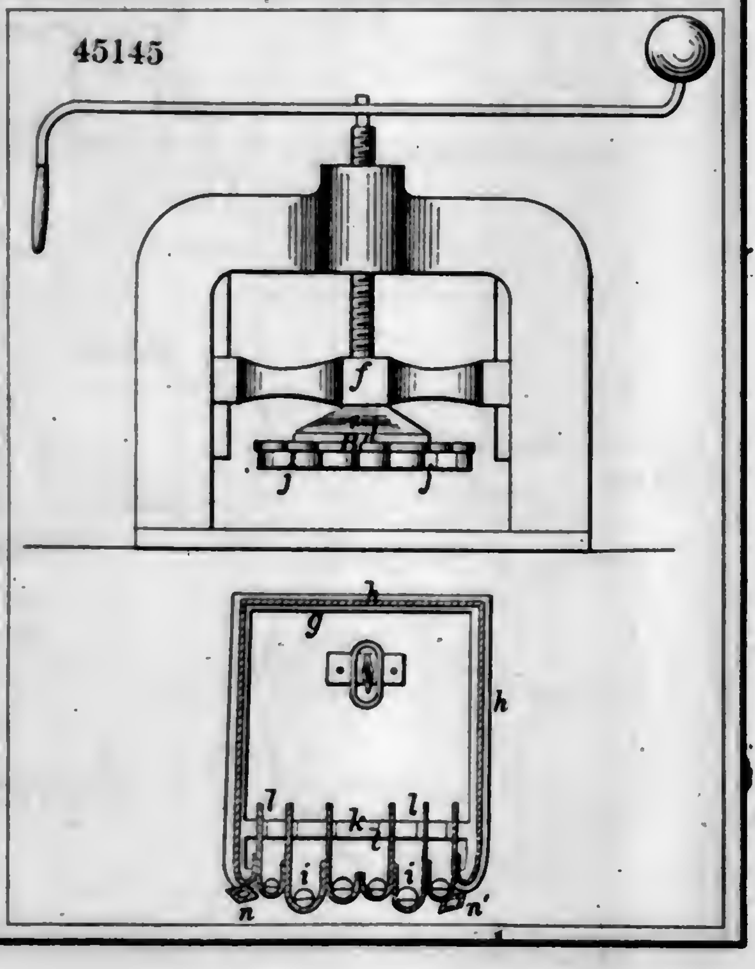

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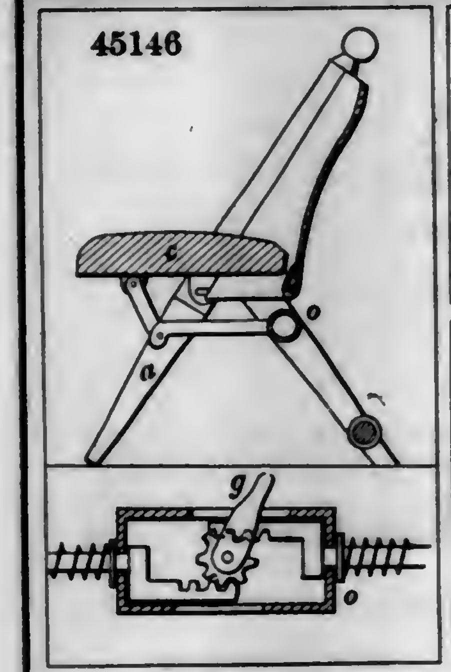

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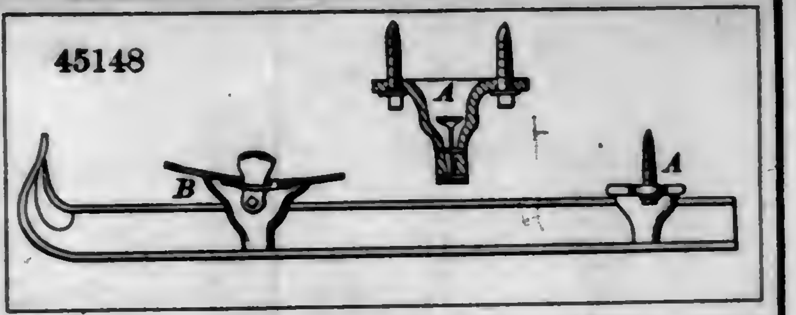

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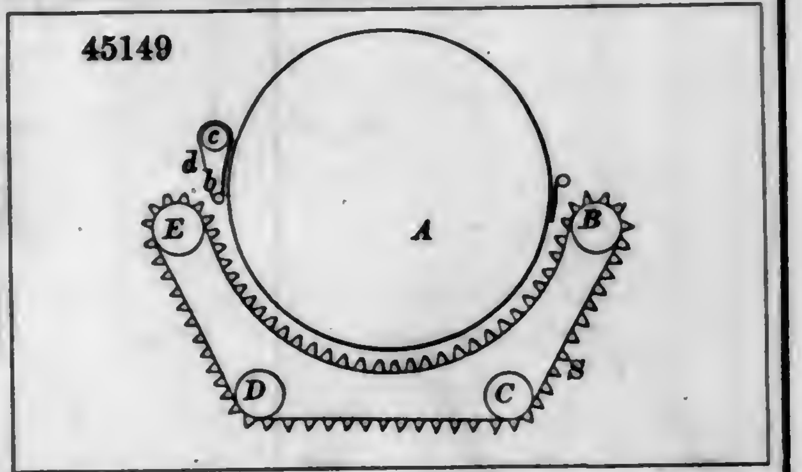

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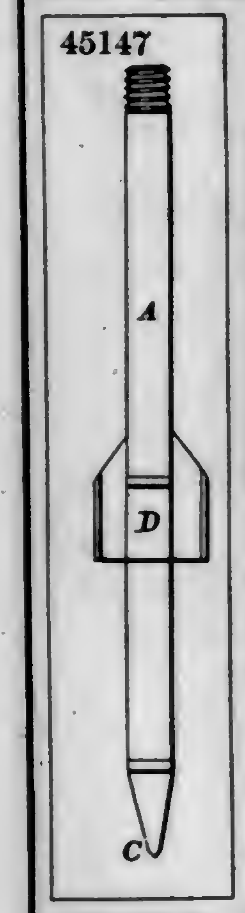

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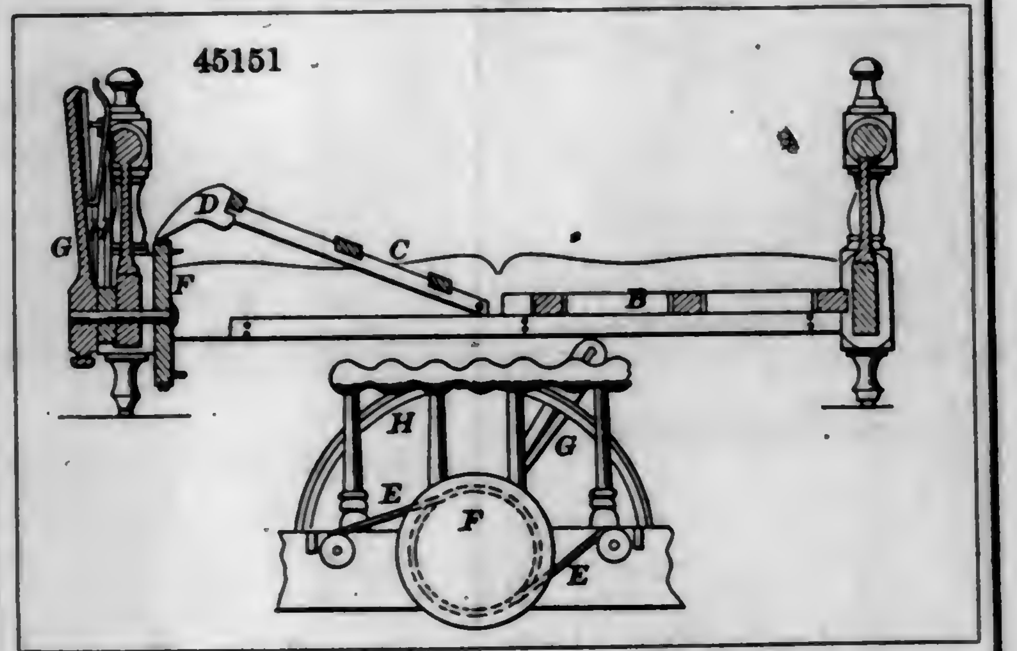

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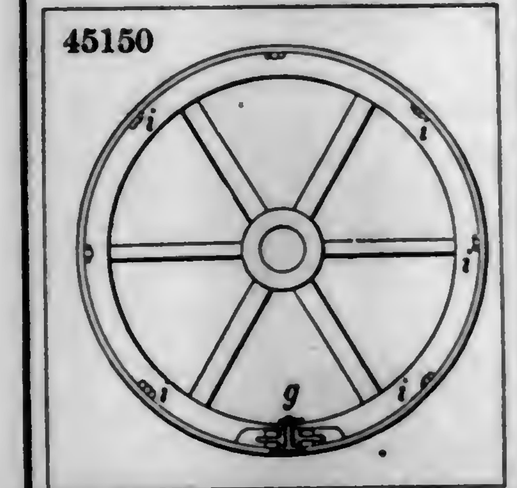

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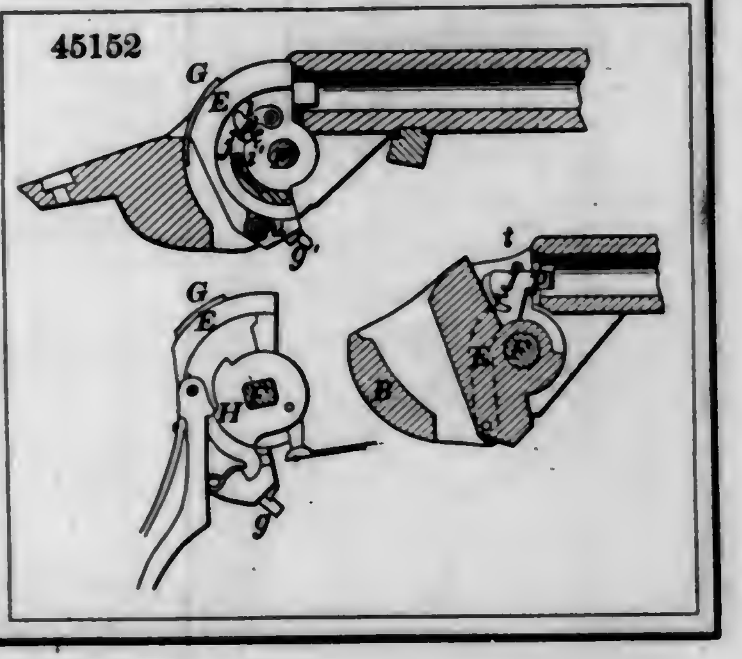

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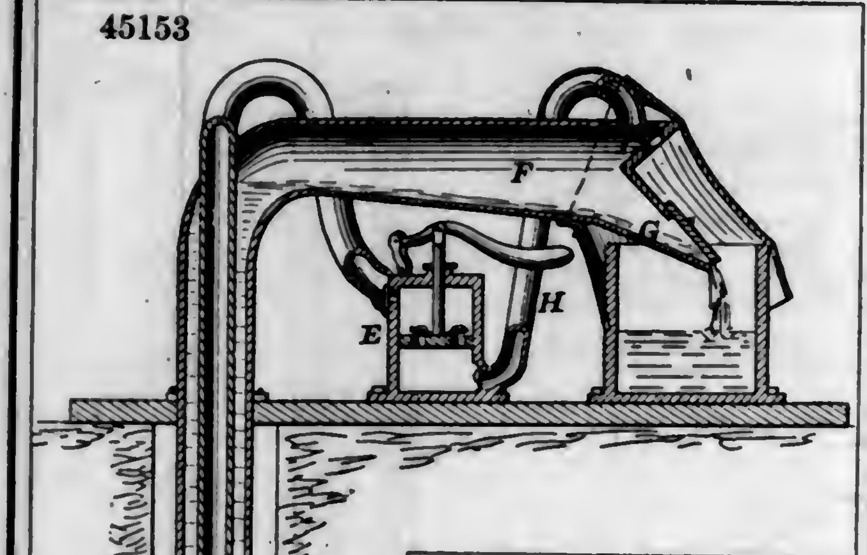

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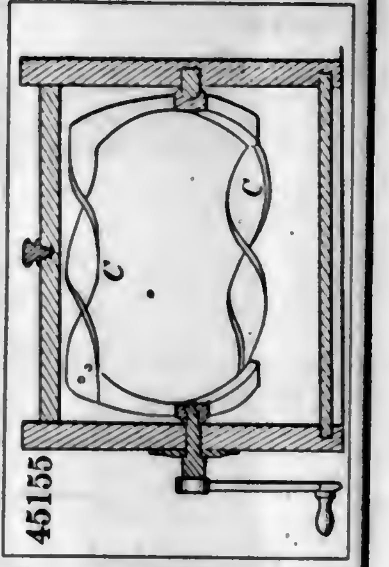

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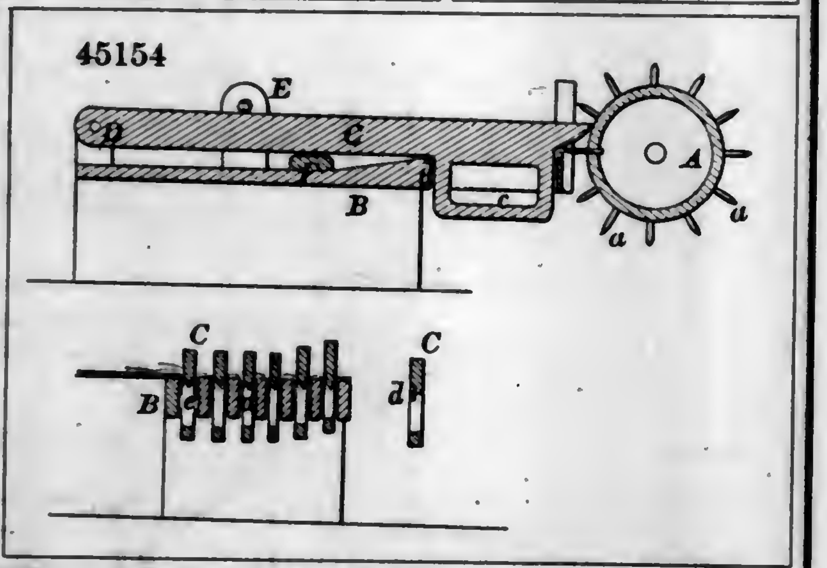

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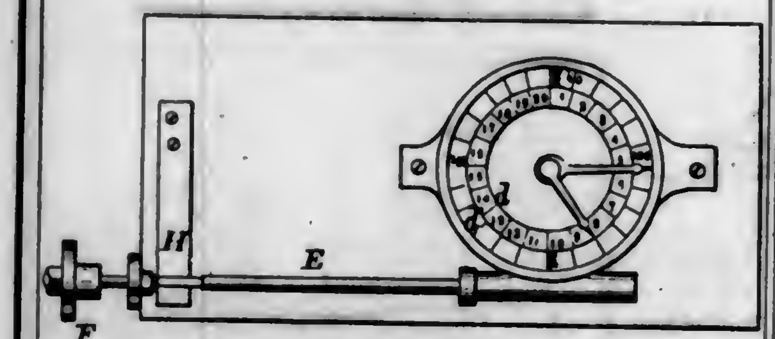

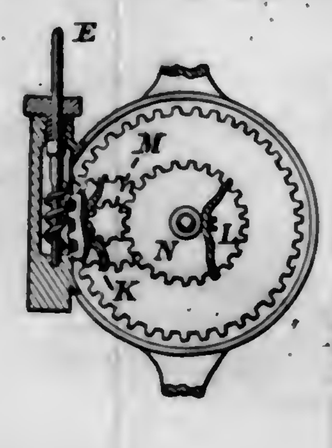

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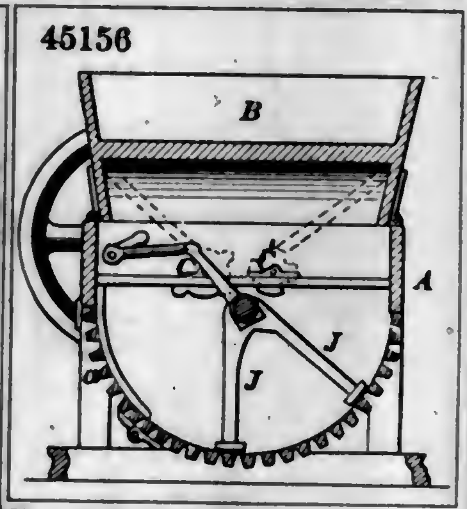

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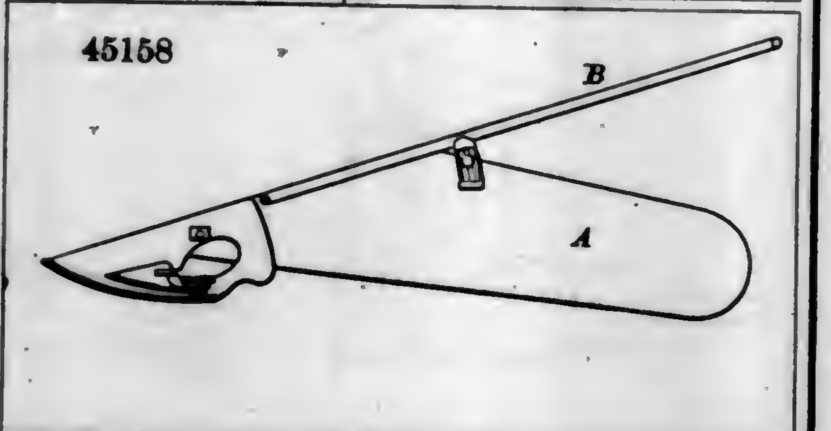

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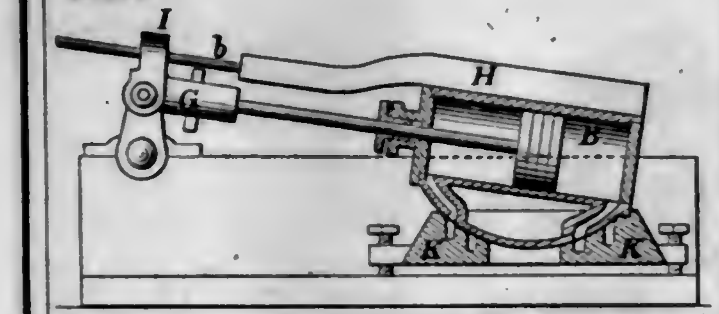

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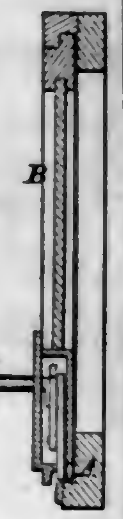

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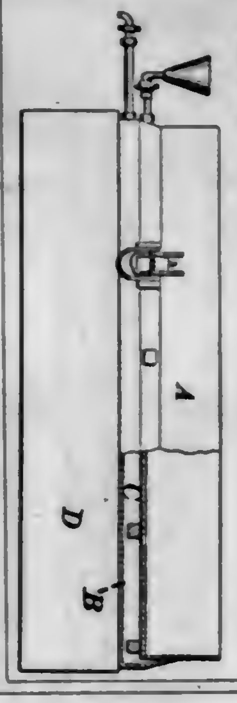

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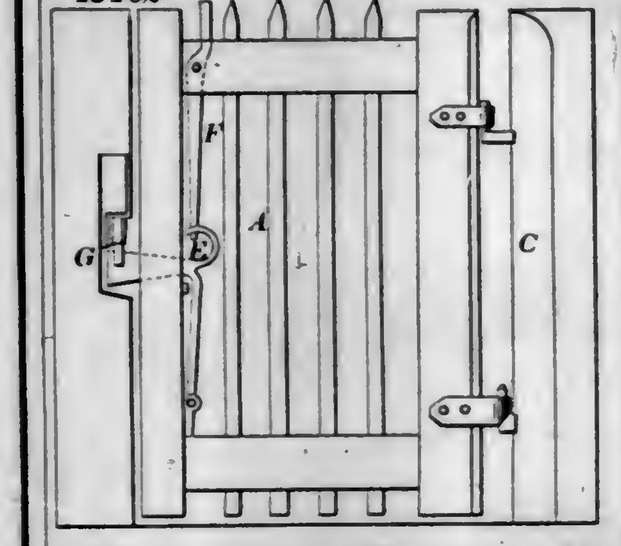

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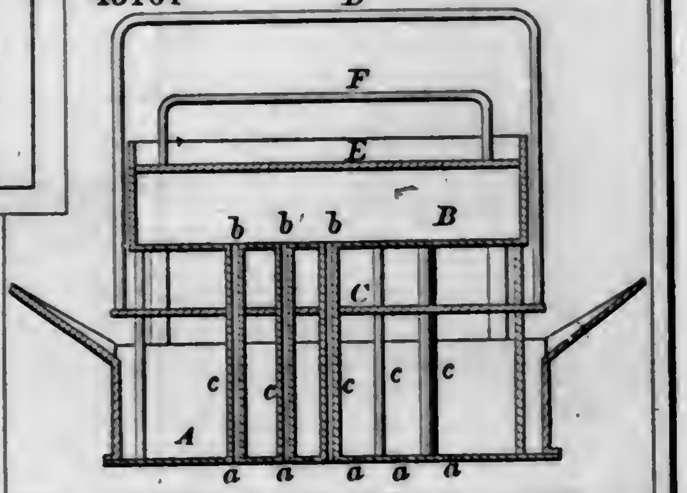

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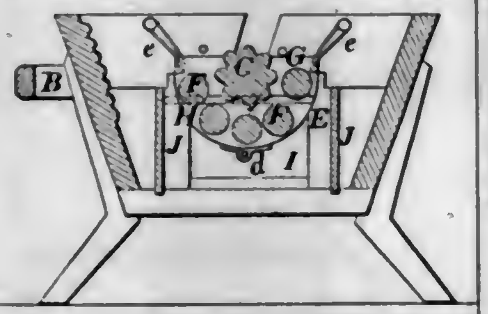

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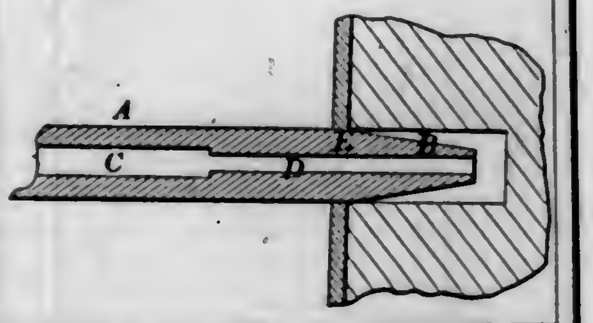

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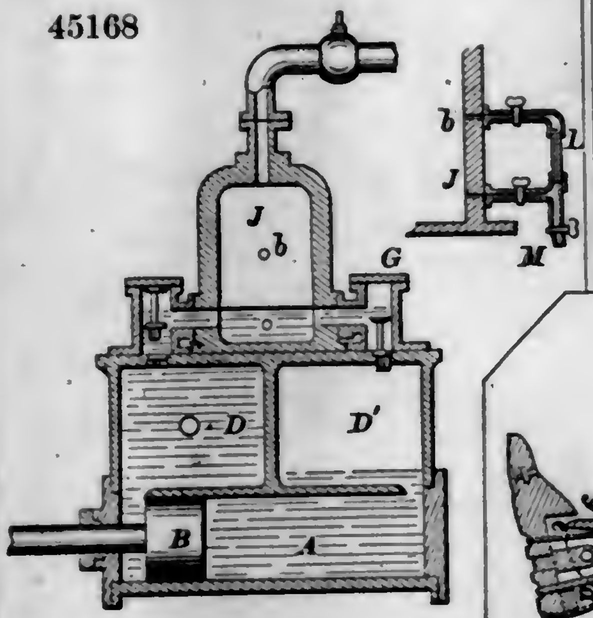

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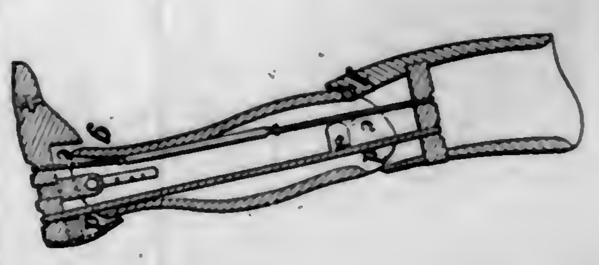

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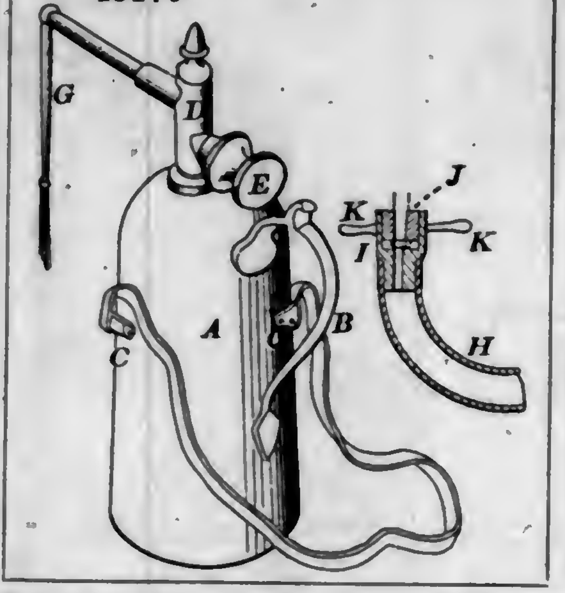

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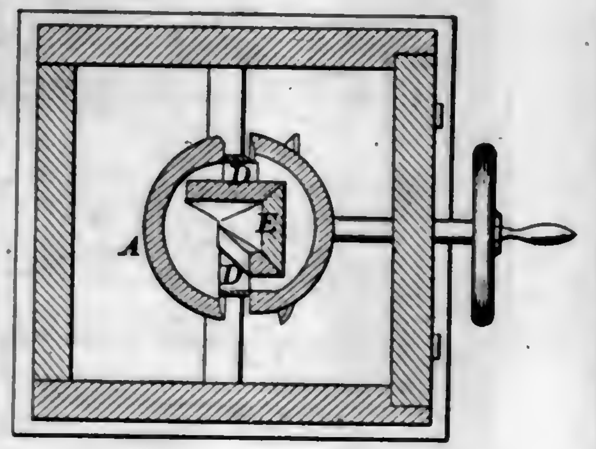

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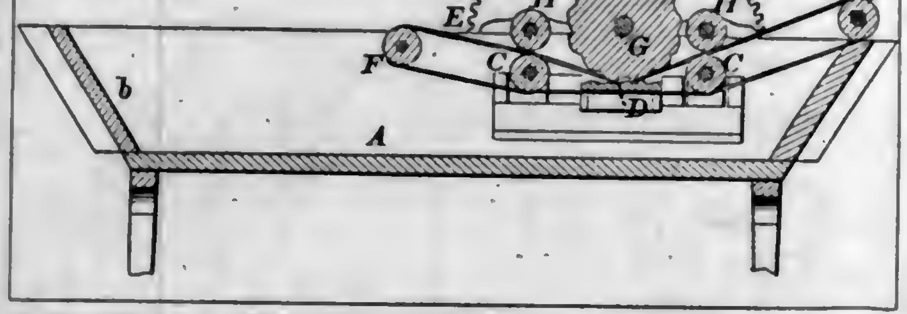

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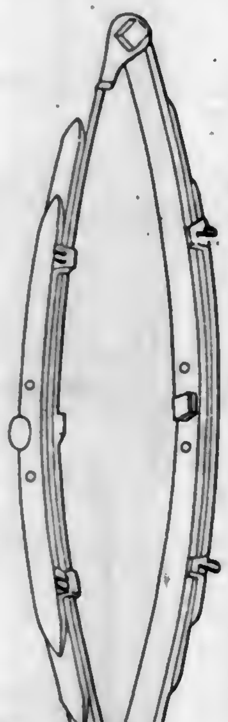

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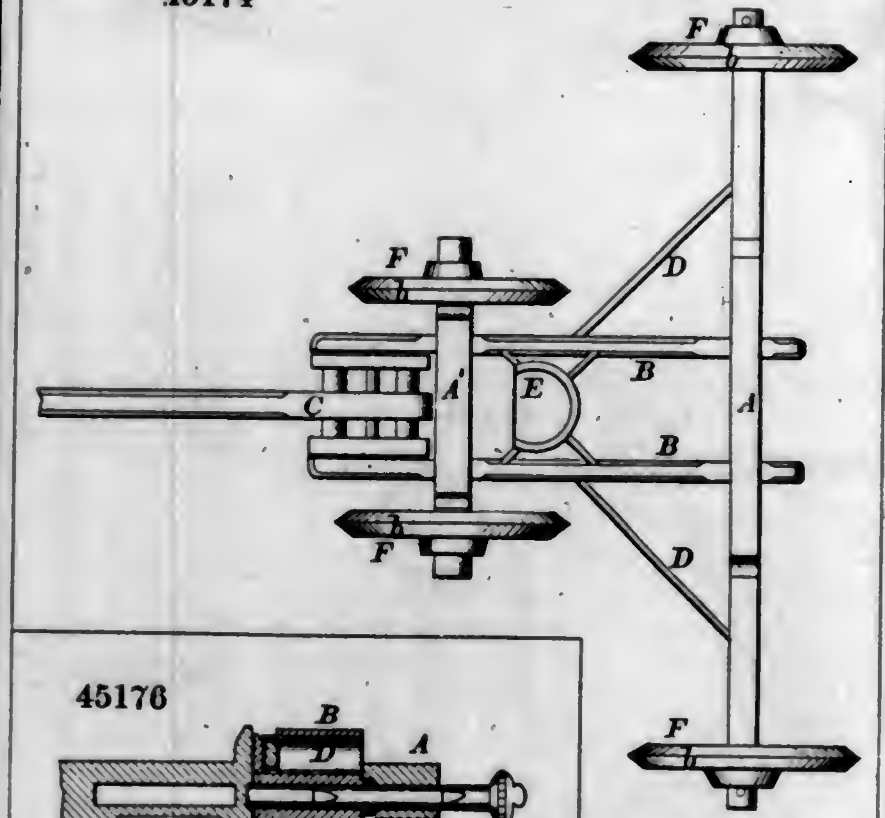

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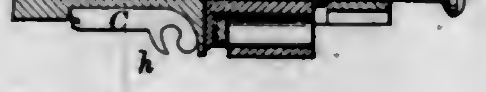

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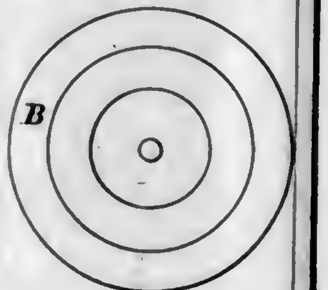

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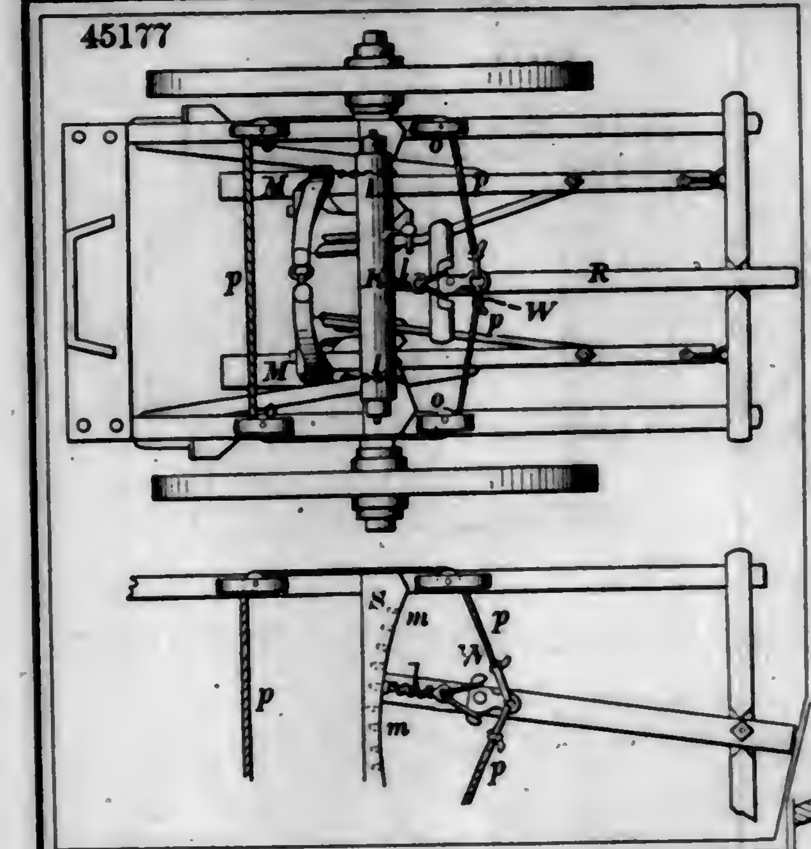

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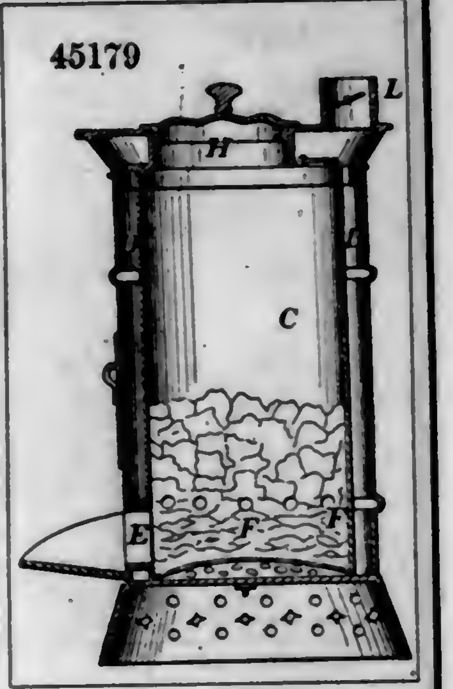

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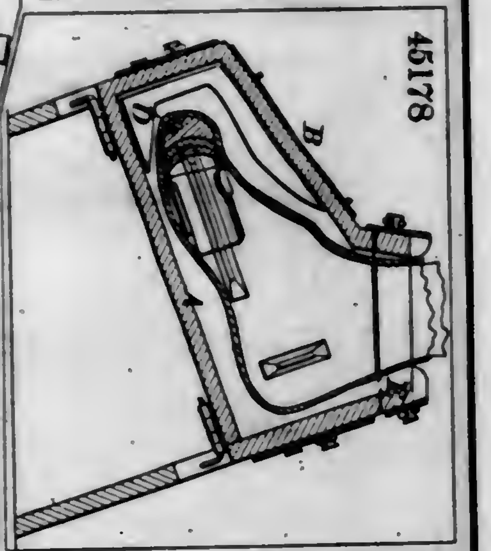

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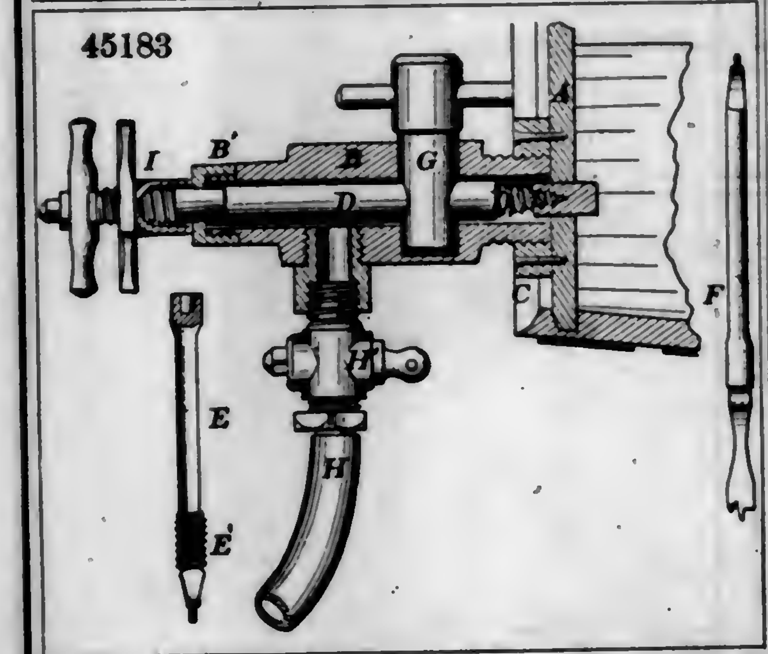

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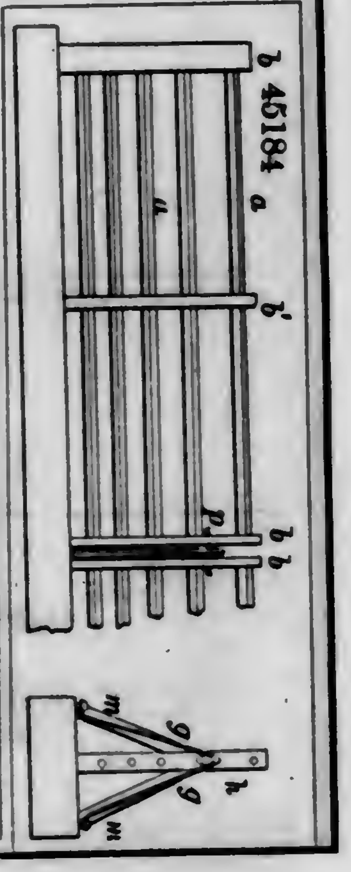

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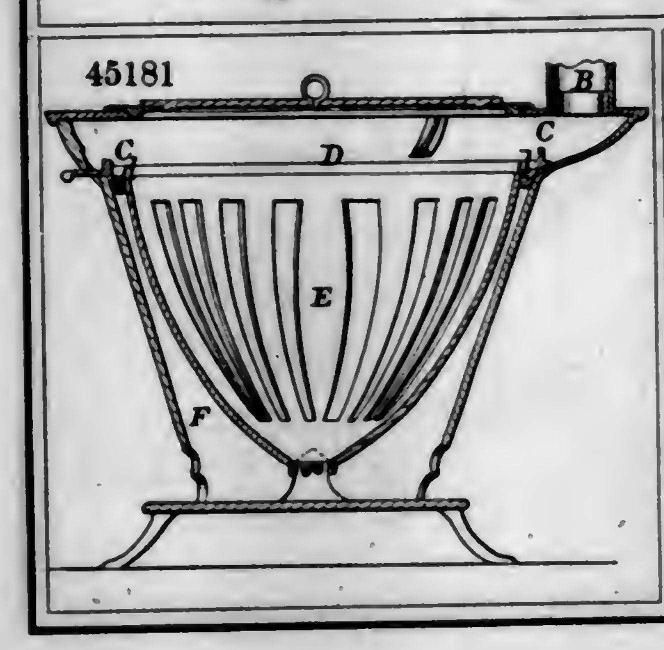

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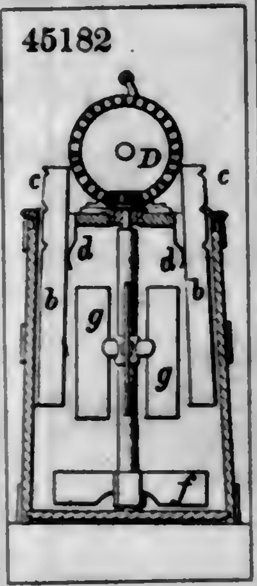

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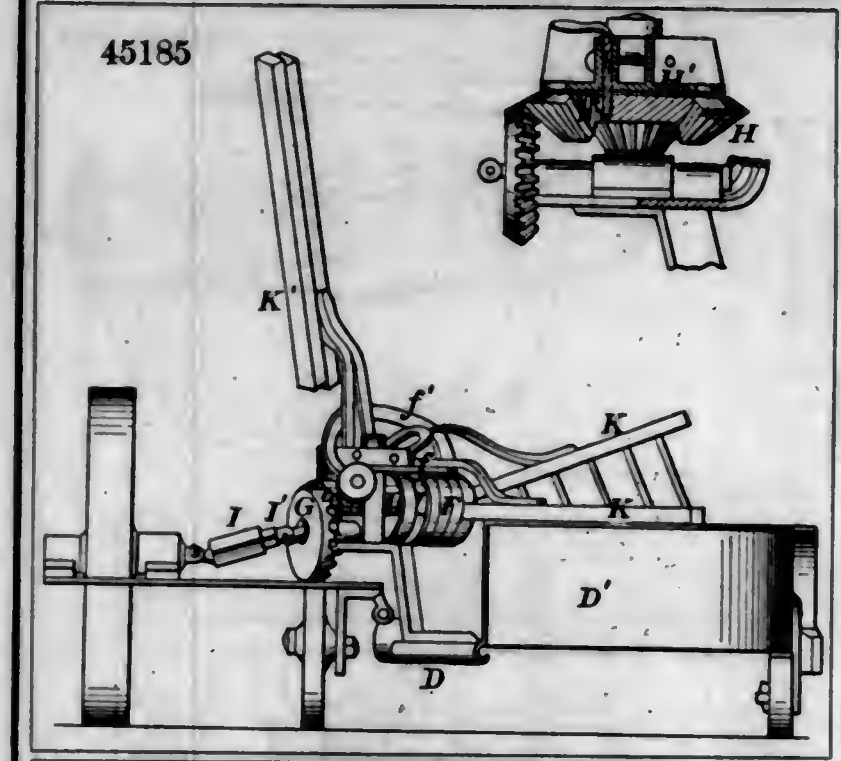

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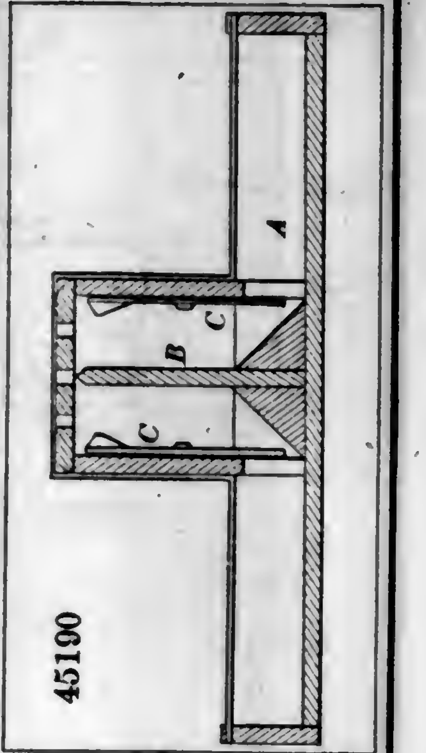

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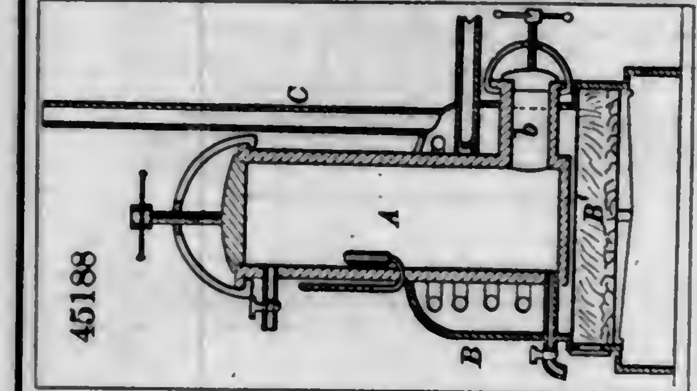

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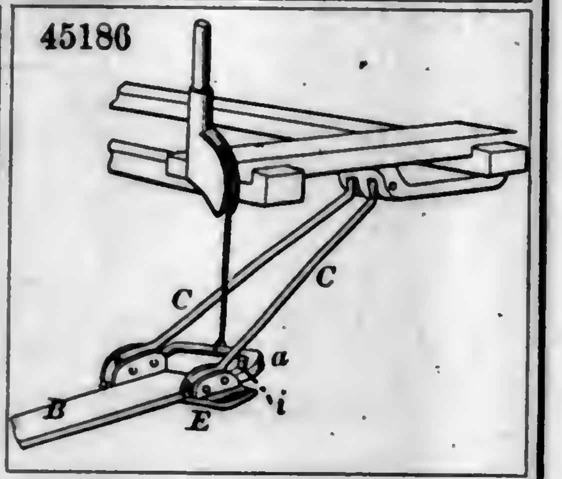

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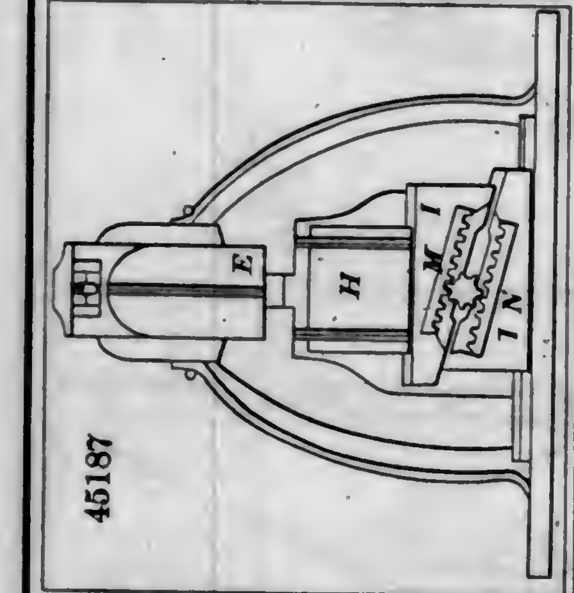

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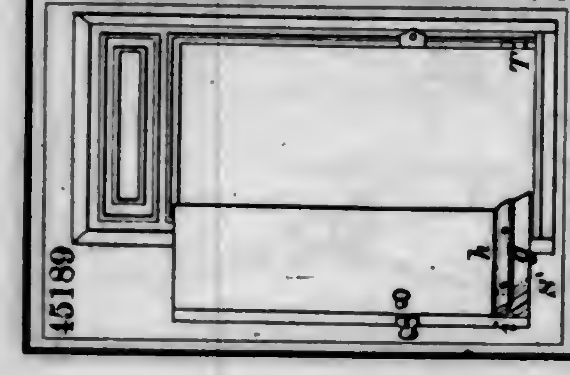

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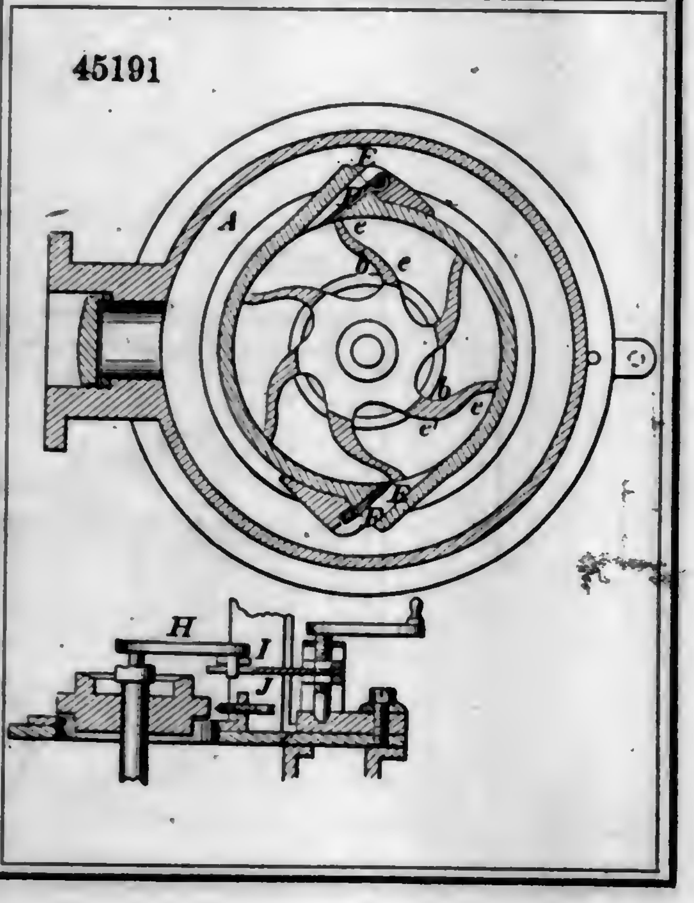

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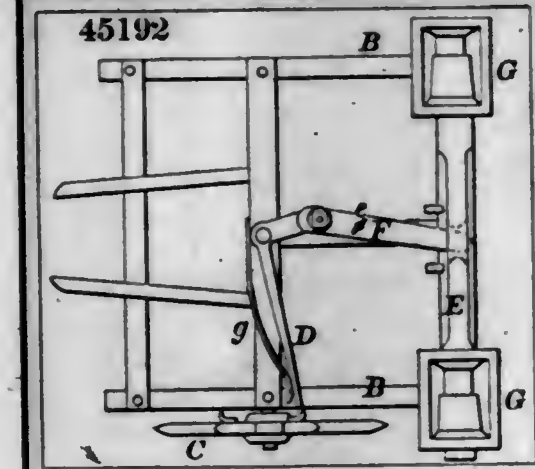

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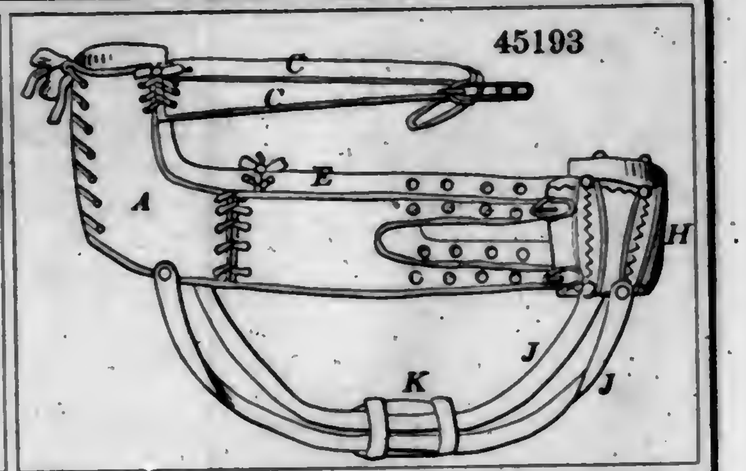

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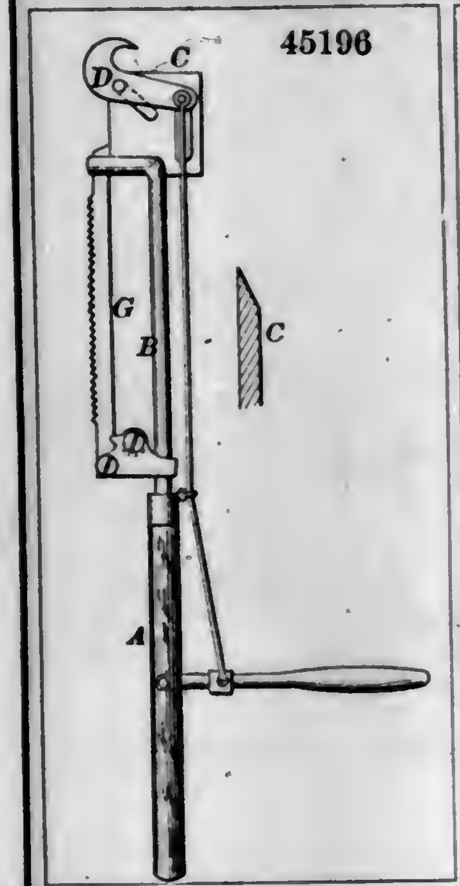

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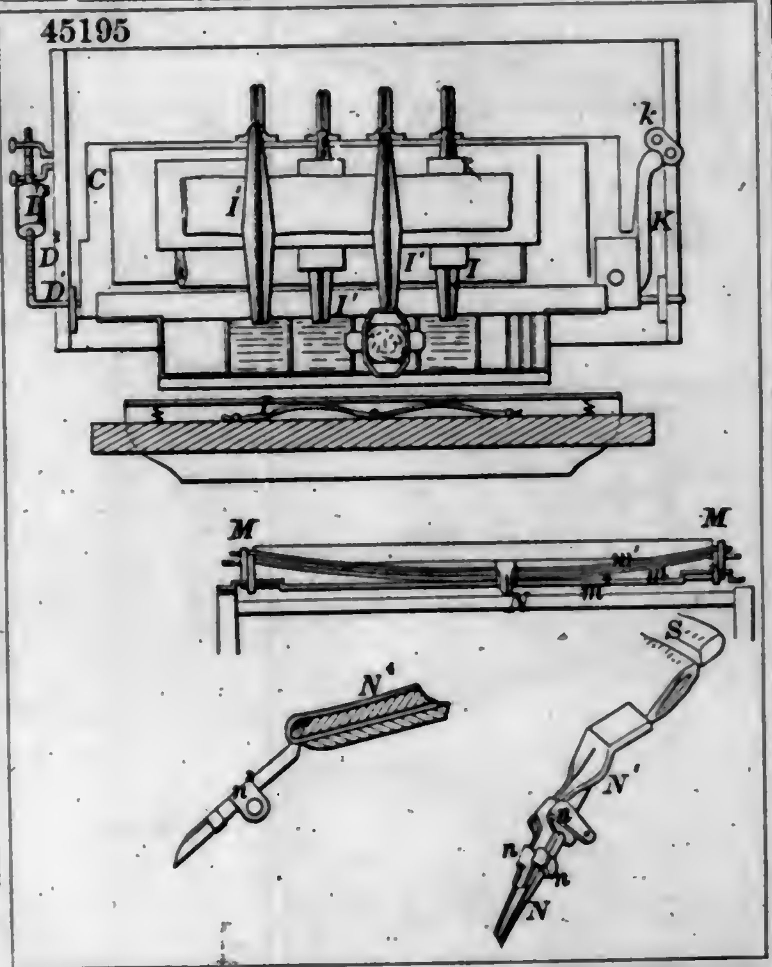

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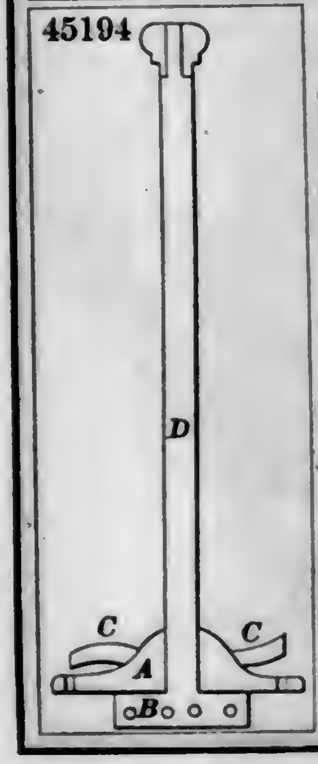

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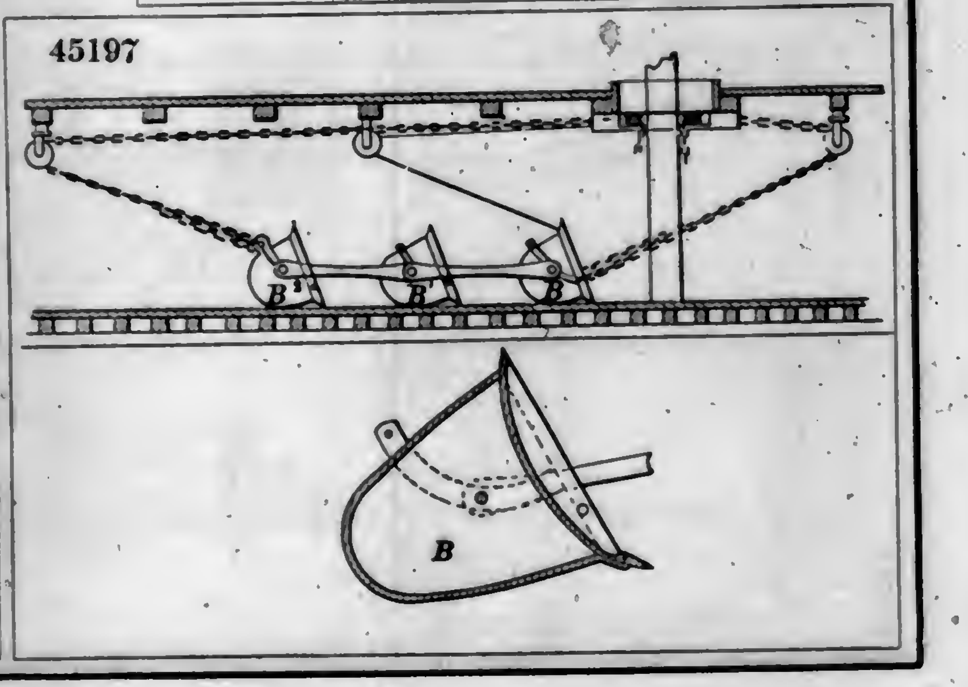

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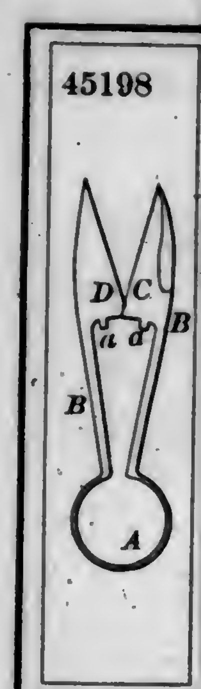

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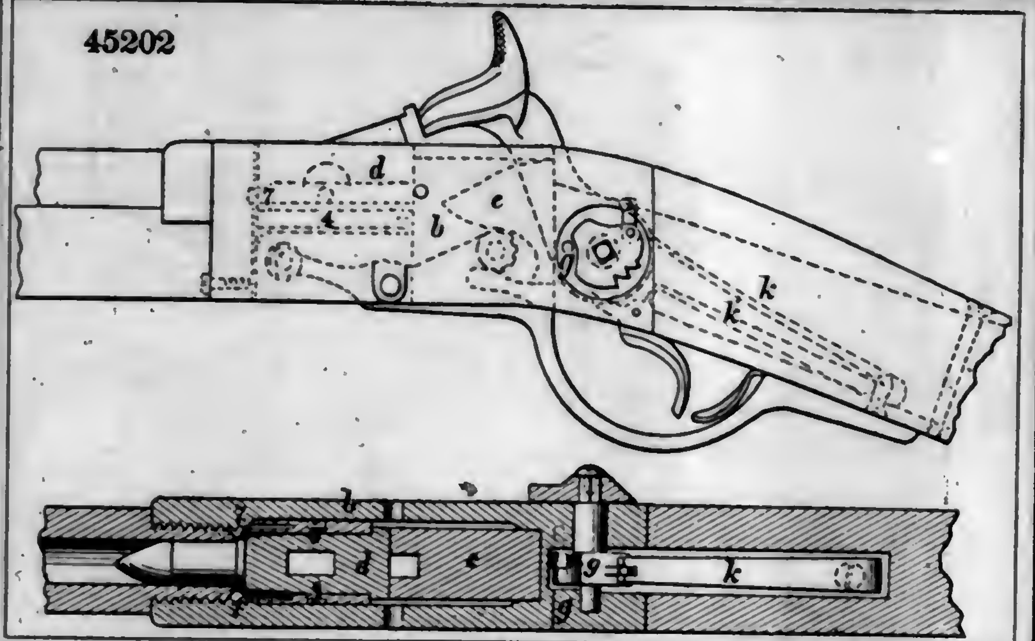

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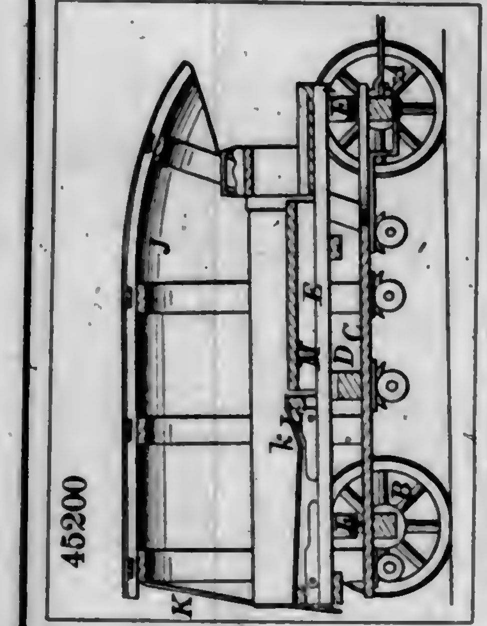

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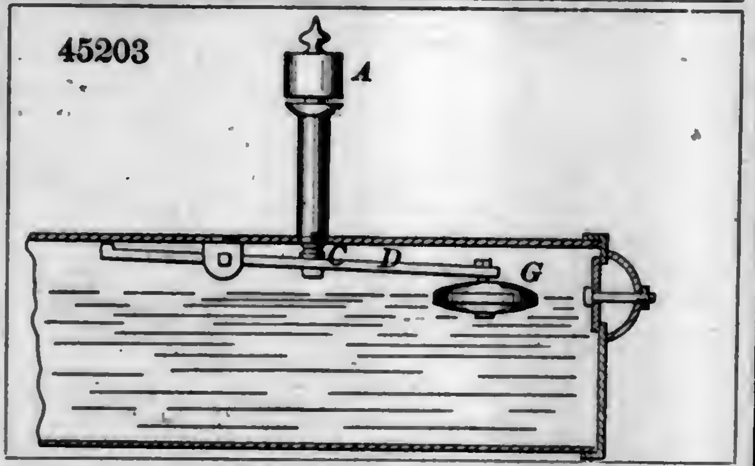

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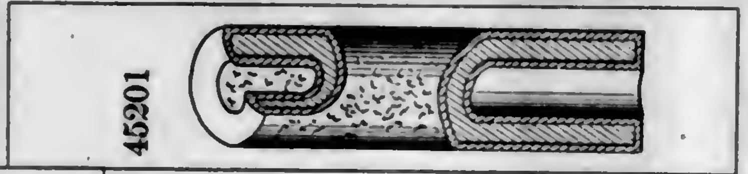

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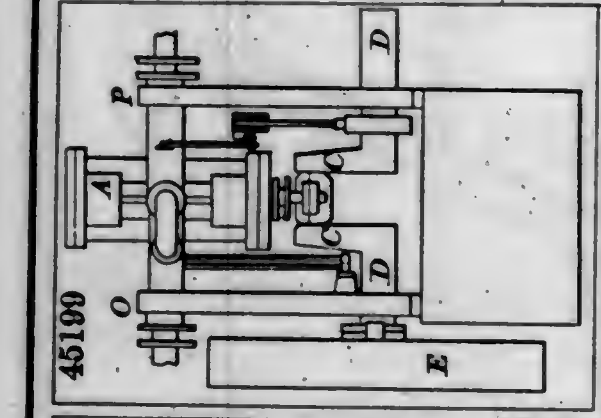

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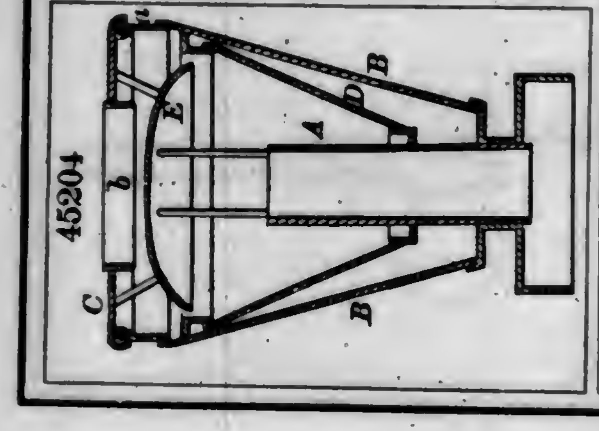

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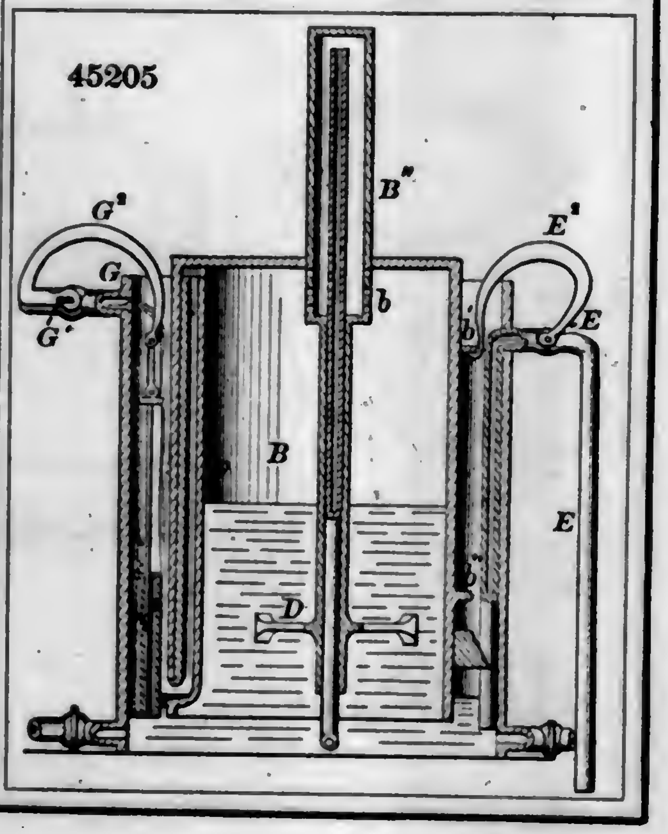

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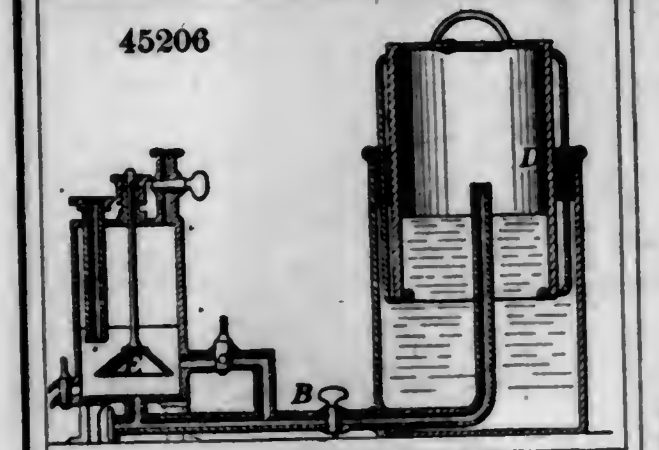

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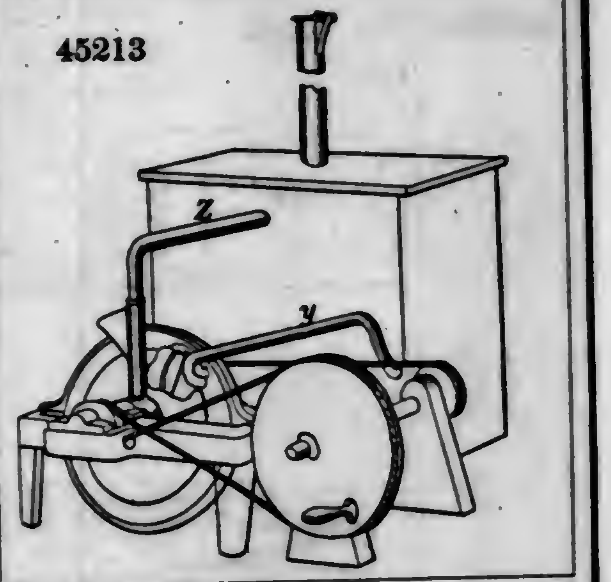

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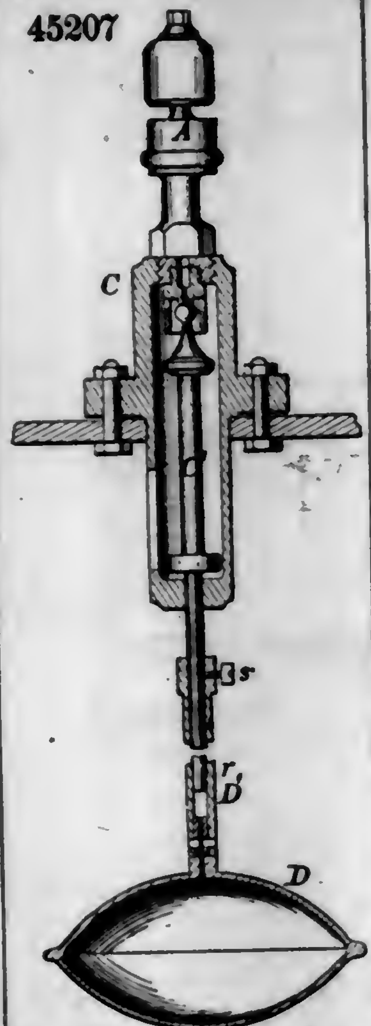

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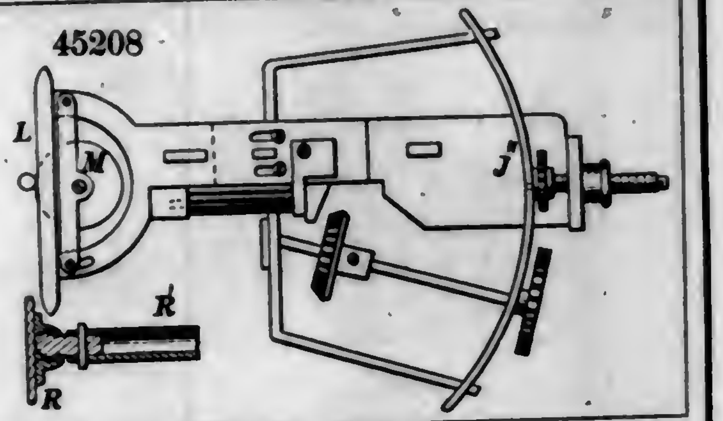

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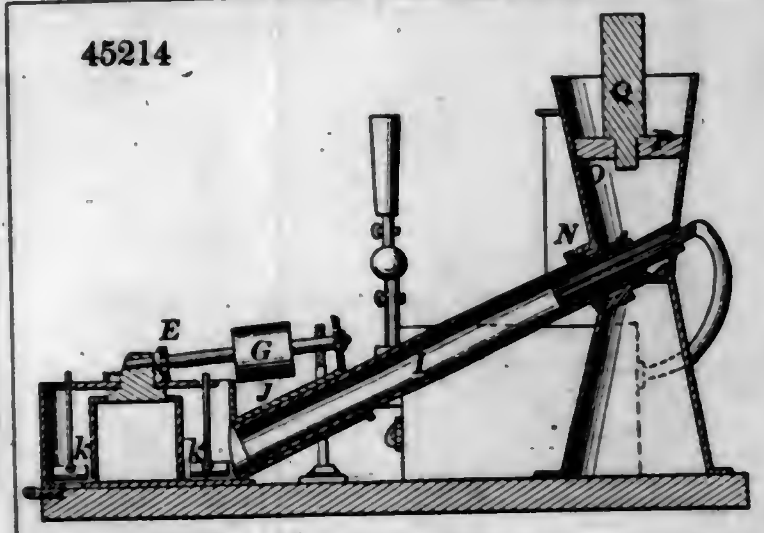

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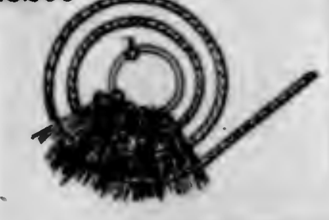

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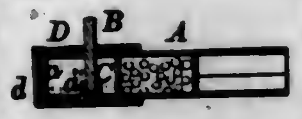

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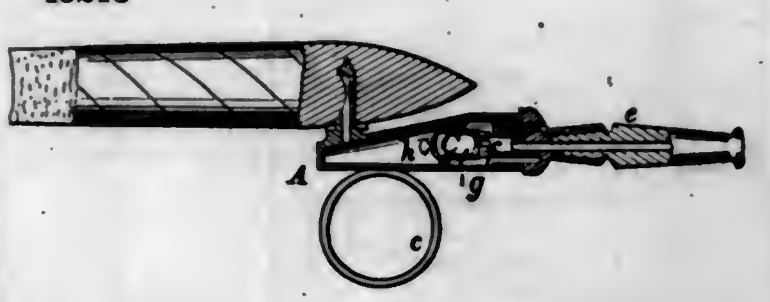

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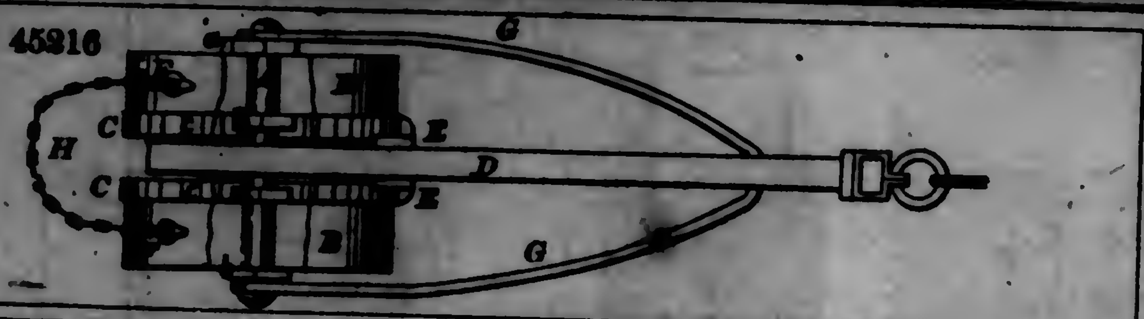

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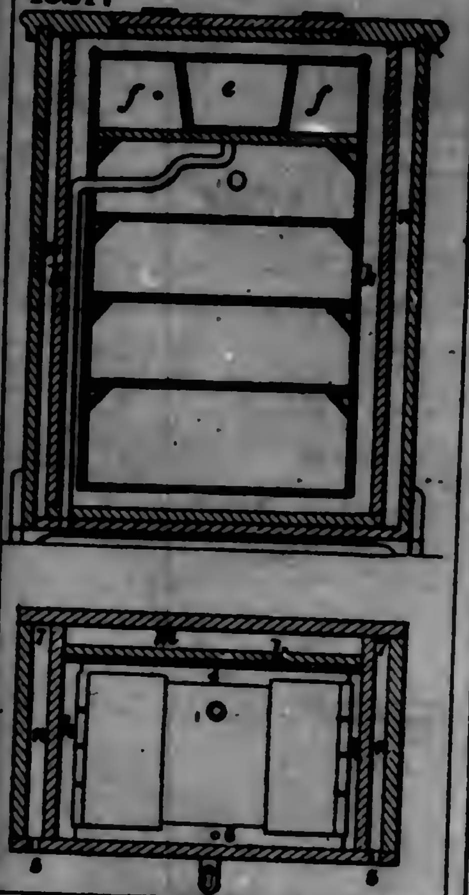

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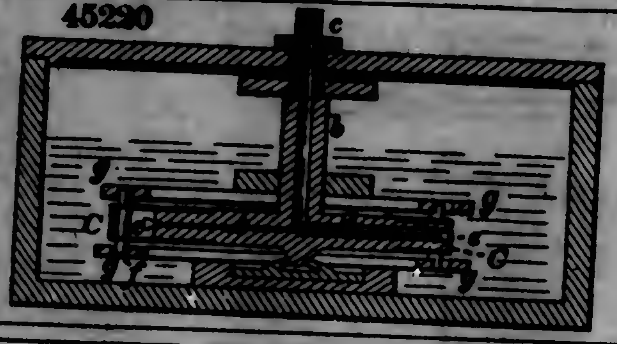

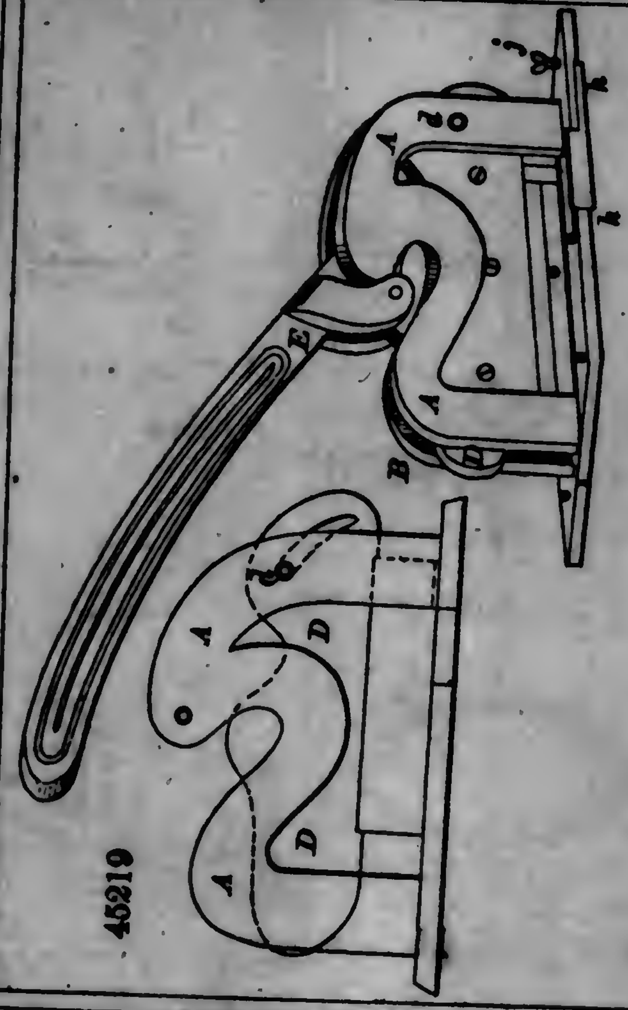

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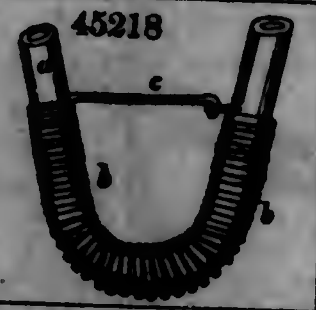

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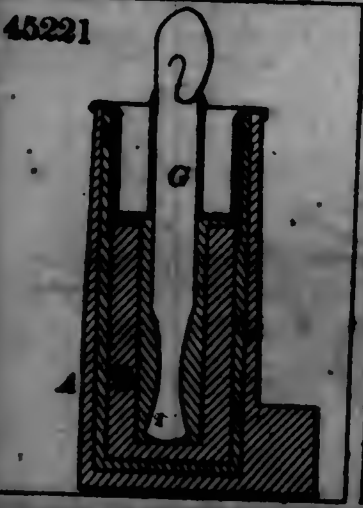

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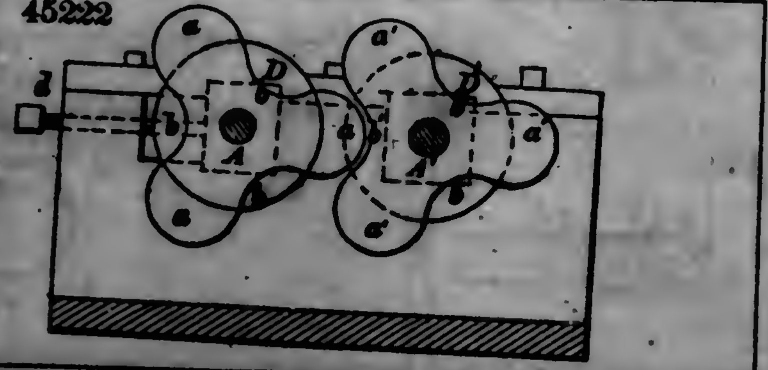

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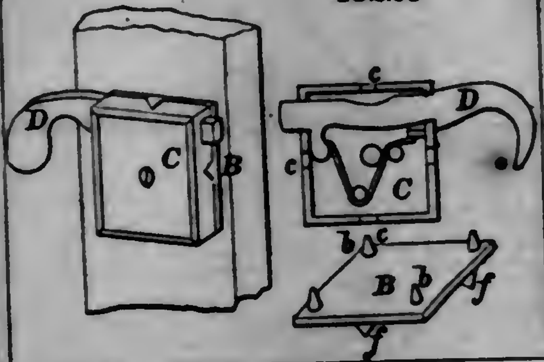

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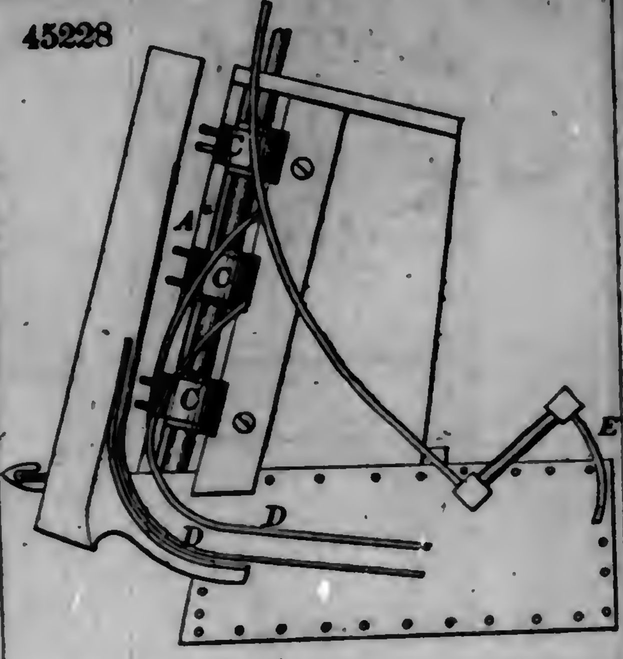

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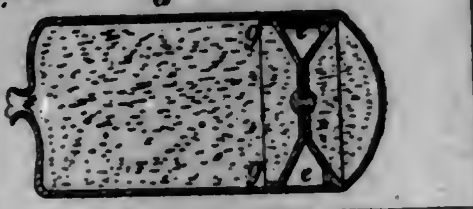

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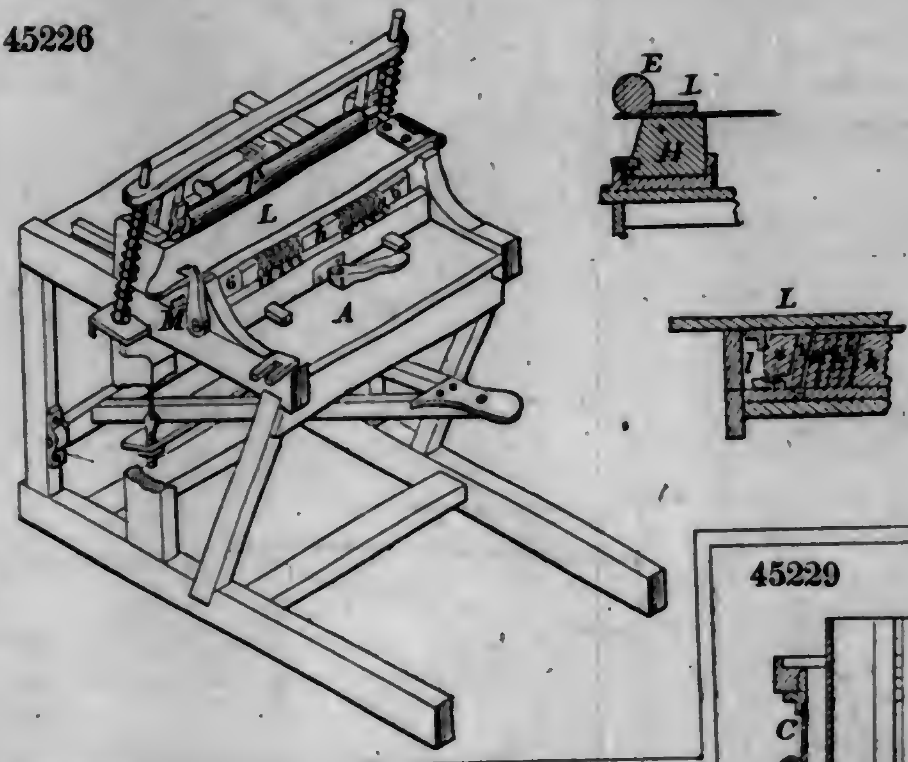

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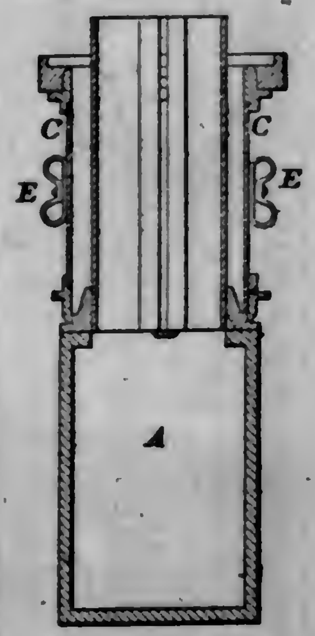

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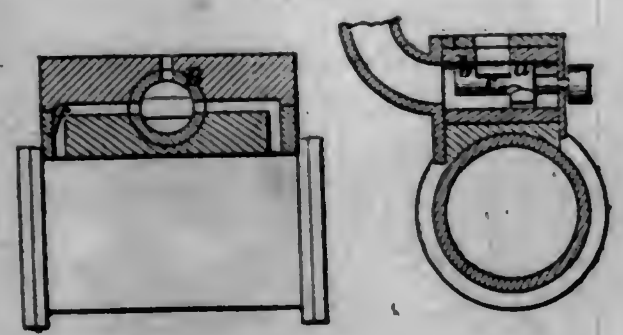

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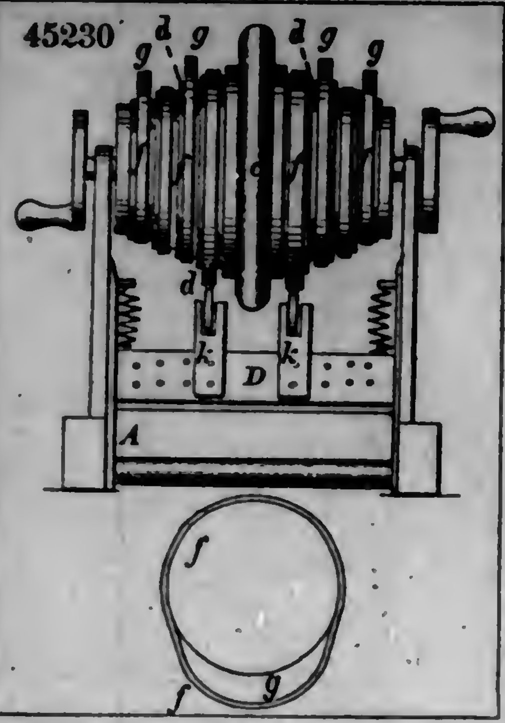

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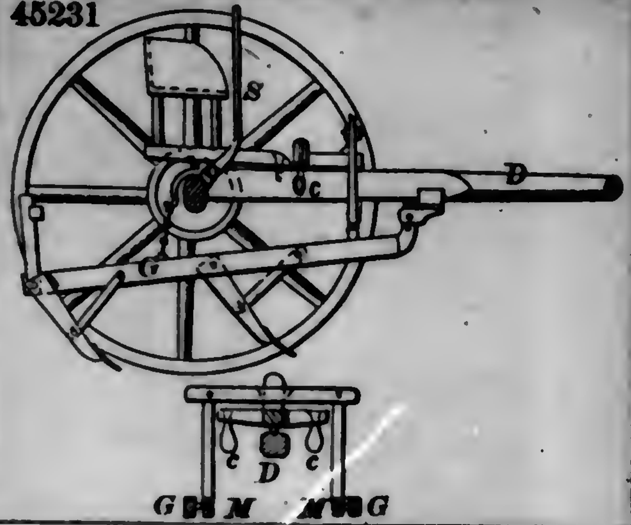

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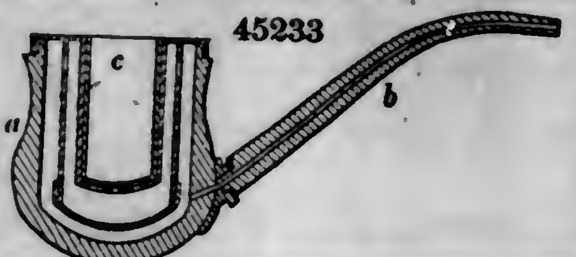

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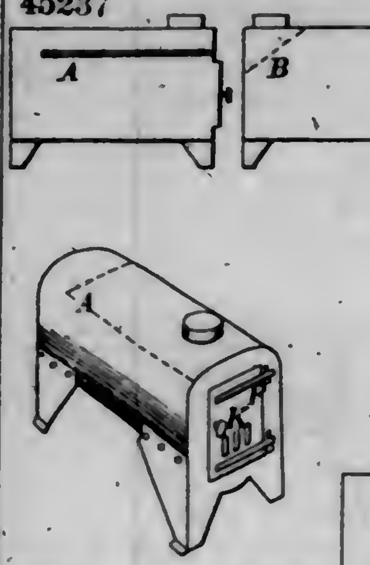

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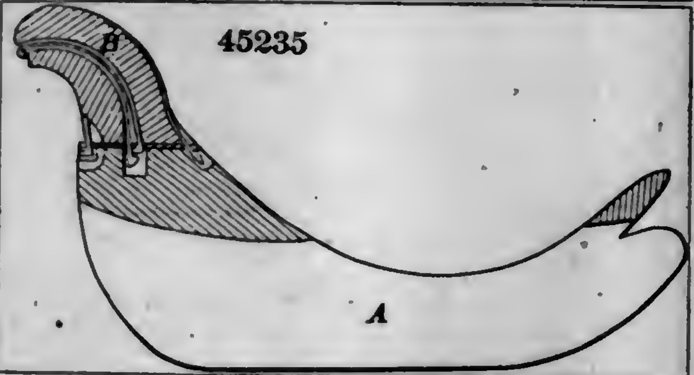

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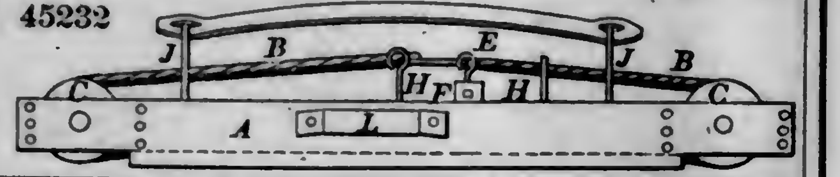

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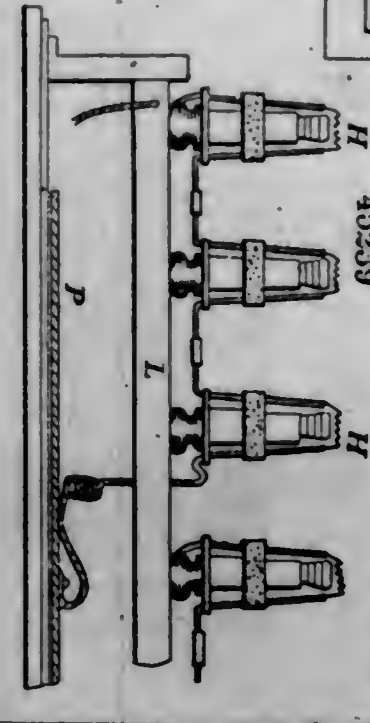

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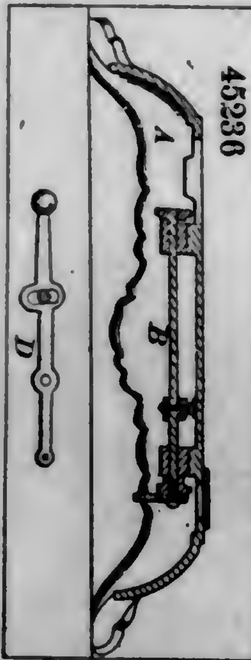

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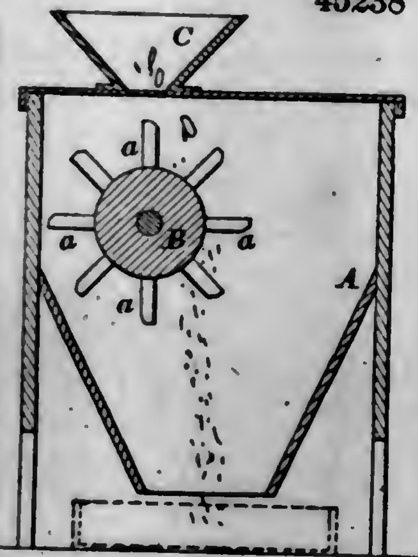

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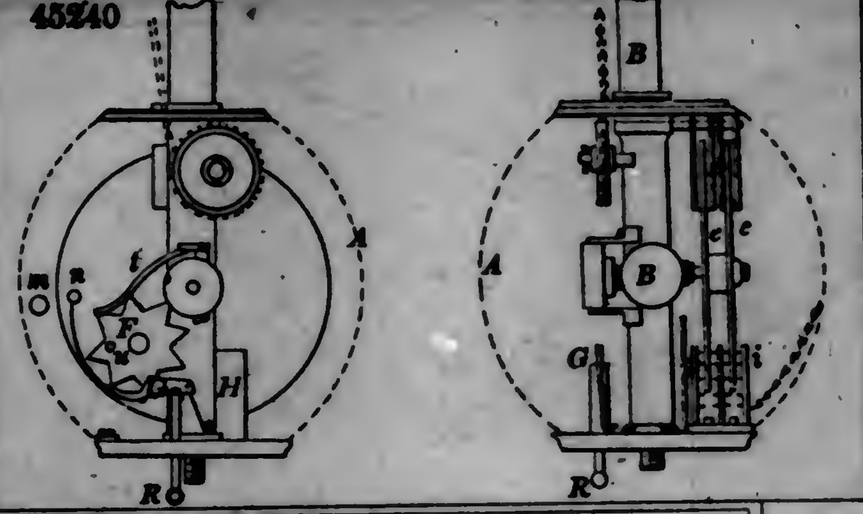

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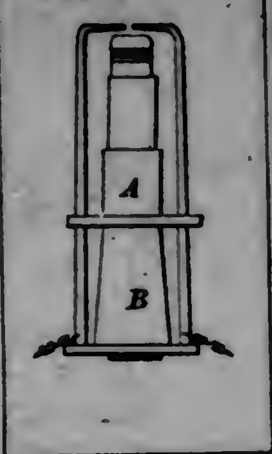

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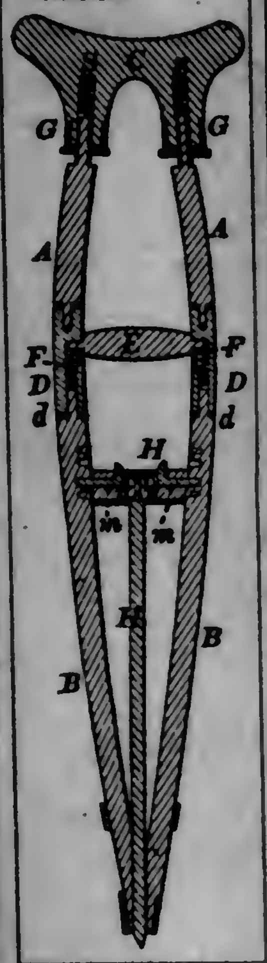

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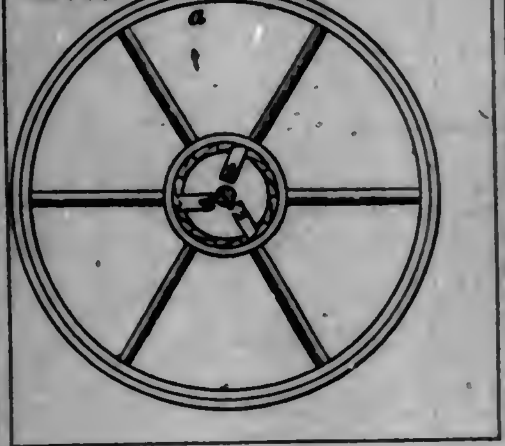

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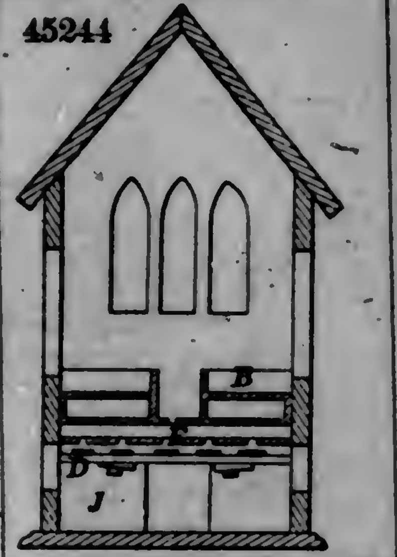

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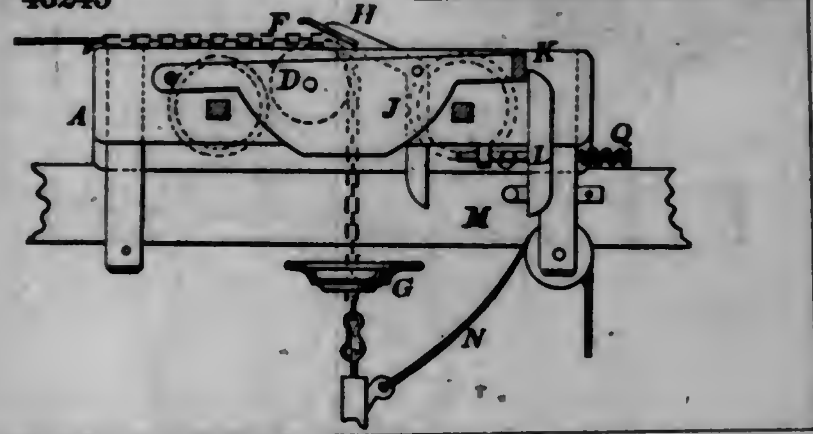

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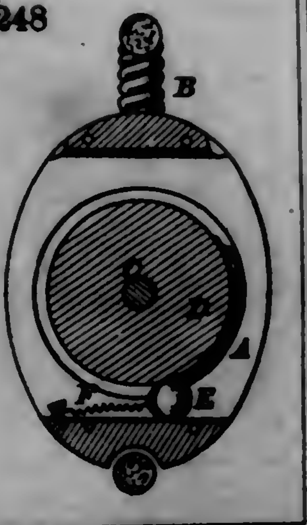

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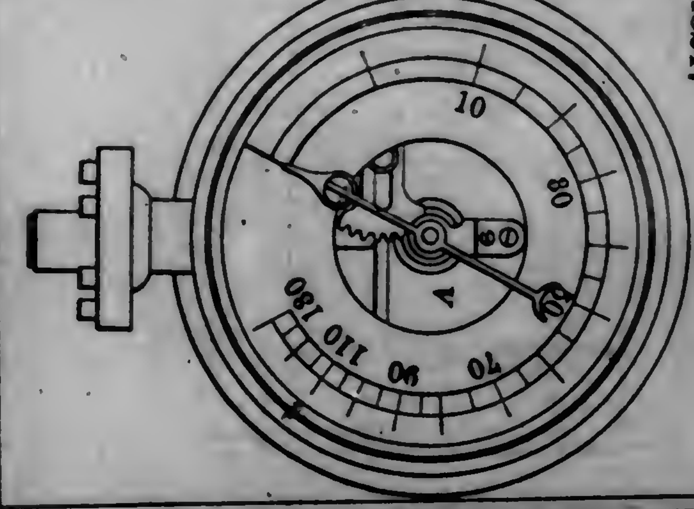

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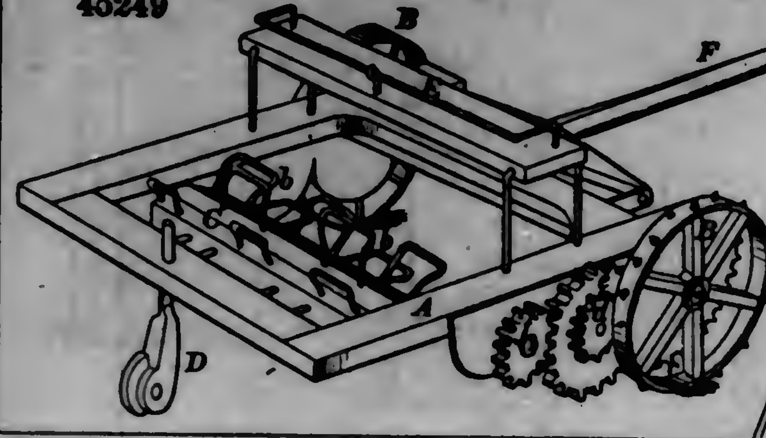

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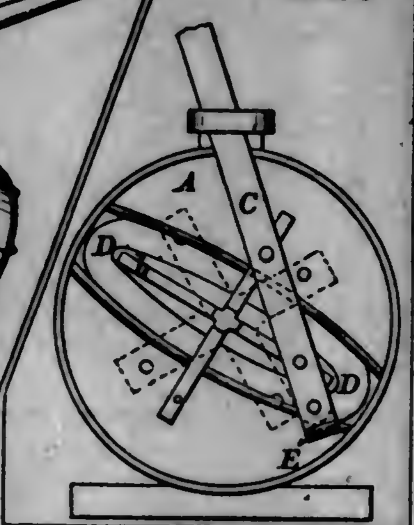

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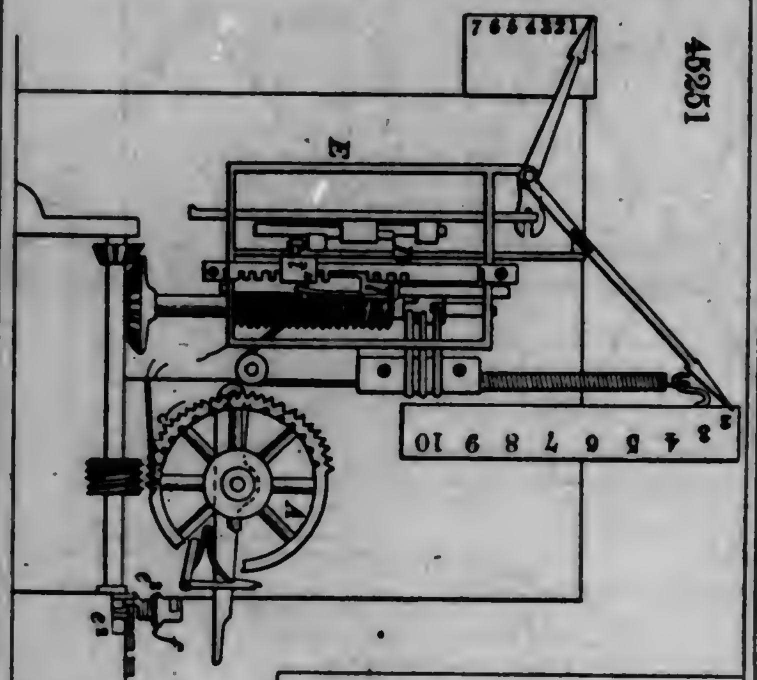

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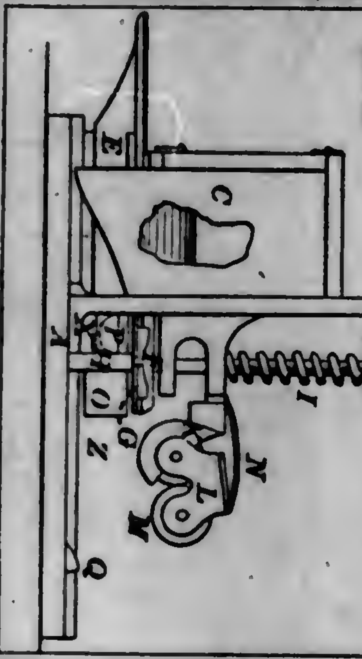

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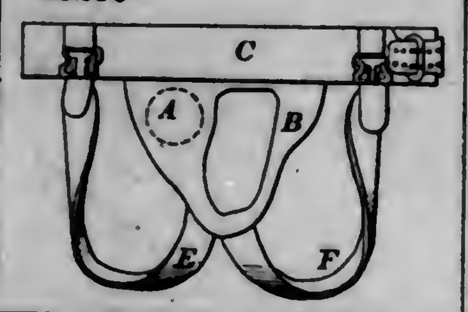

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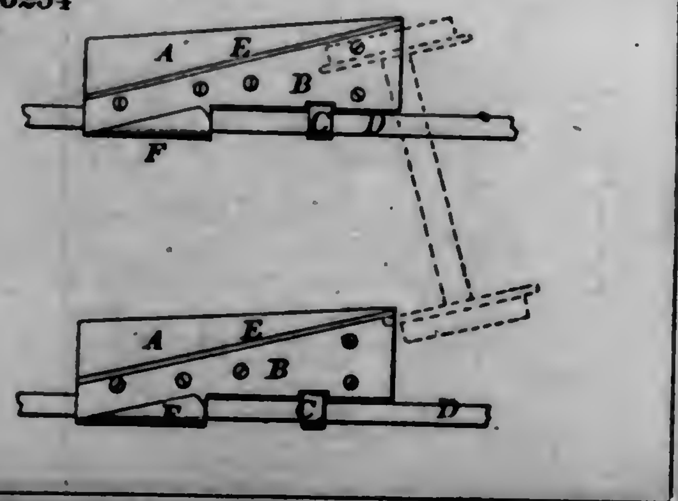

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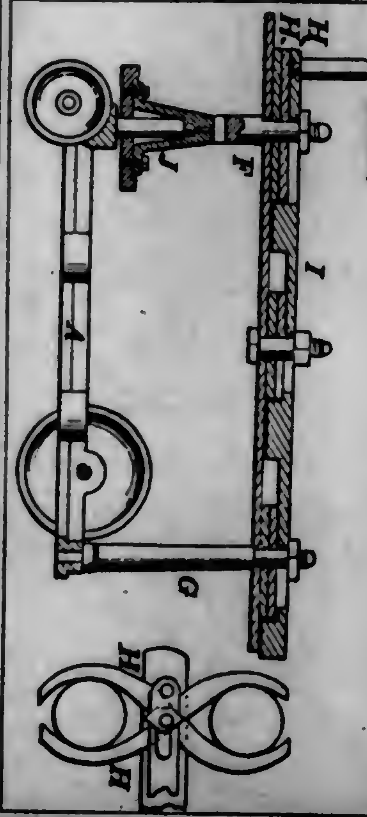

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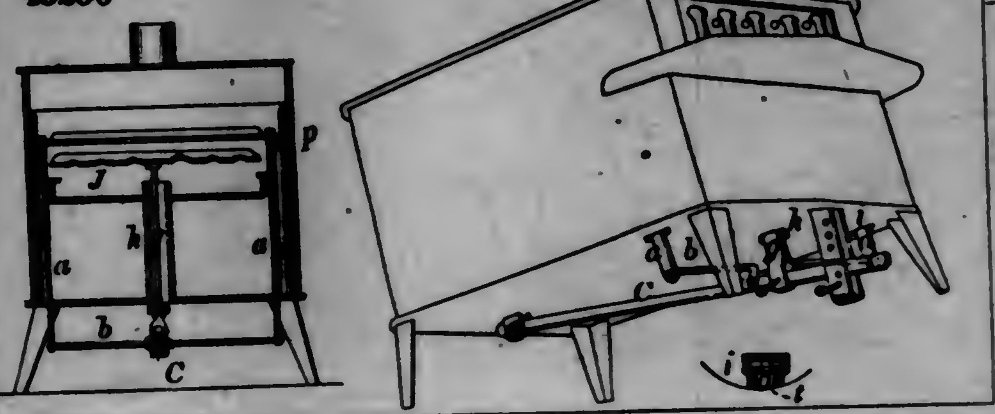

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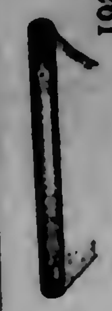

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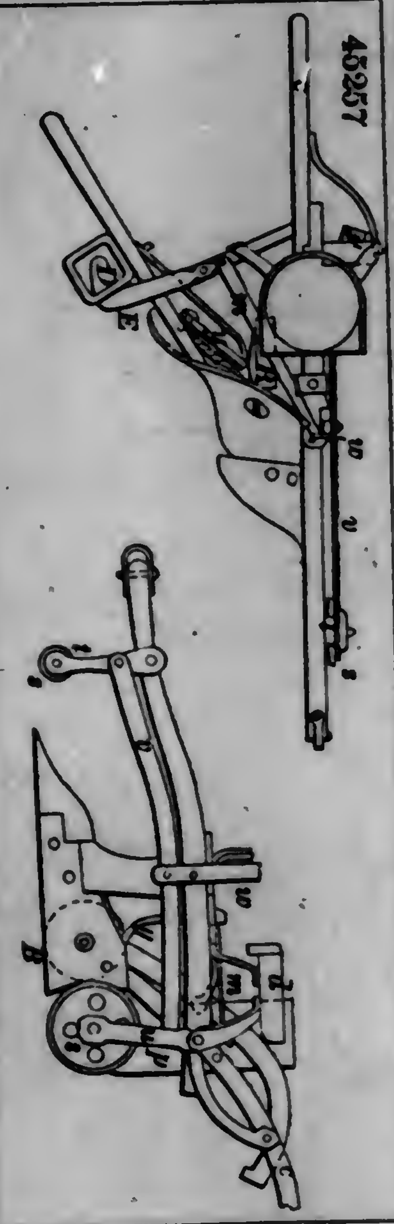

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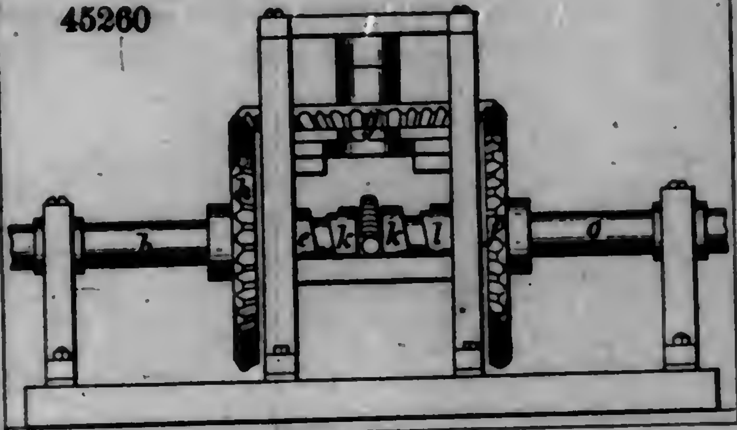

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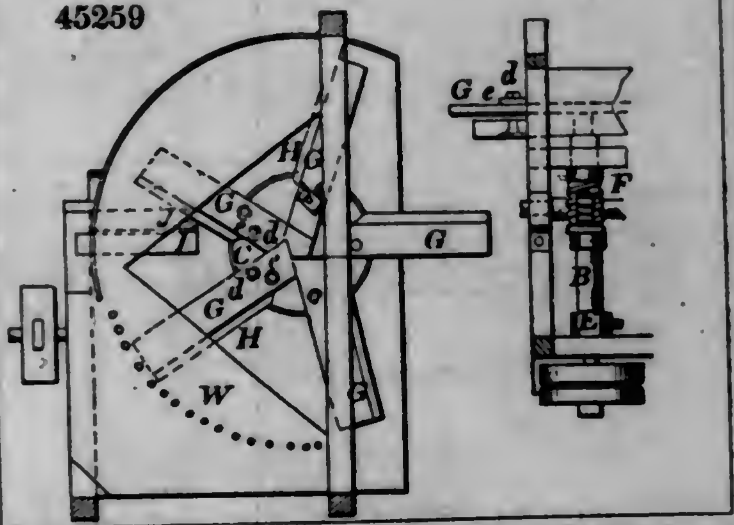

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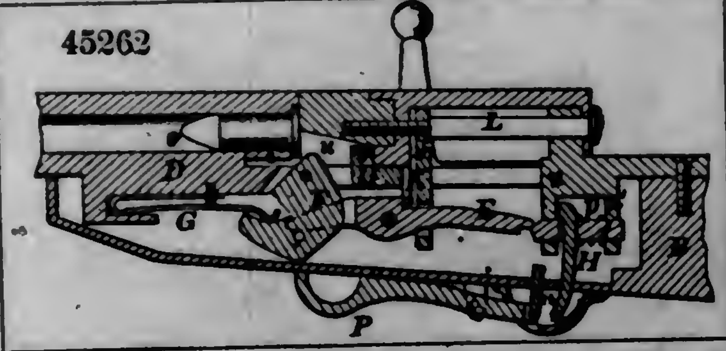

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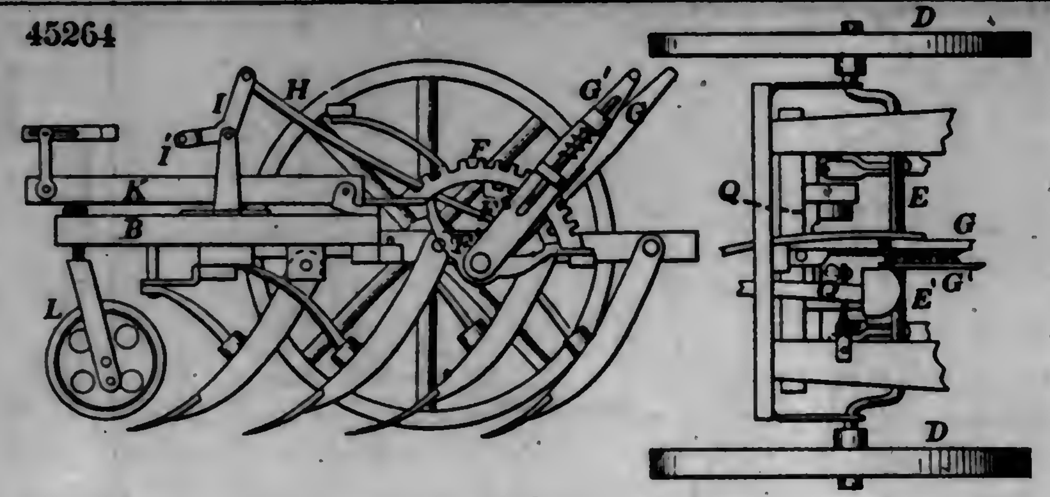

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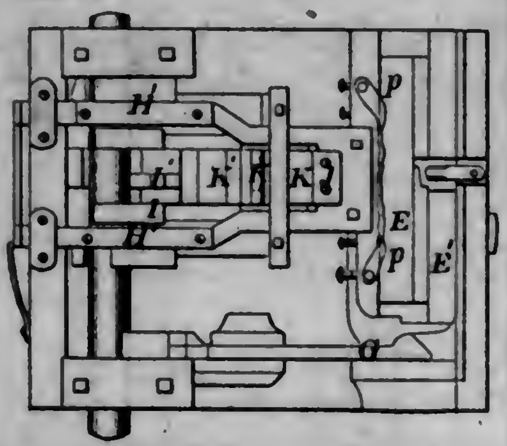

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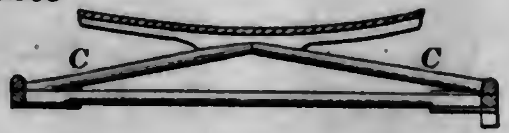

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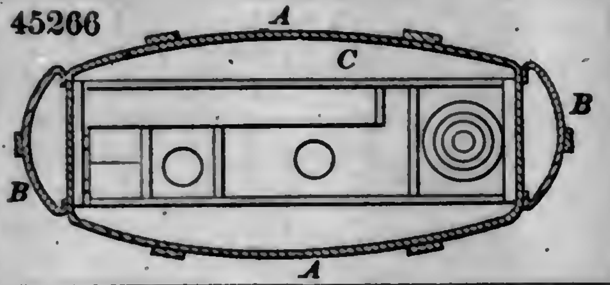

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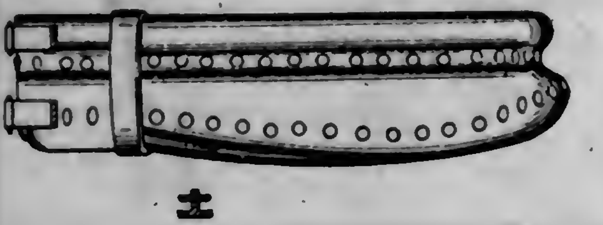

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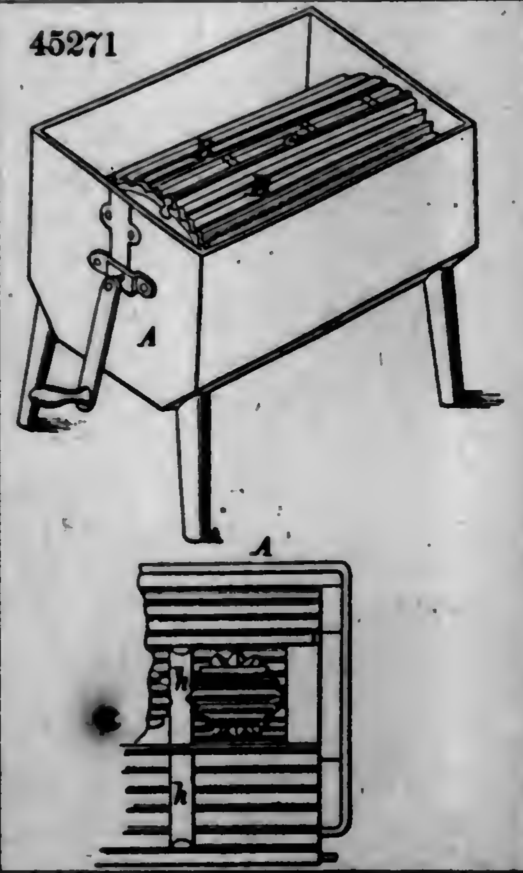

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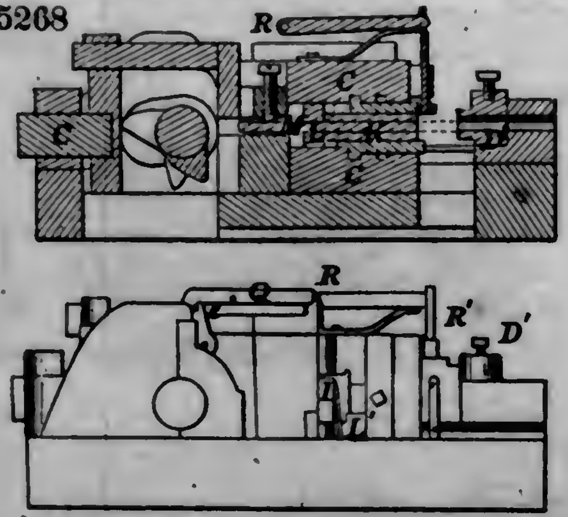

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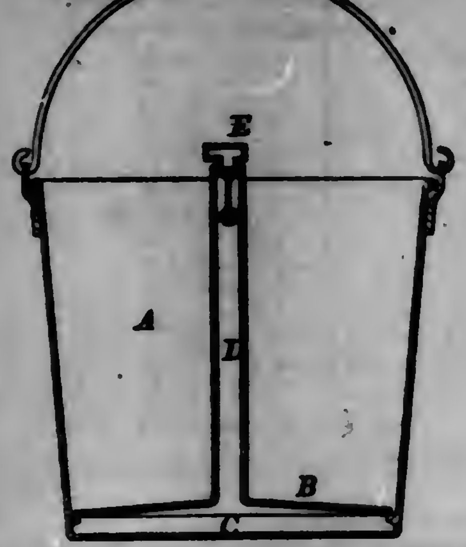

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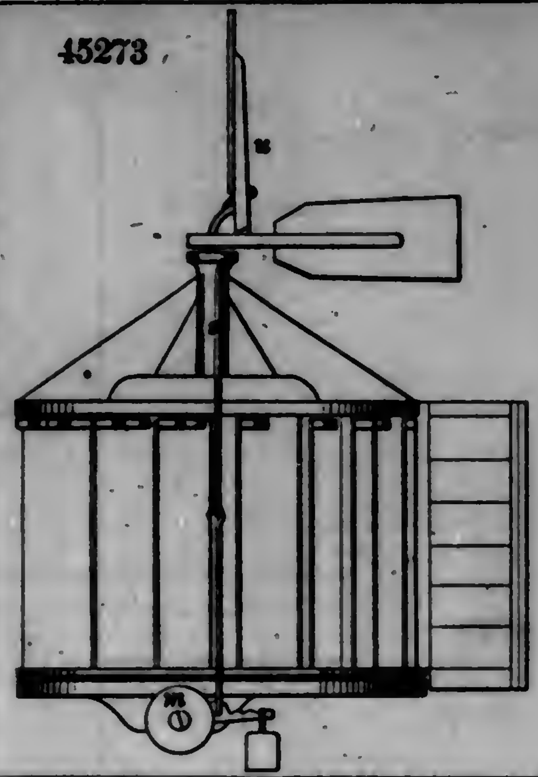

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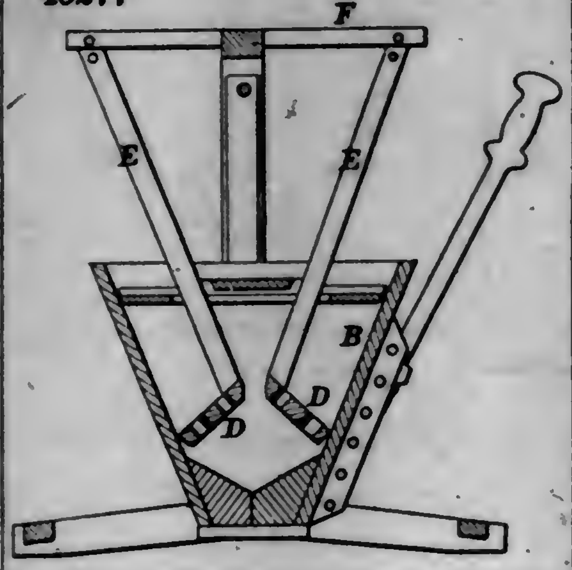

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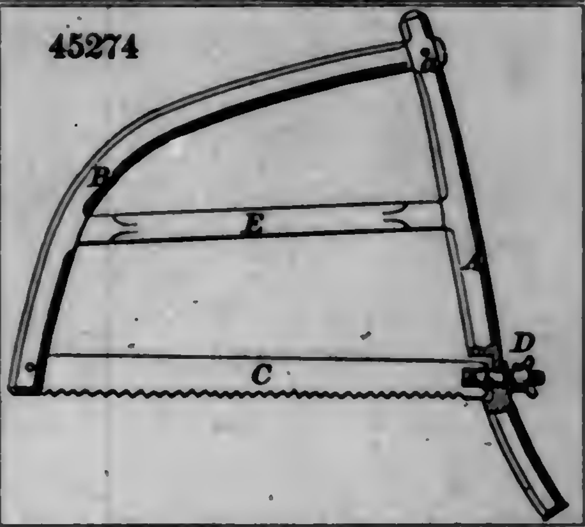

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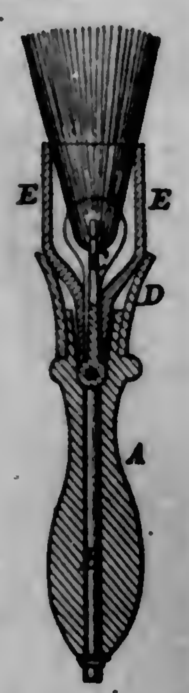

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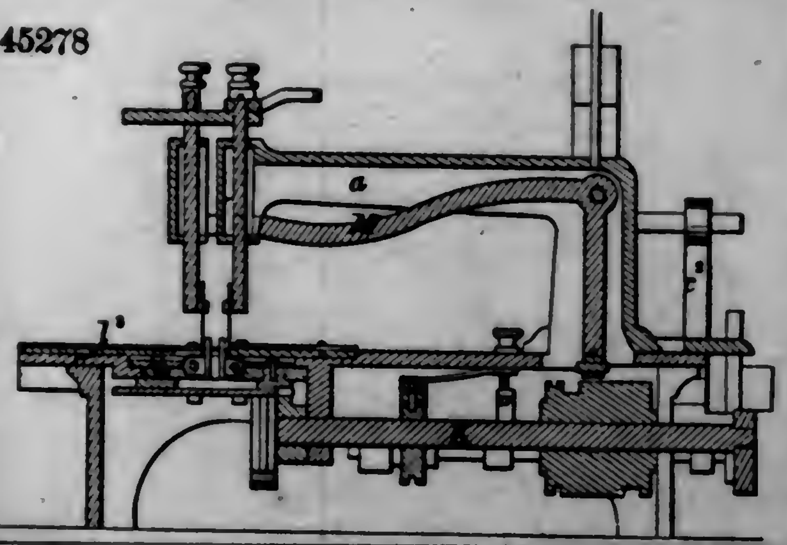

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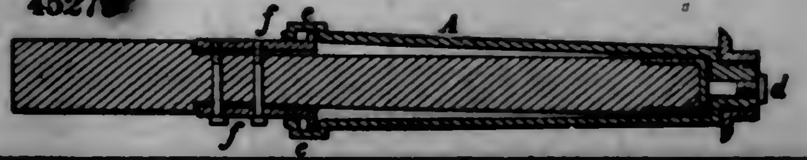

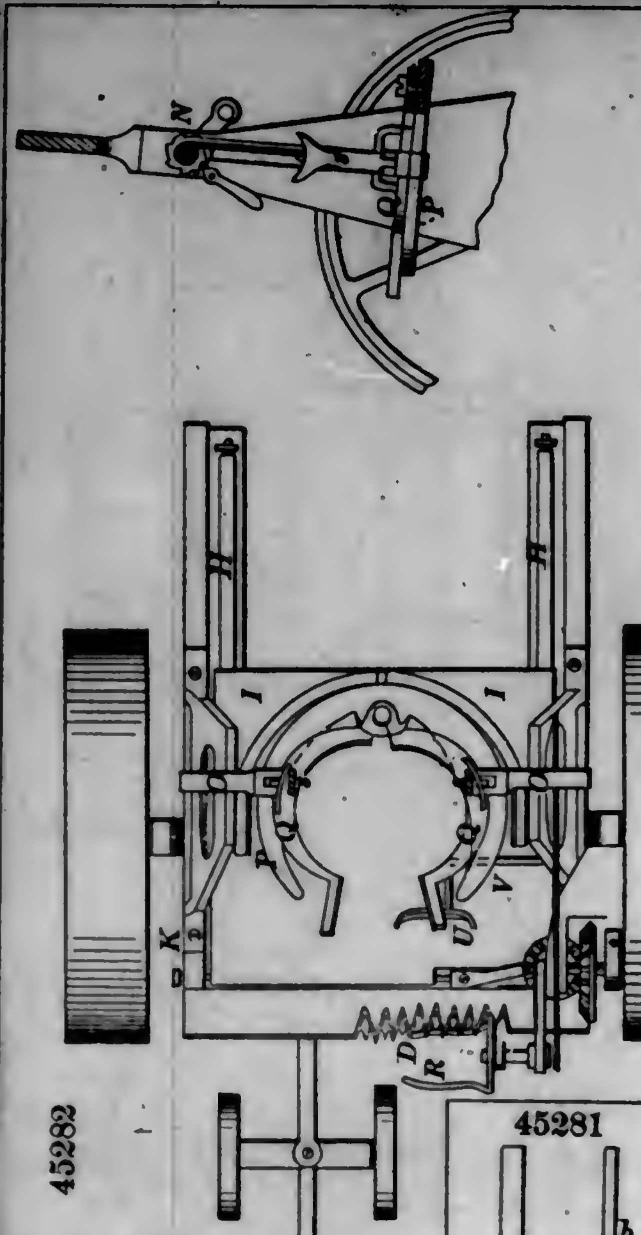

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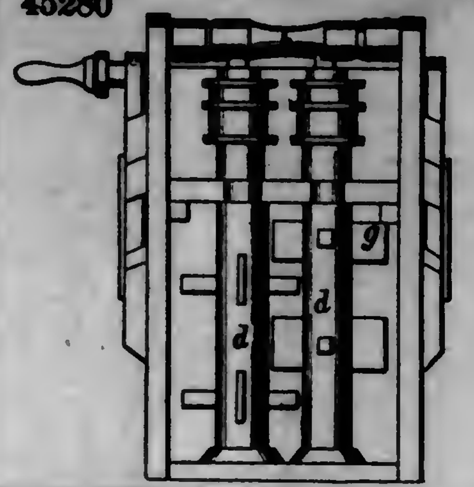

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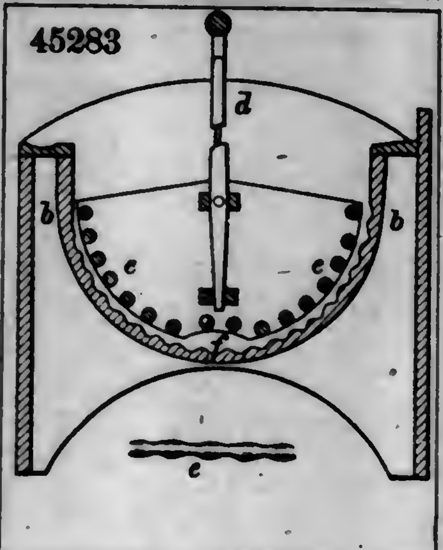

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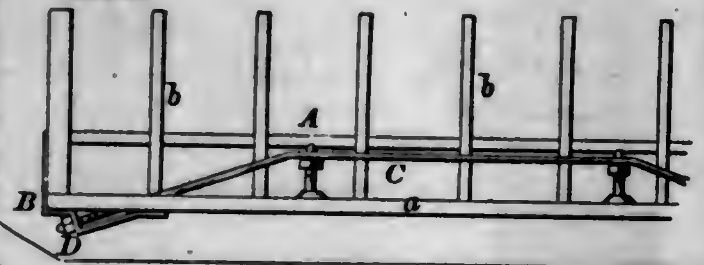

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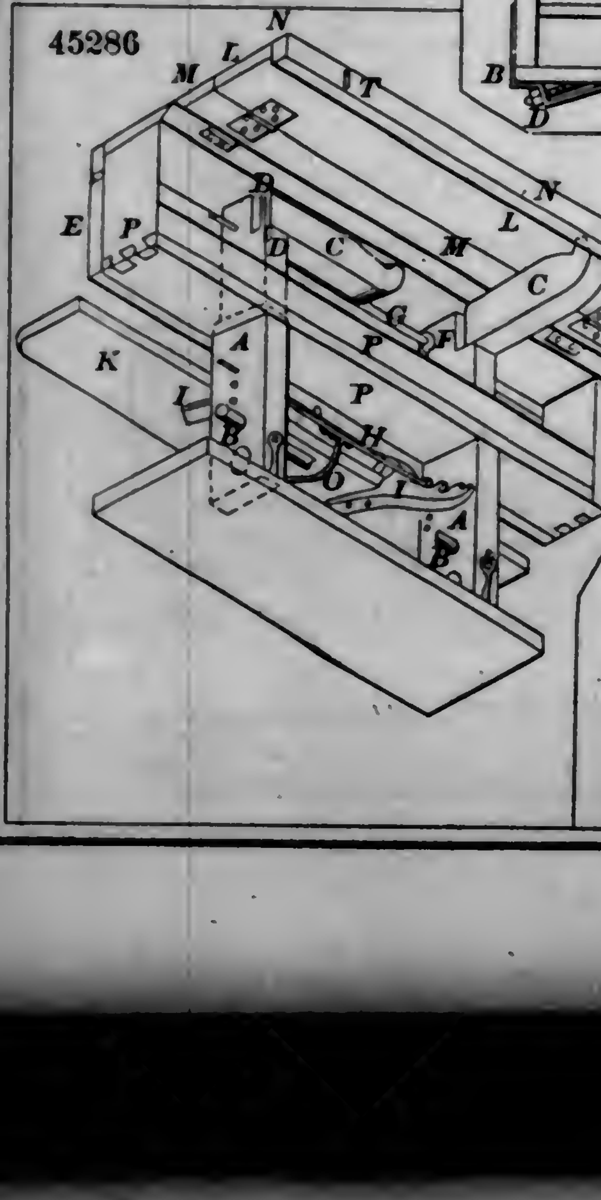

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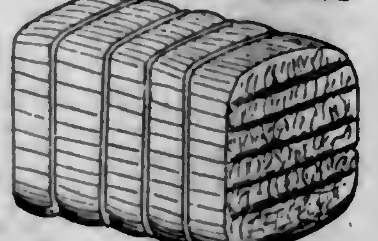

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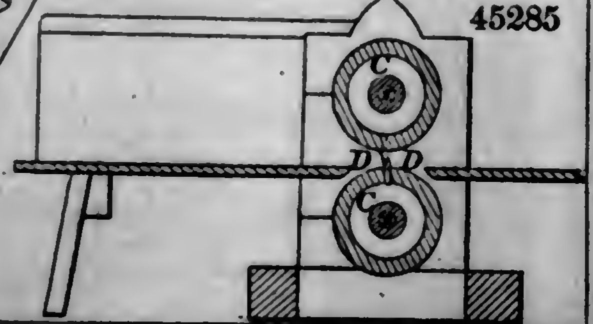

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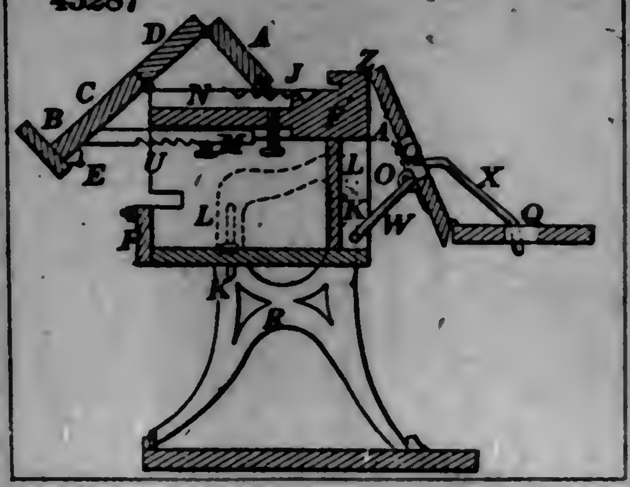

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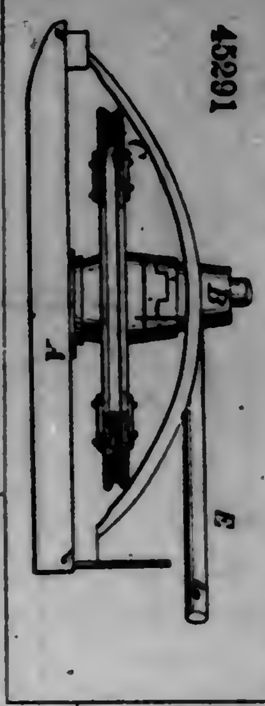

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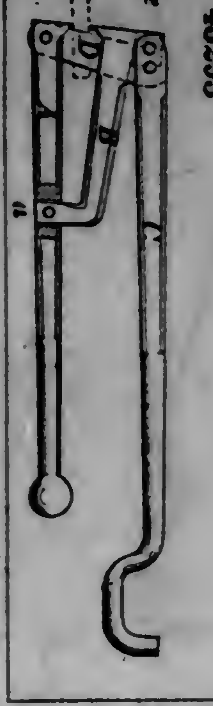

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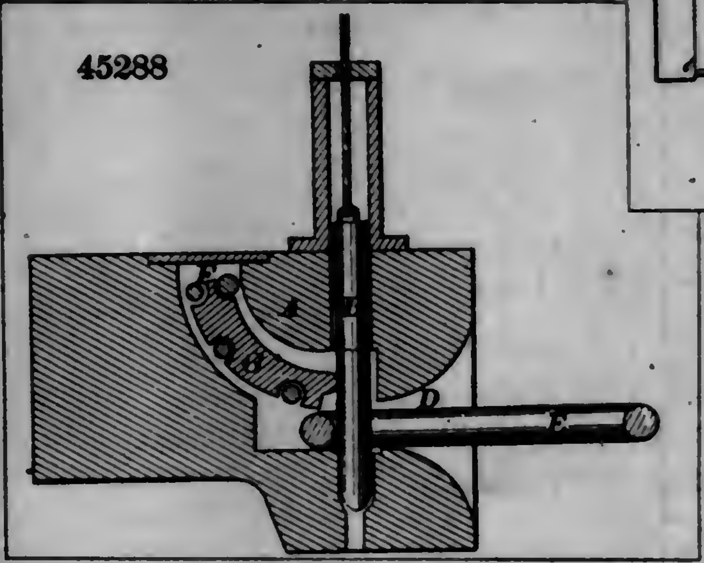

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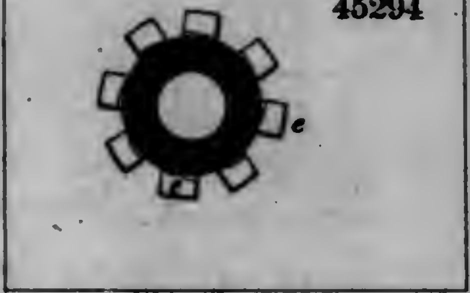

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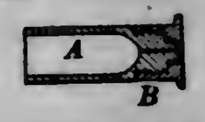

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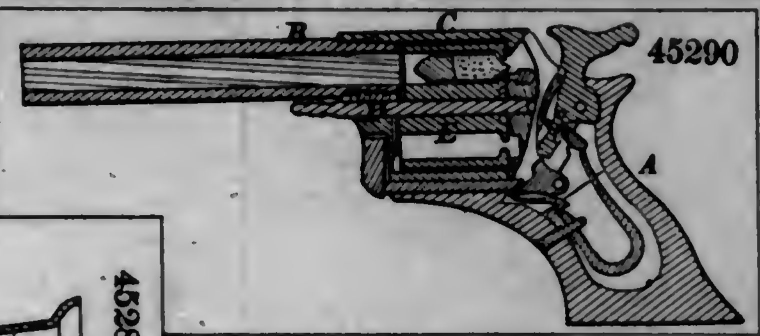

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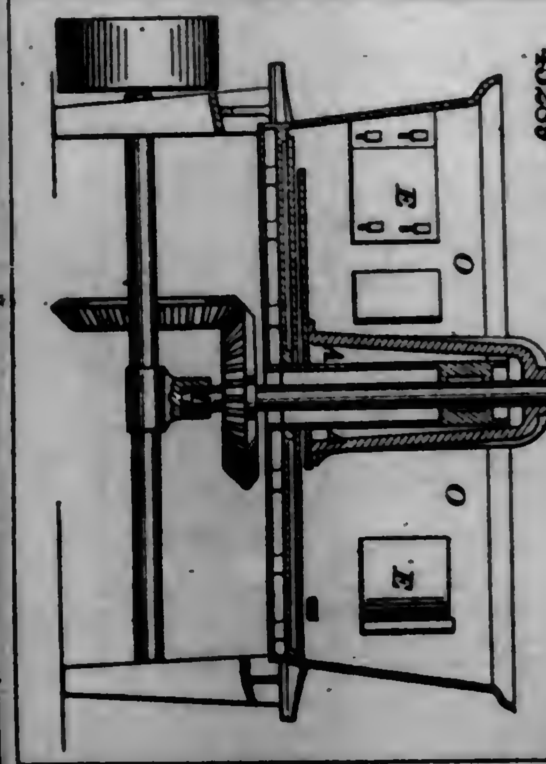

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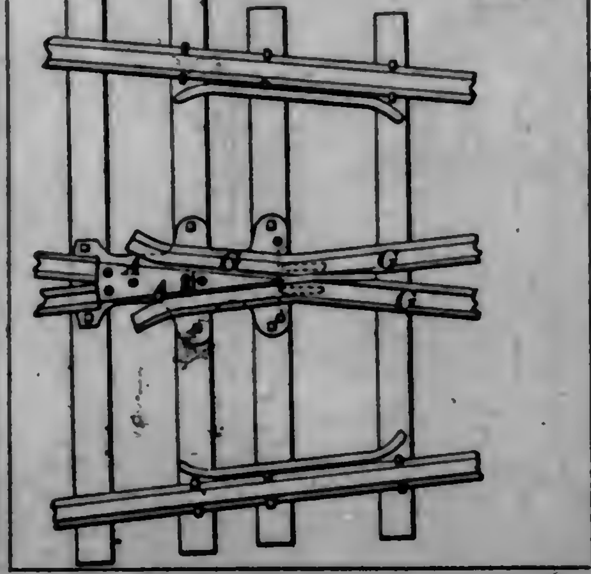

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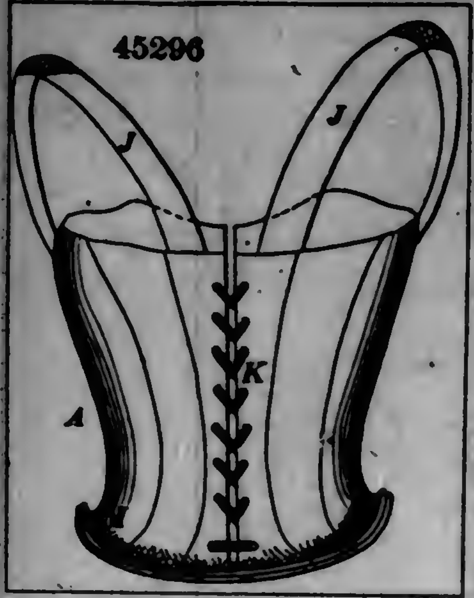

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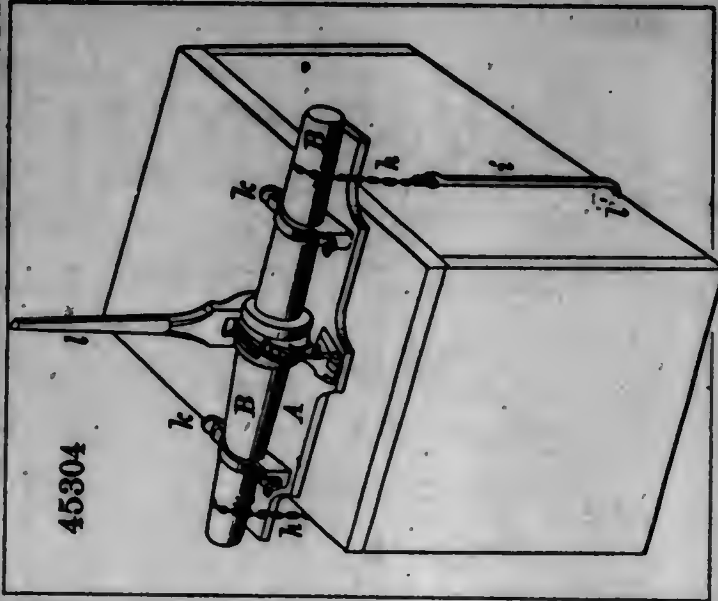

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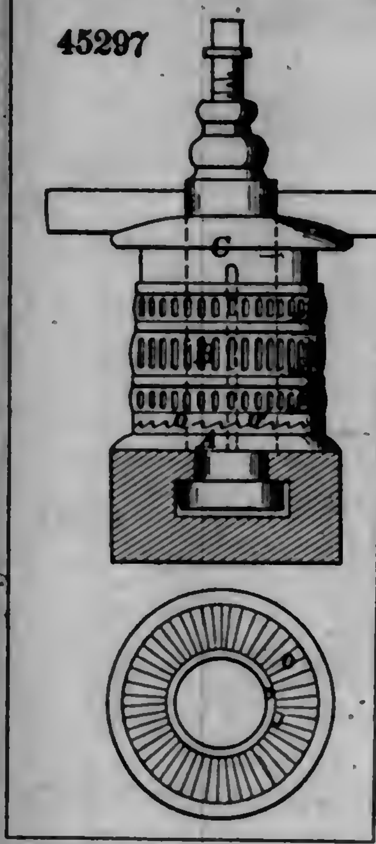

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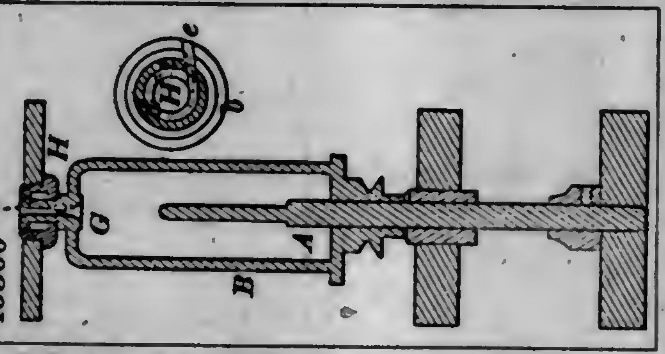

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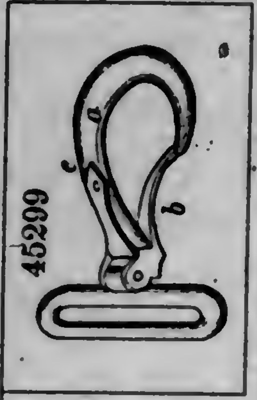

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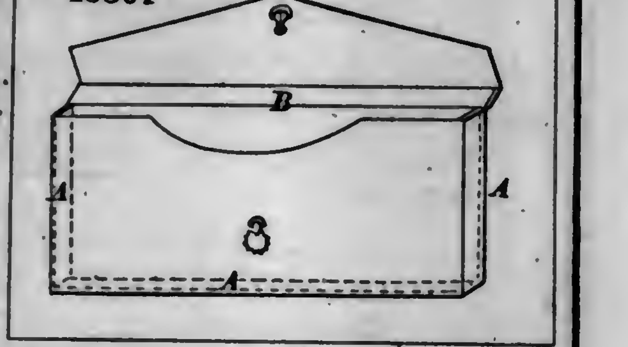

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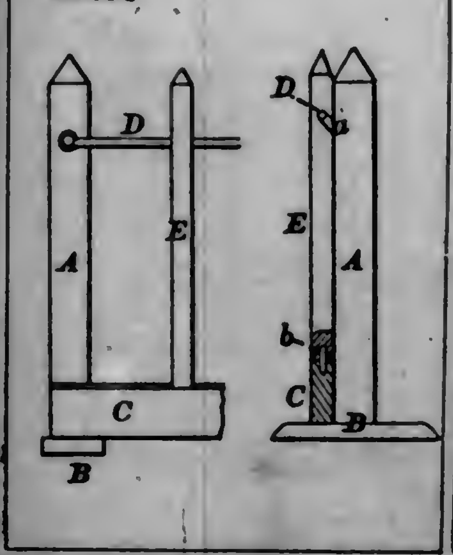

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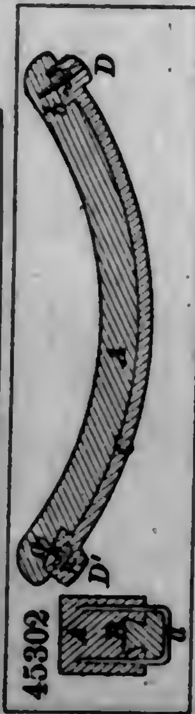

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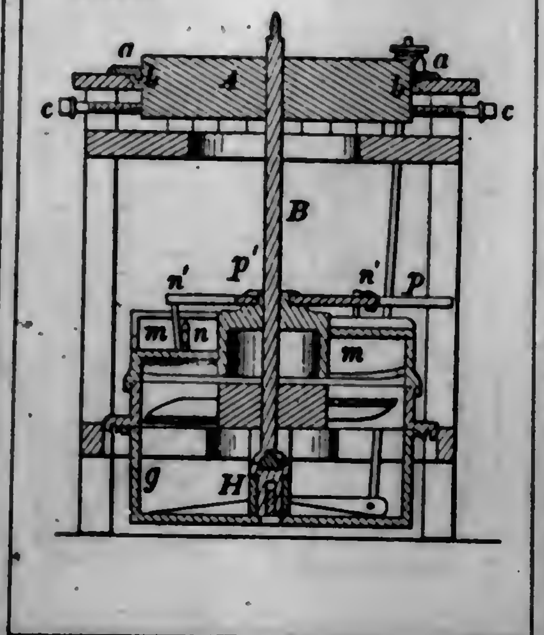

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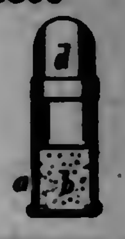

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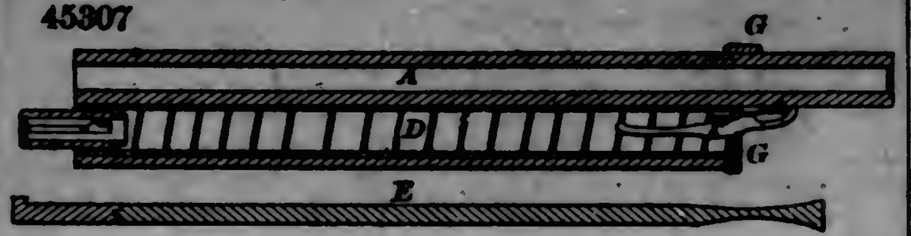

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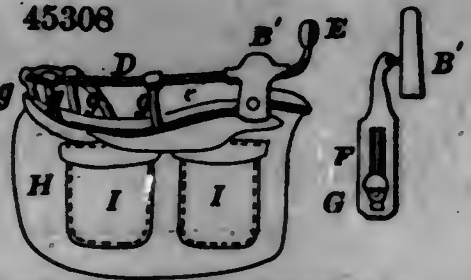

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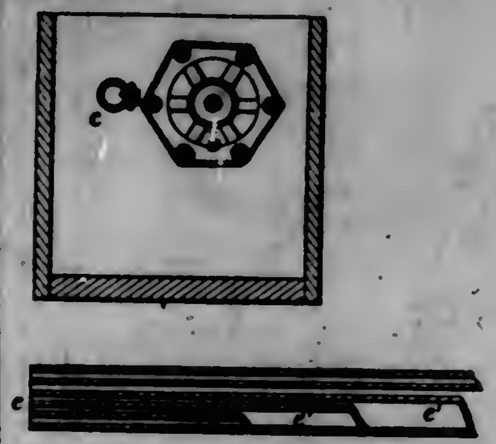

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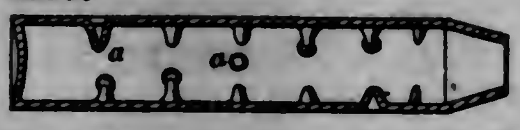

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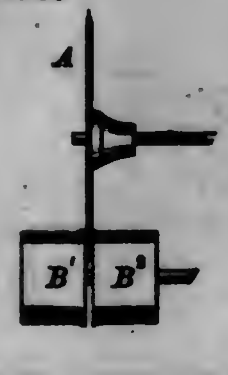

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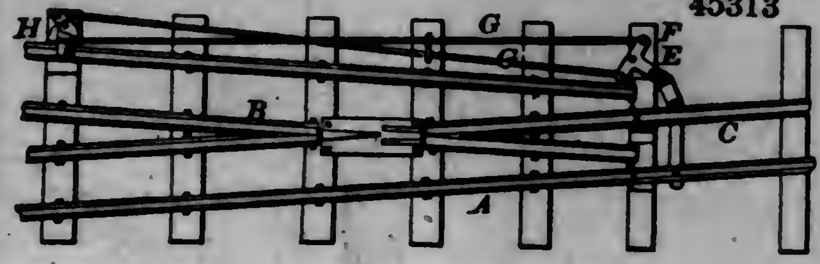

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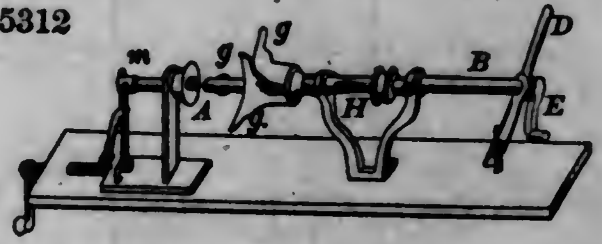

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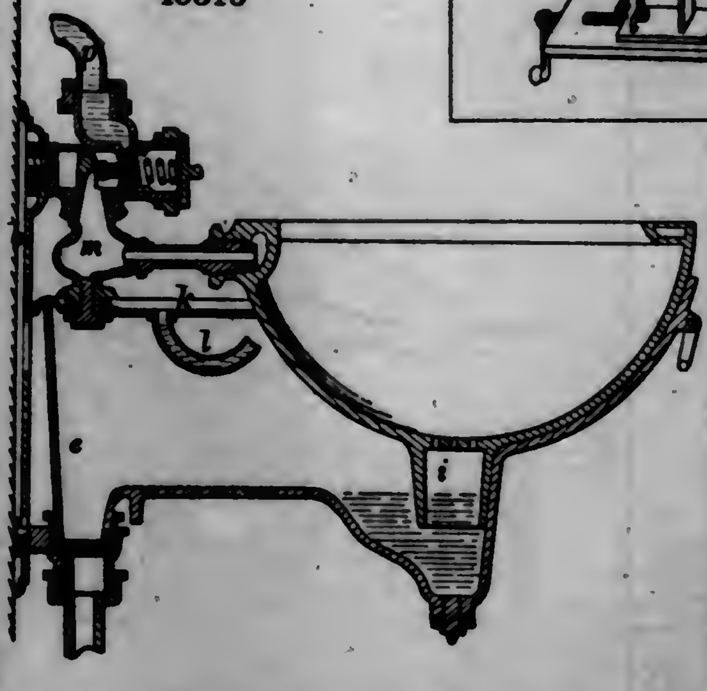

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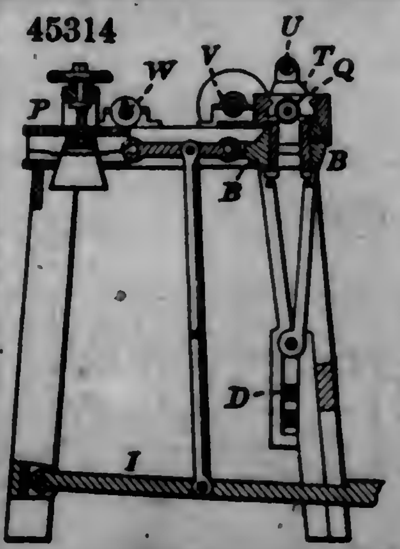

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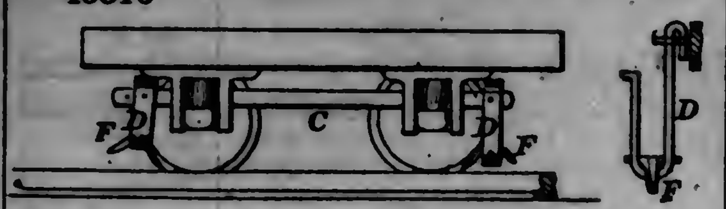

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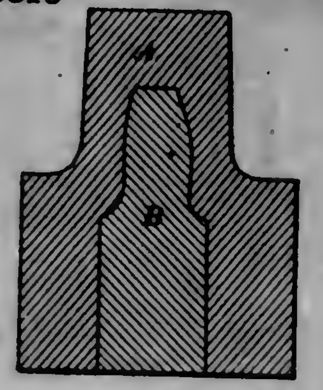

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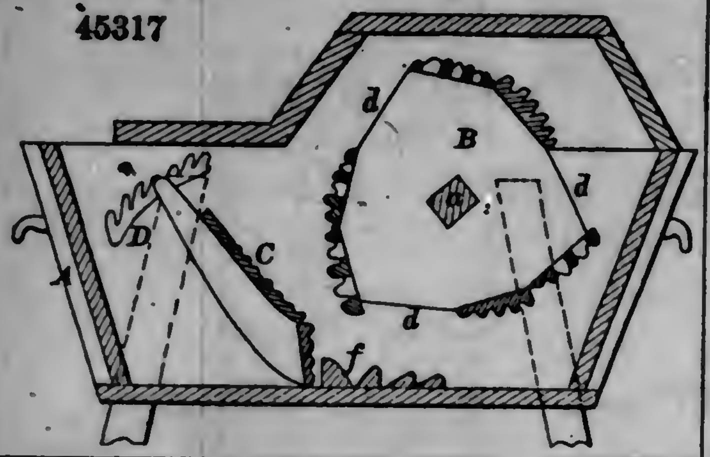

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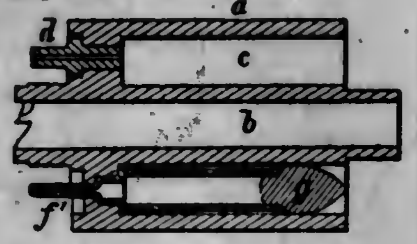

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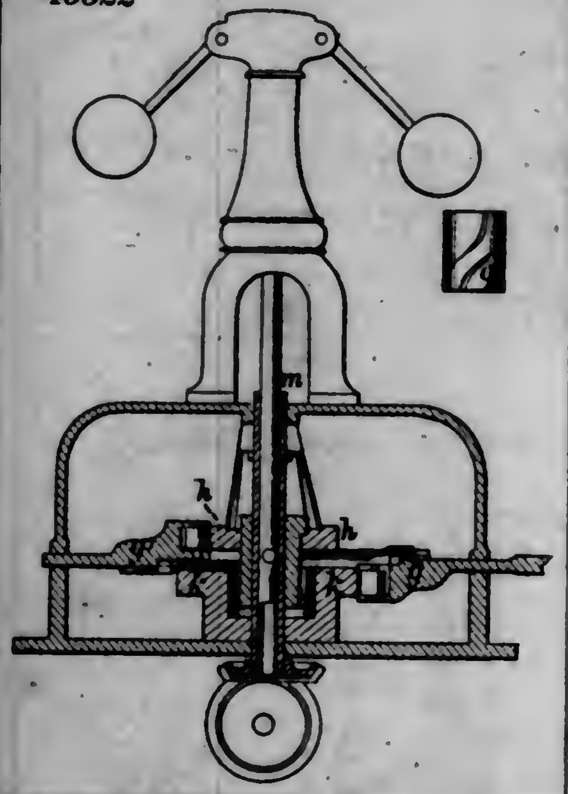

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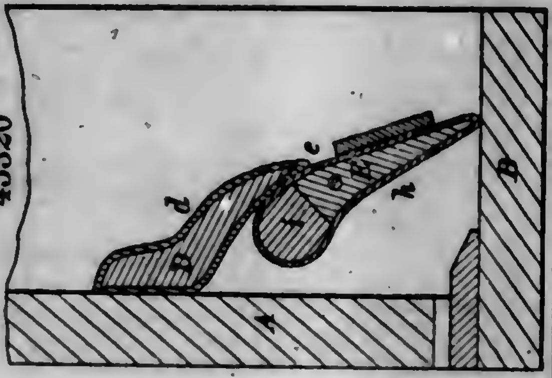

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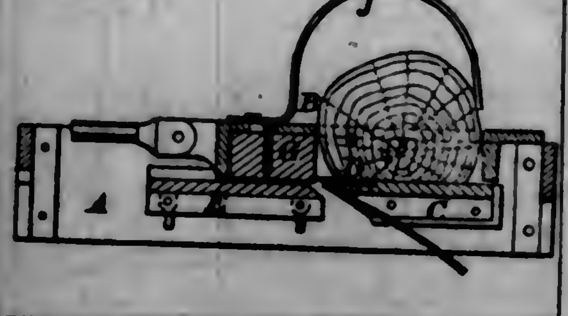

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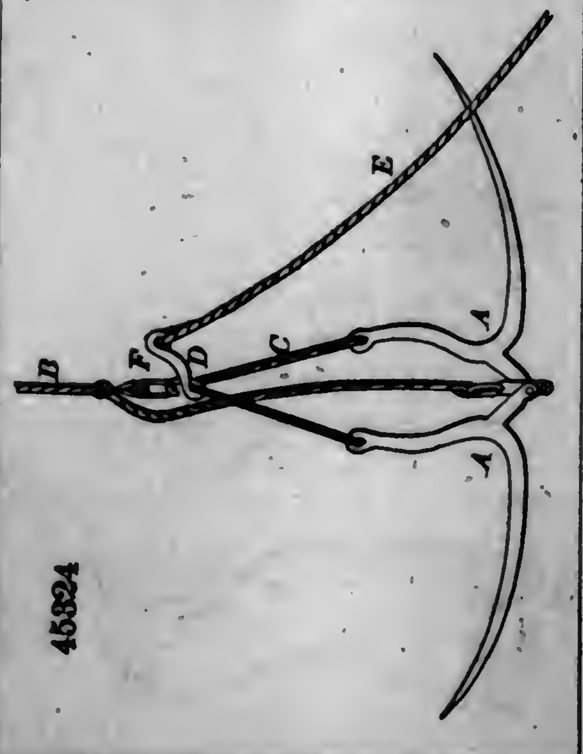

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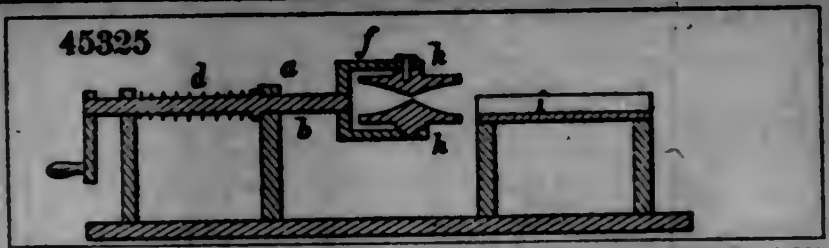

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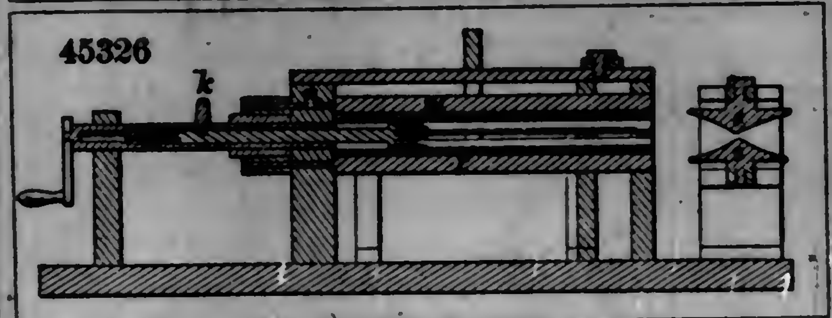

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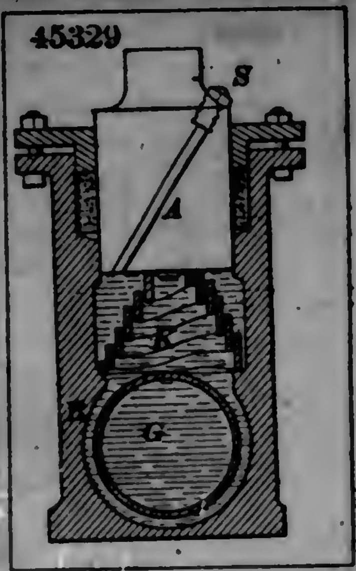

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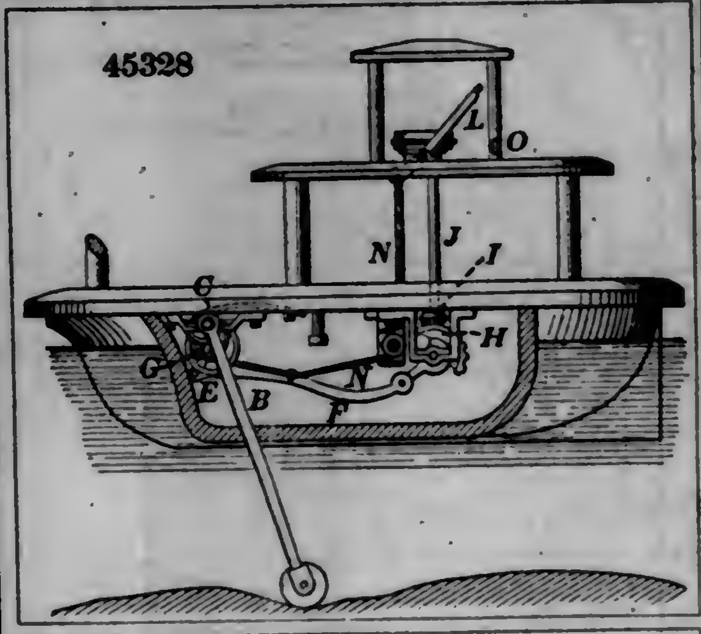

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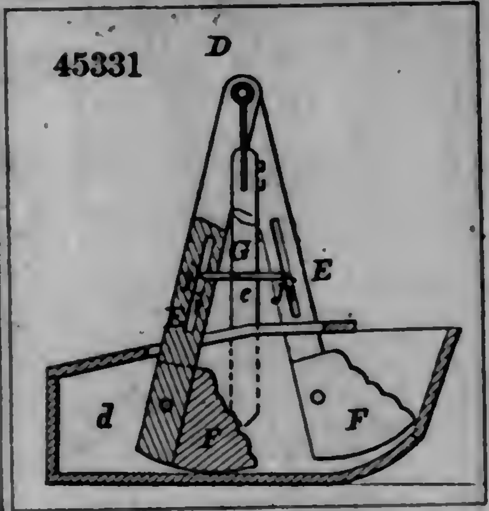

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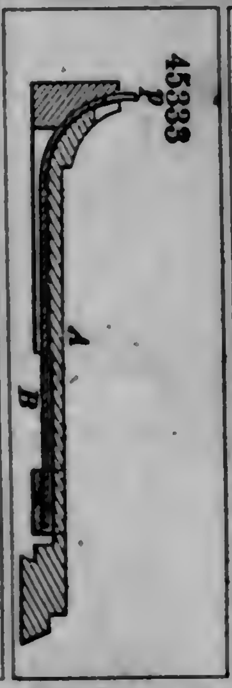

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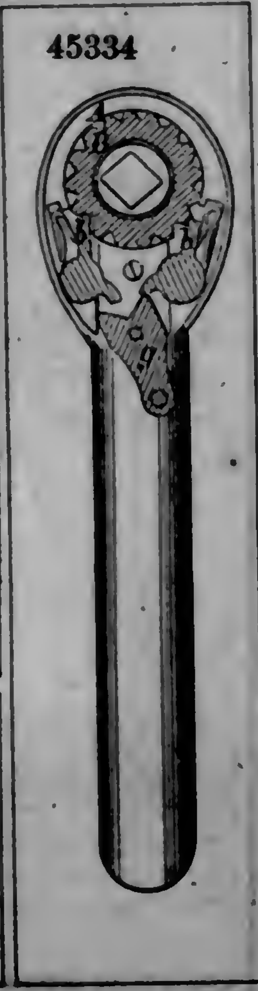

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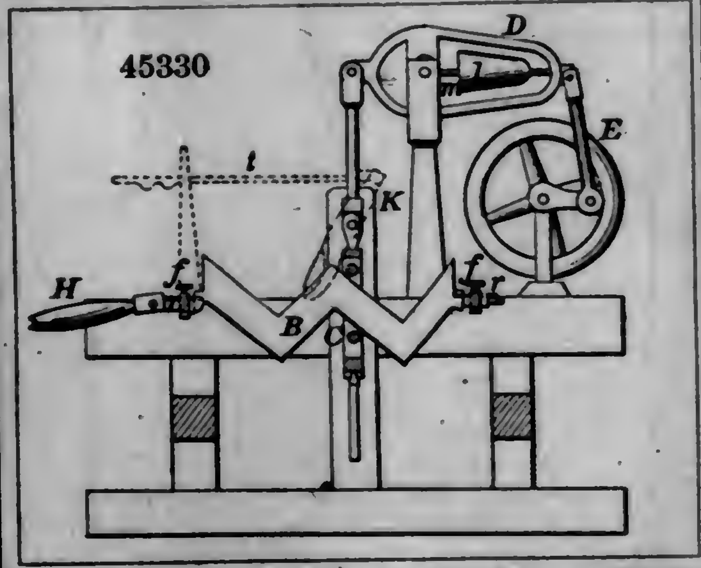

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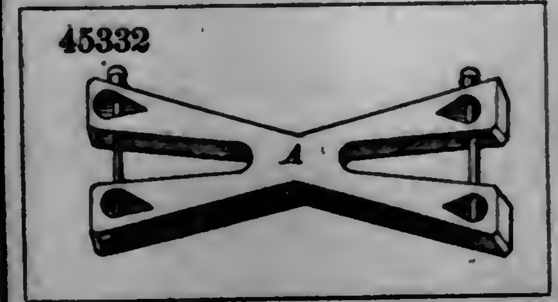

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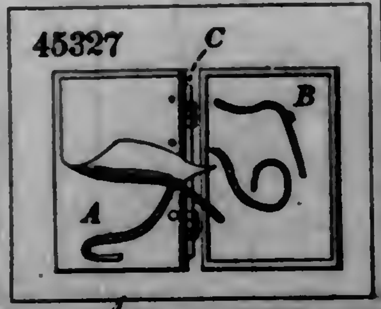

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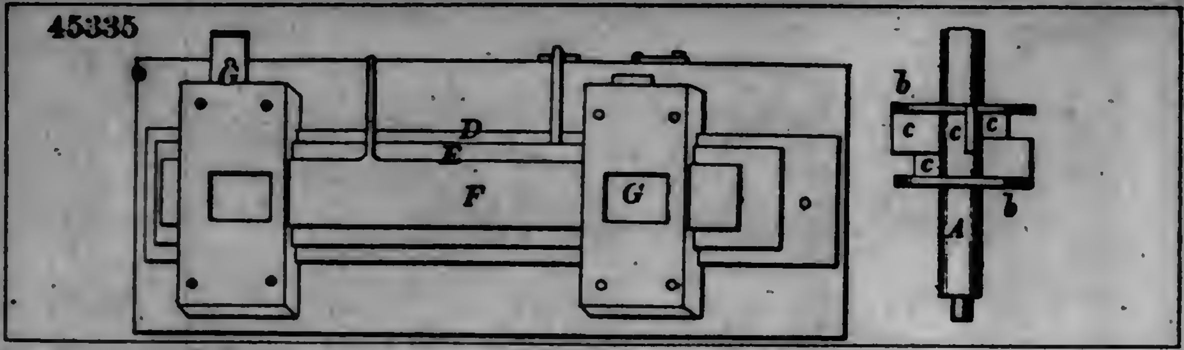

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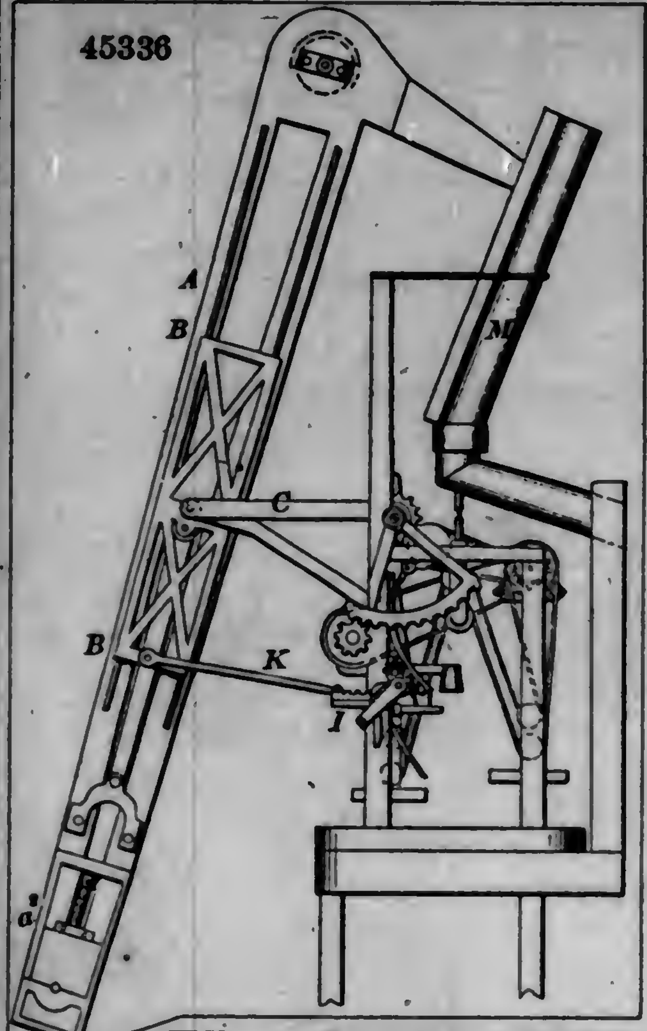

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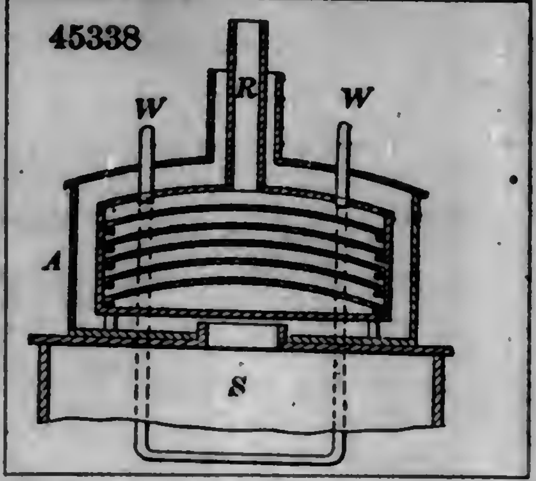

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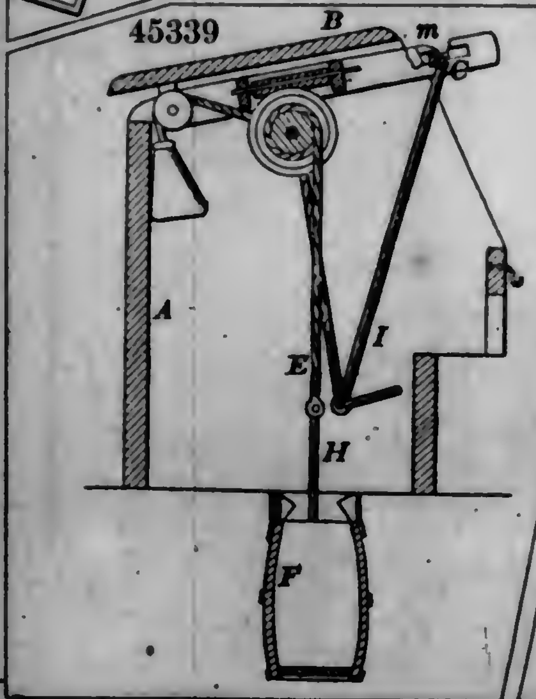

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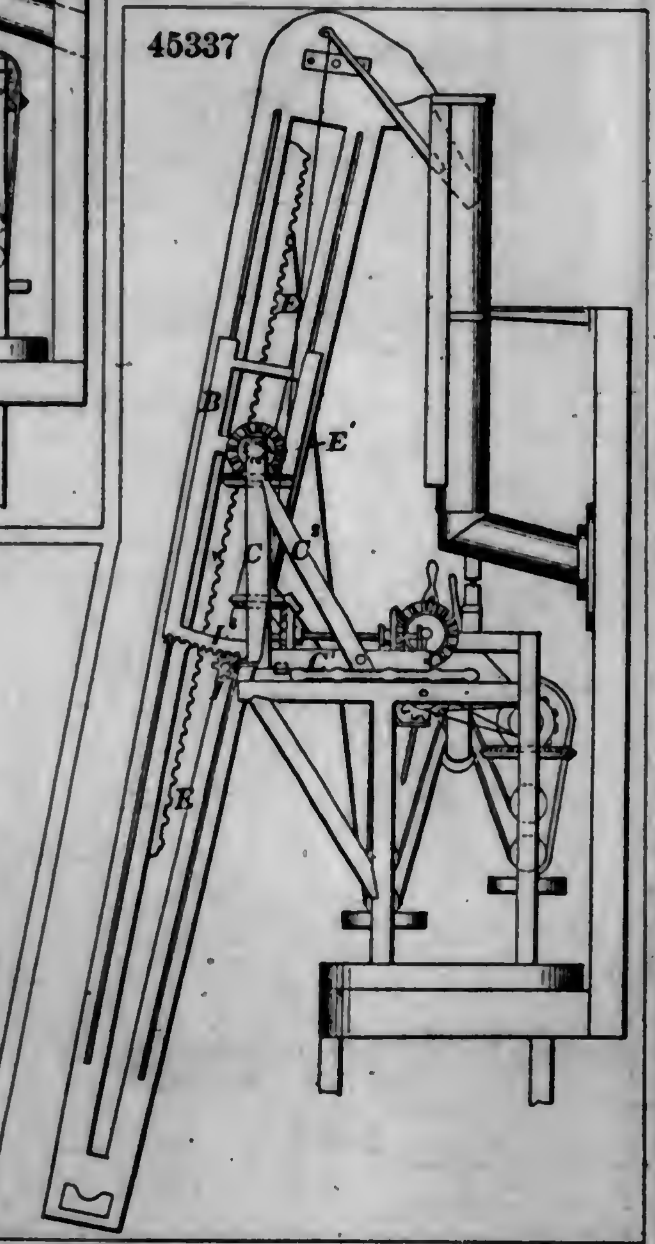

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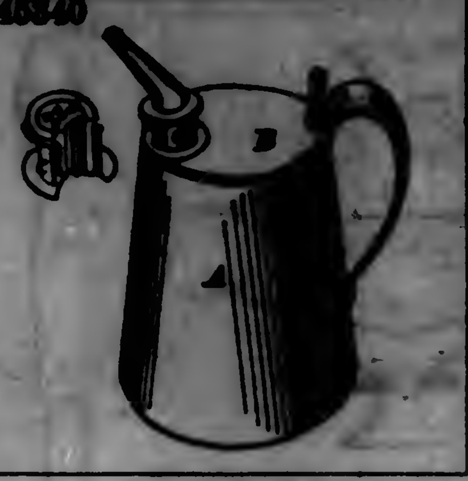

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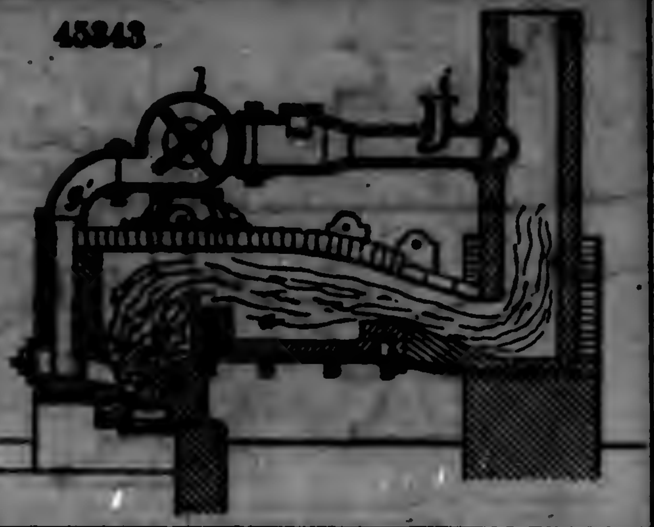

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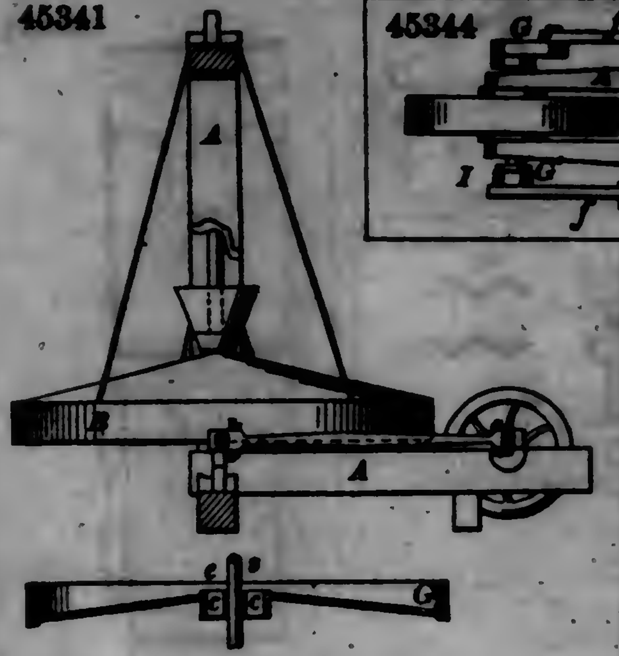

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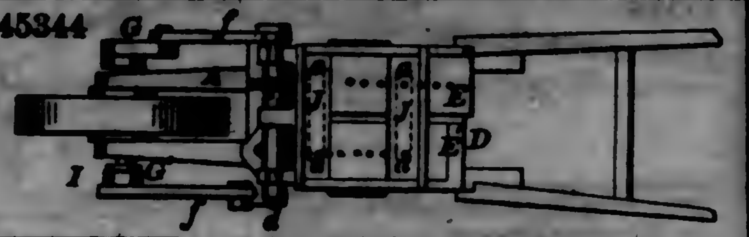

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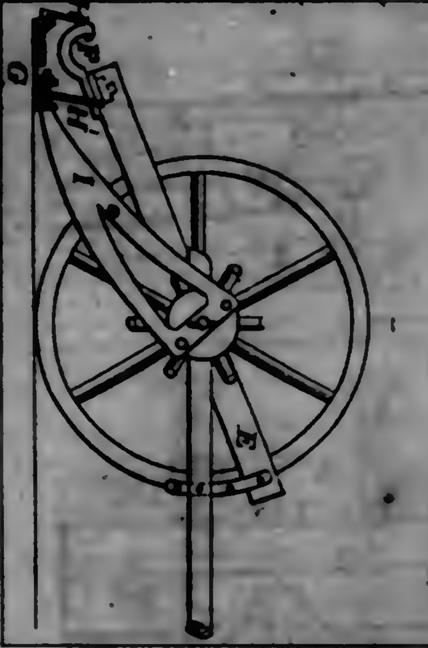

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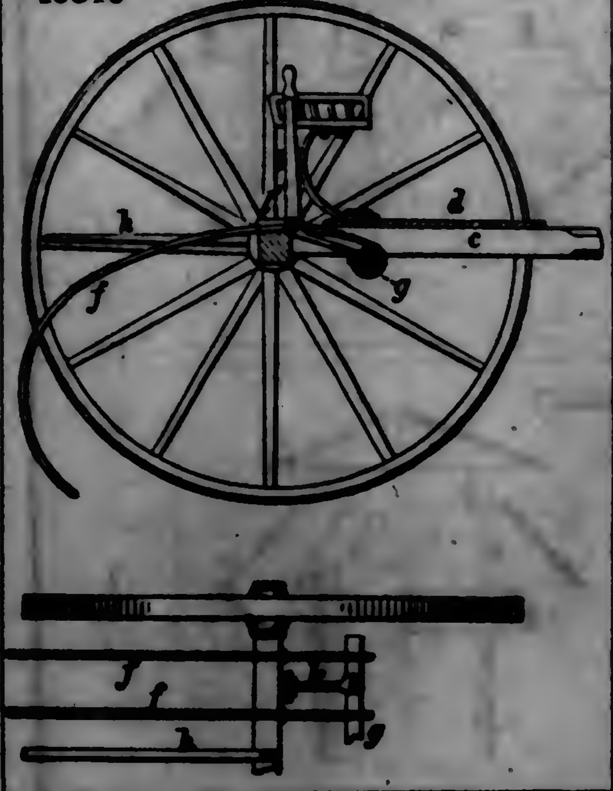

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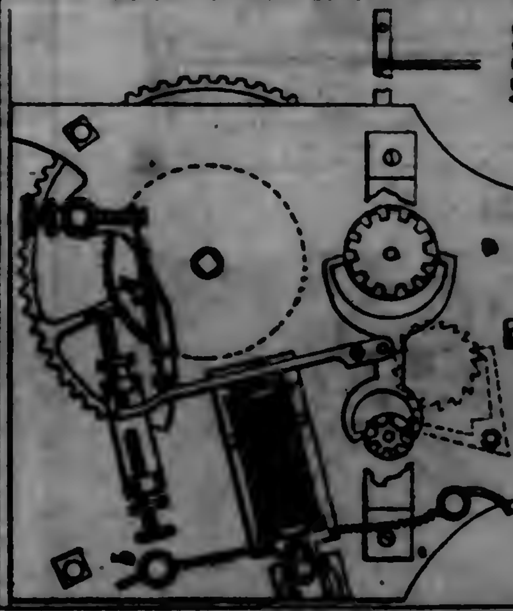

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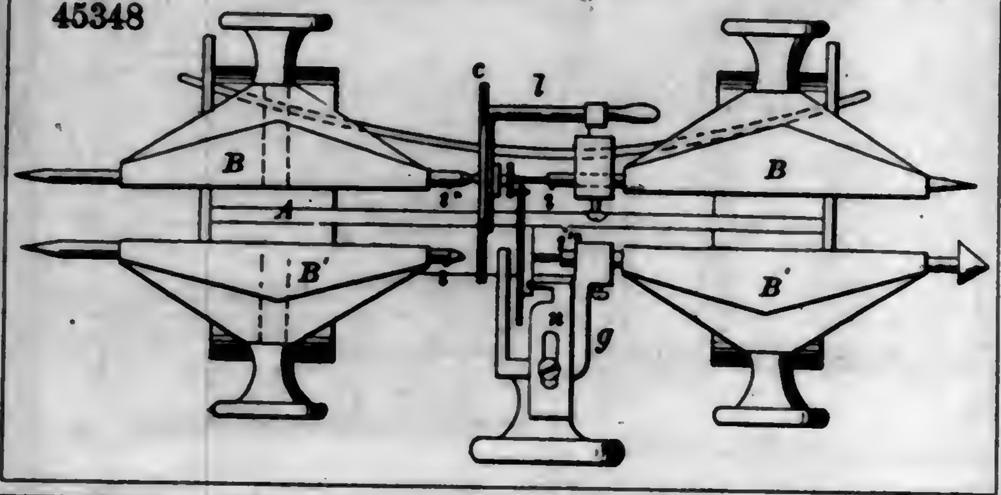

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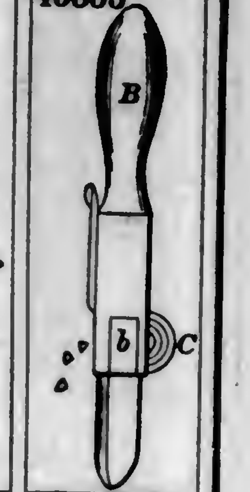

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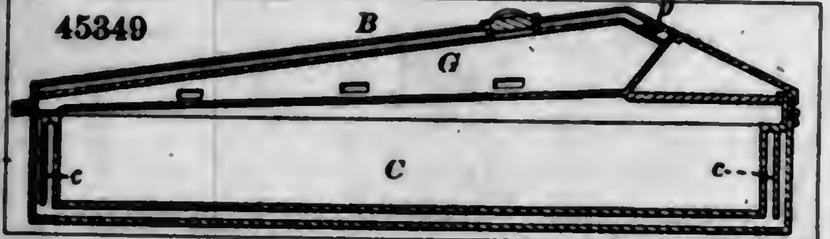

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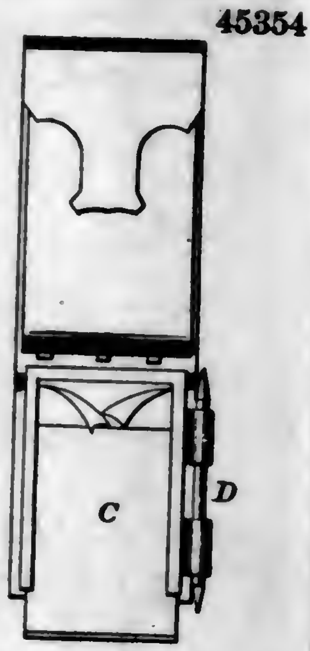

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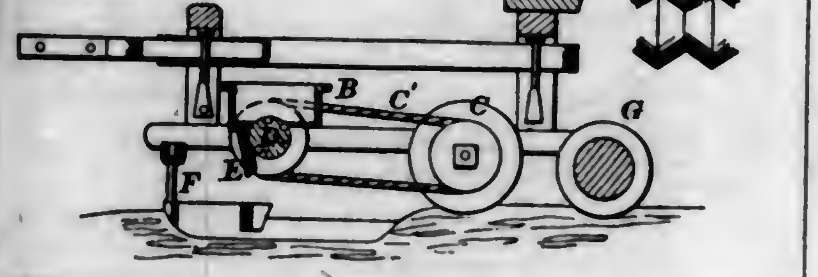

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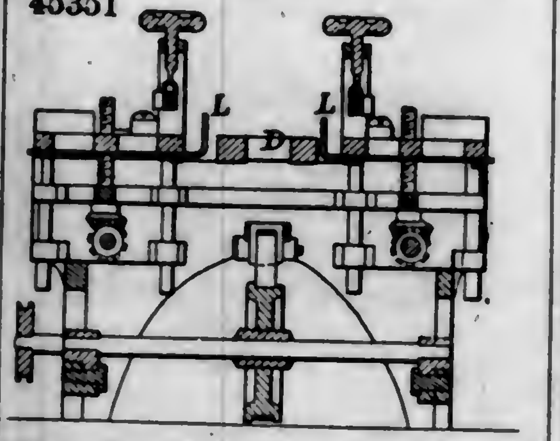

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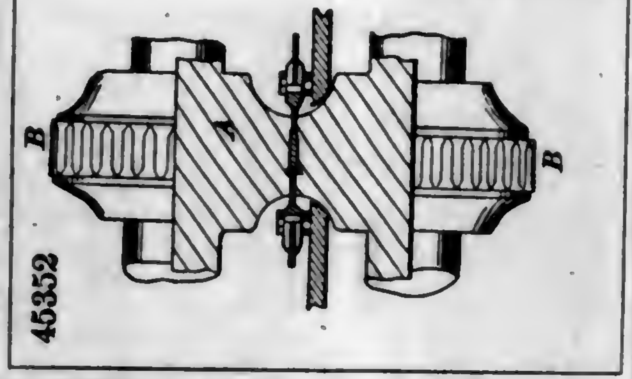

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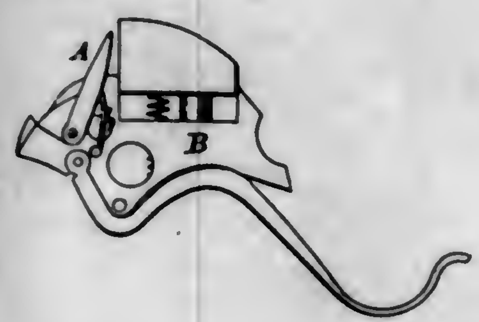

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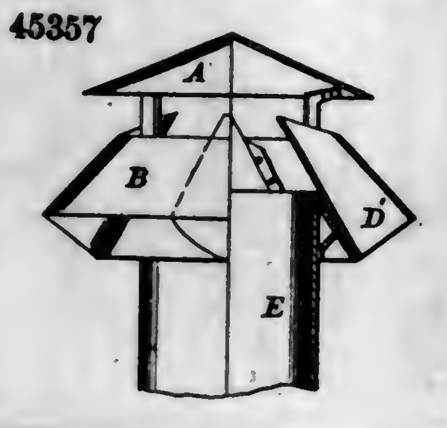

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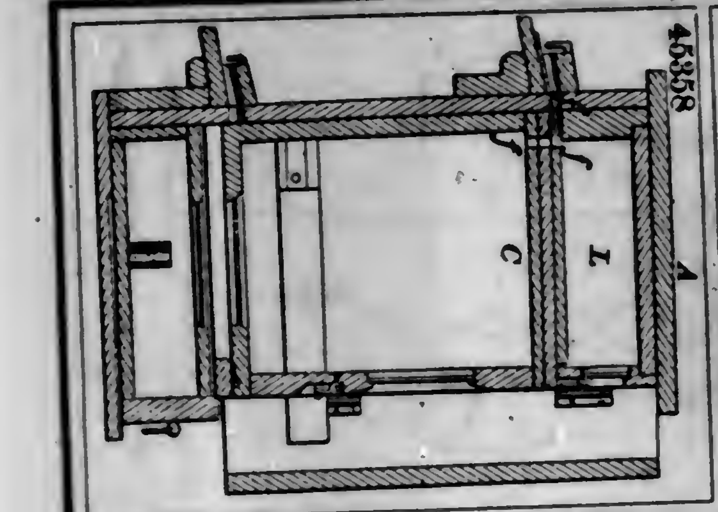

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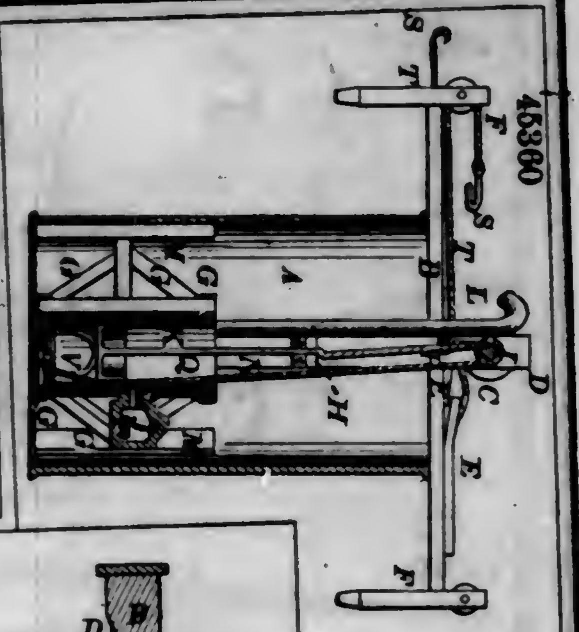

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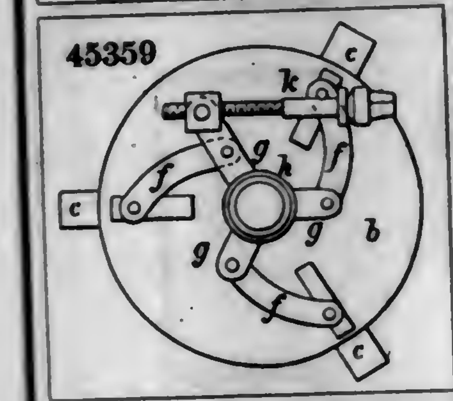

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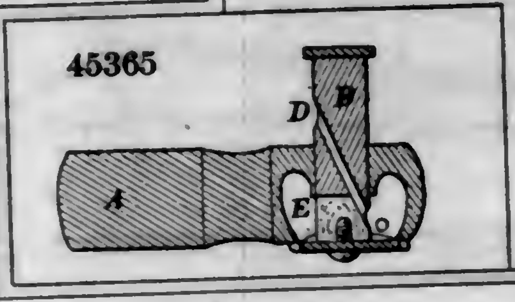

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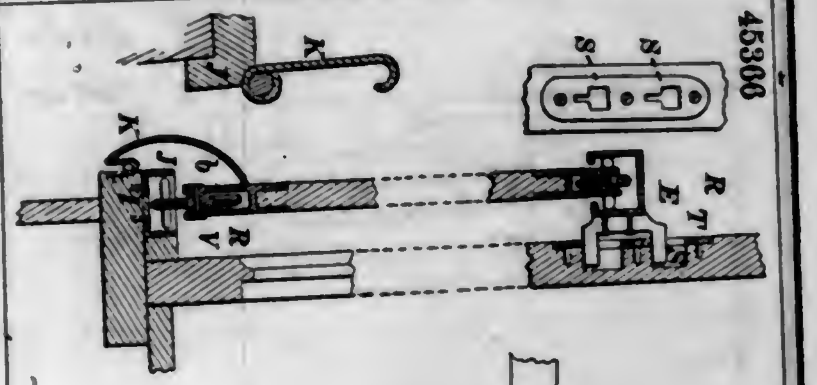

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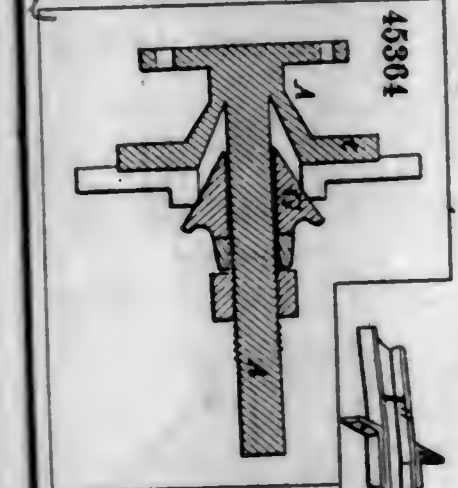

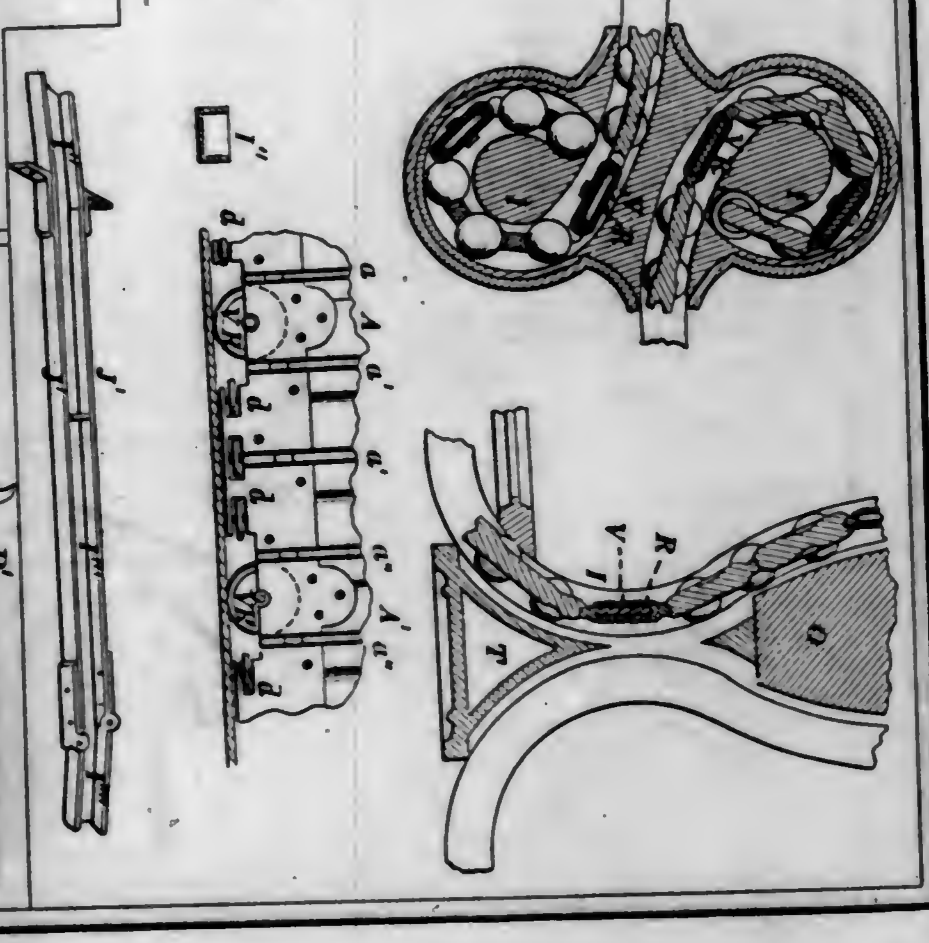

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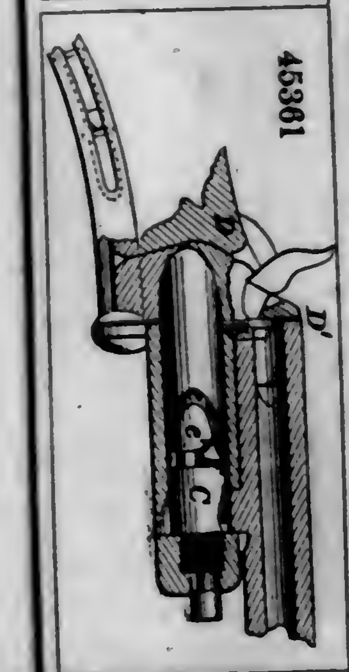

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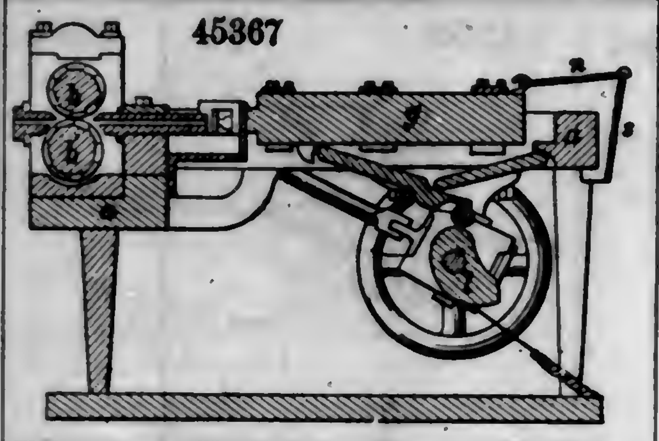

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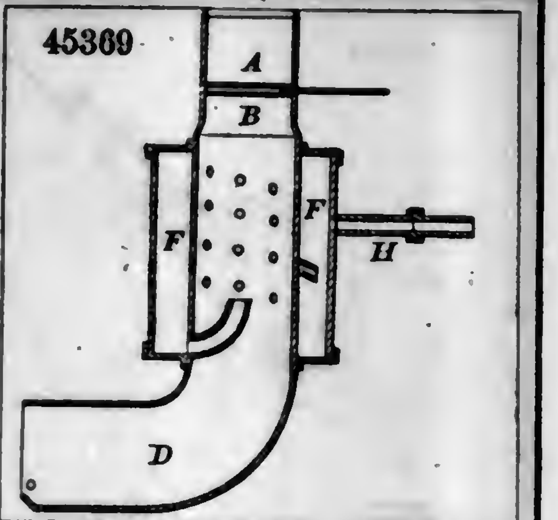

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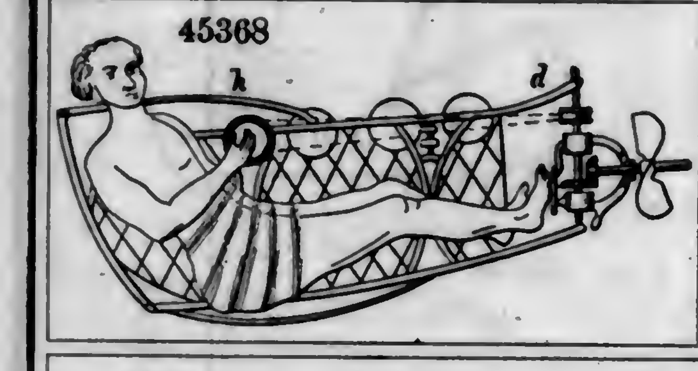

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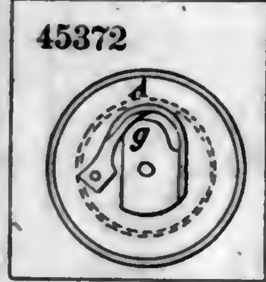

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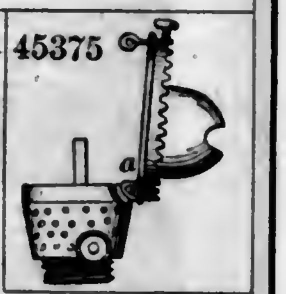

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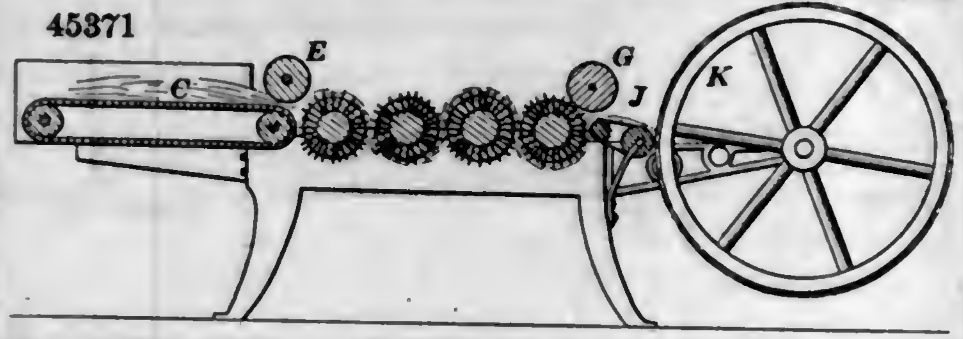

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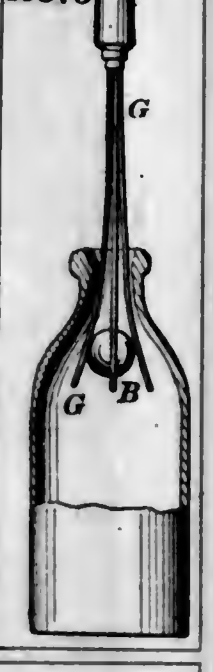

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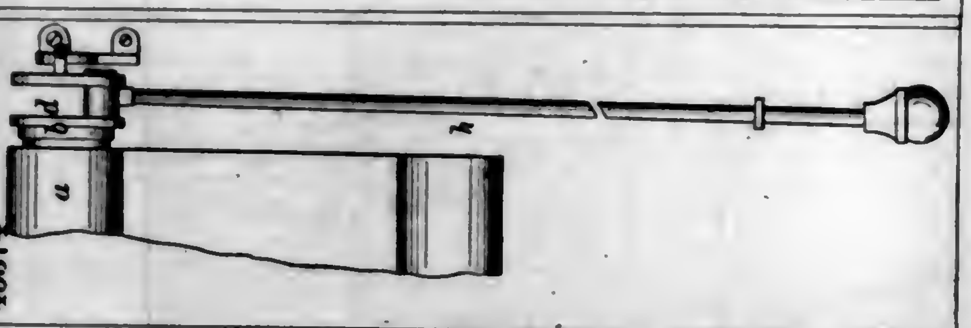

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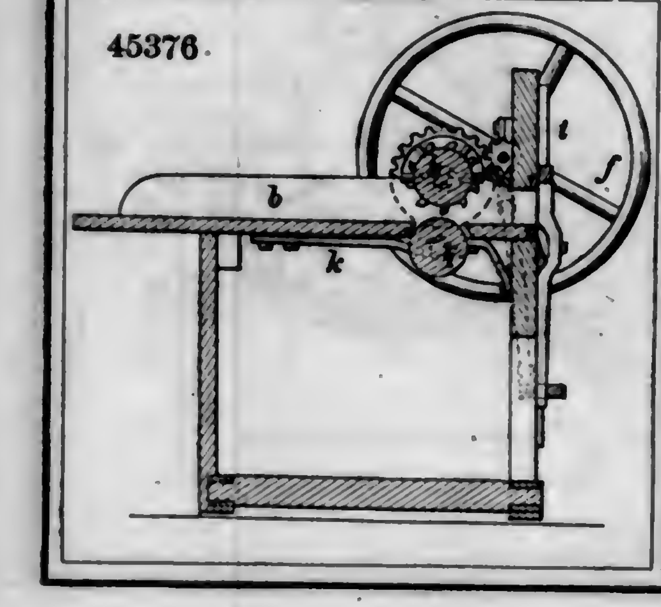

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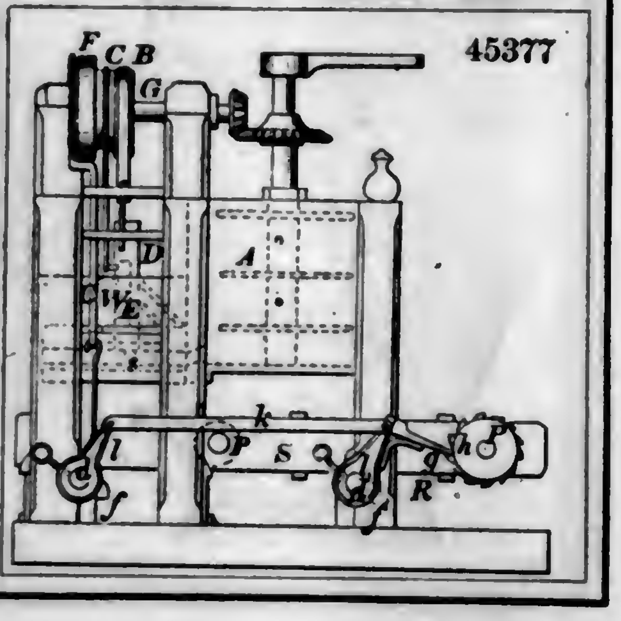

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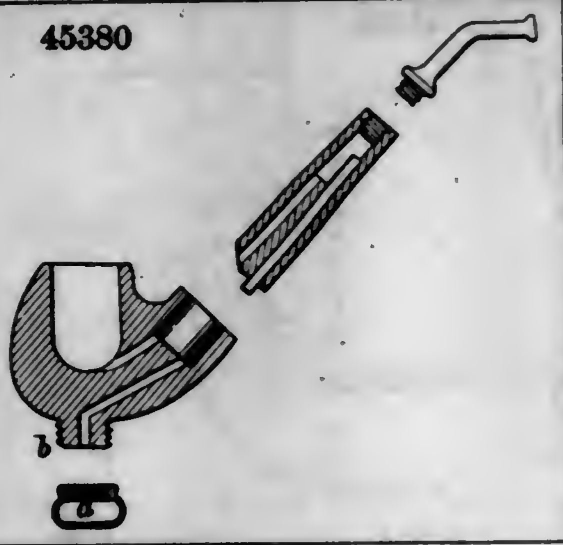

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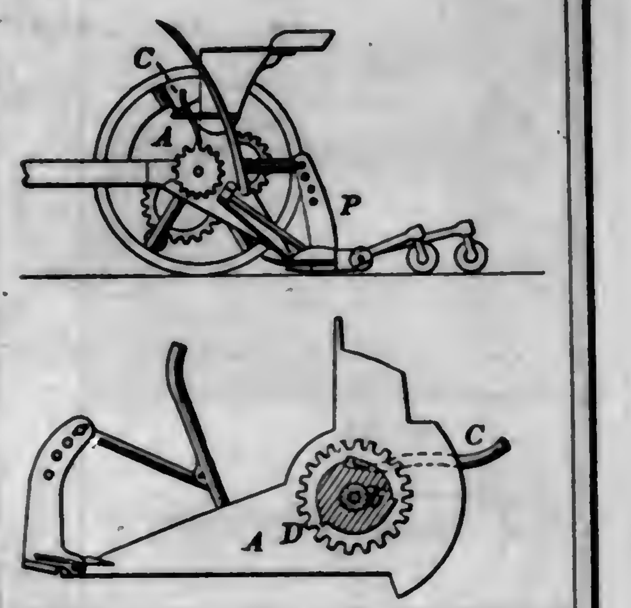

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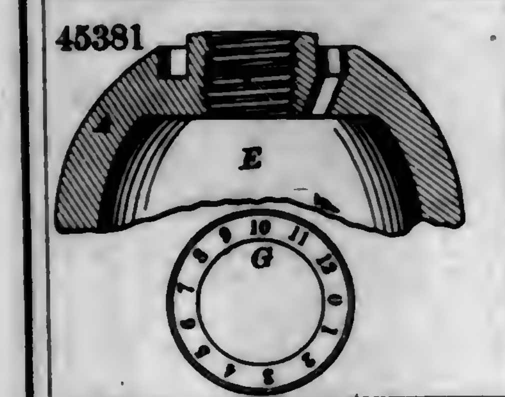

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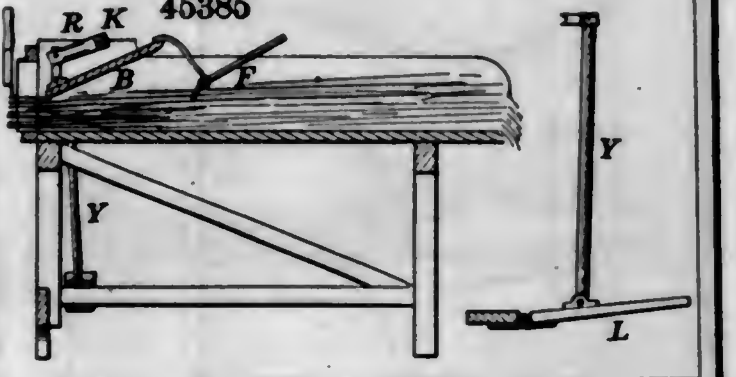

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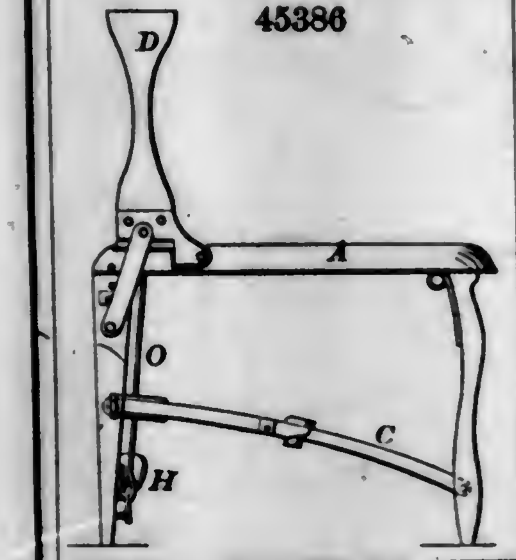

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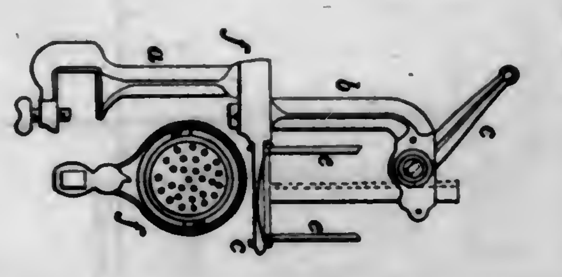

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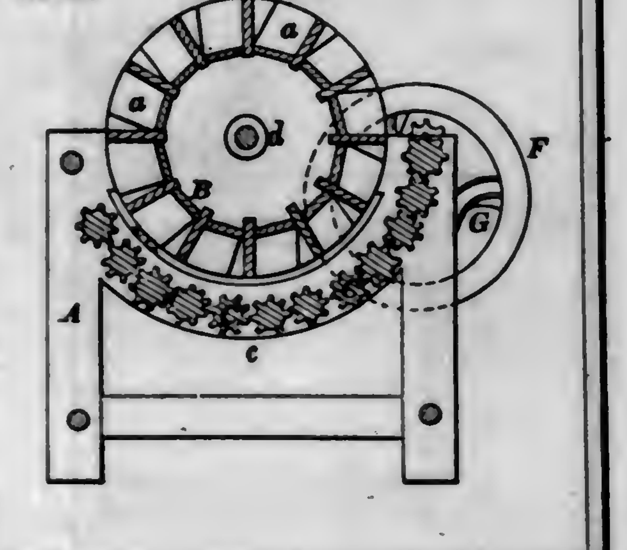

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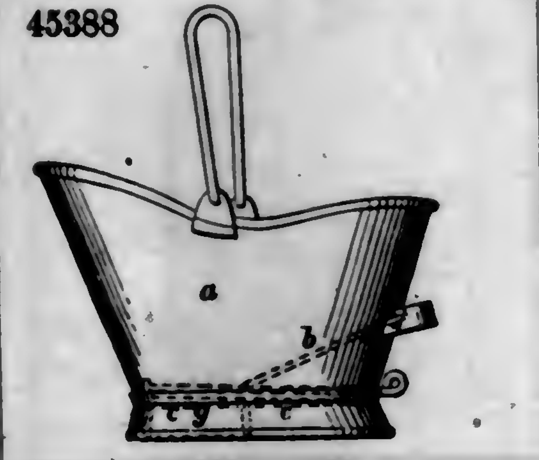

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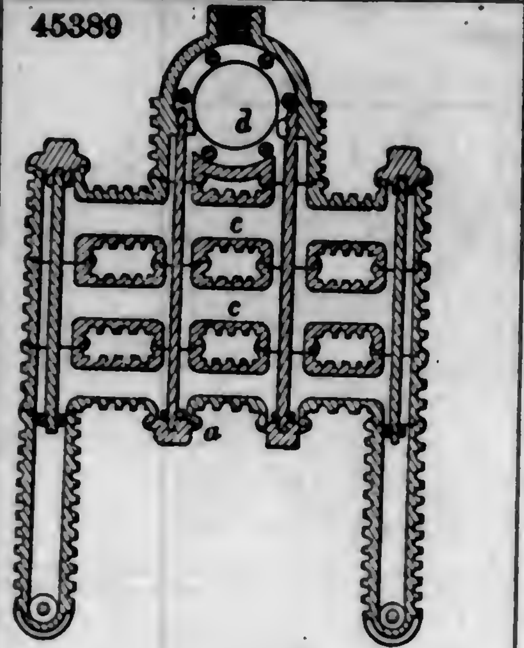

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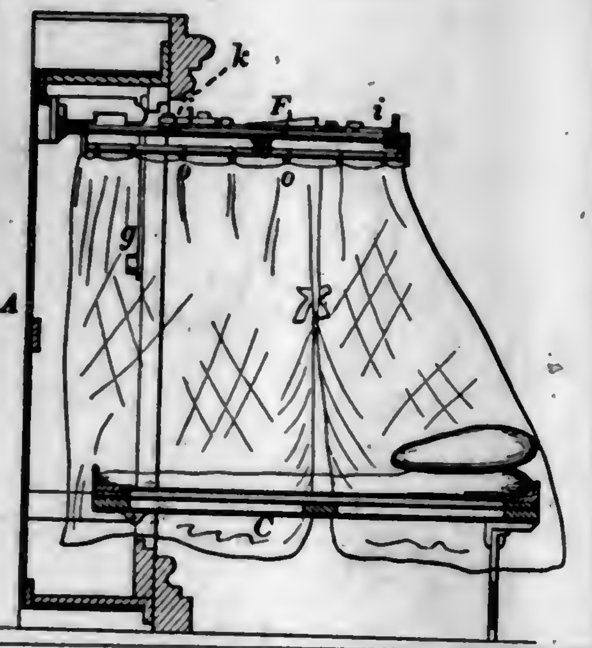

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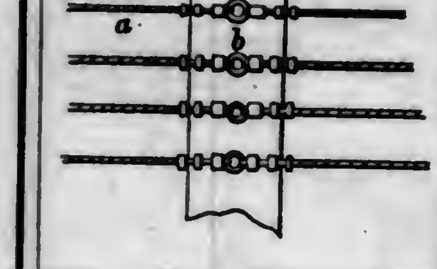

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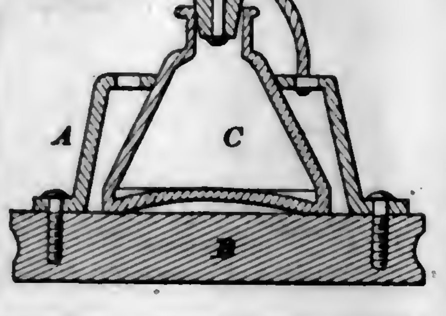

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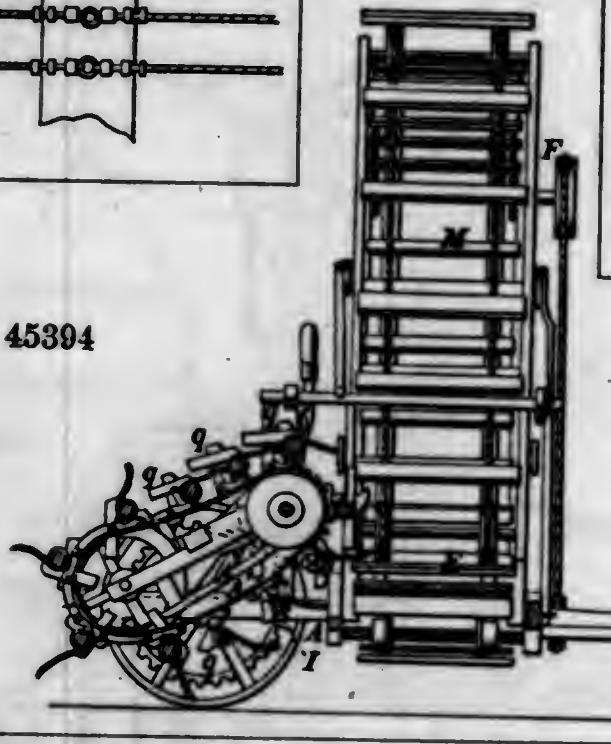

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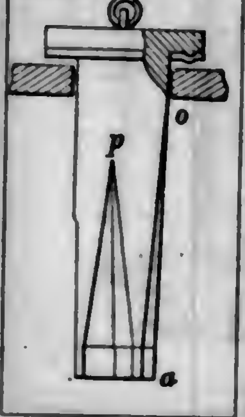

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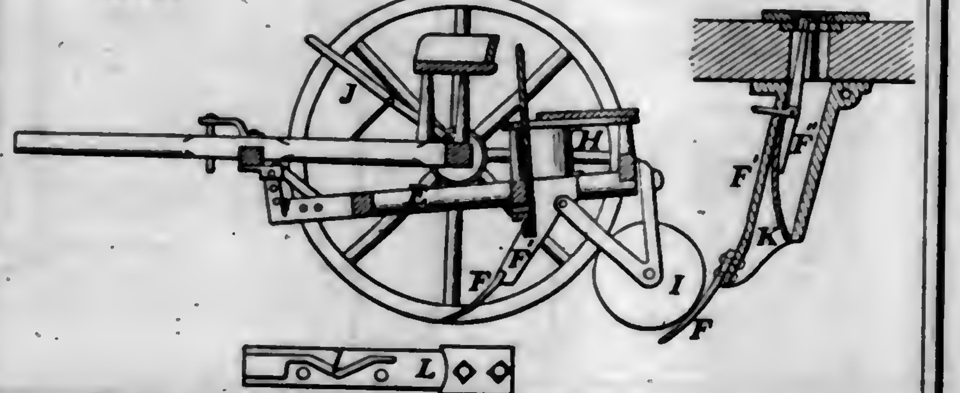

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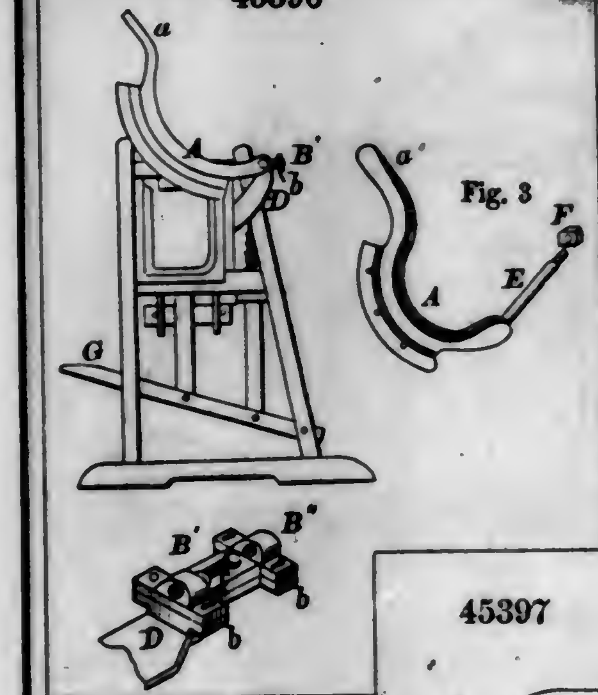

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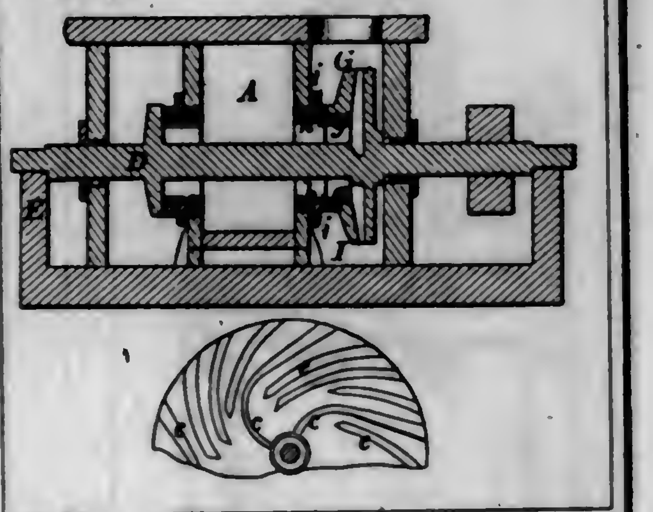

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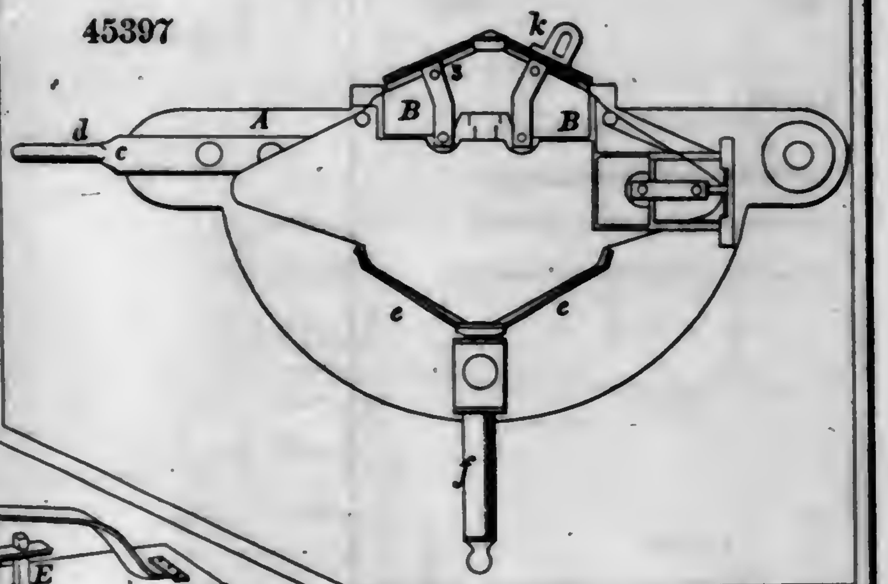

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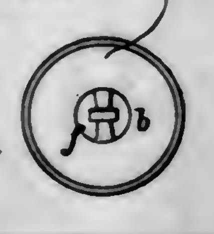

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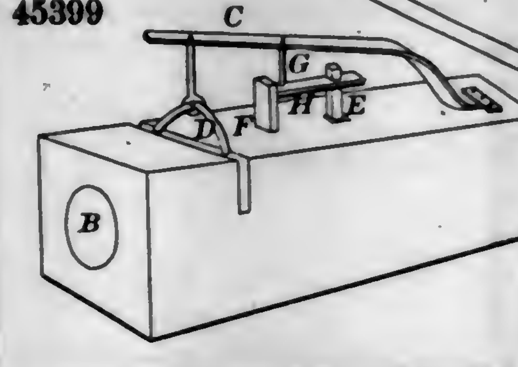

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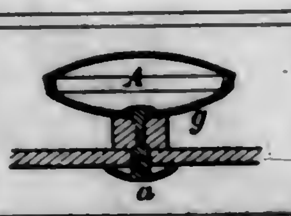

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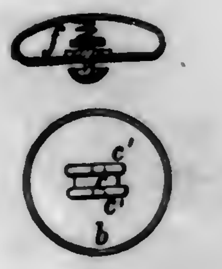

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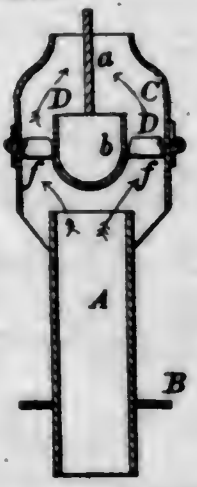

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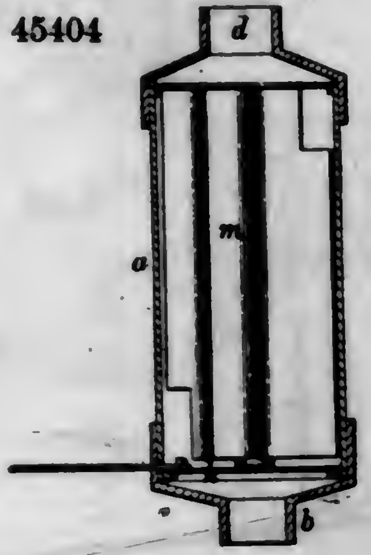

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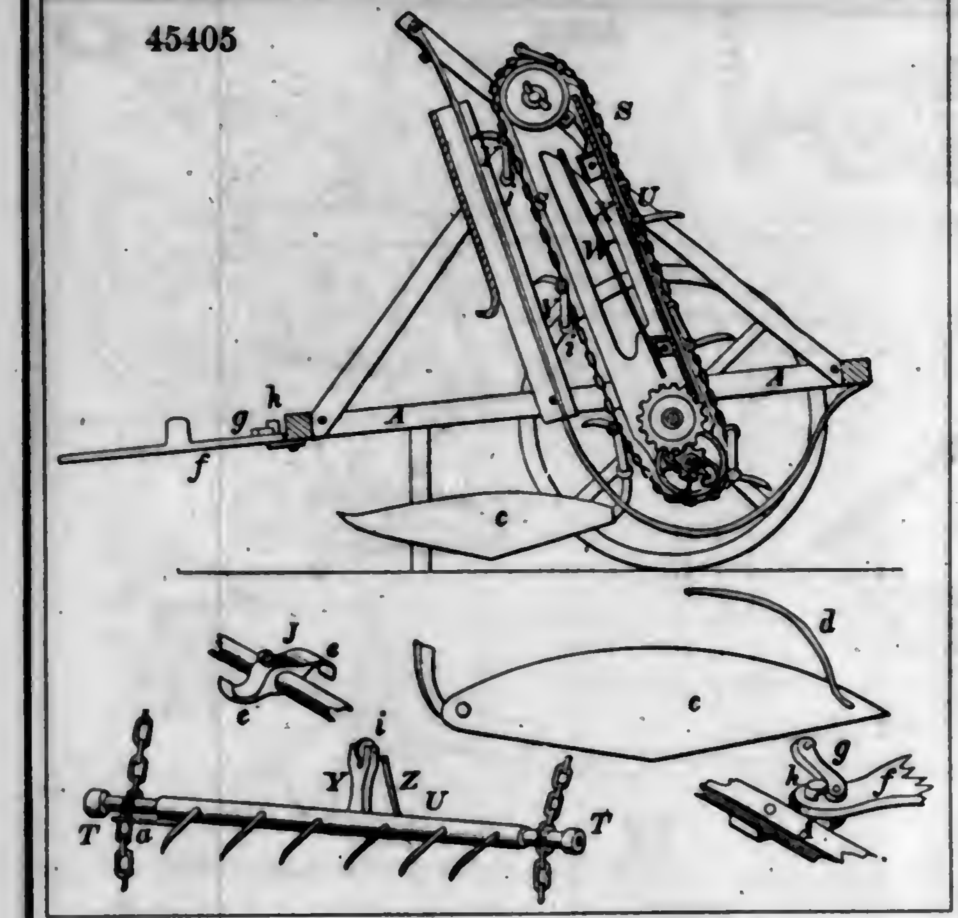

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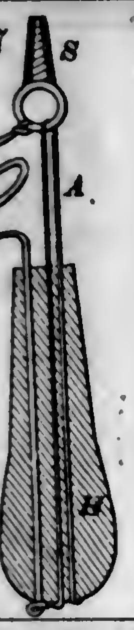

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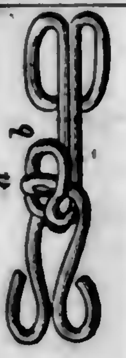

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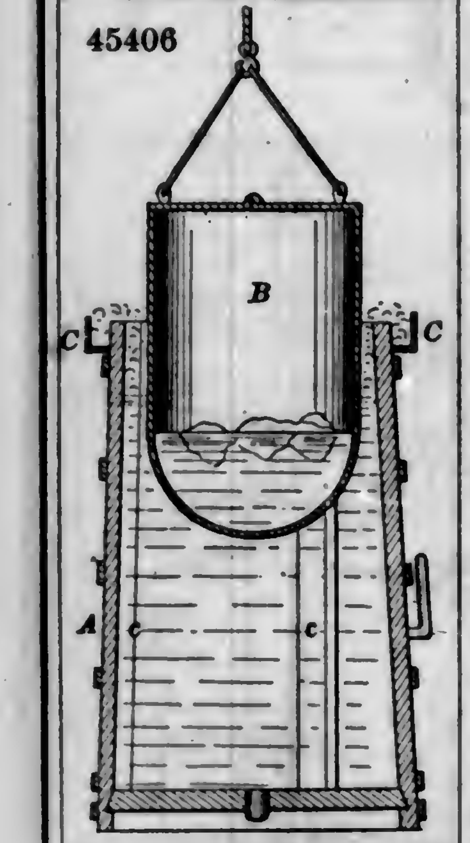

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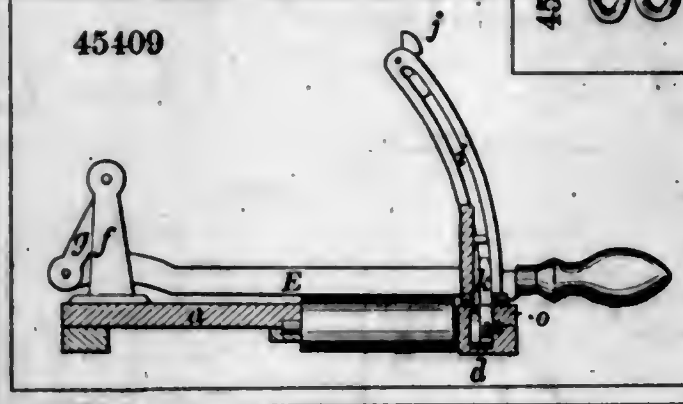

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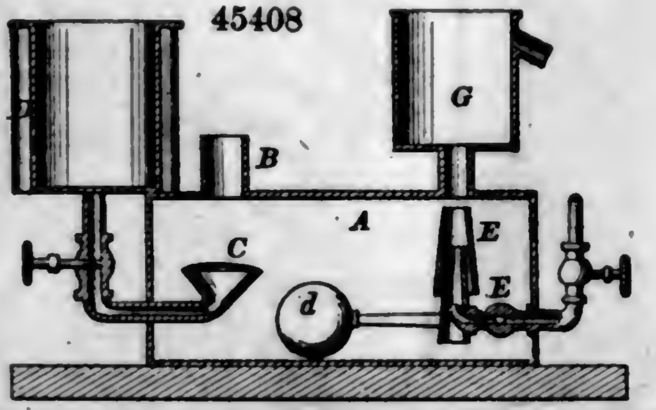

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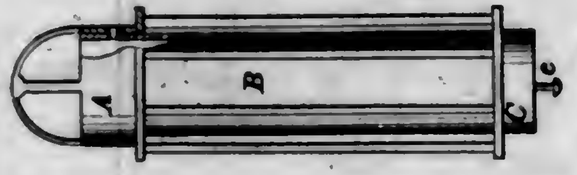

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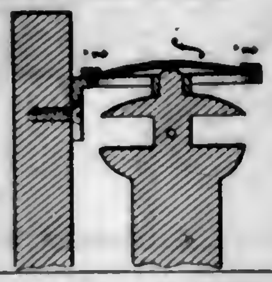

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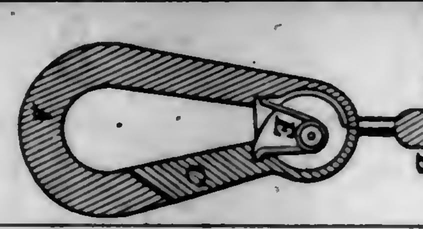

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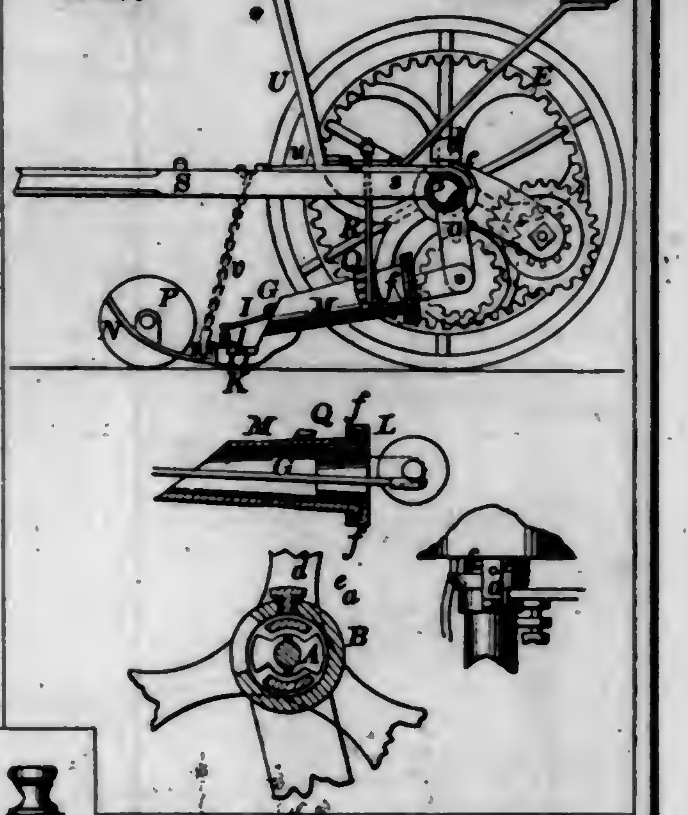

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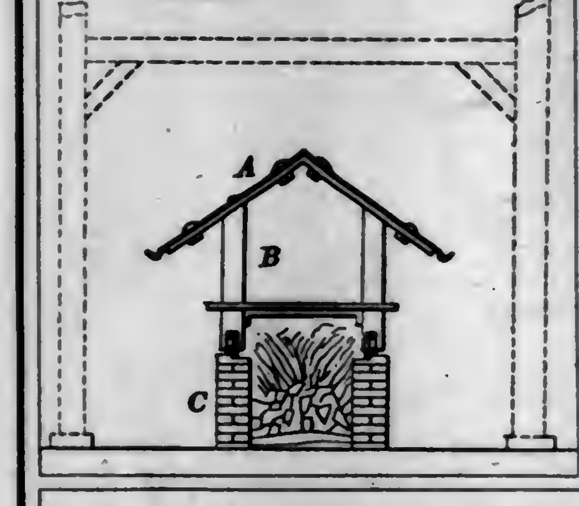

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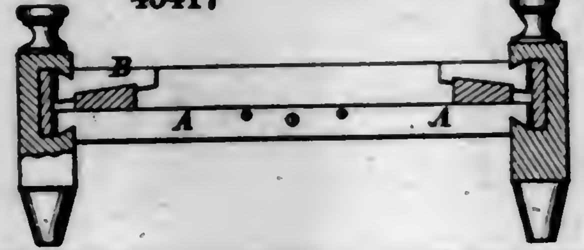

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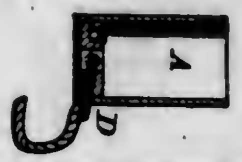

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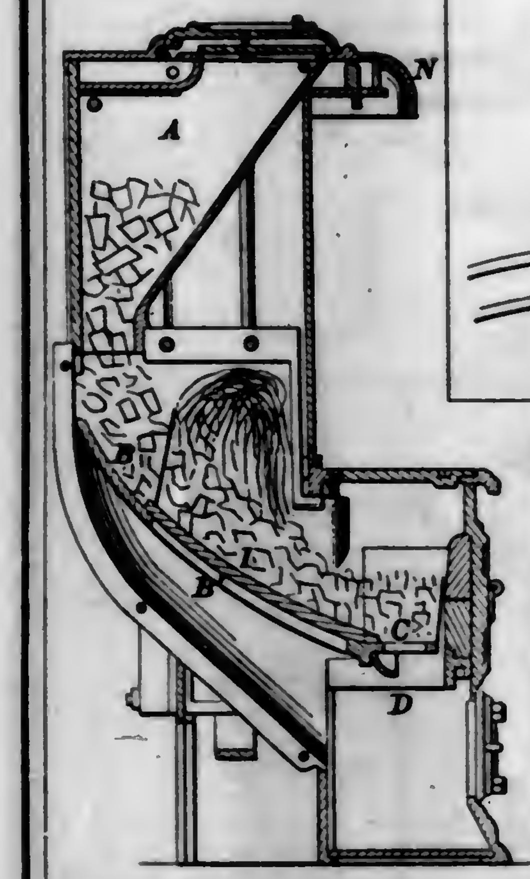

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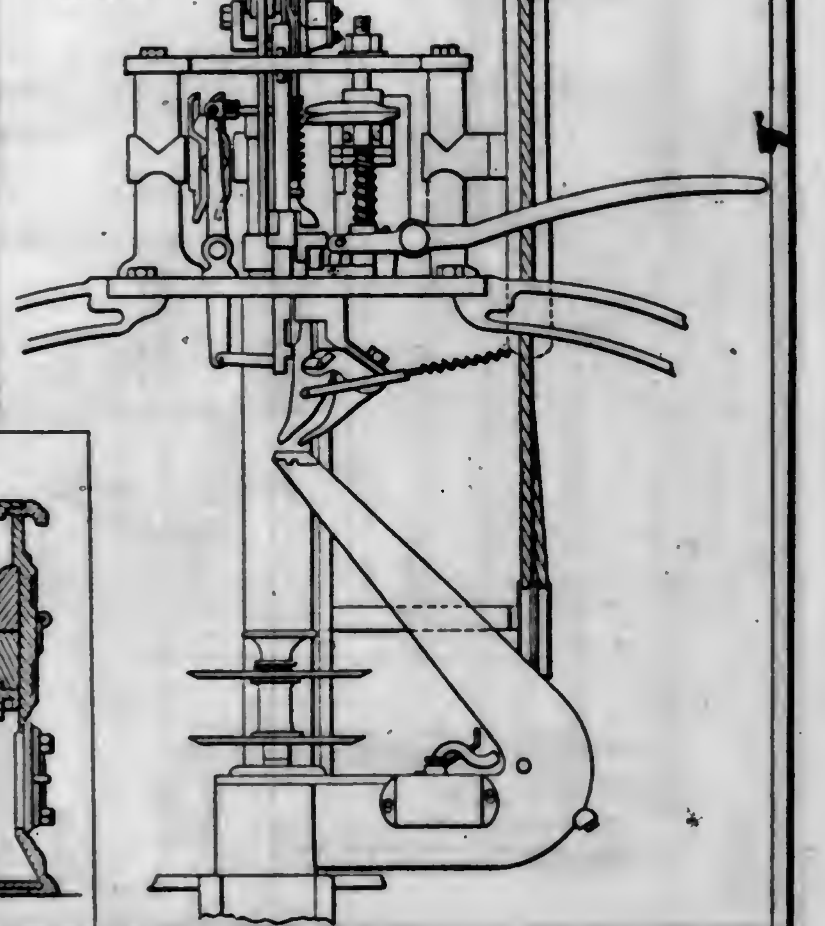

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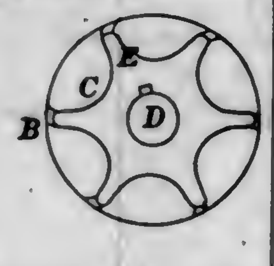

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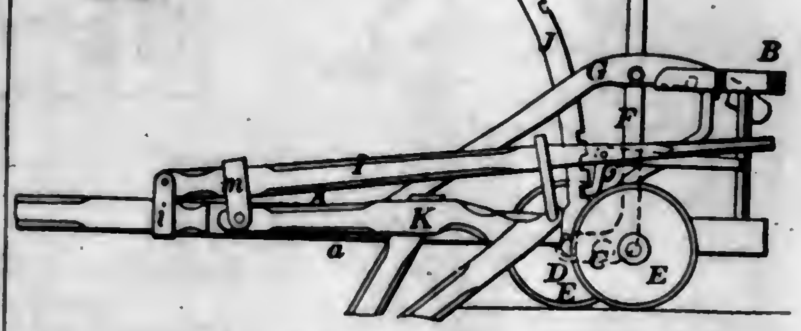

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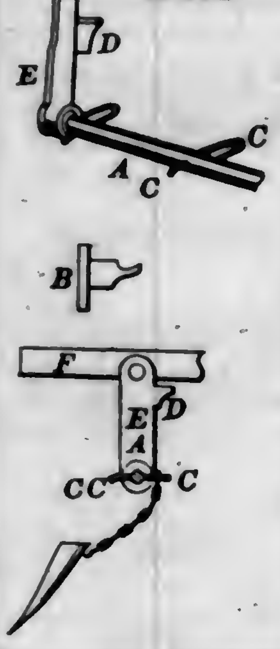

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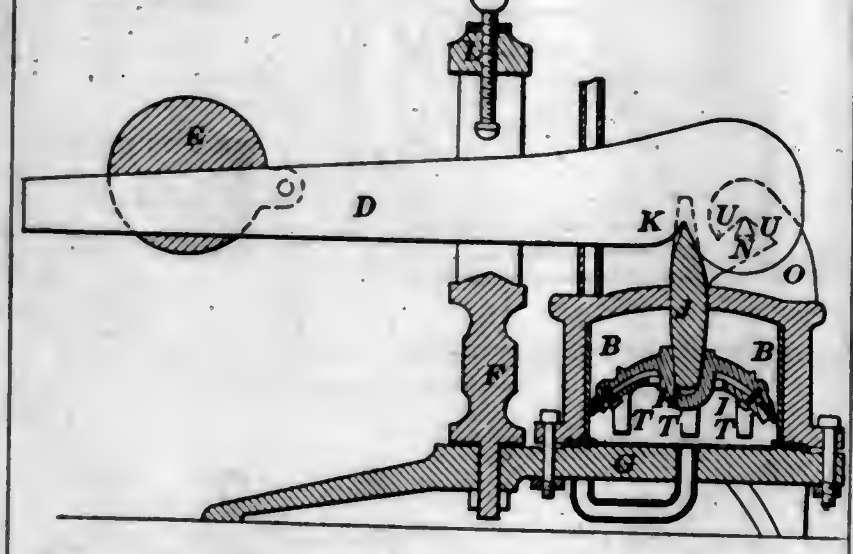

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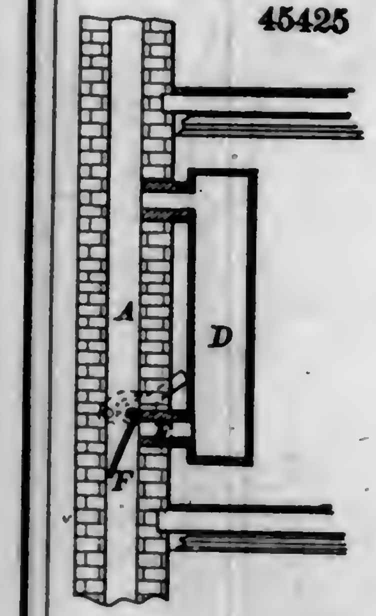

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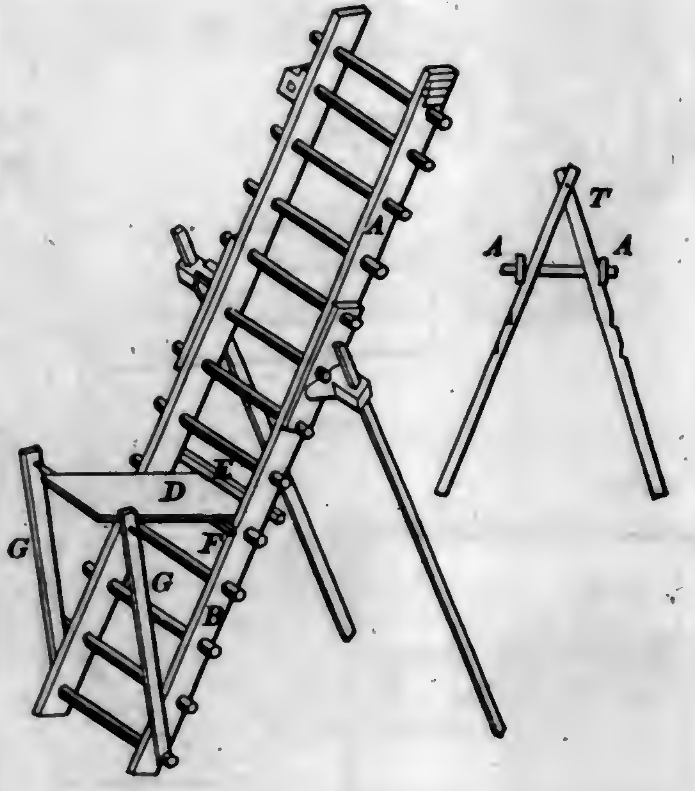

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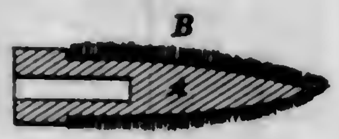

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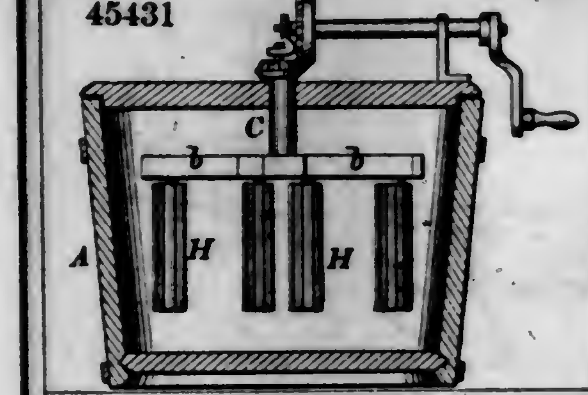

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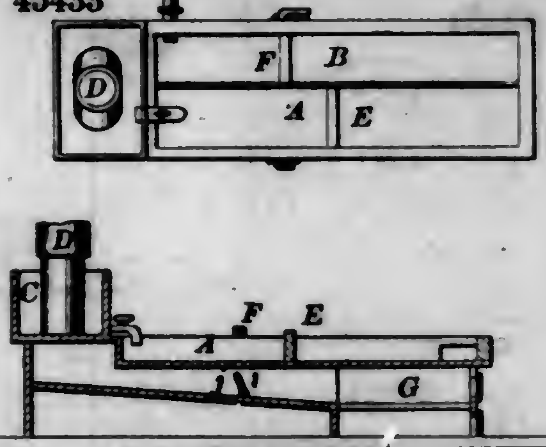

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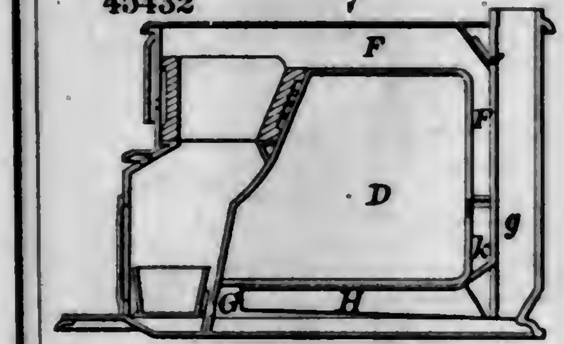

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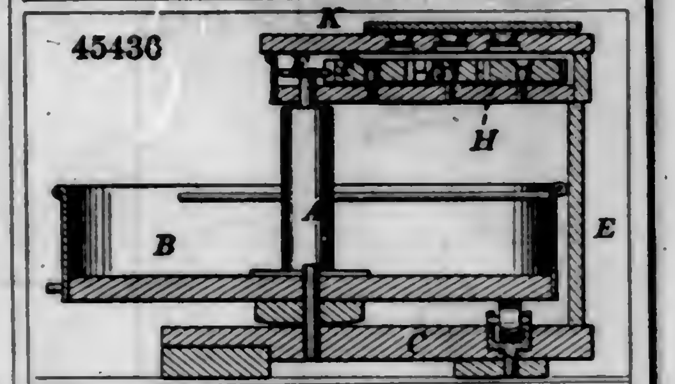

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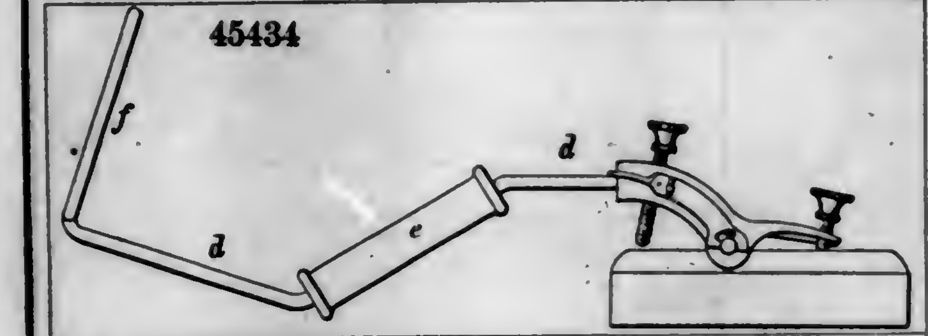

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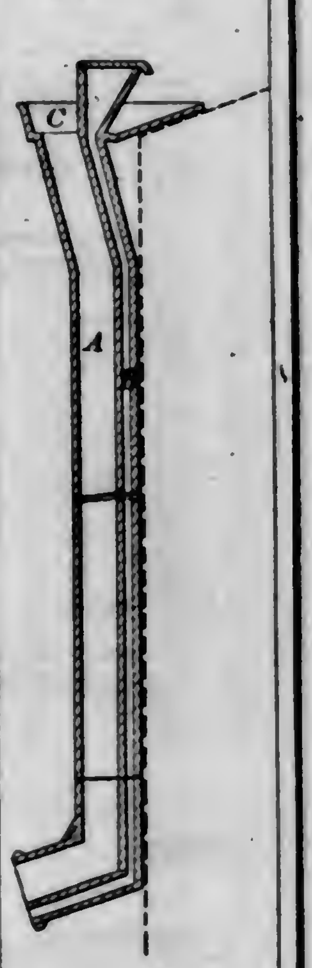

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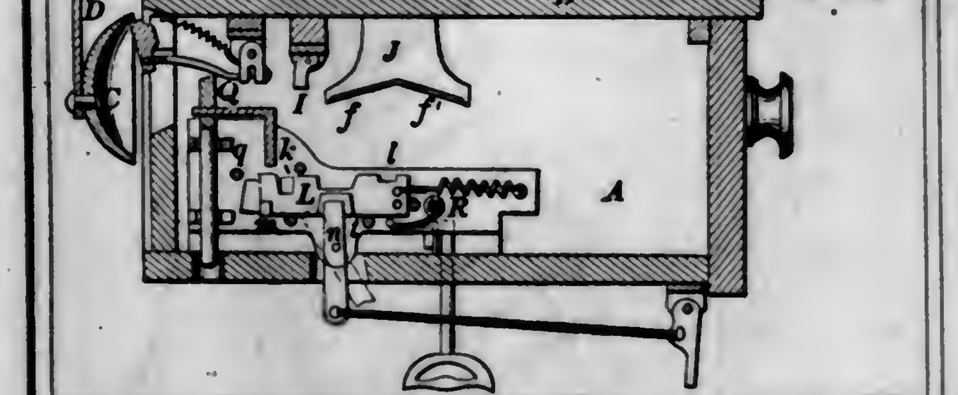

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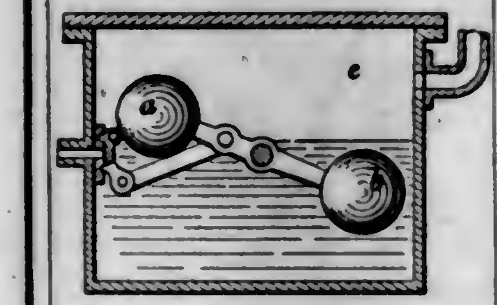

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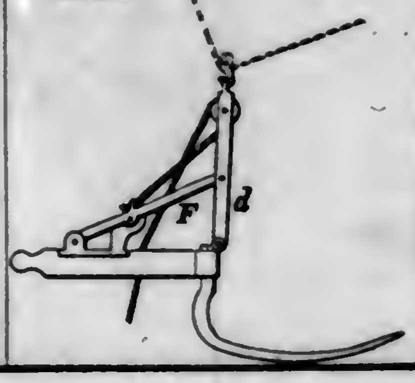

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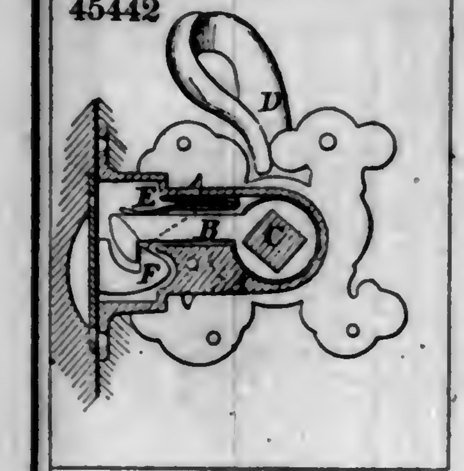

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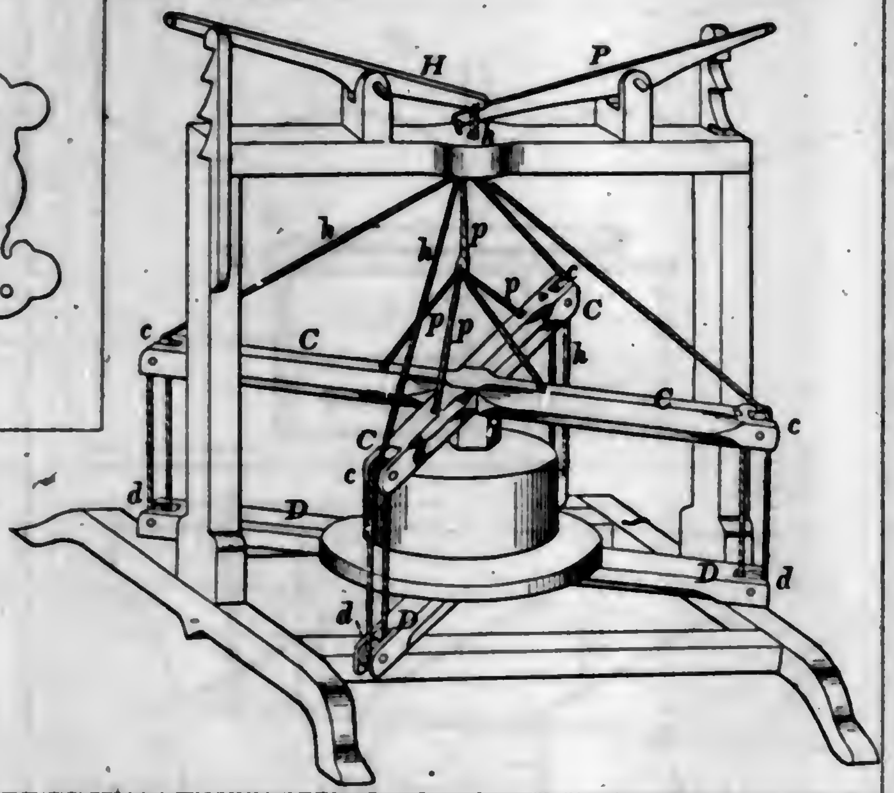

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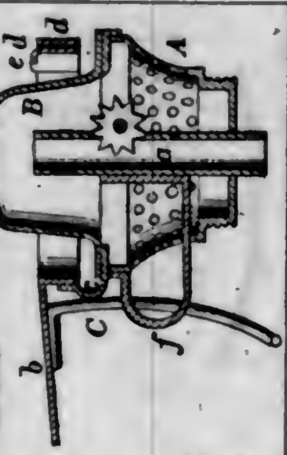

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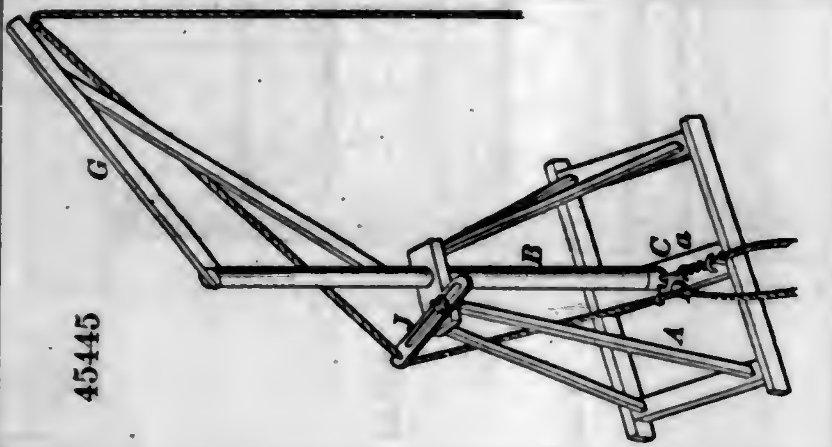

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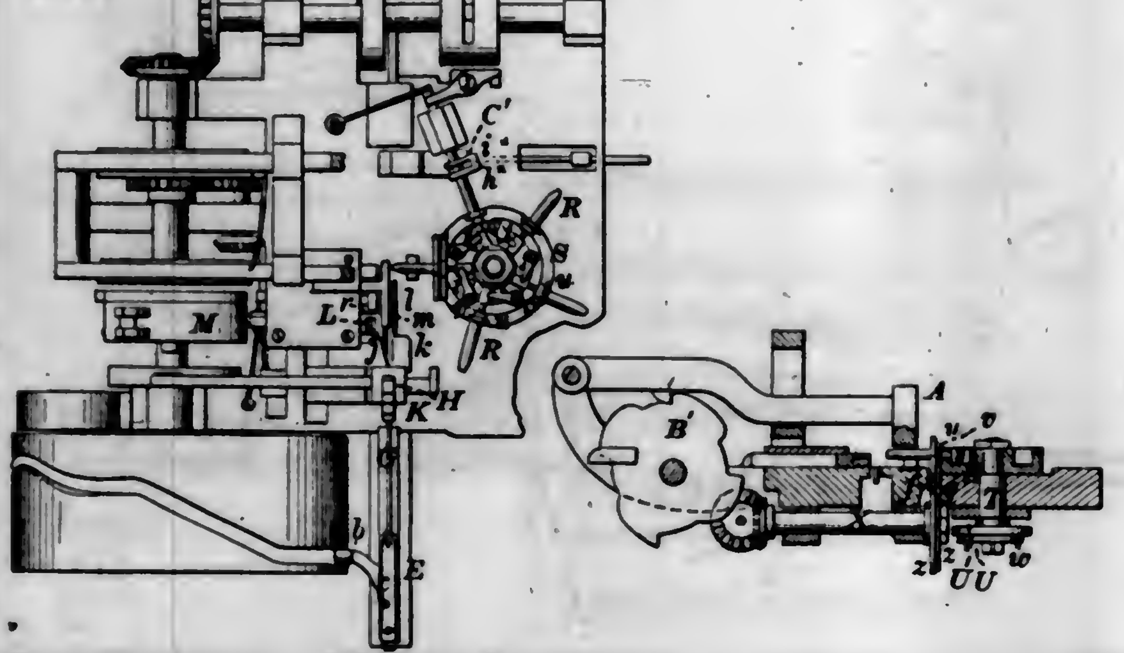

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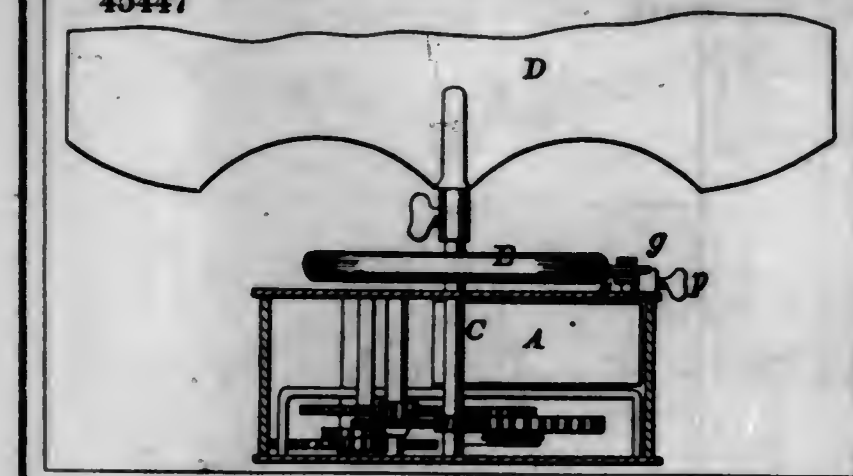

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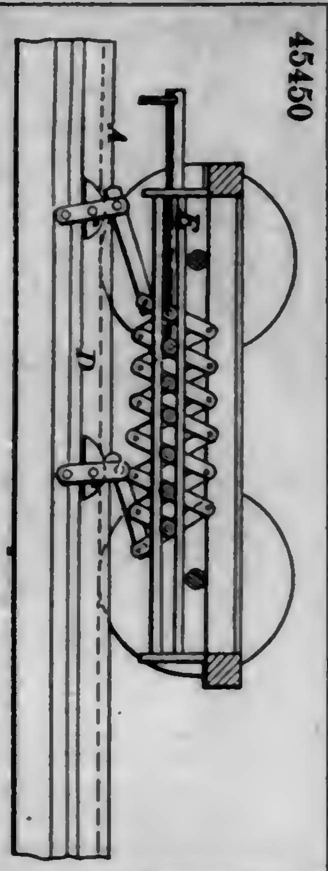

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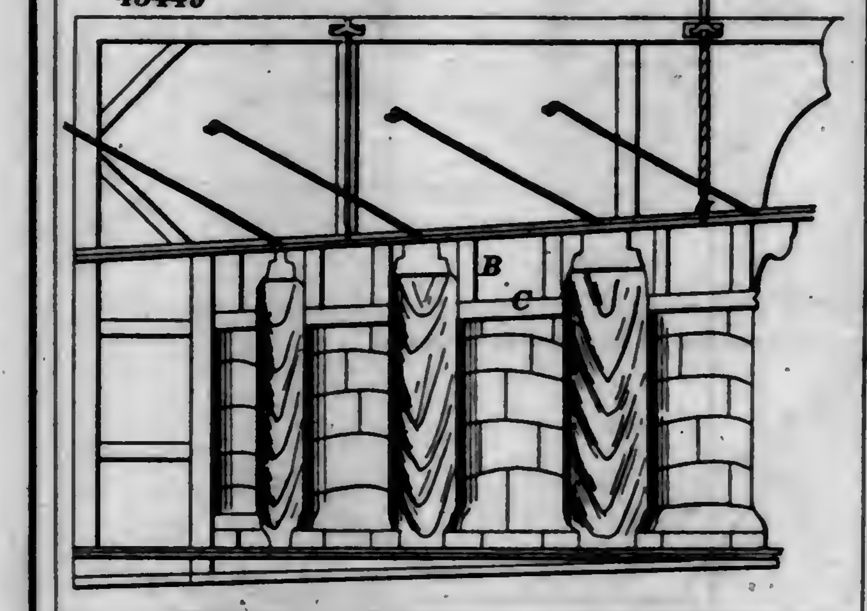

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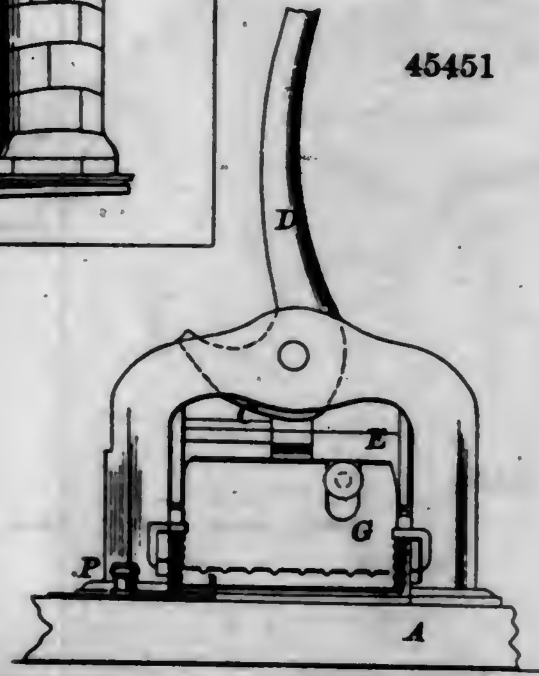

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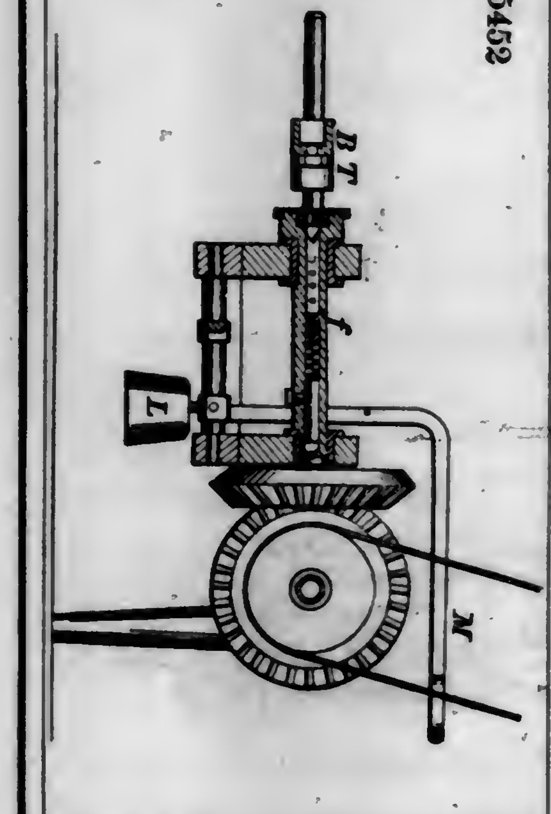

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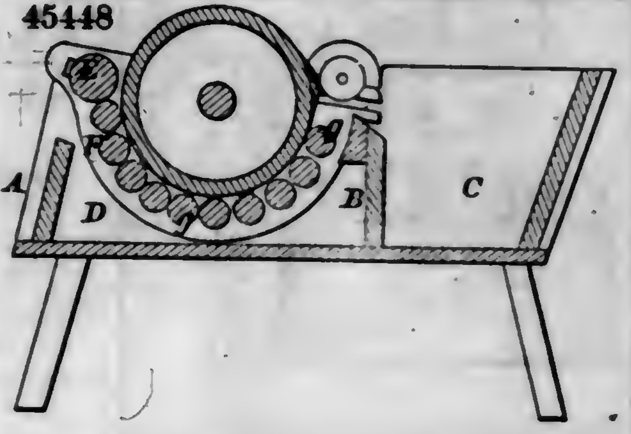

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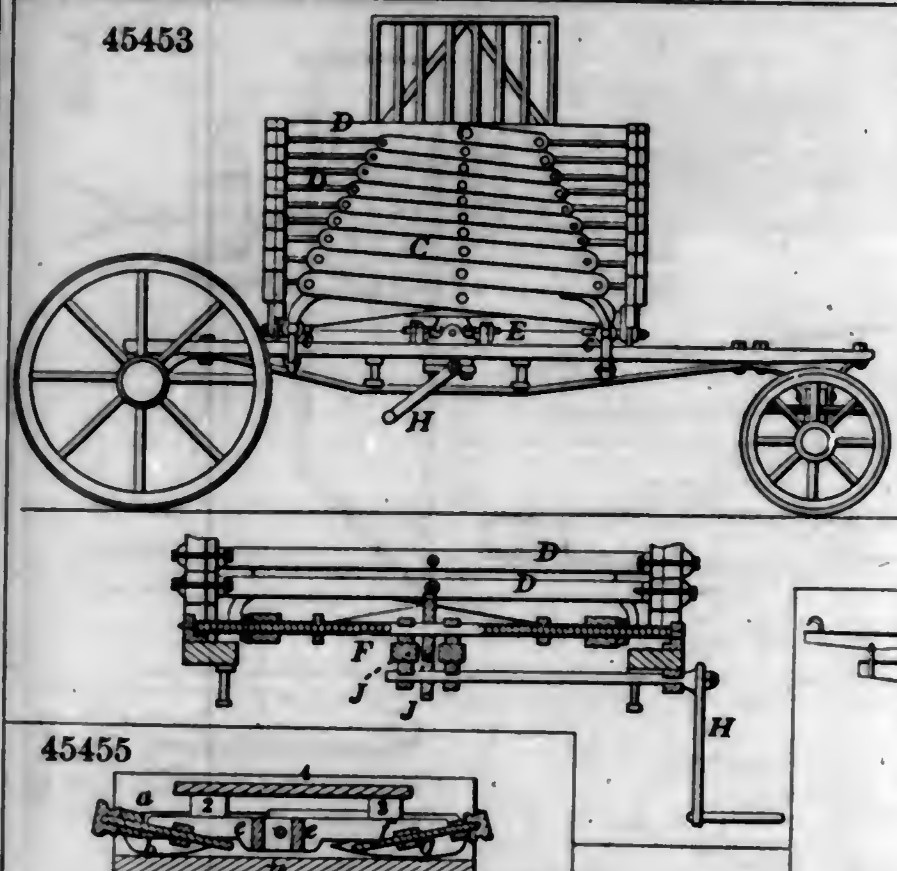

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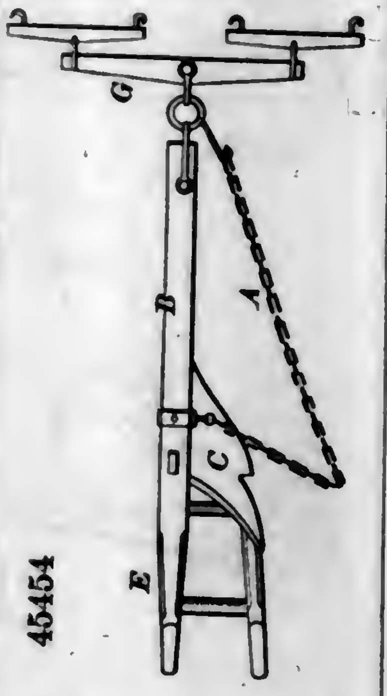

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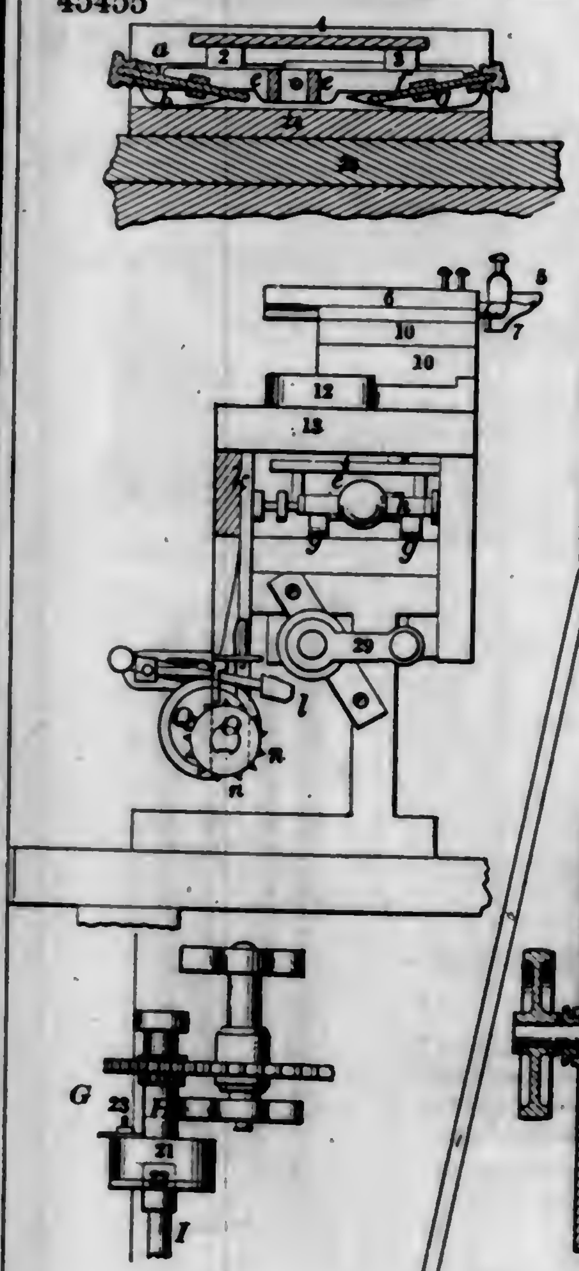

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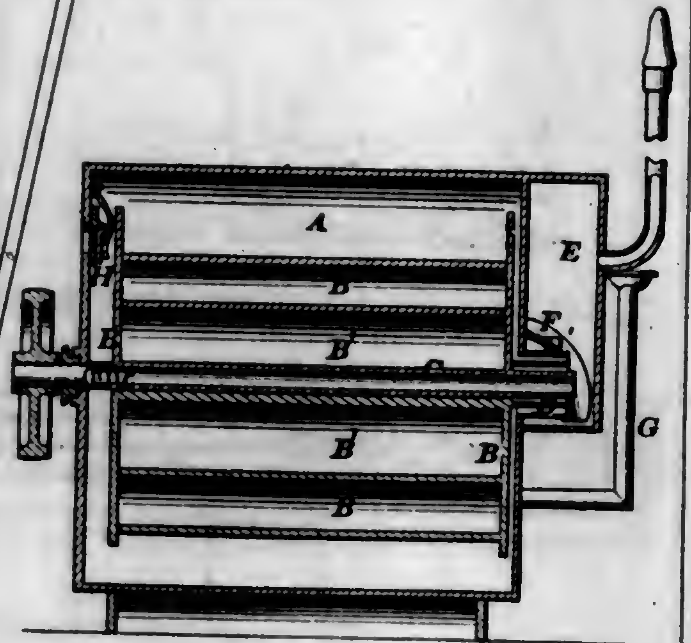

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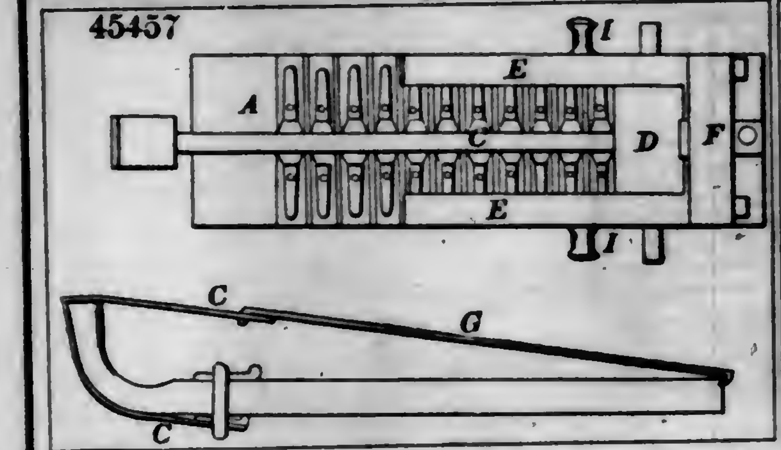

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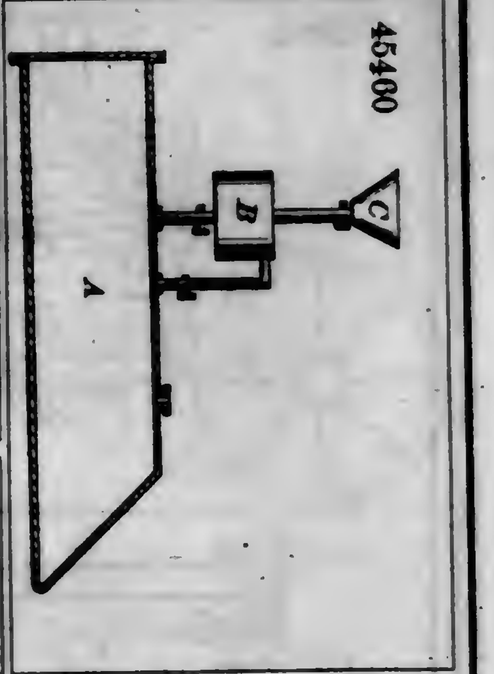

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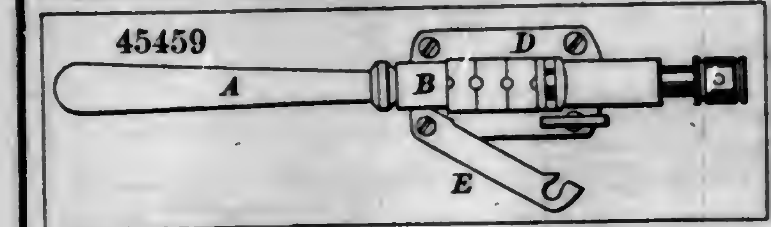

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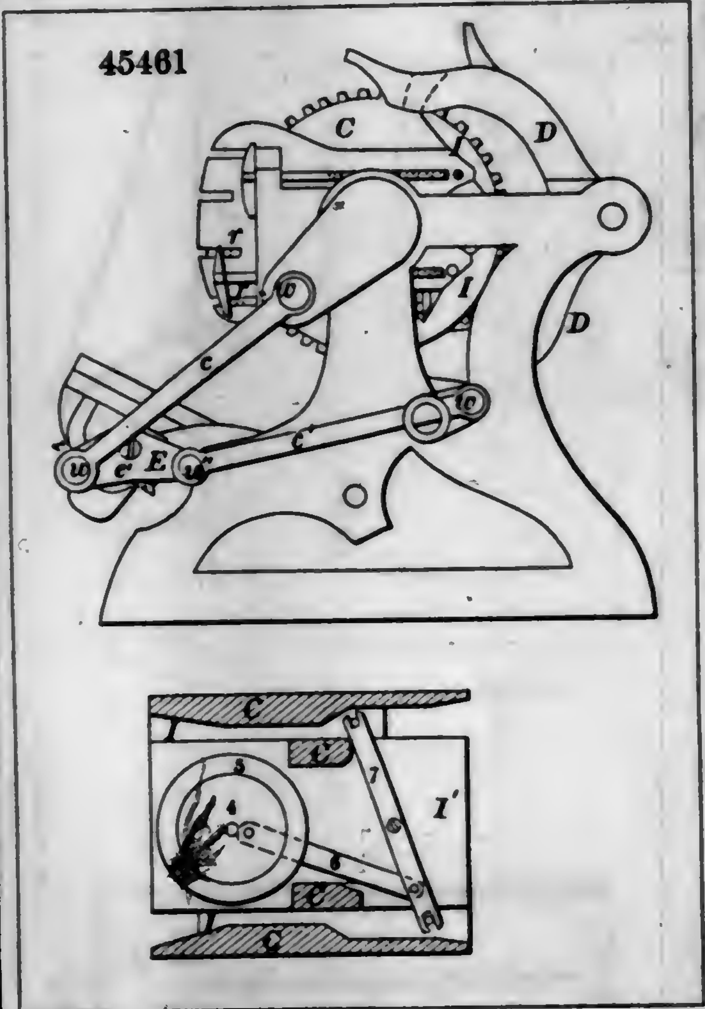

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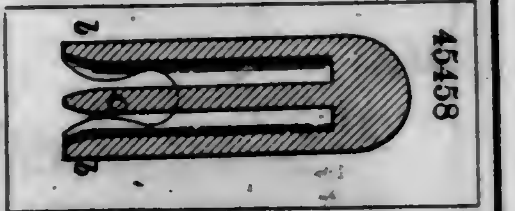

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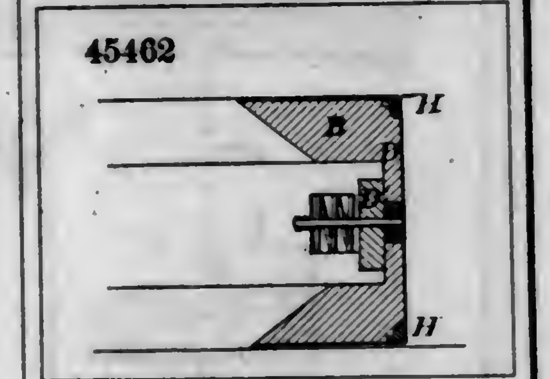

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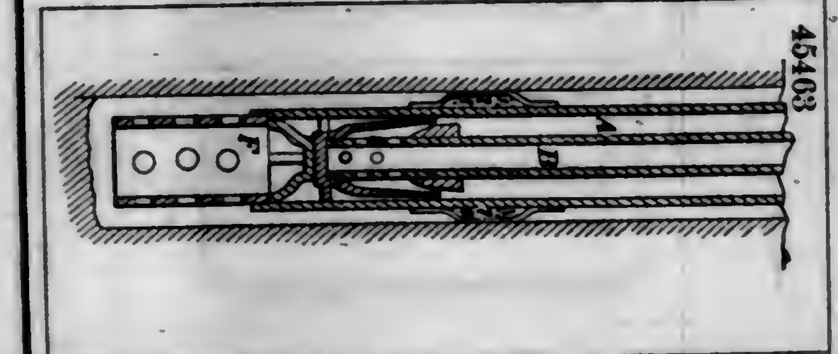

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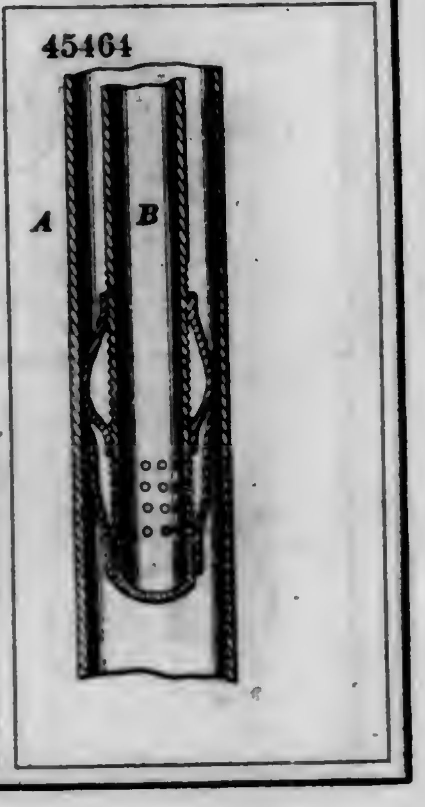

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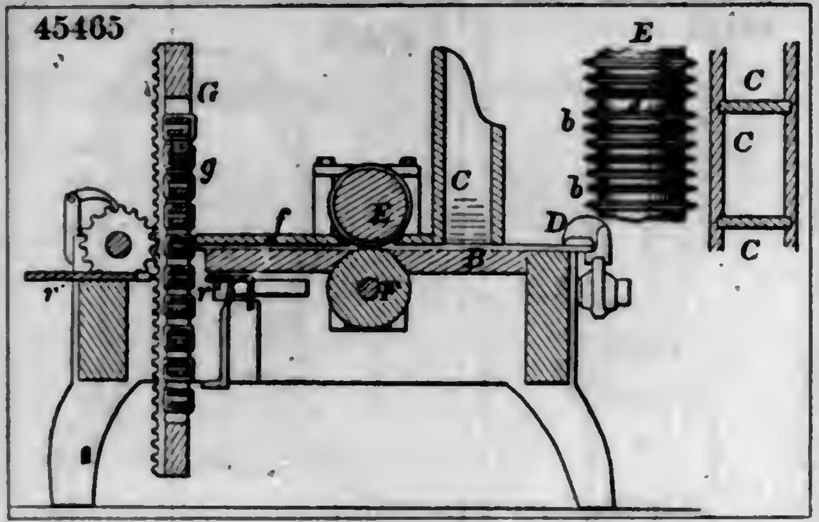

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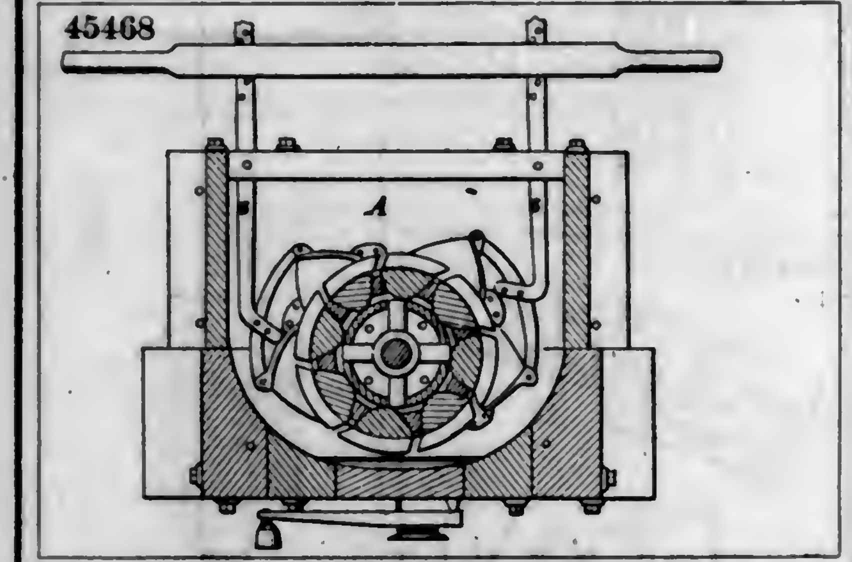

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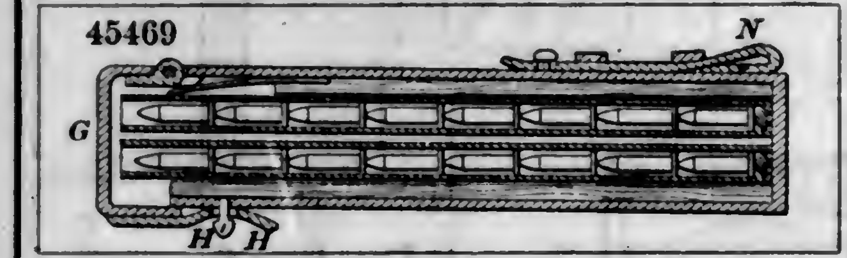

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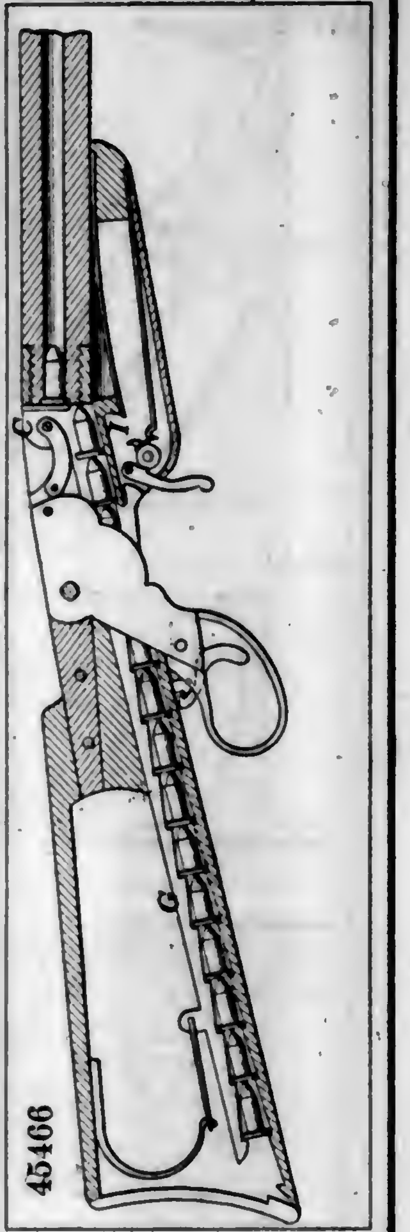

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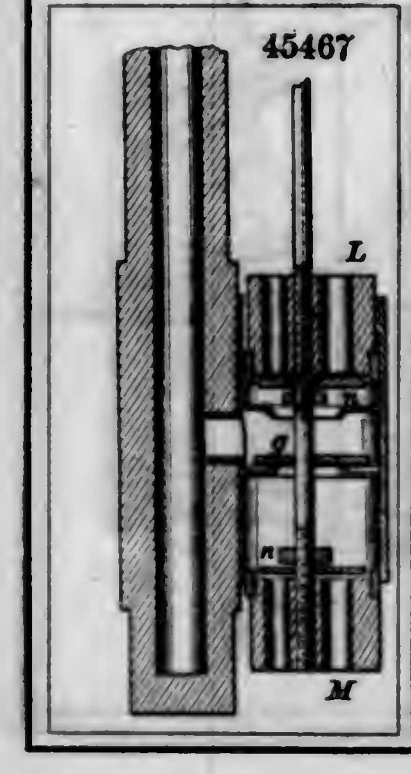

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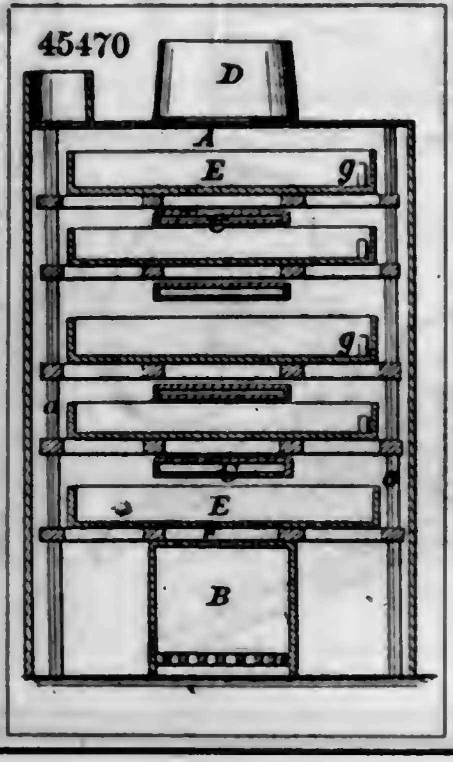

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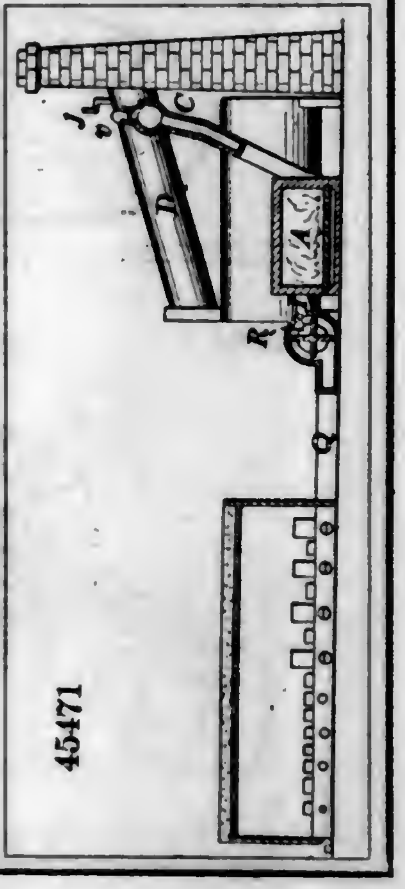

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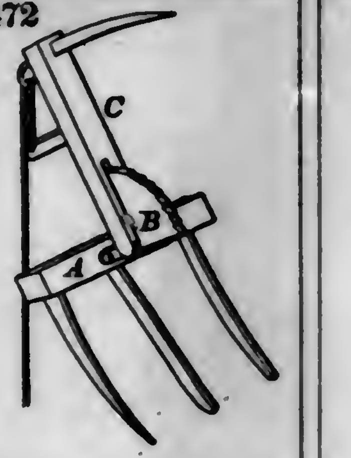

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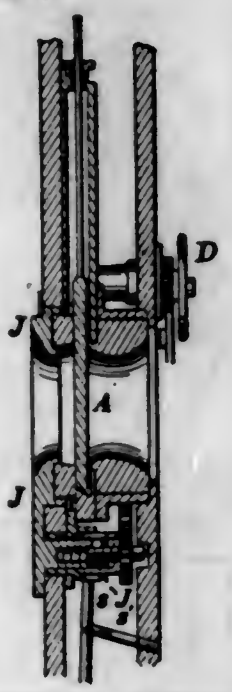

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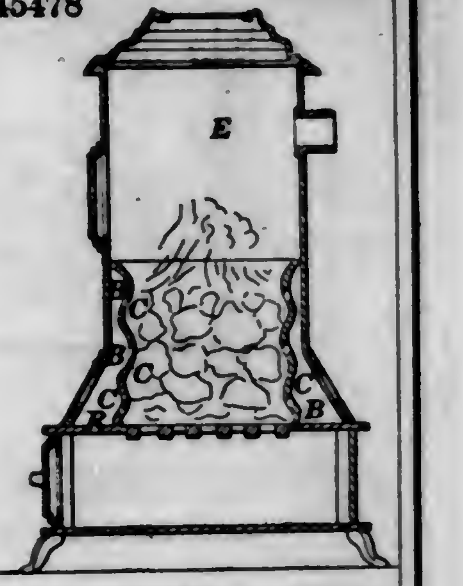

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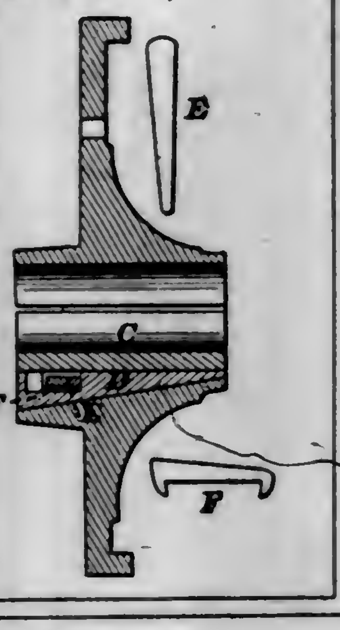

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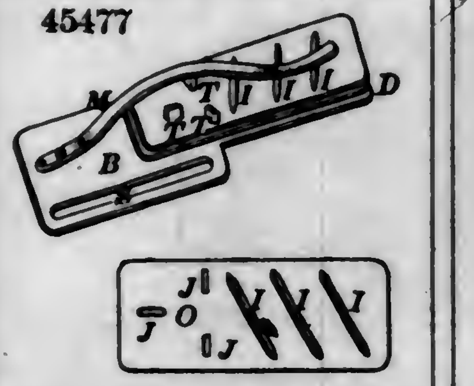

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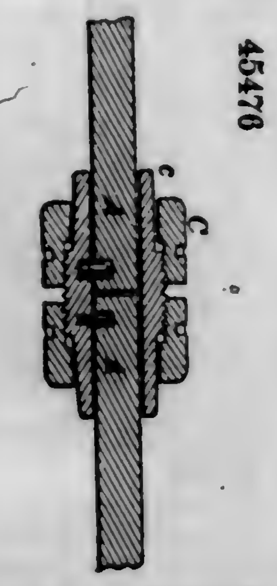

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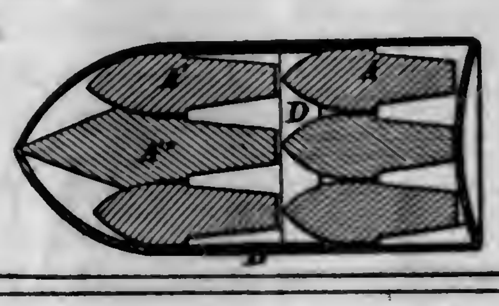

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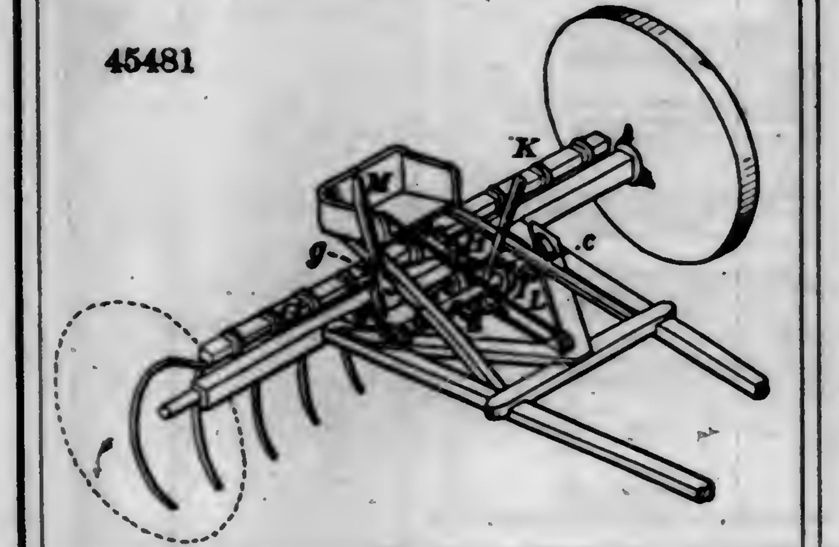

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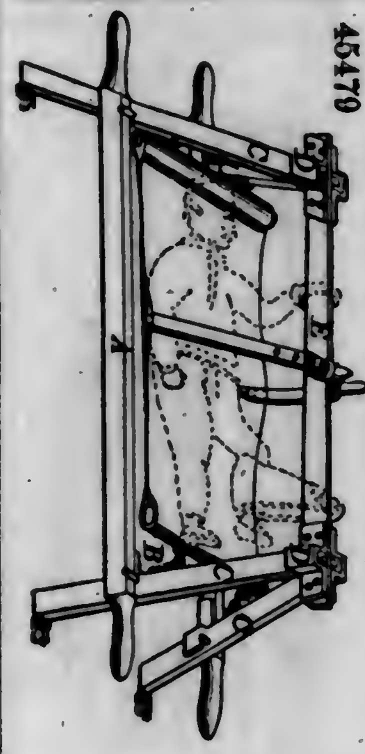

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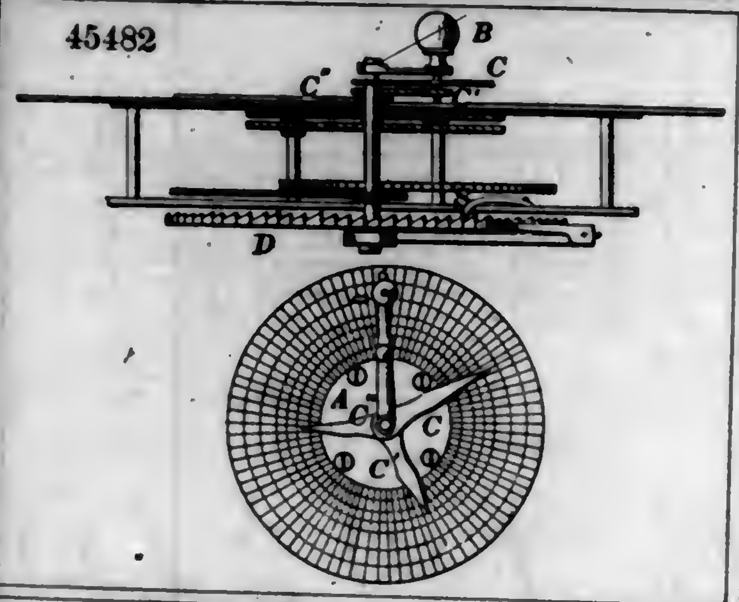

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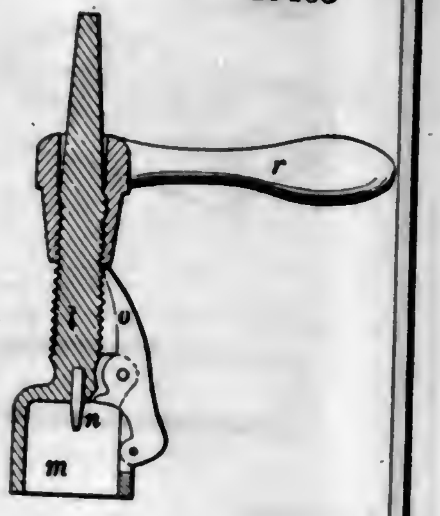

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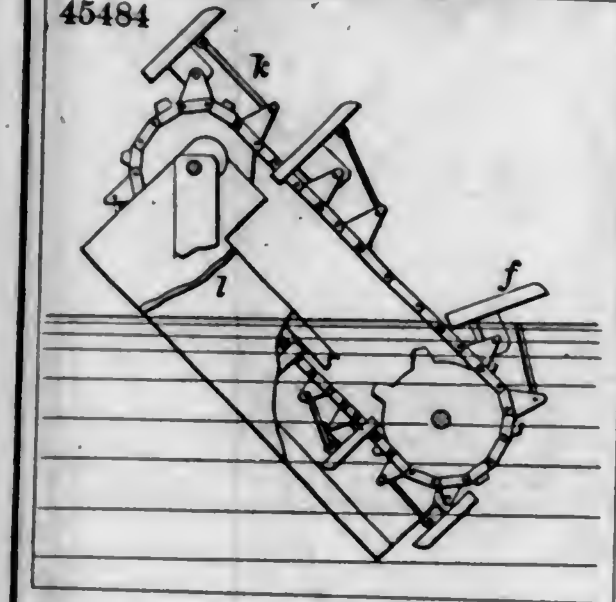

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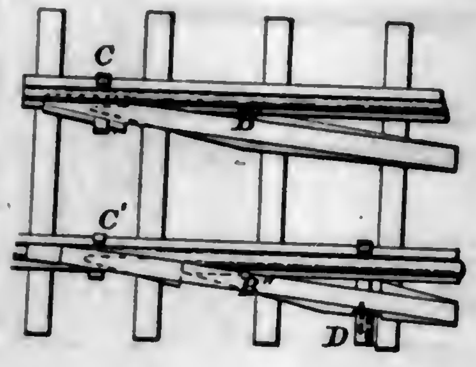

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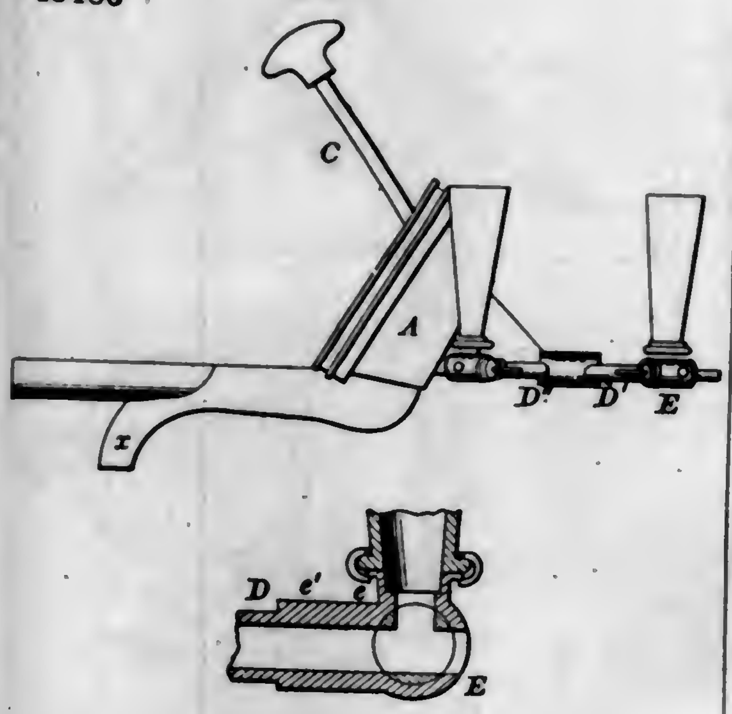

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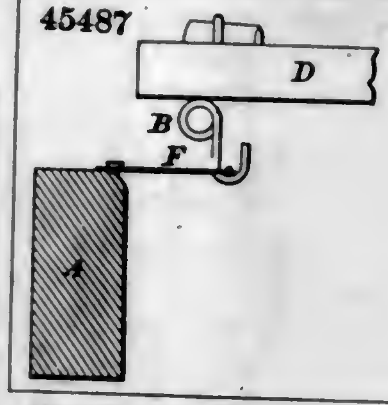

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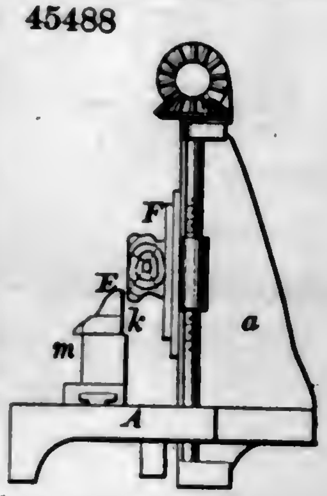

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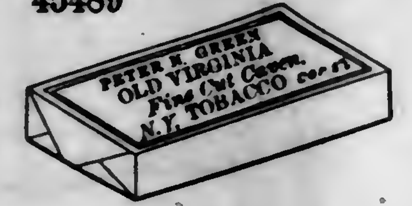

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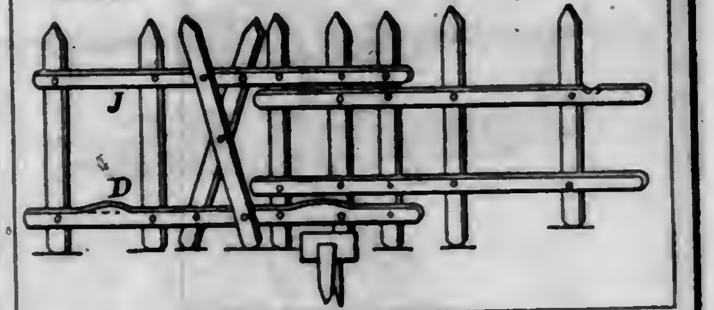

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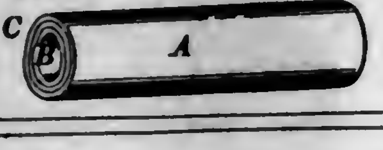

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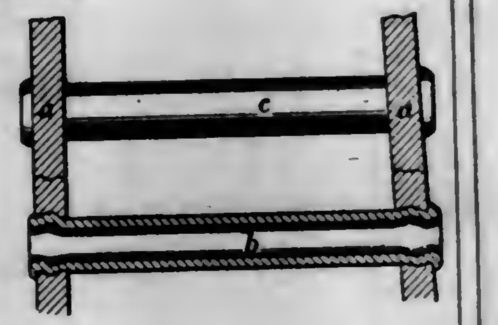

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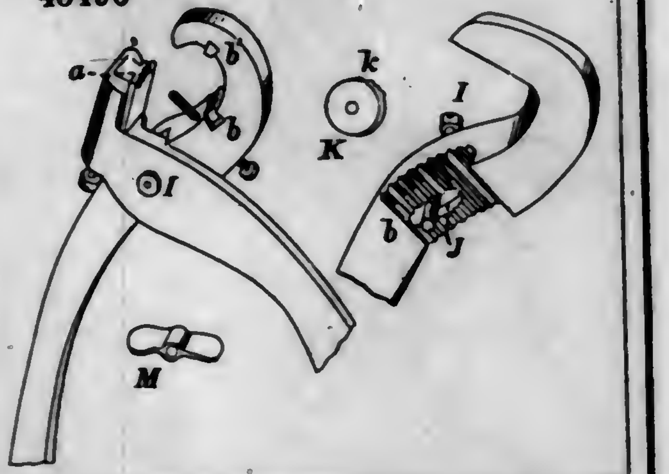

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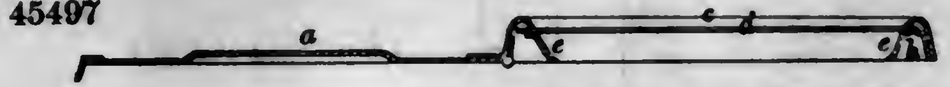

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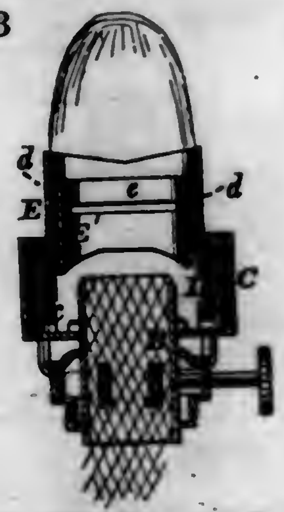

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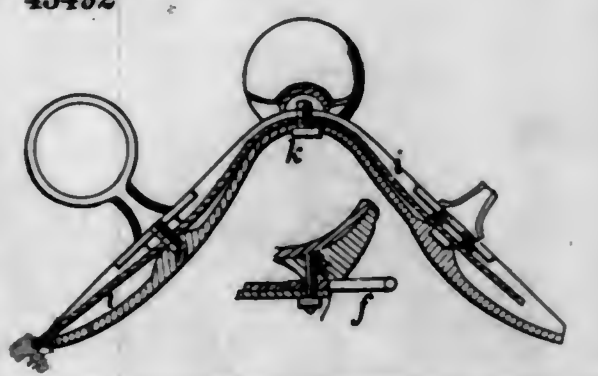

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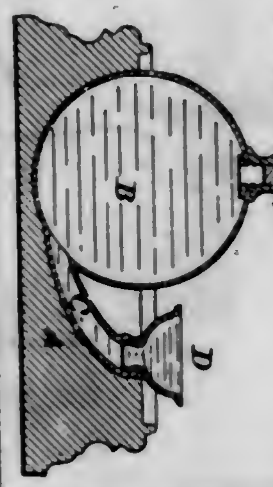

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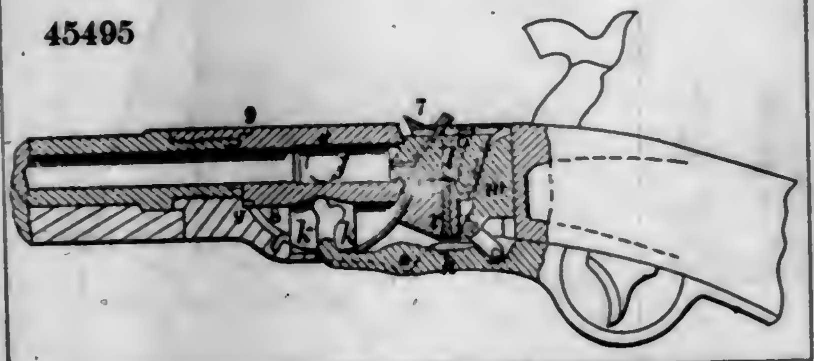

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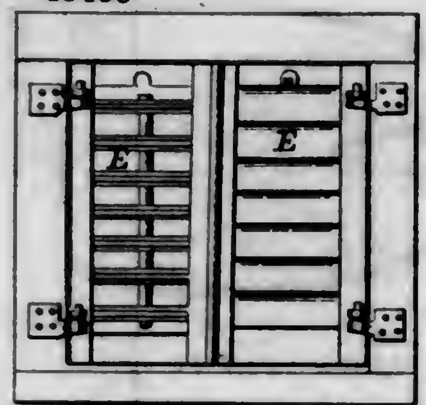

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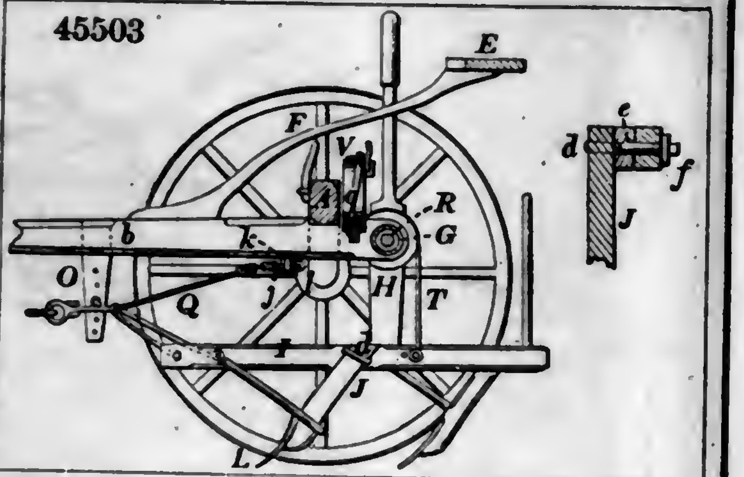

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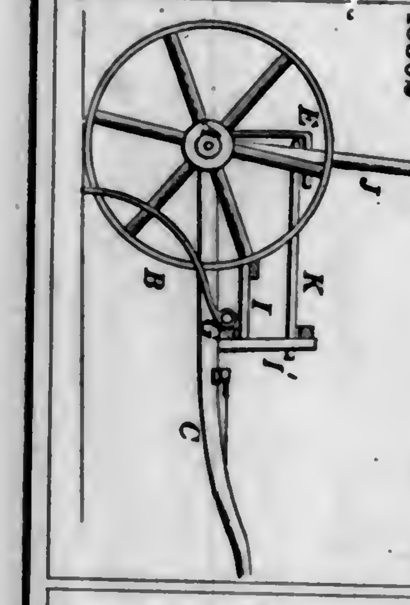

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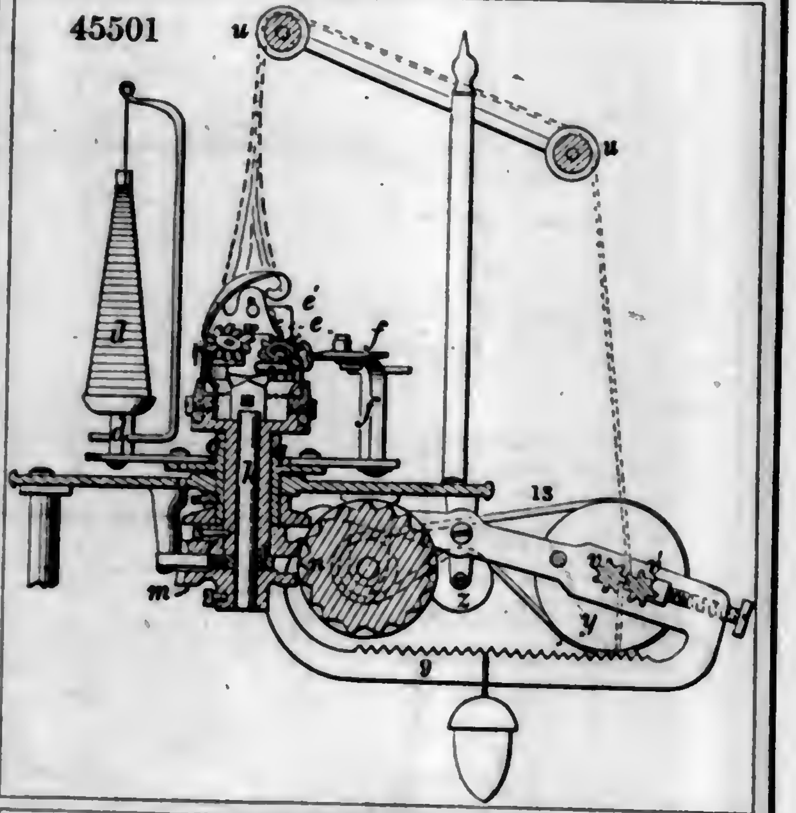

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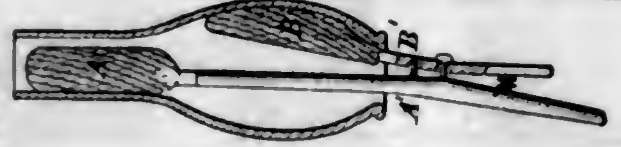

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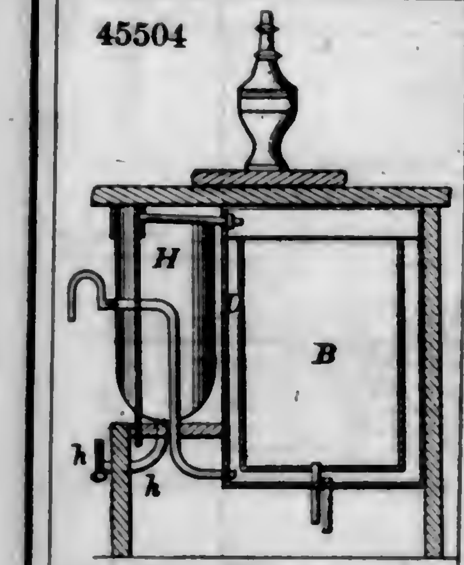

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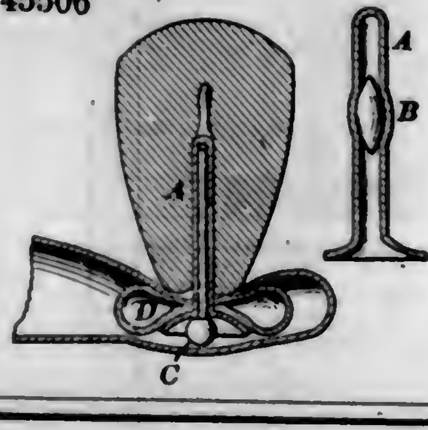

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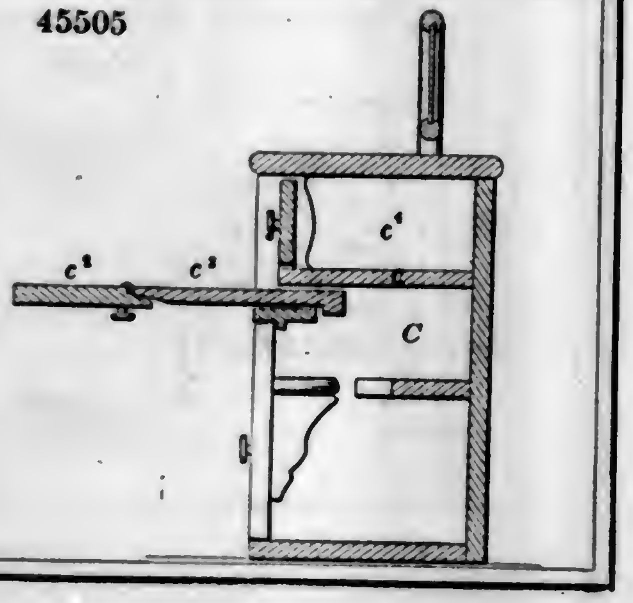

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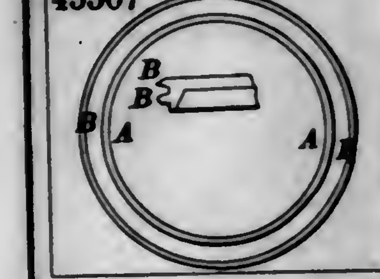

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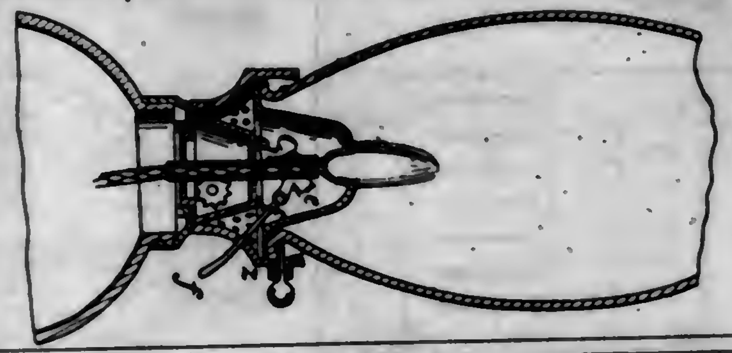

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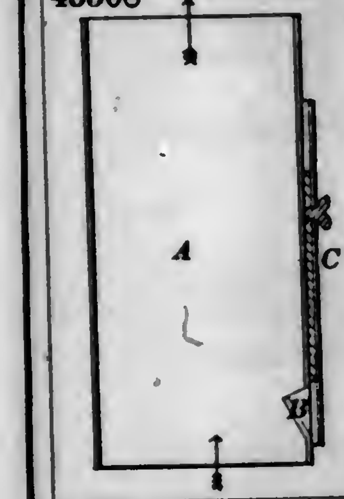

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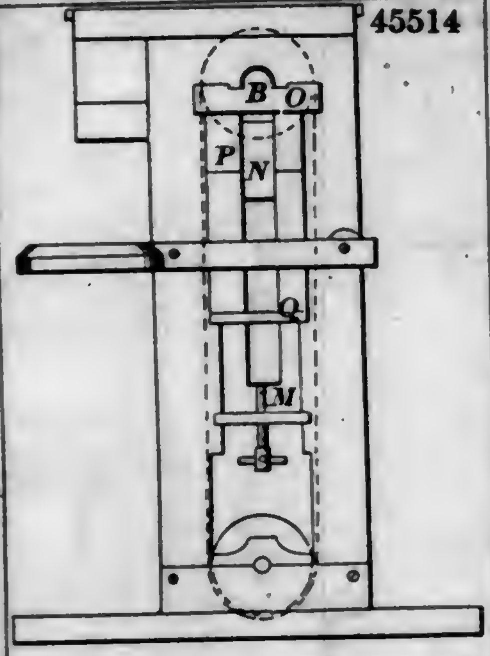

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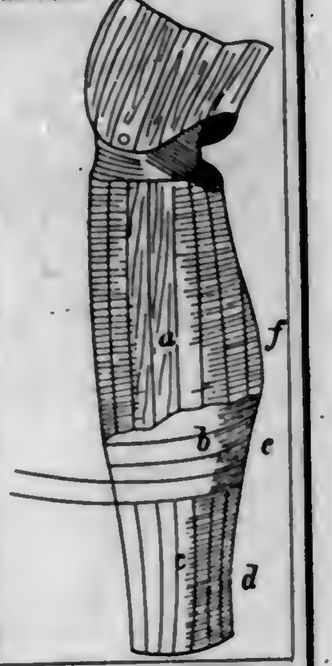

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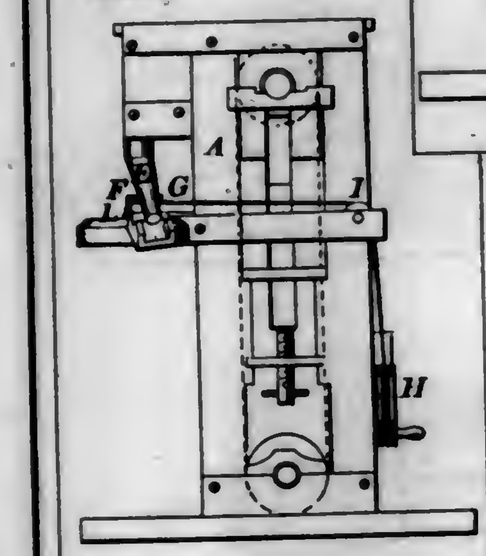

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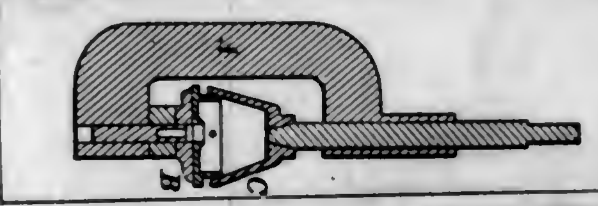

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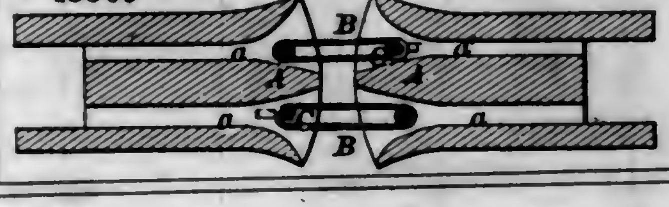

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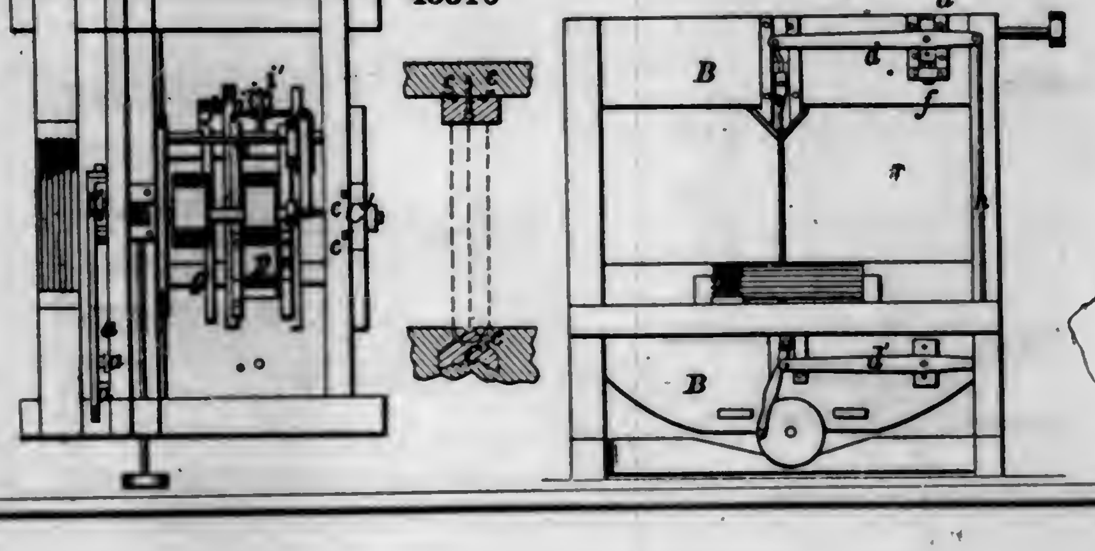

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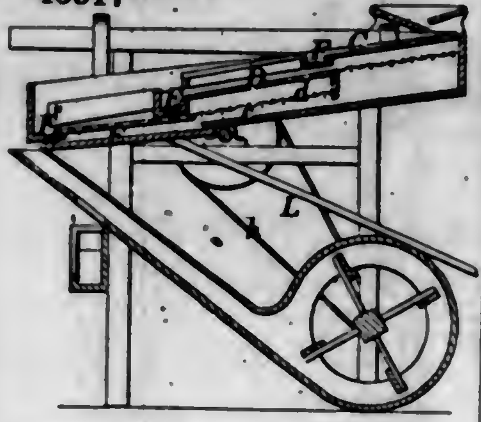

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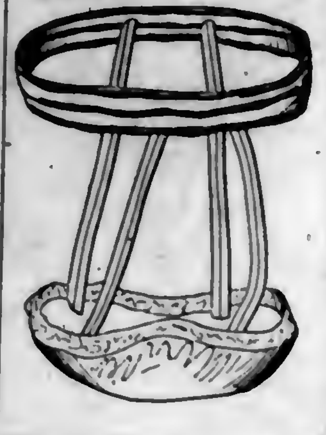

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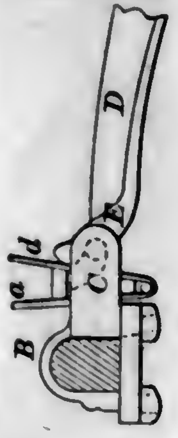

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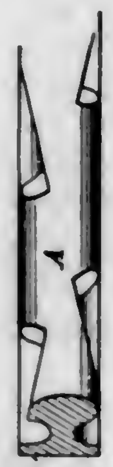

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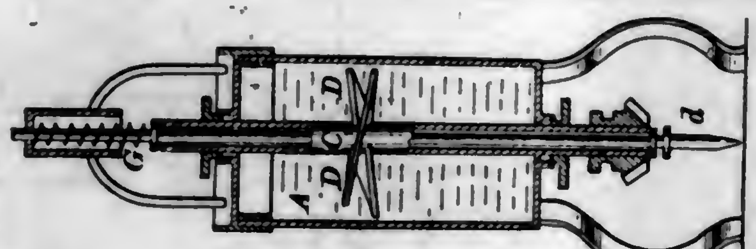

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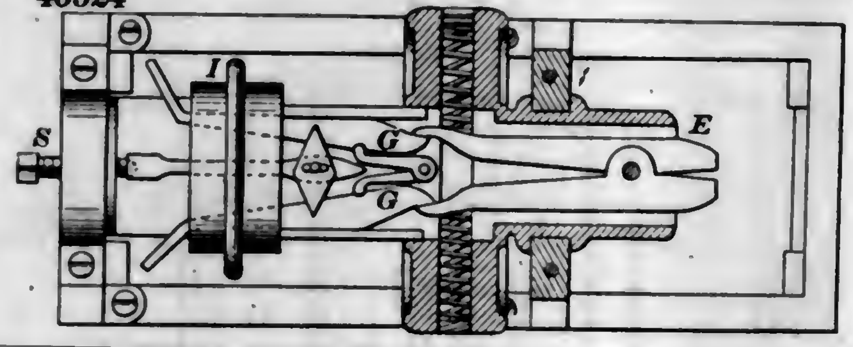

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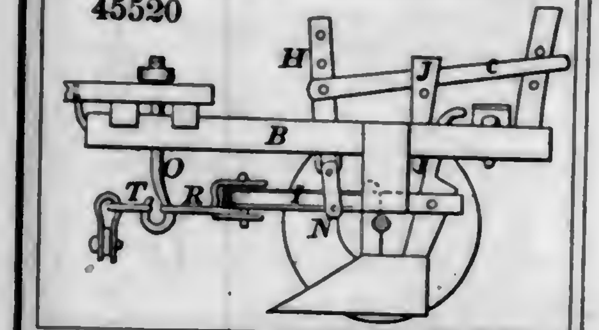

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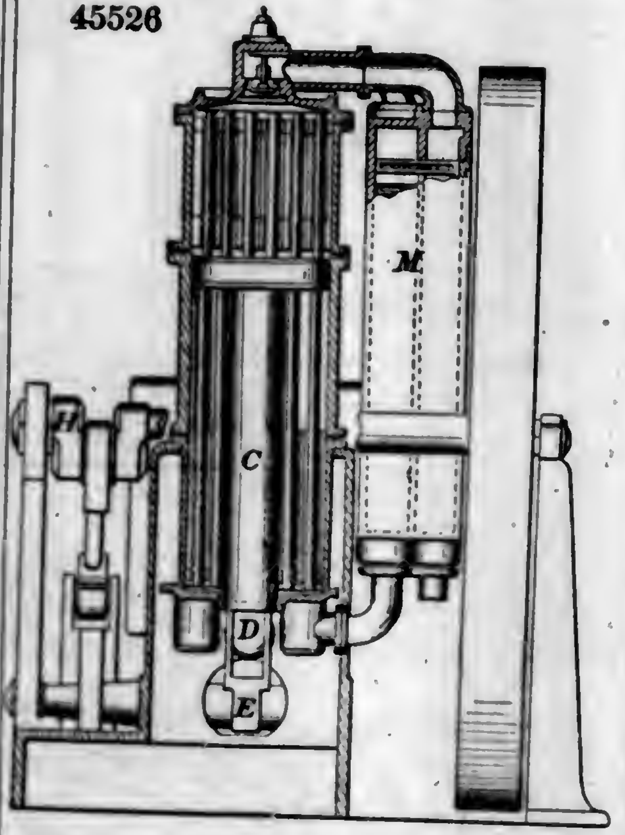

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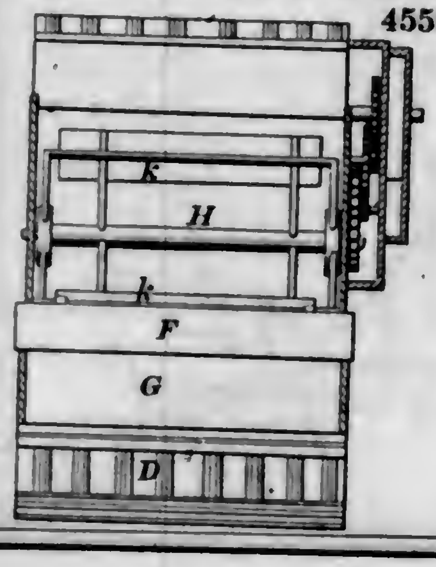

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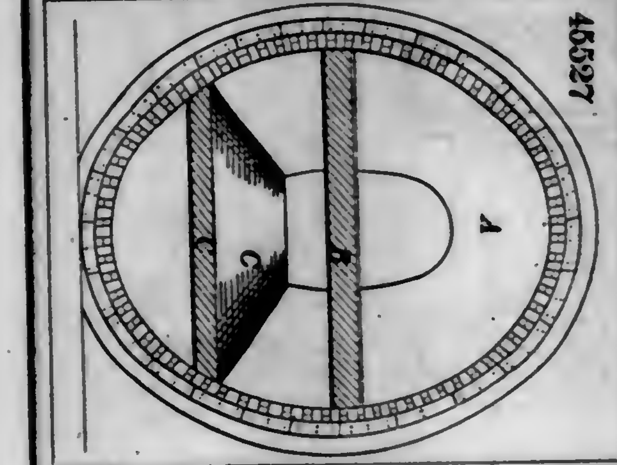

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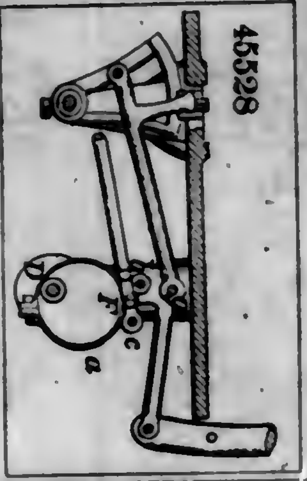

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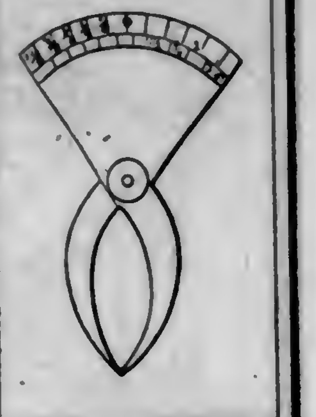

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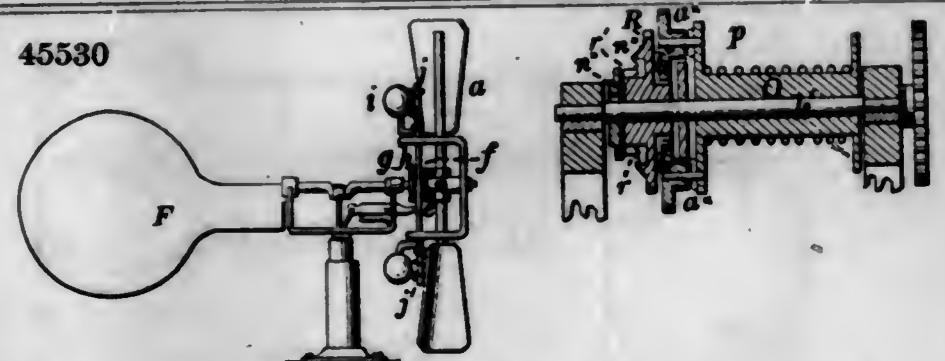

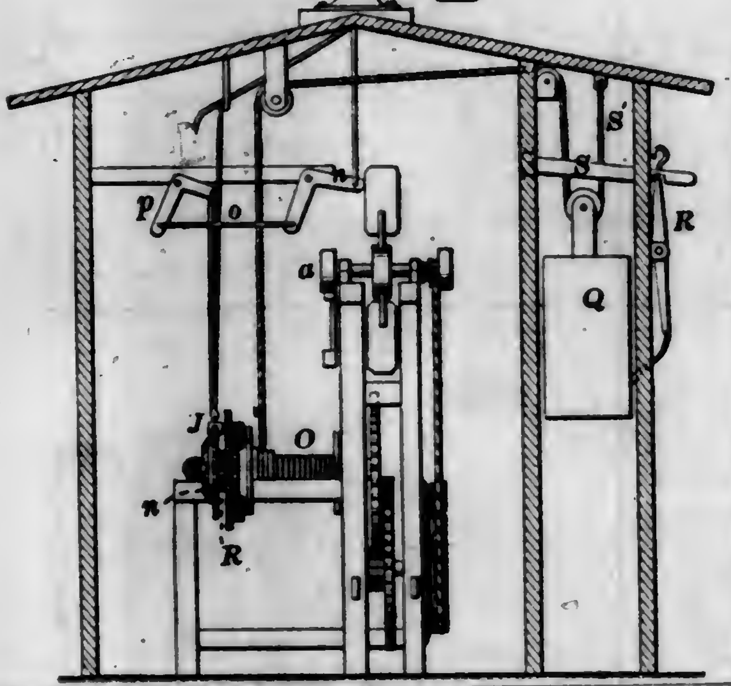

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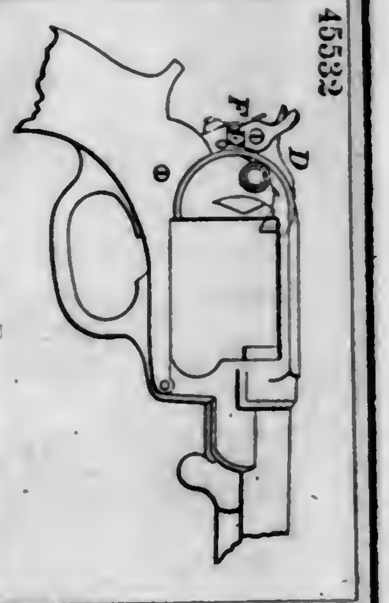

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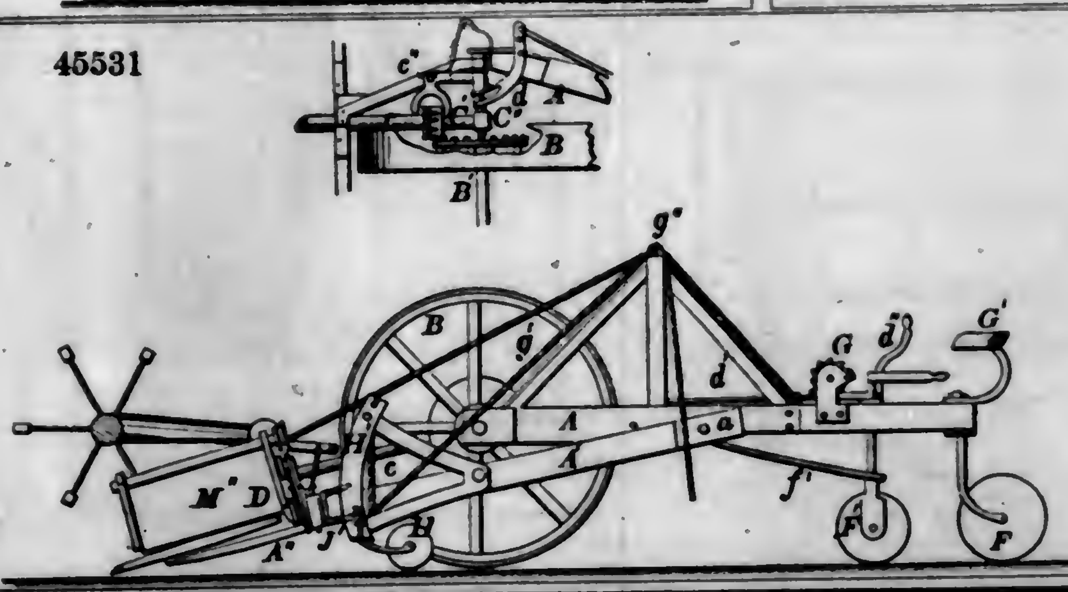

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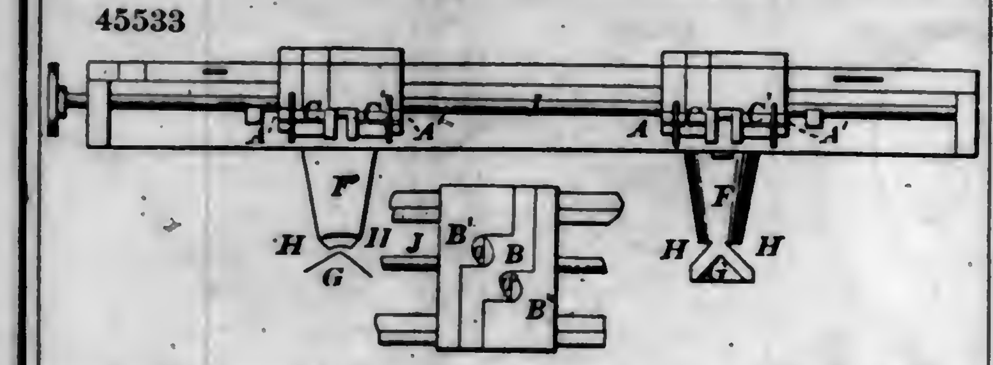

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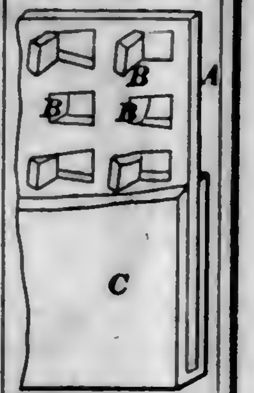

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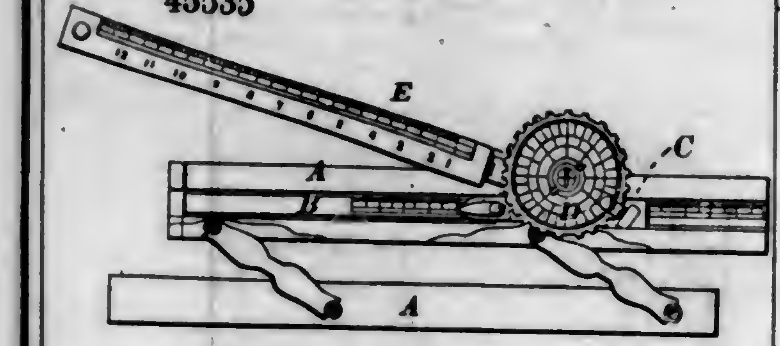

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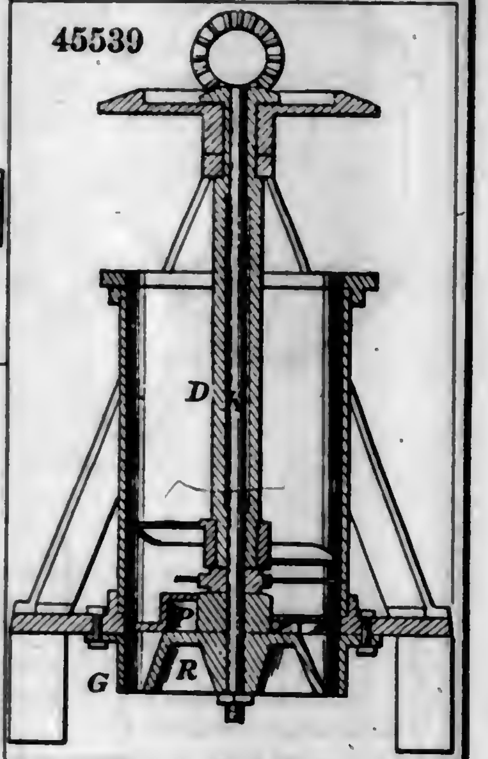

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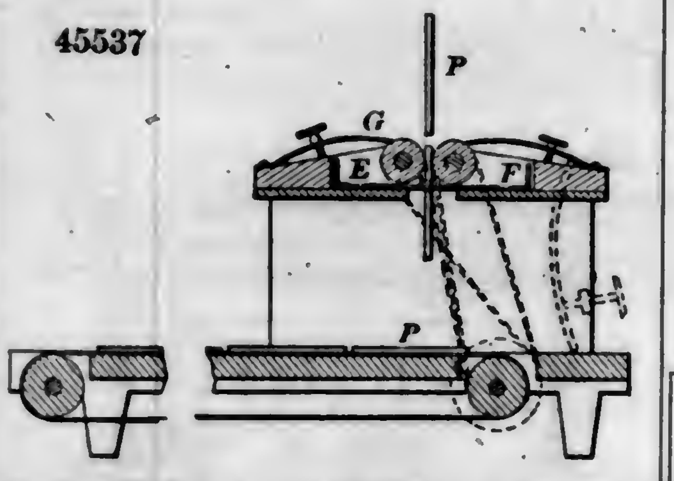

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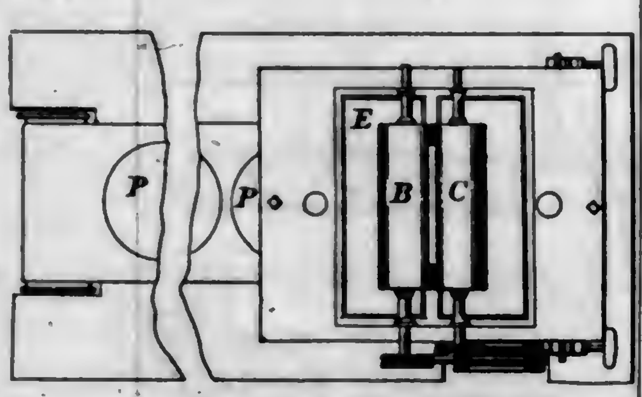

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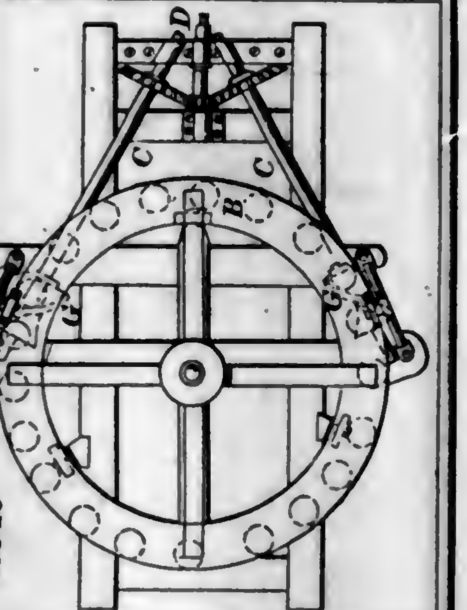

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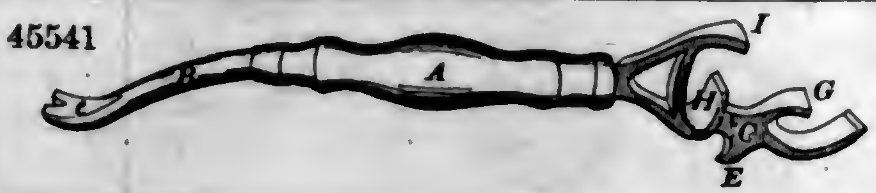

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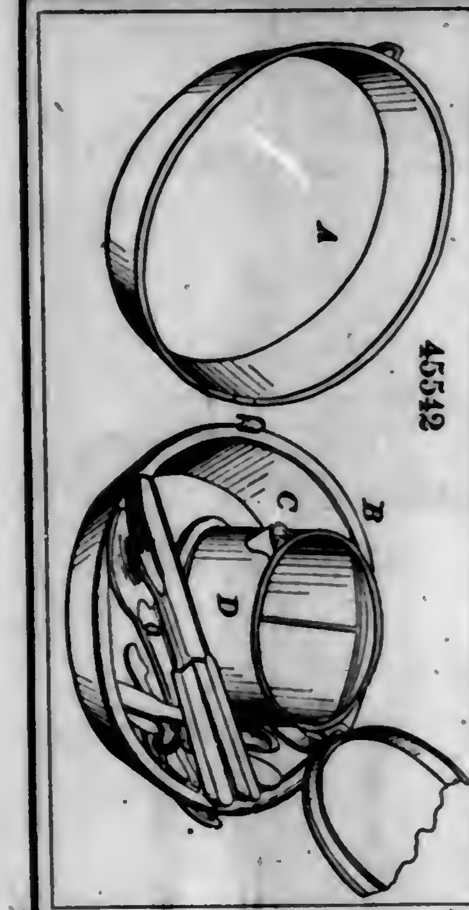

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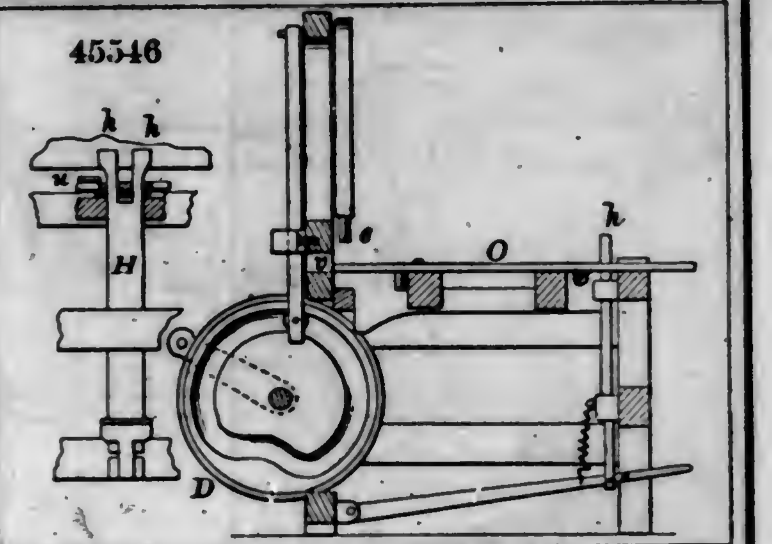

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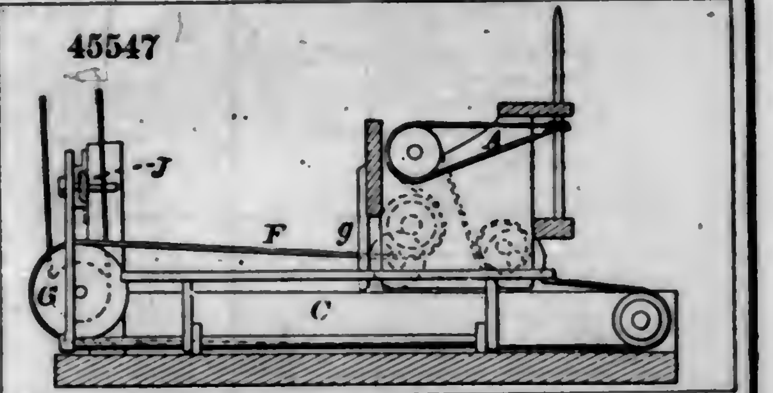

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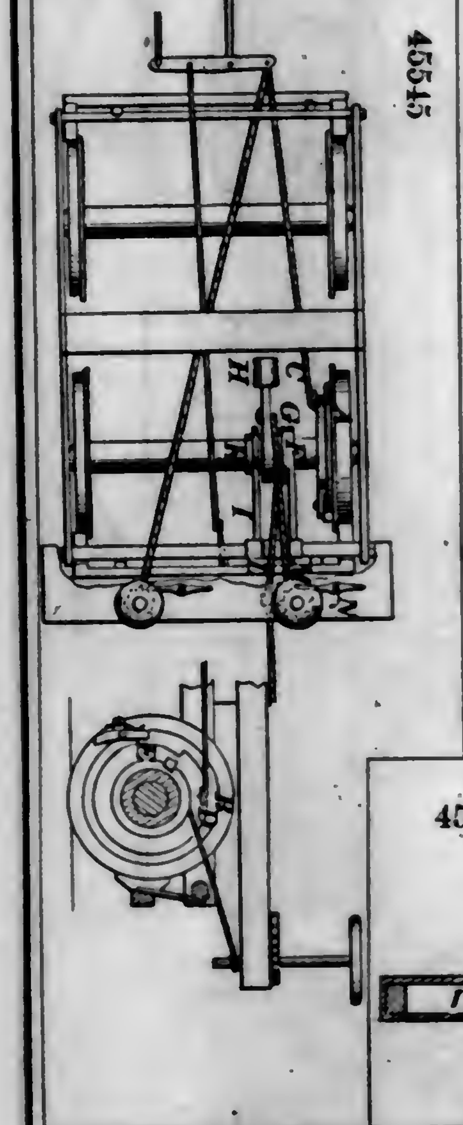

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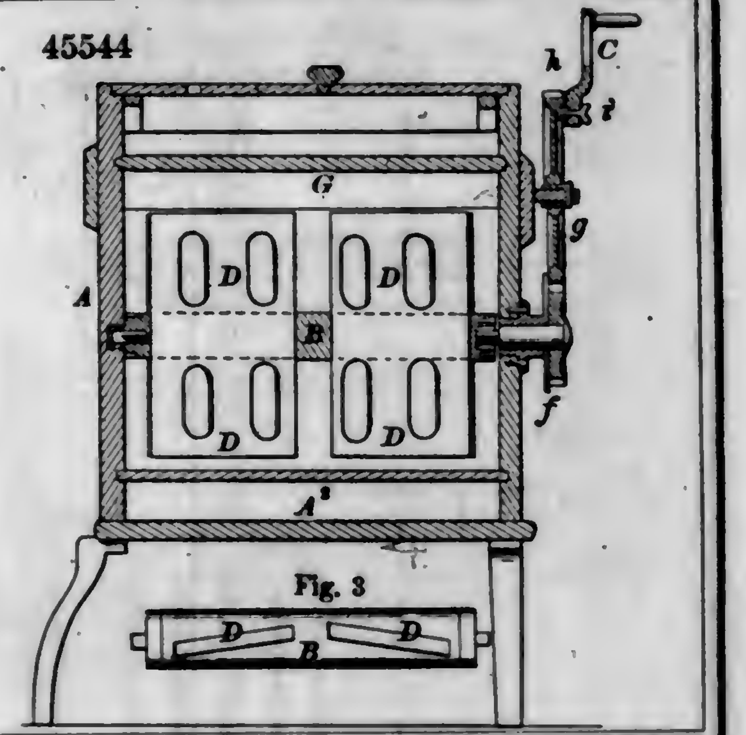

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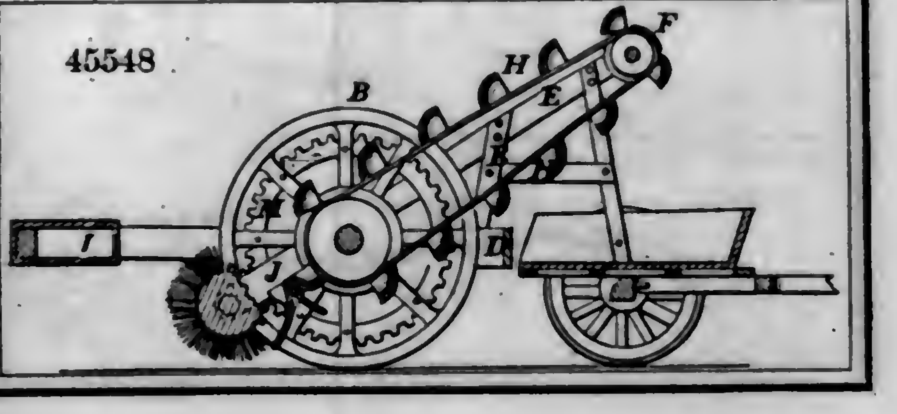

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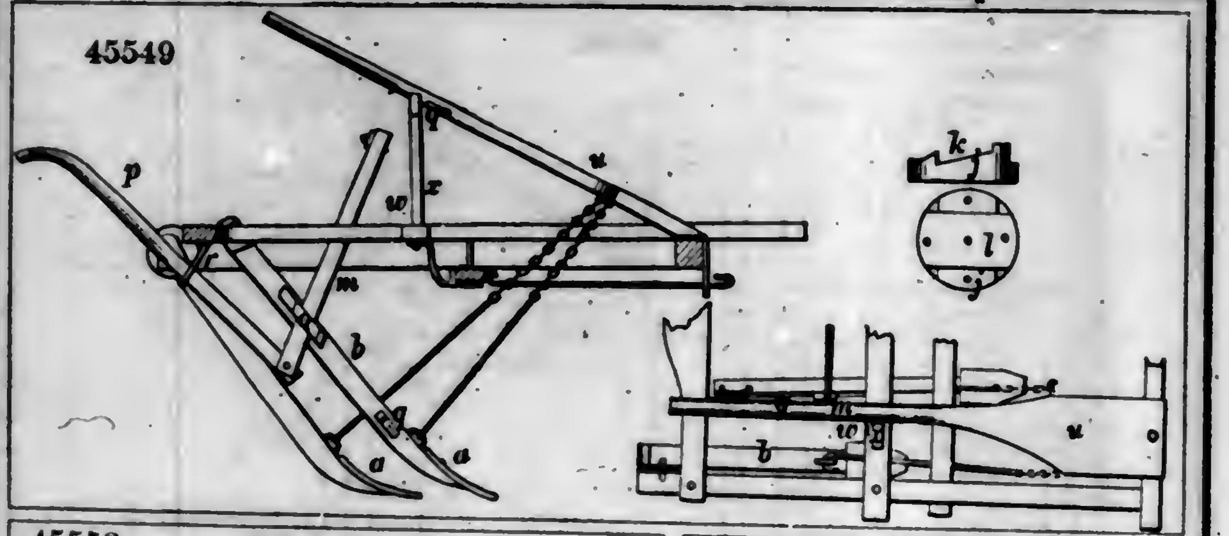

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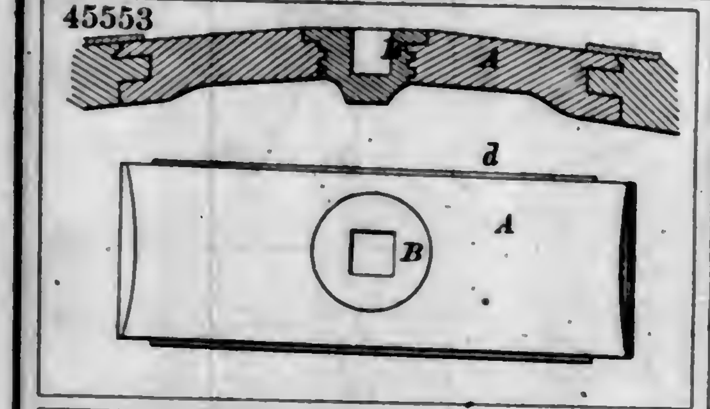

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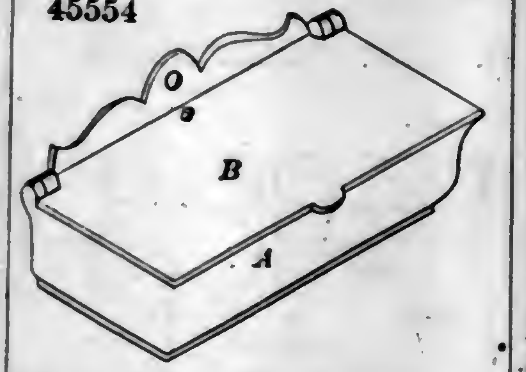

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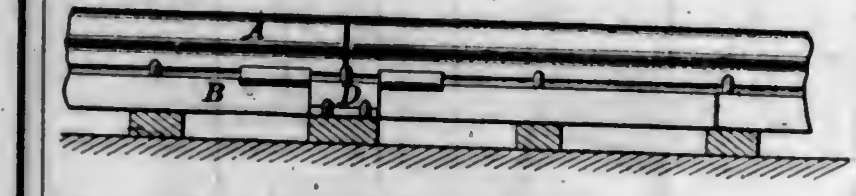

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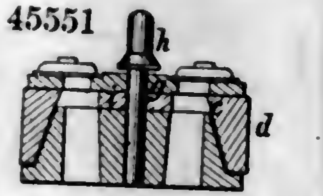

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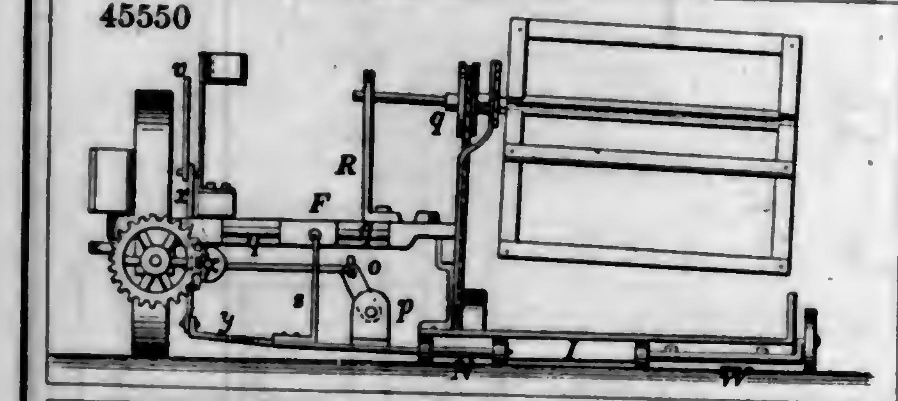

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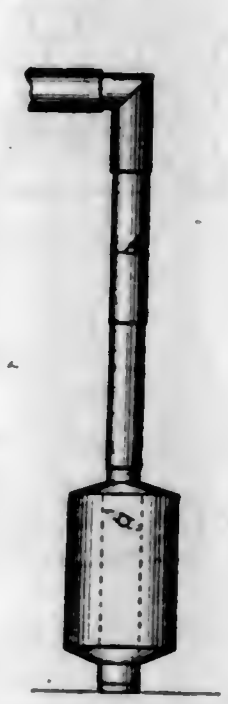

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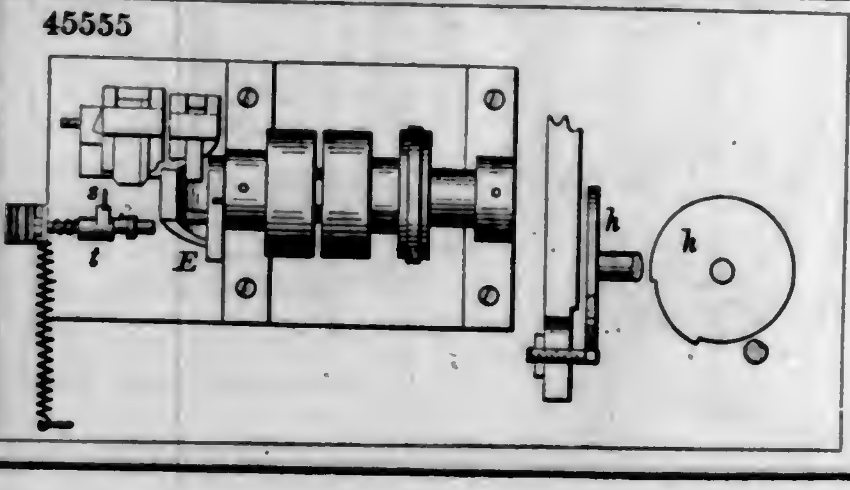

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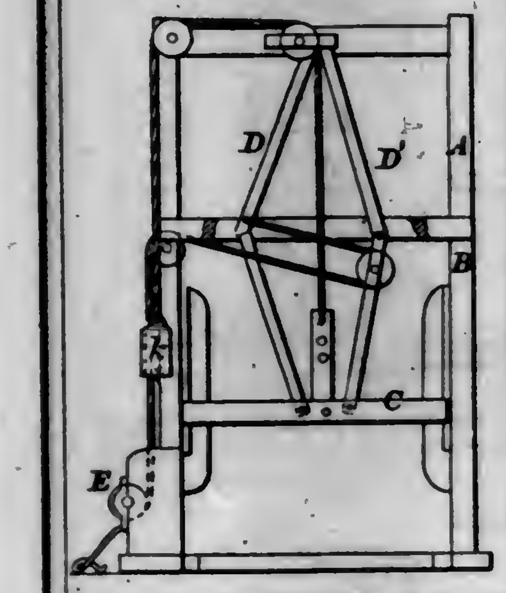

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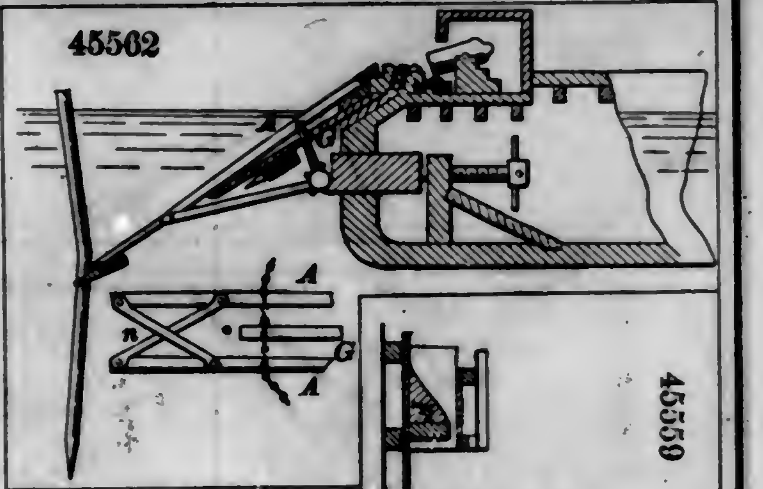

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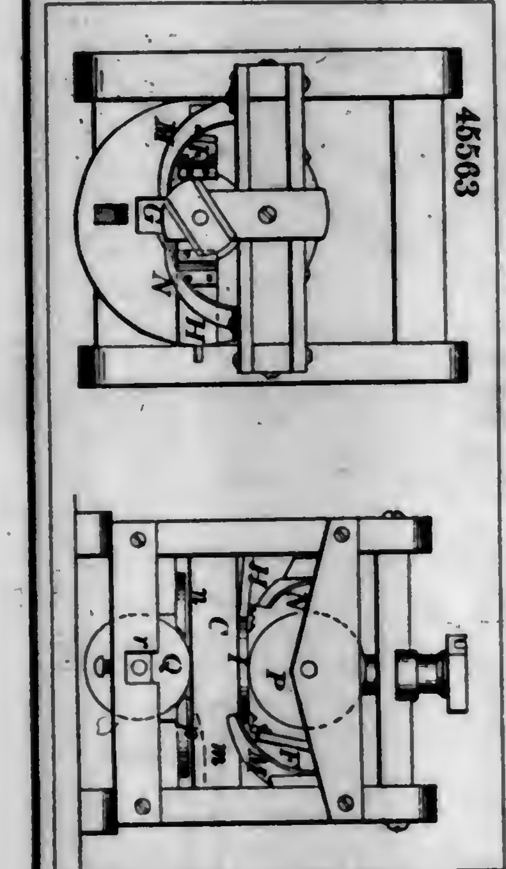

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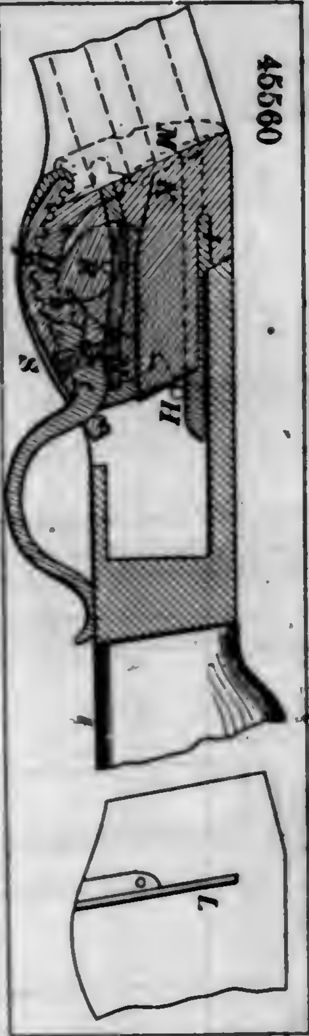

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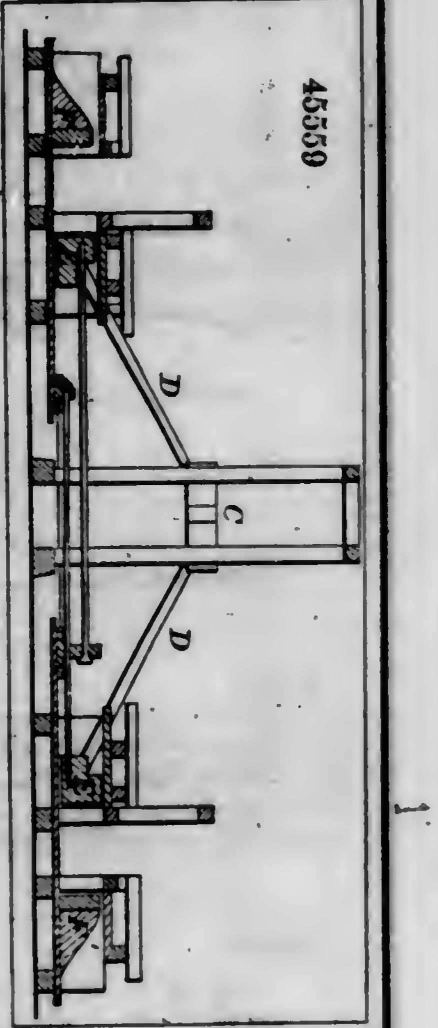

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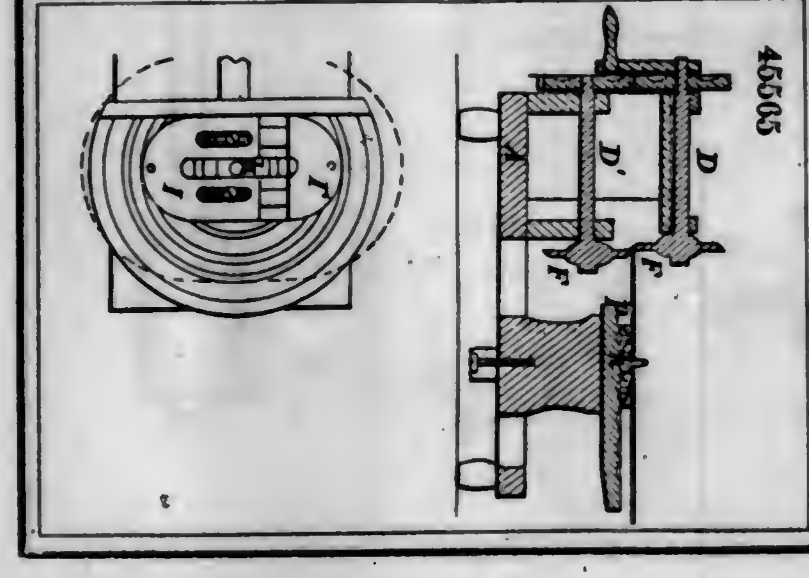

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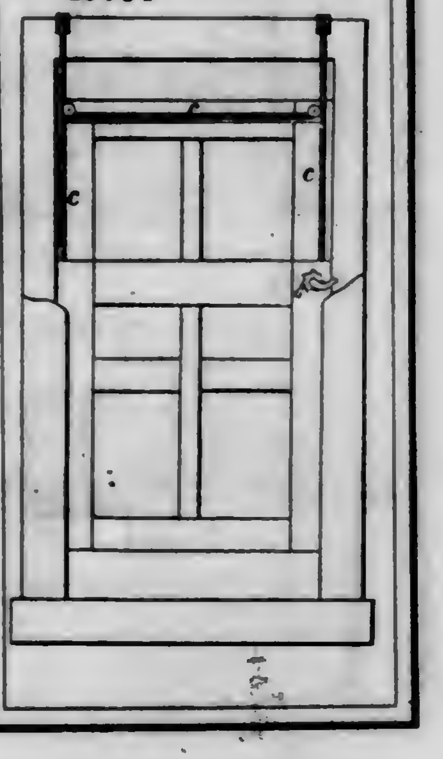

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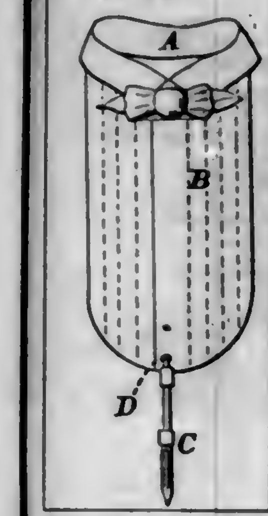

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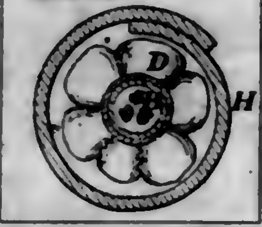

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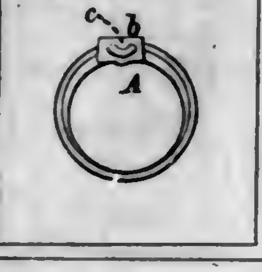

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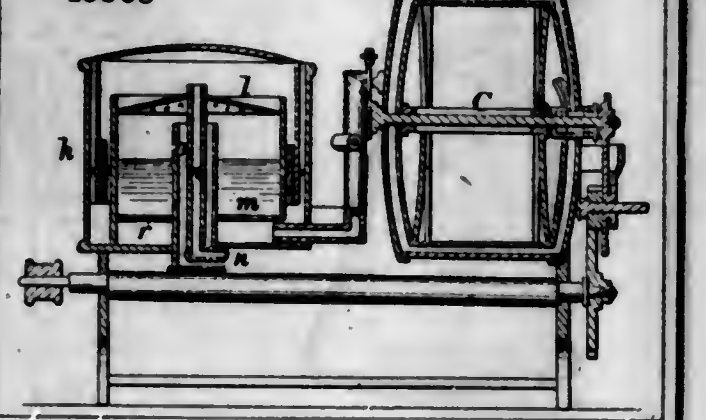

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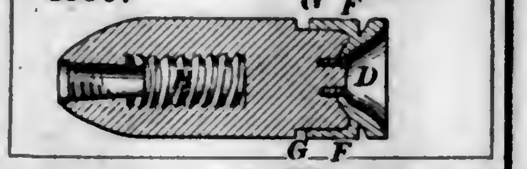

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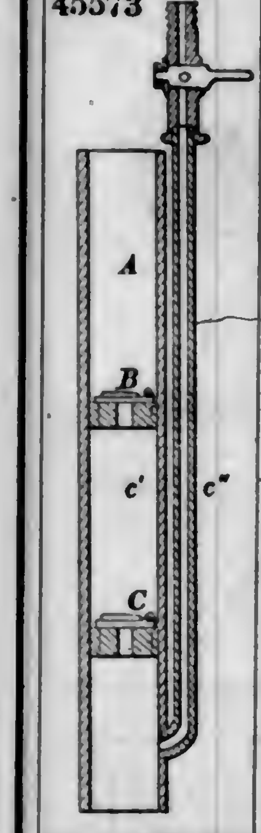

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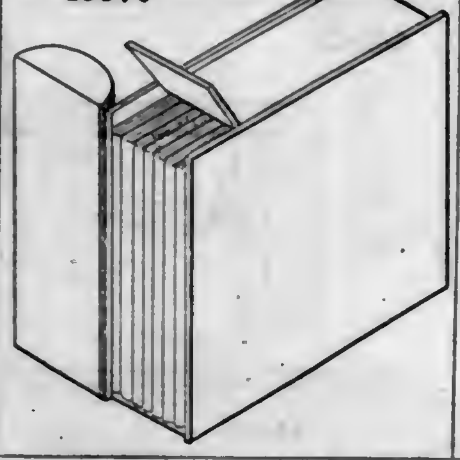

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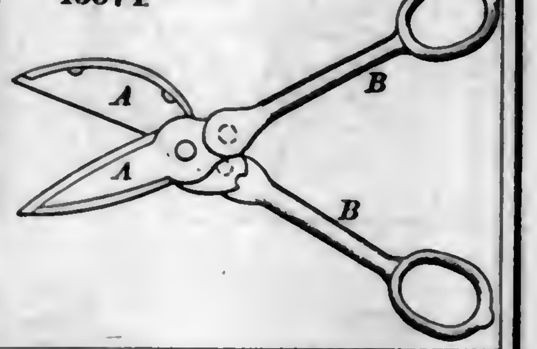

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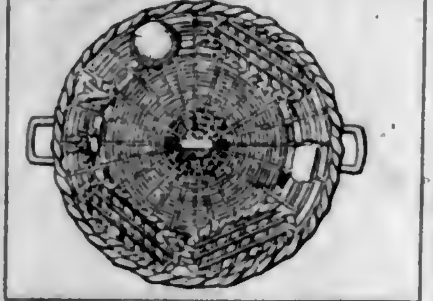

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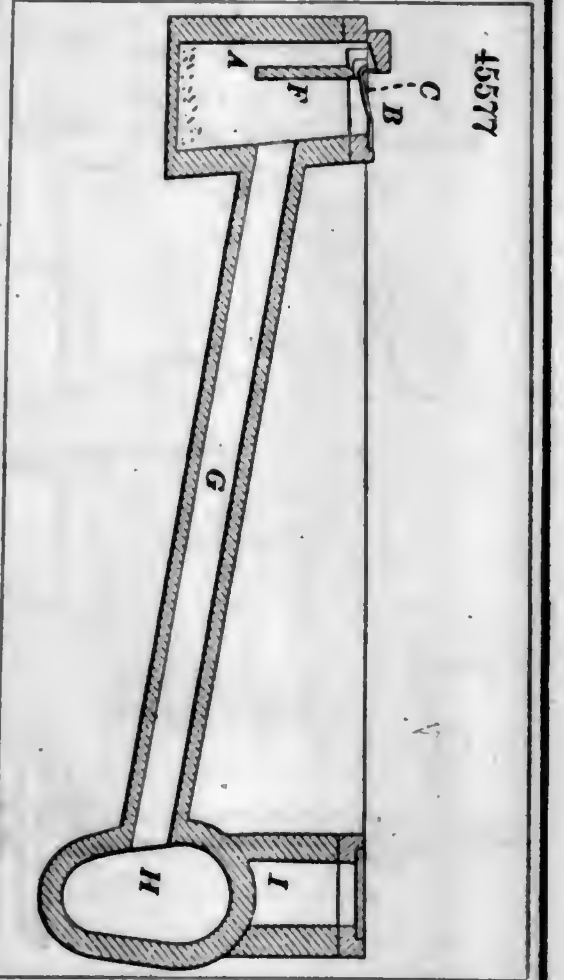

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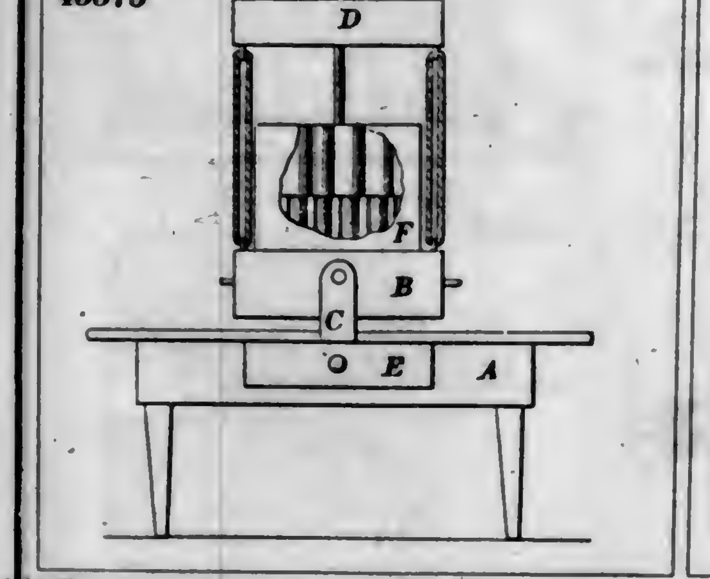

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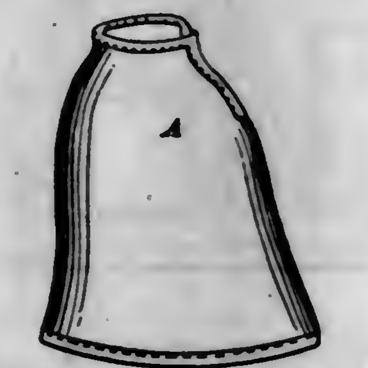

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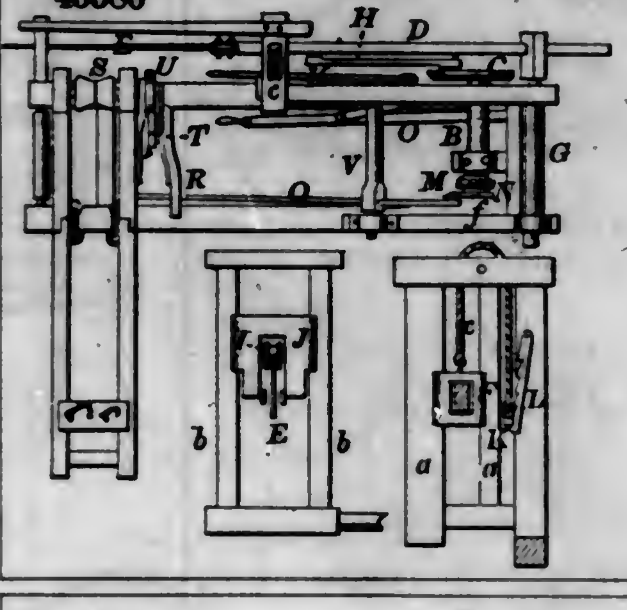

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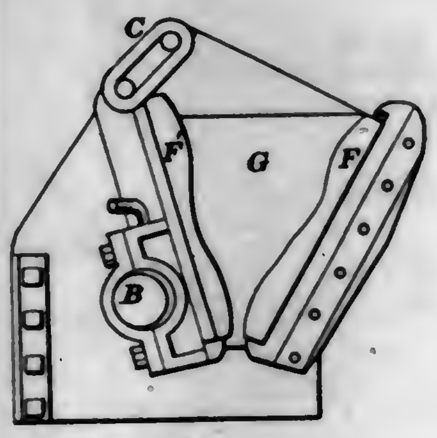

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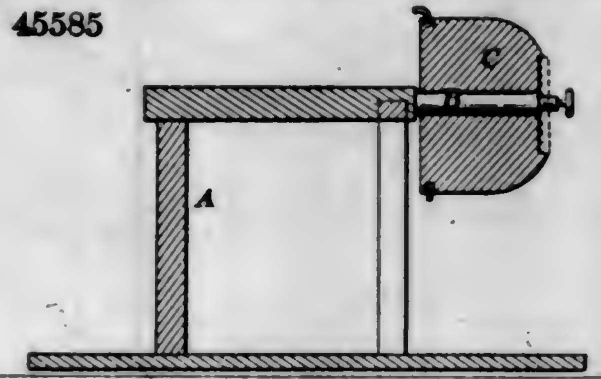

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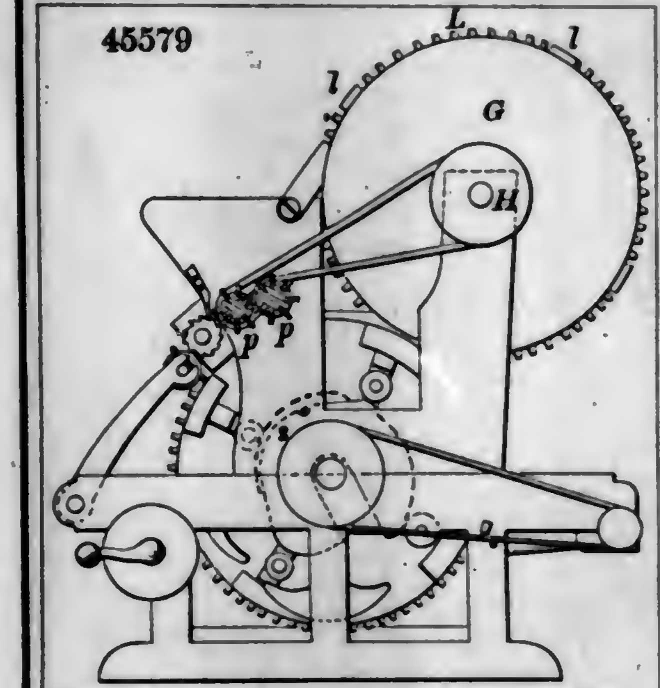

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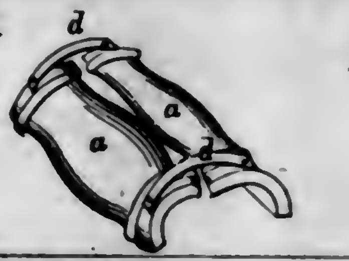

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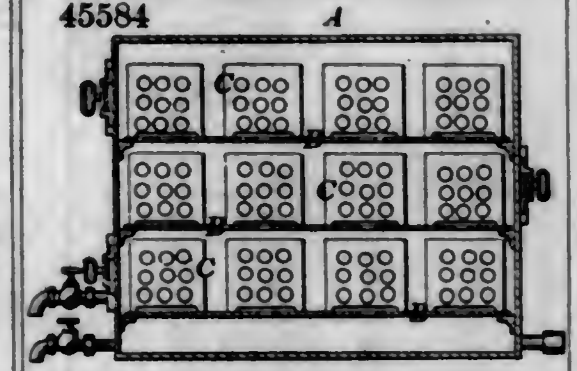

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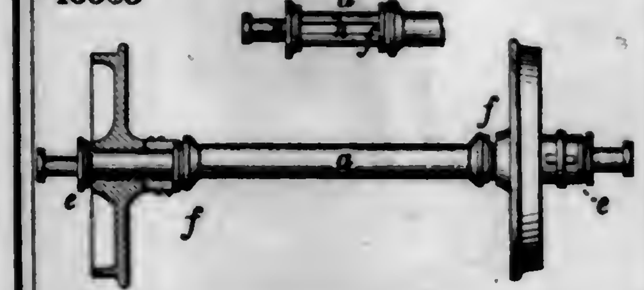

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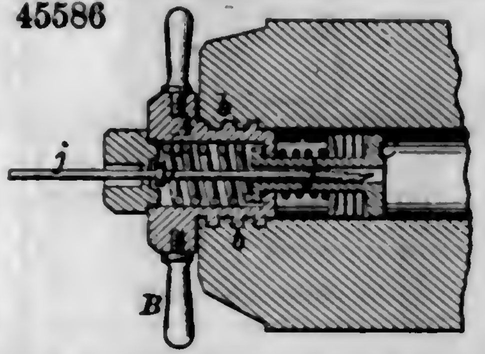

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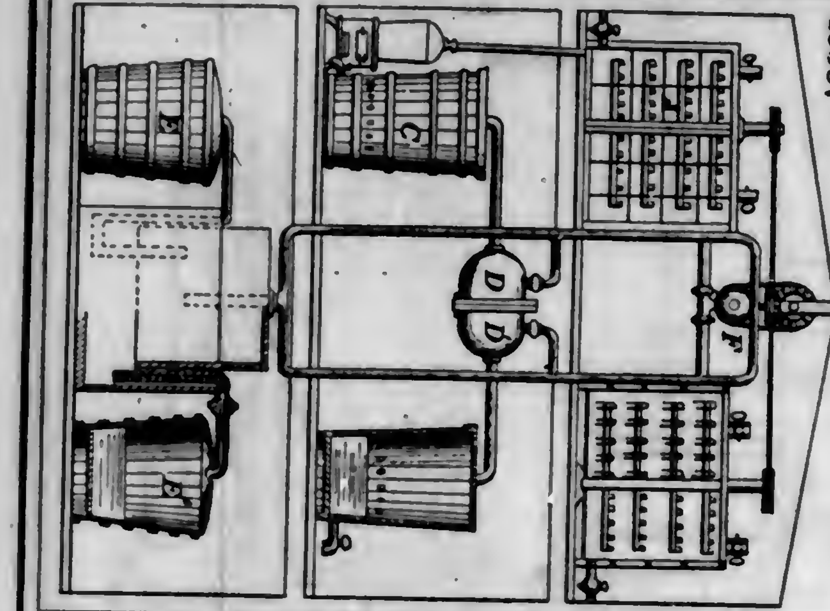

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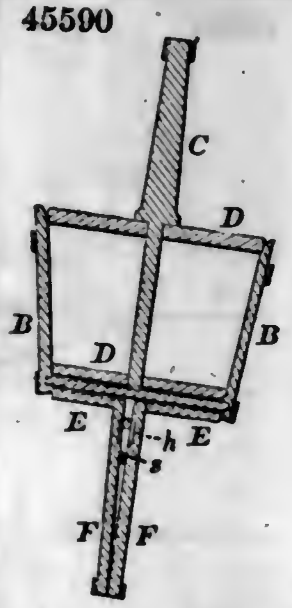

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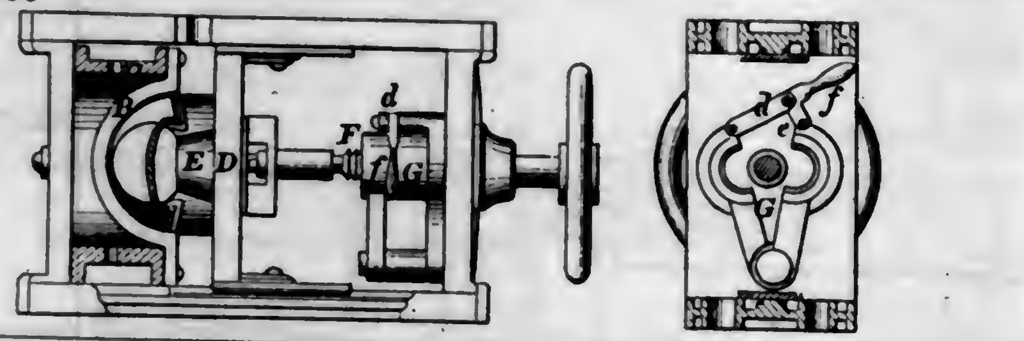

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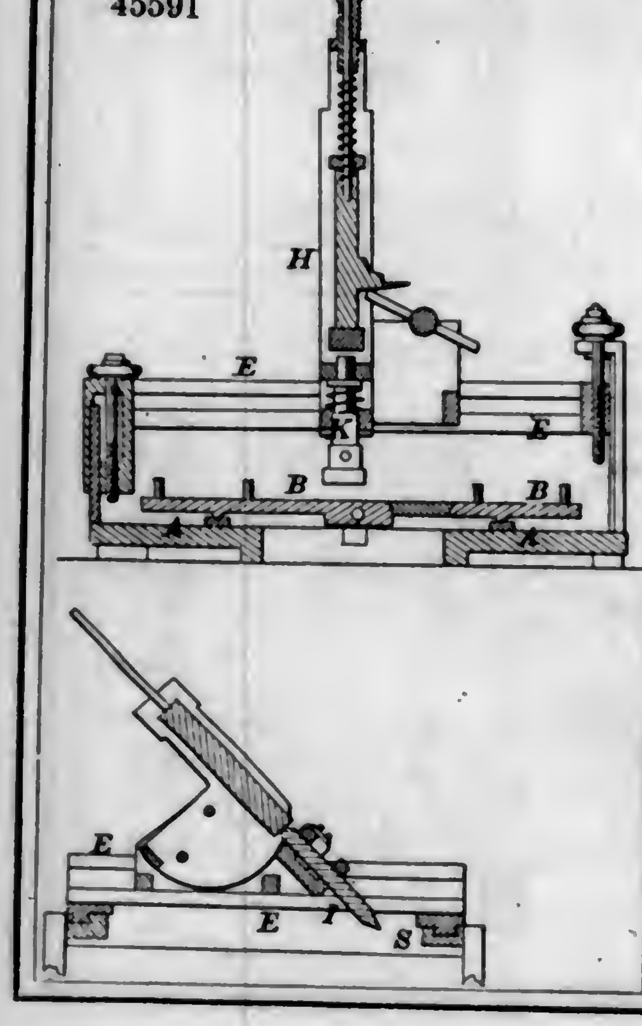

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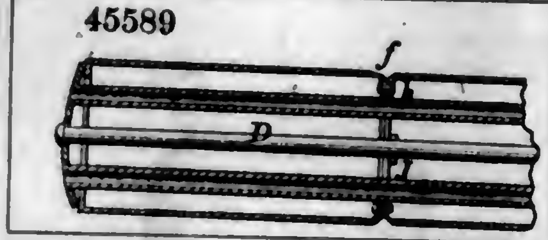

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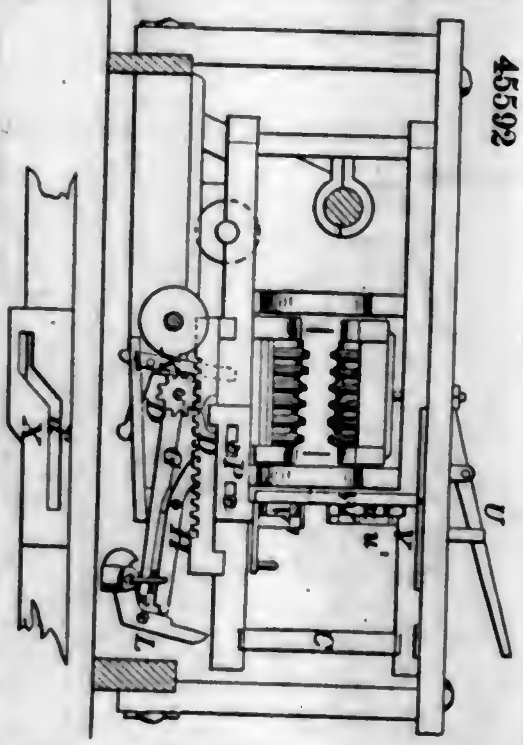

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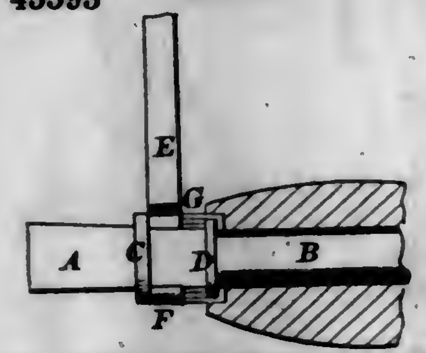

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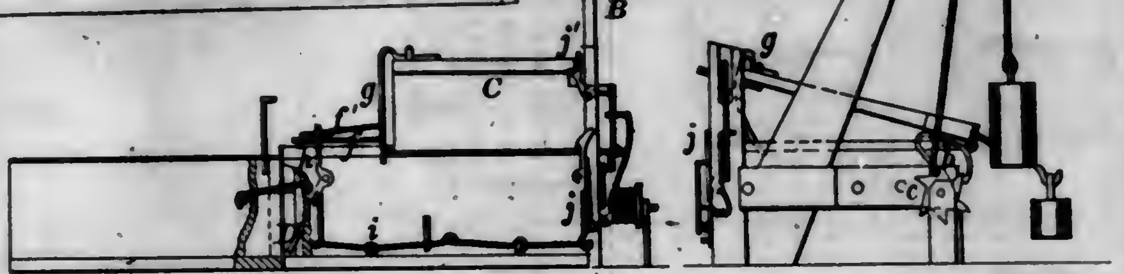

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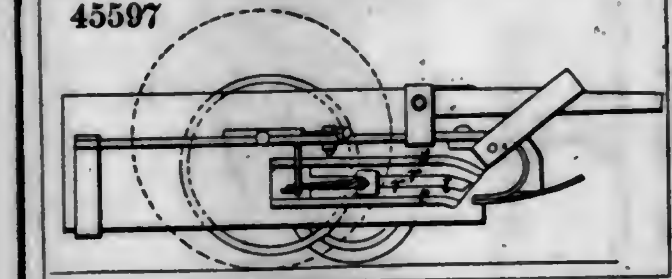

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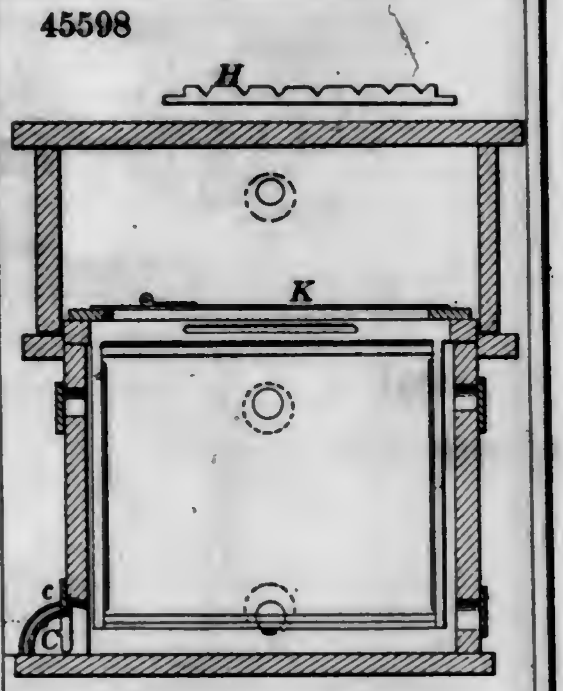

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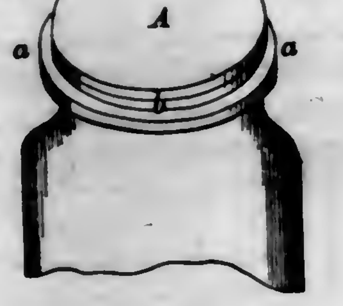

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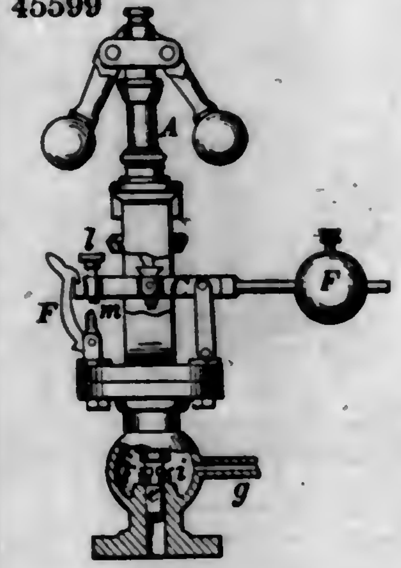

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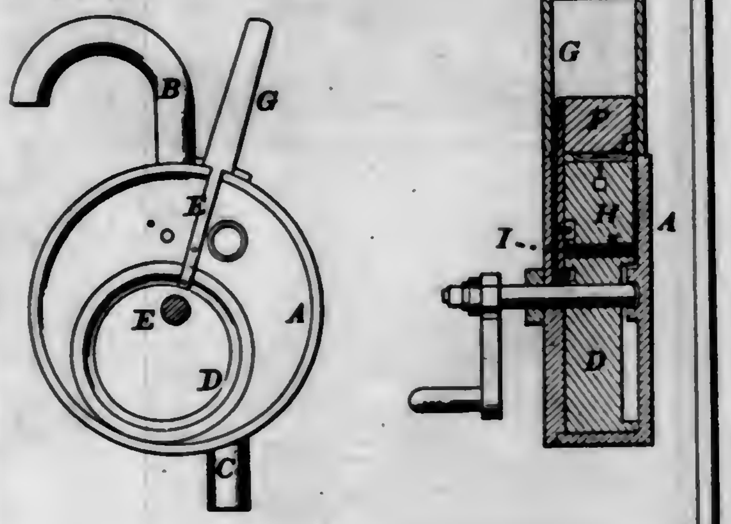

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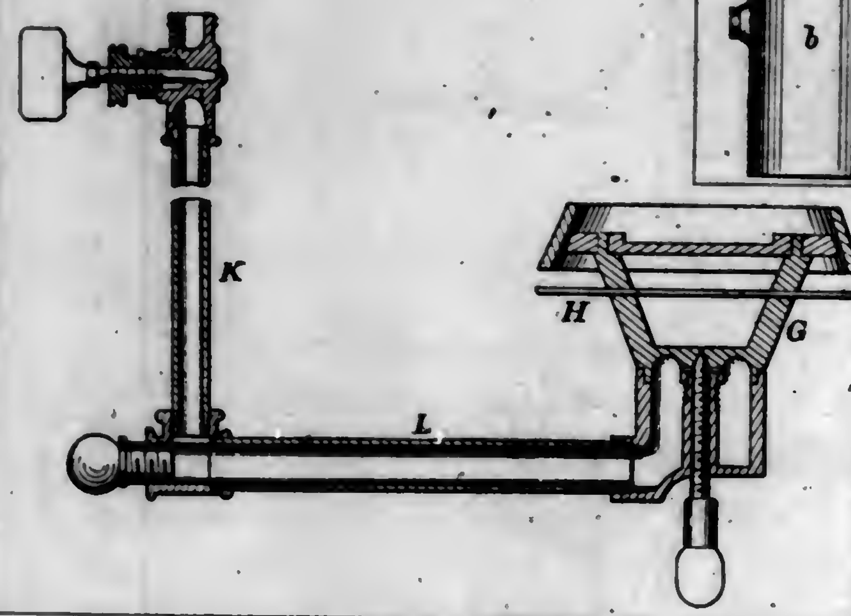

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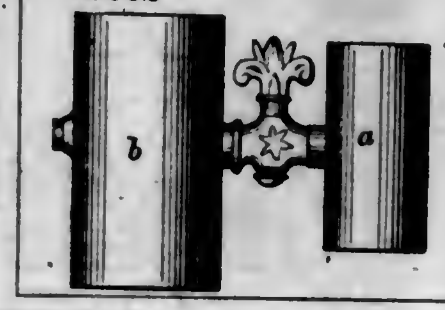

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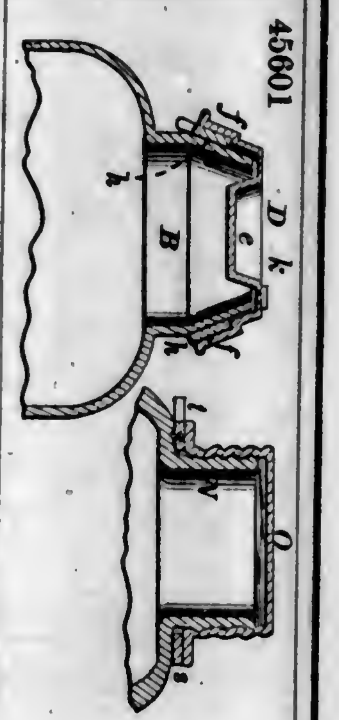

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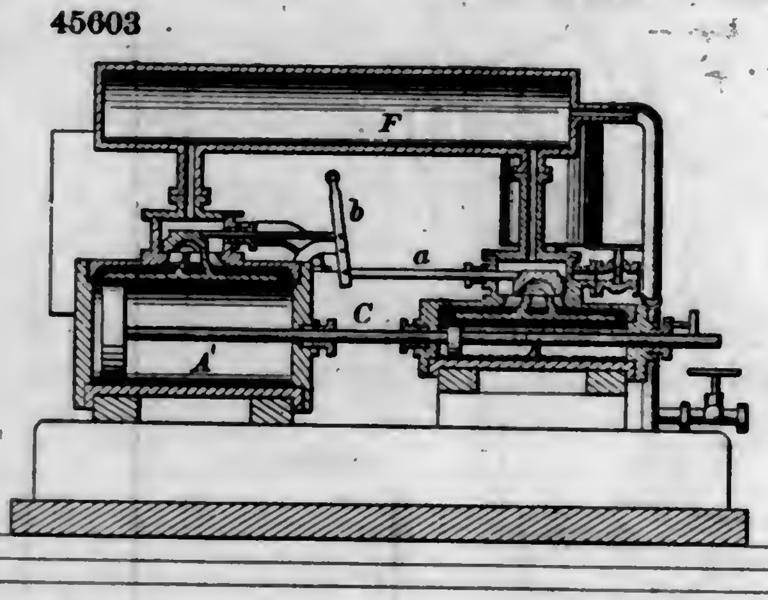

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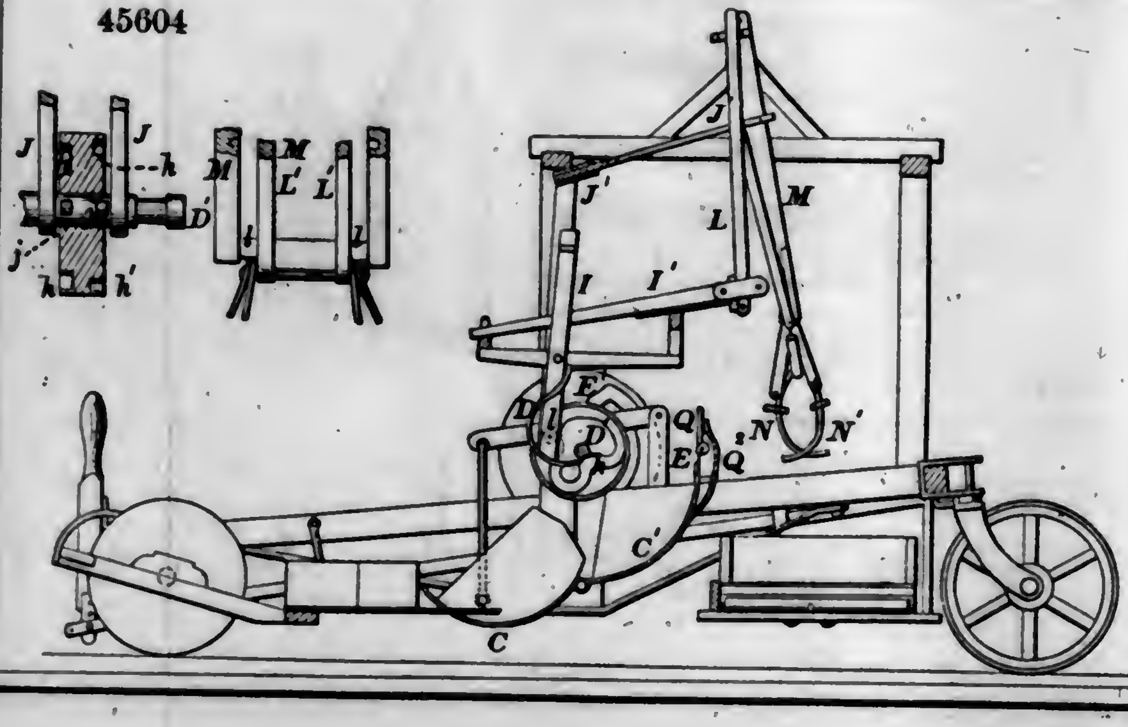

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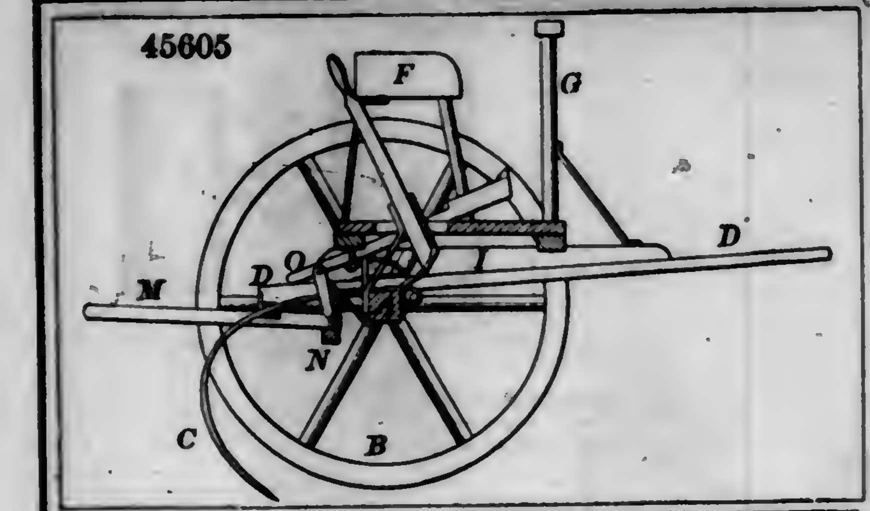

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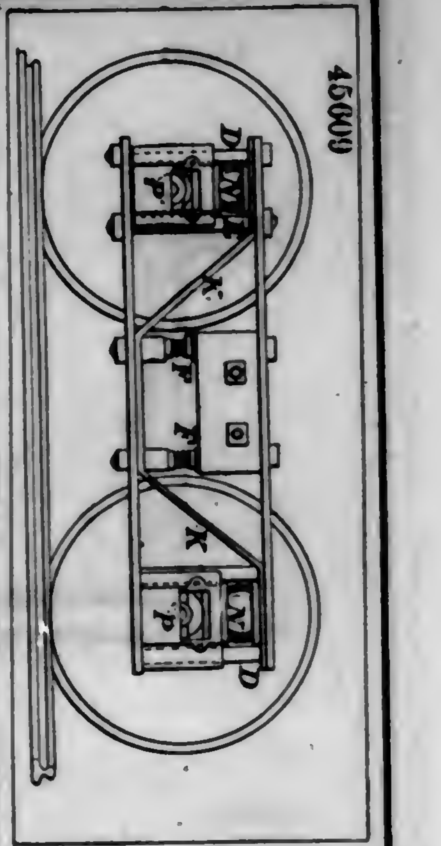

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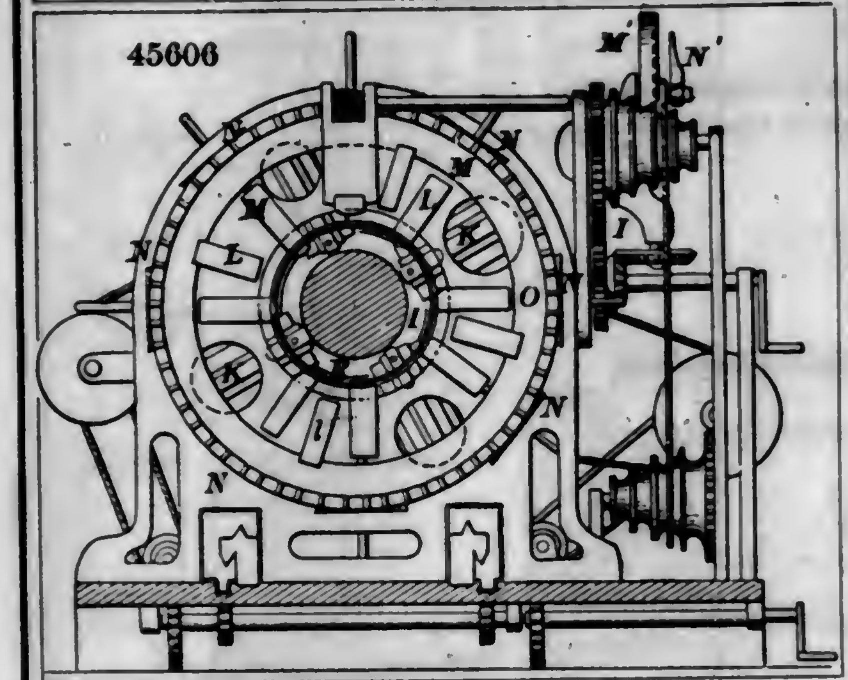

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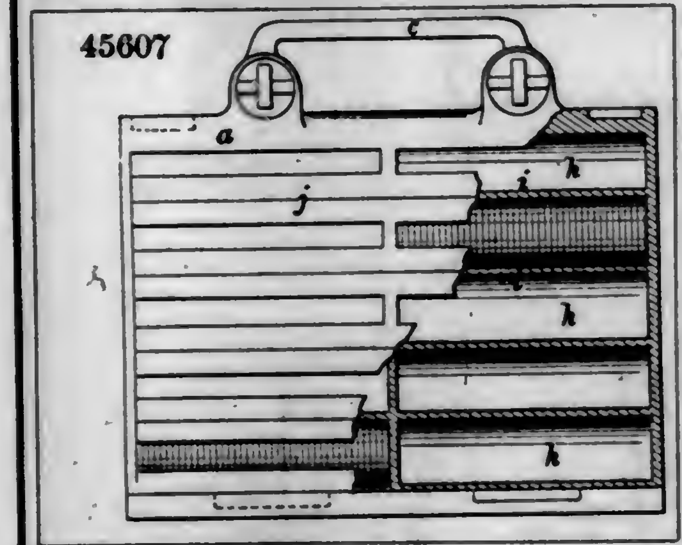

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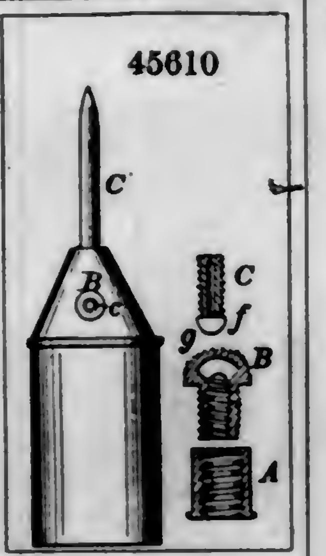

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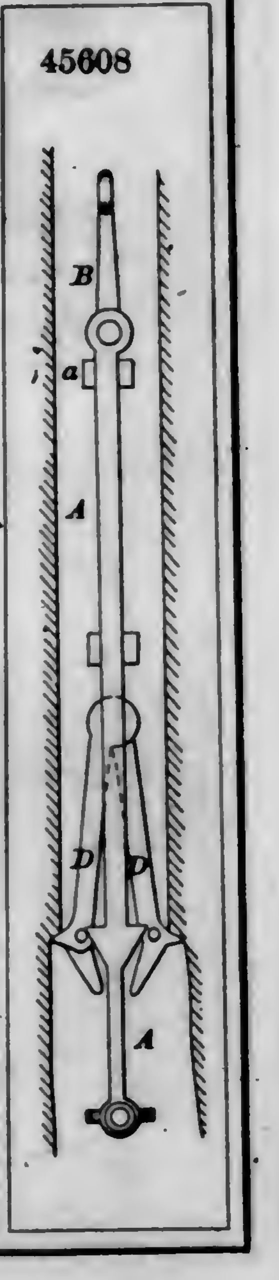

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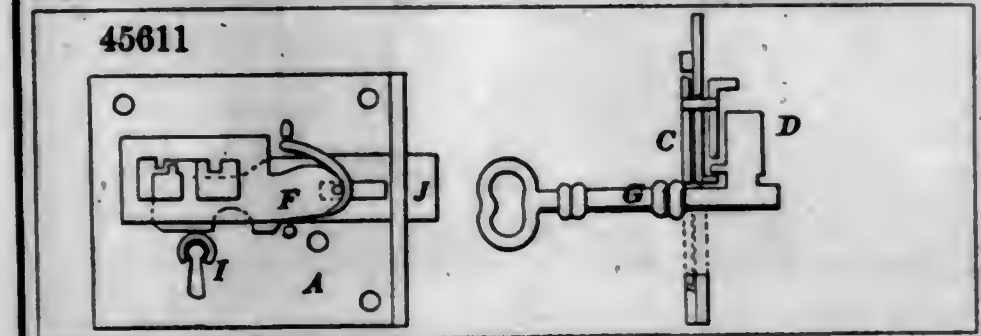

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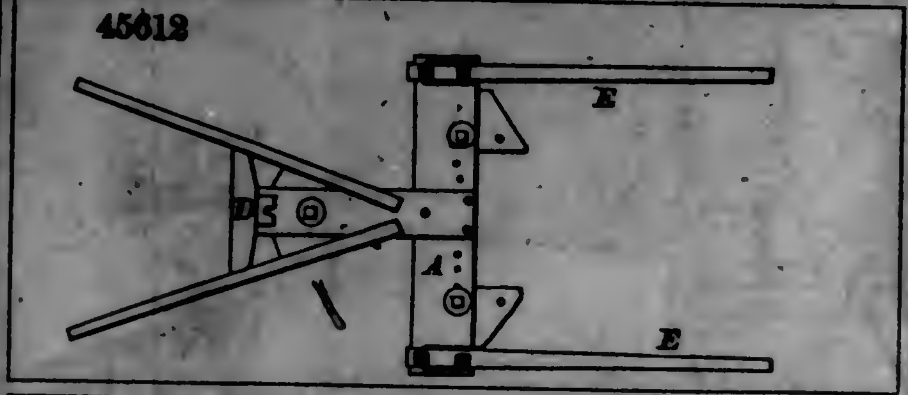

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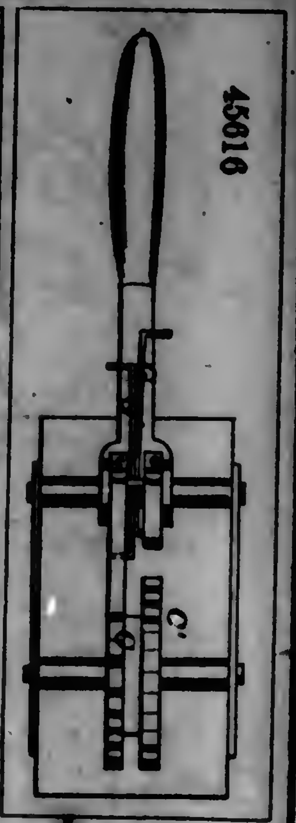

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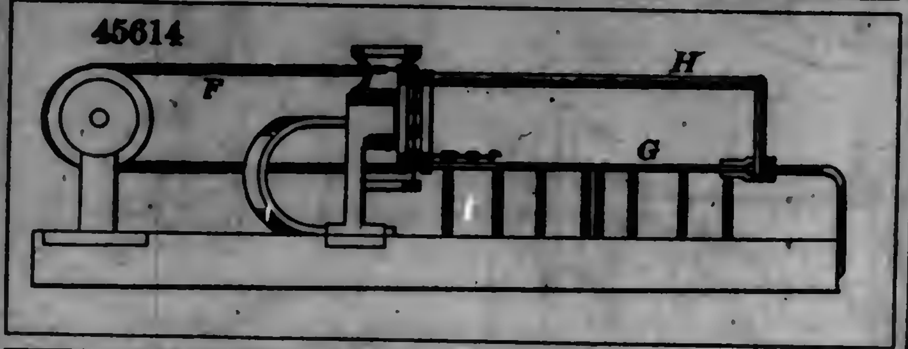

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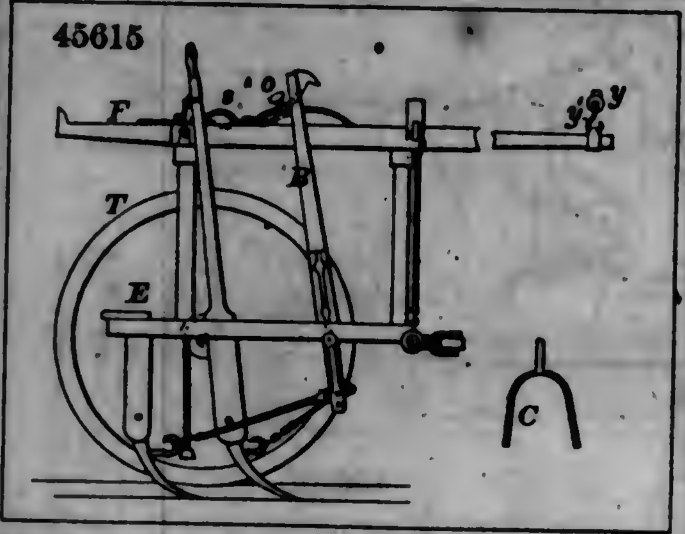

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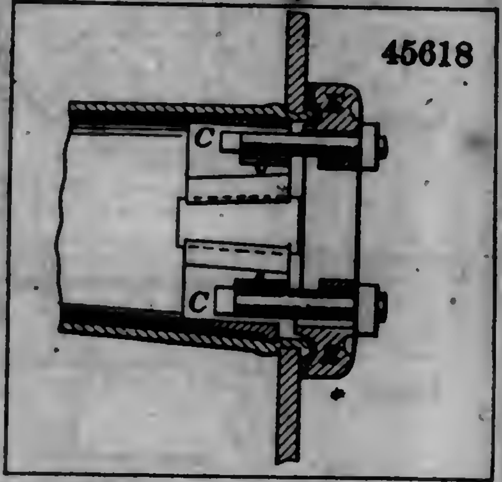

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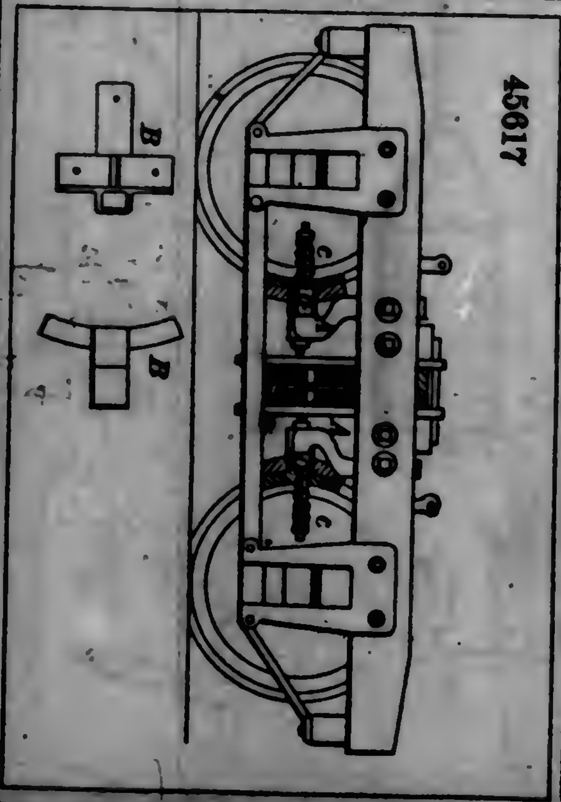

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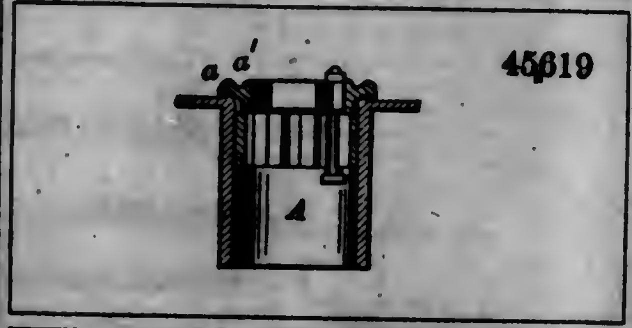

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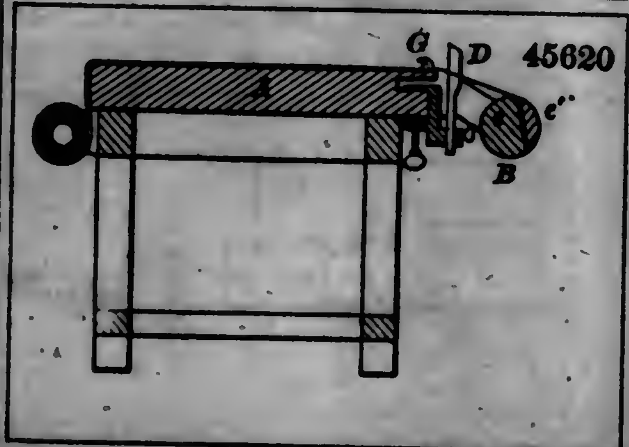

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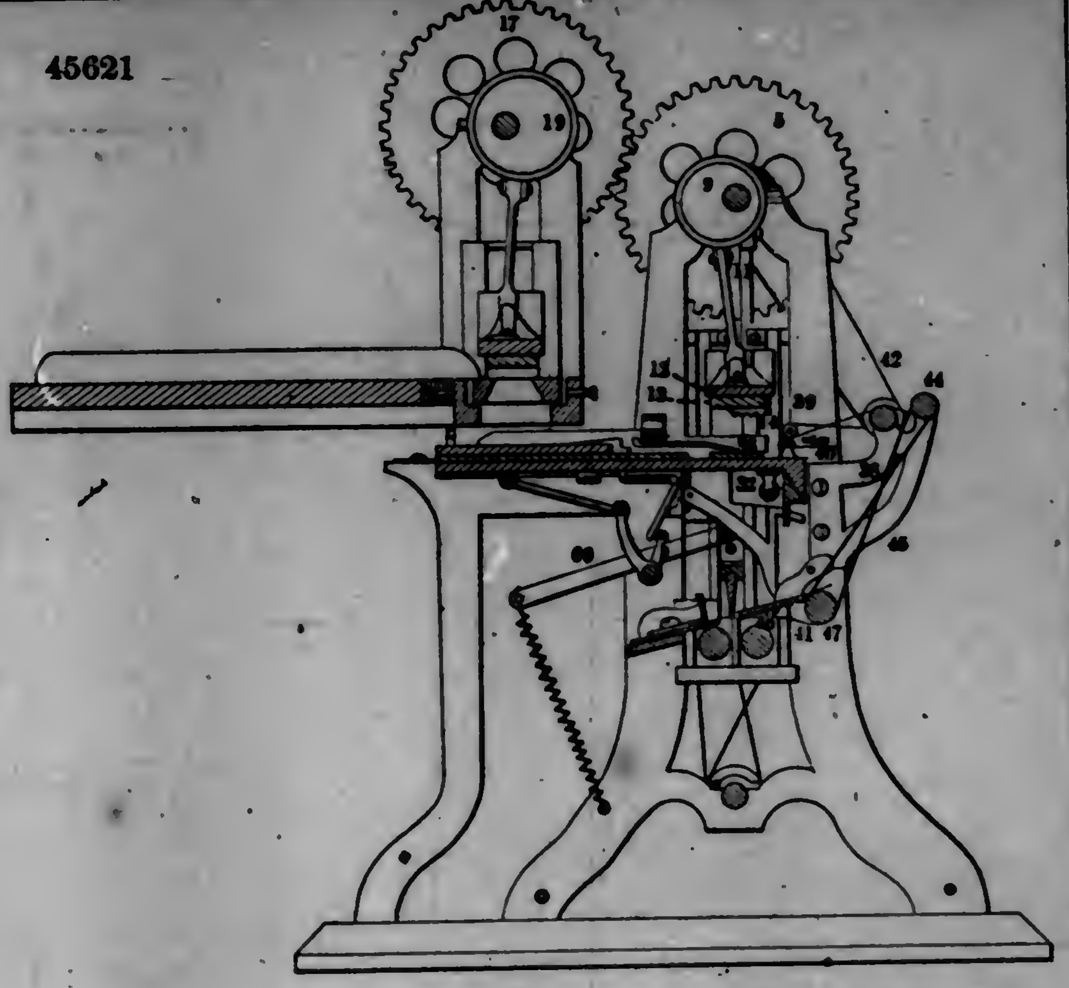

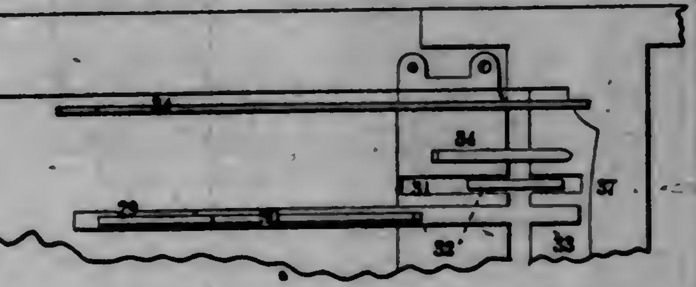

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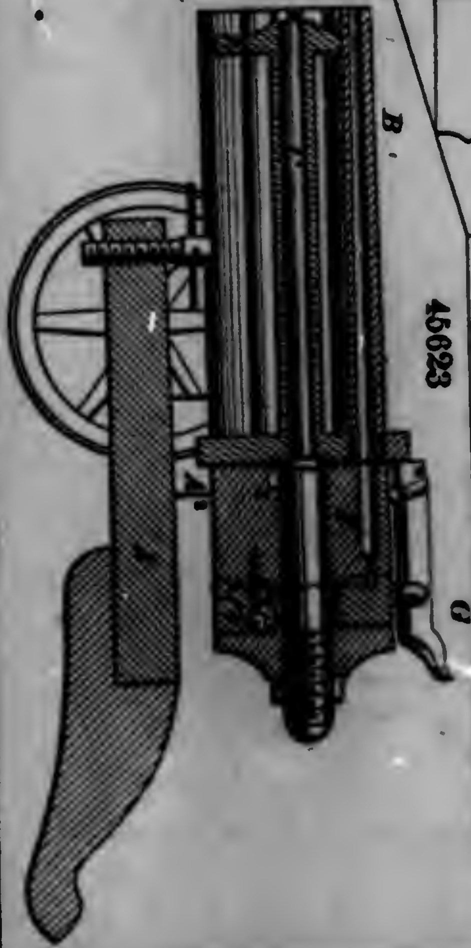

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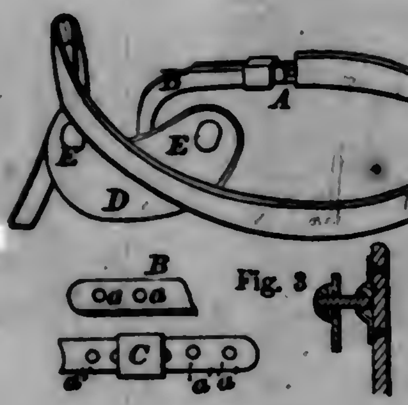

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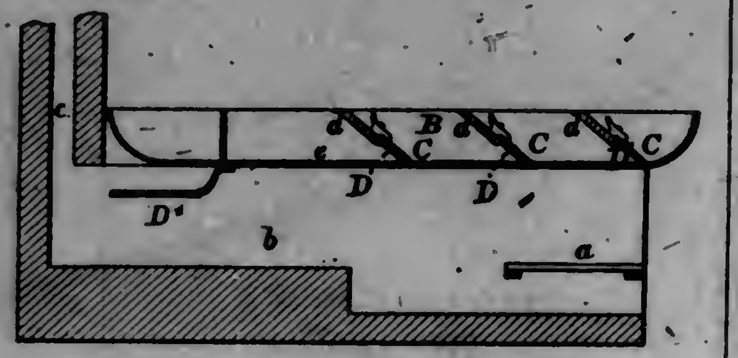

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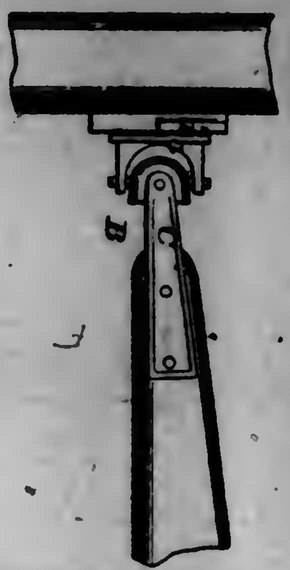

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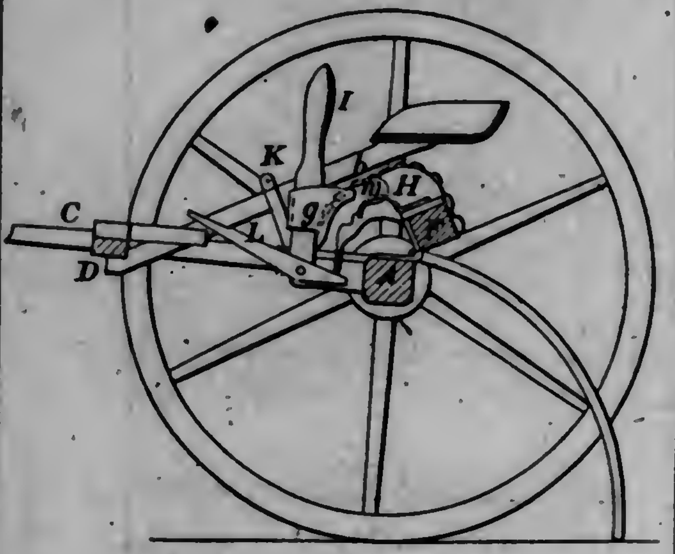

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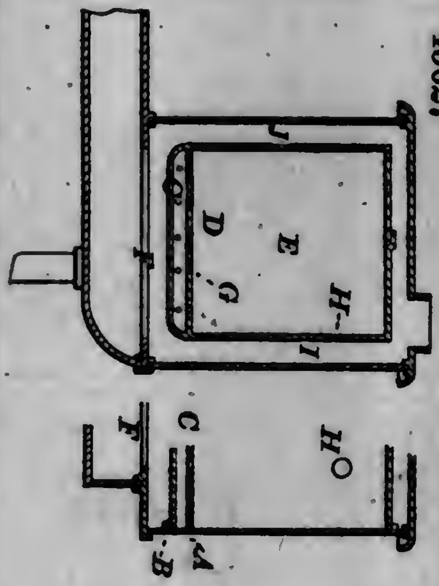

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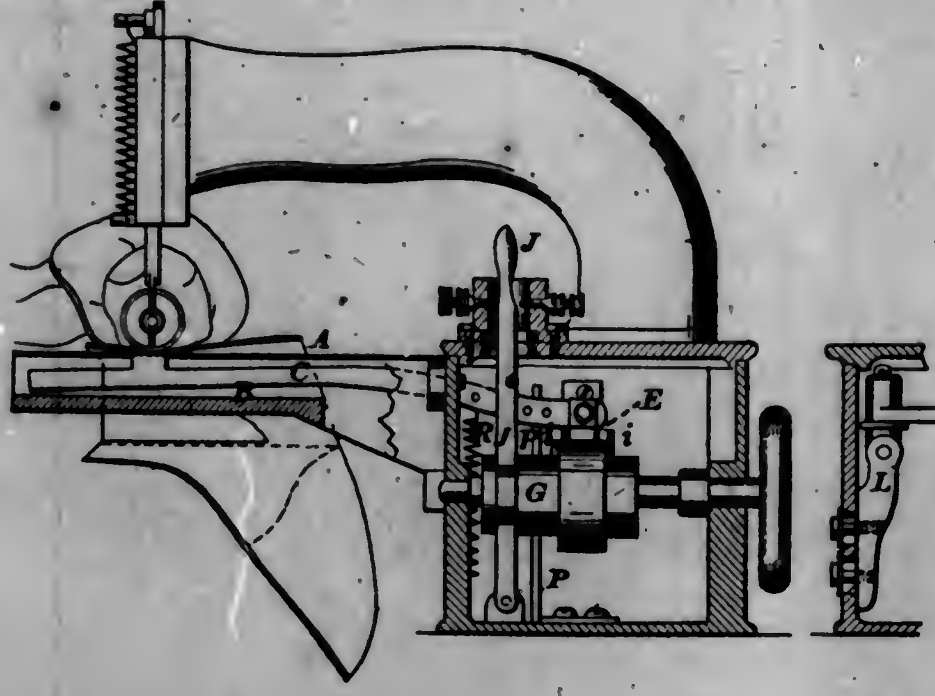

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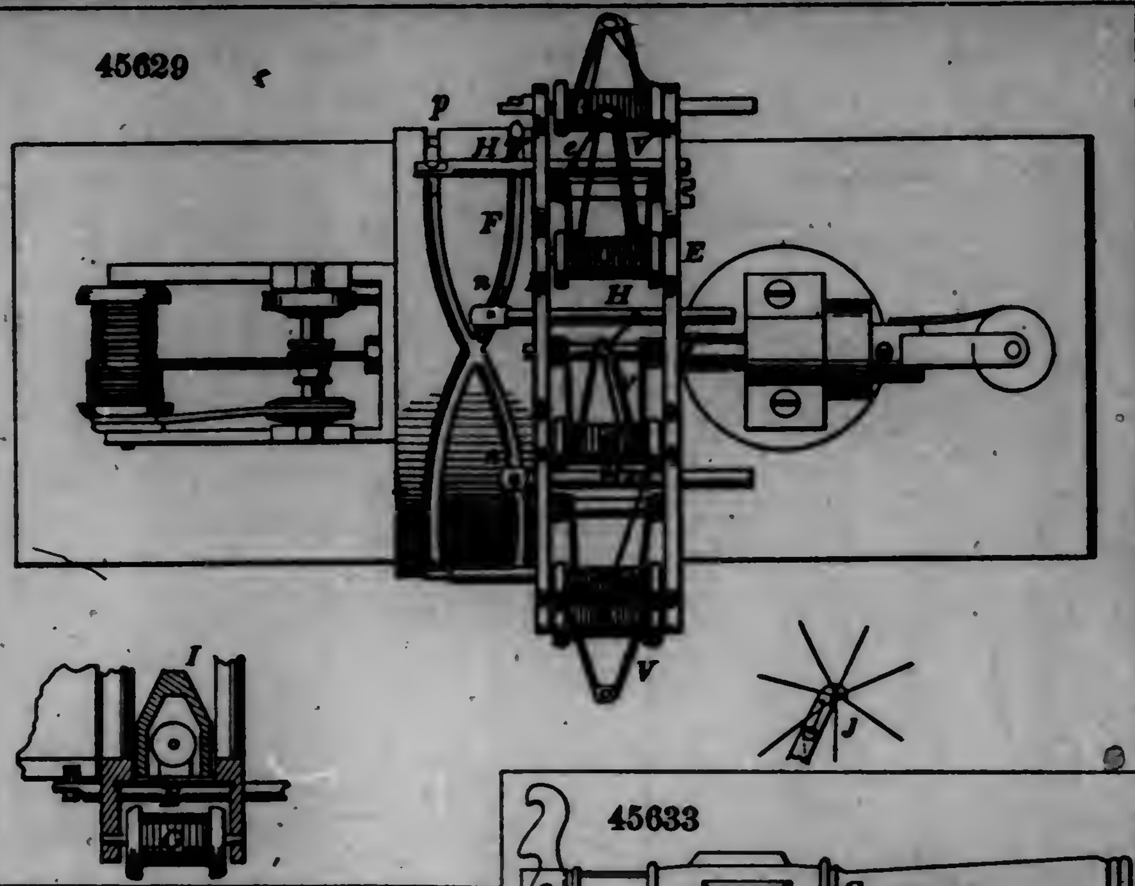

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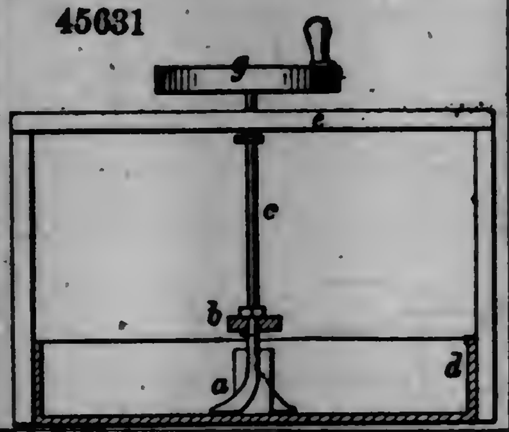

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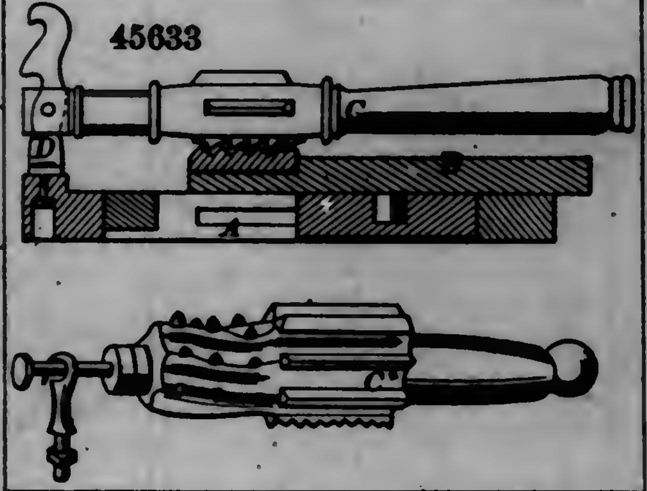

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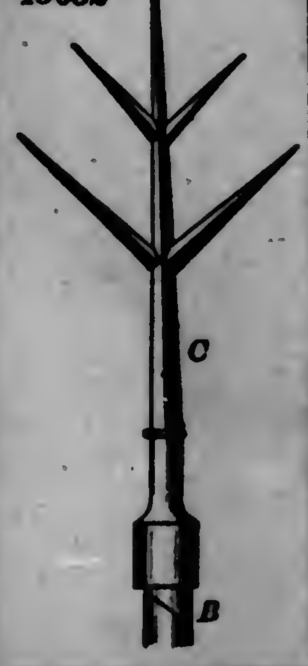

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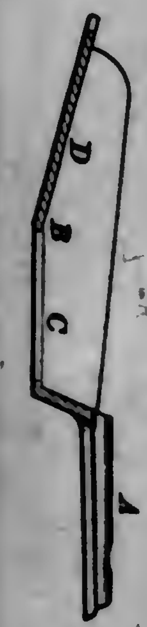

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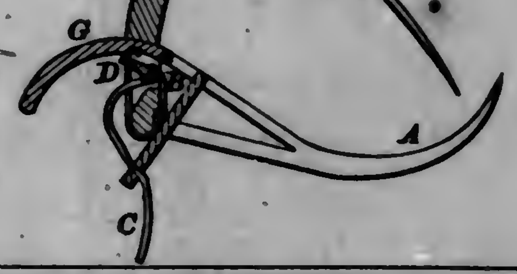

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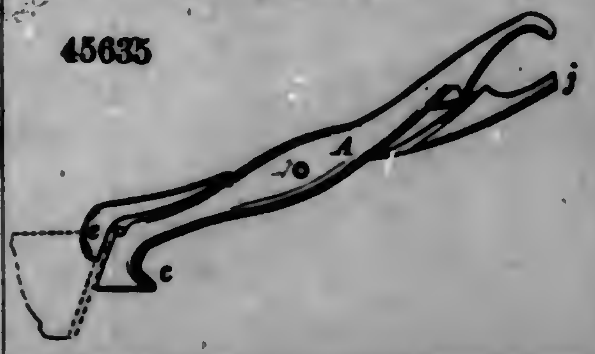

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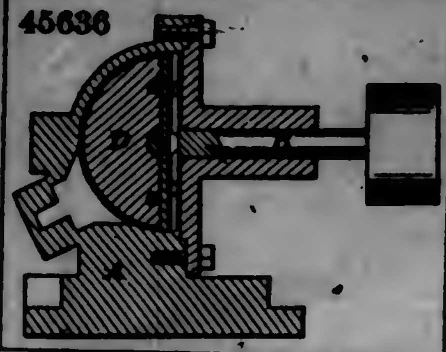

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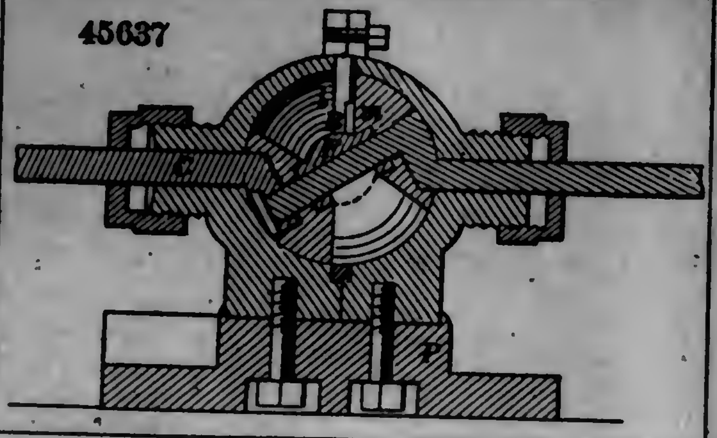

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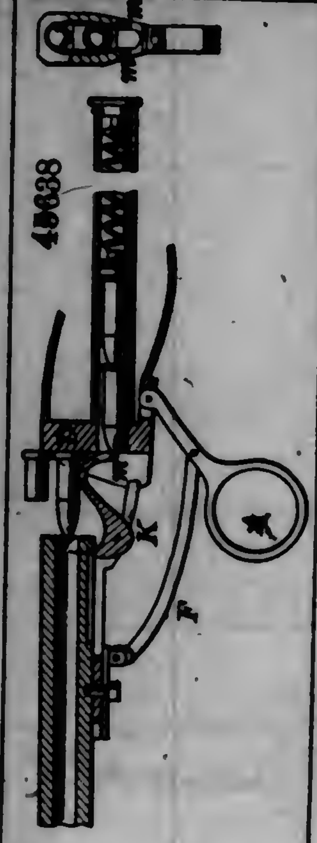

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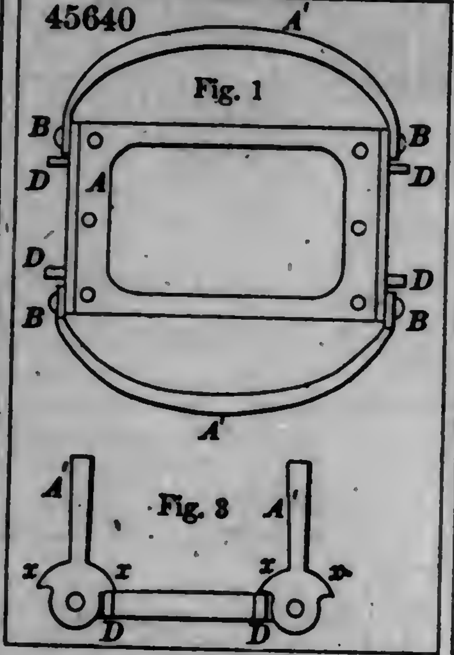
Fig. 1

Fig. 3

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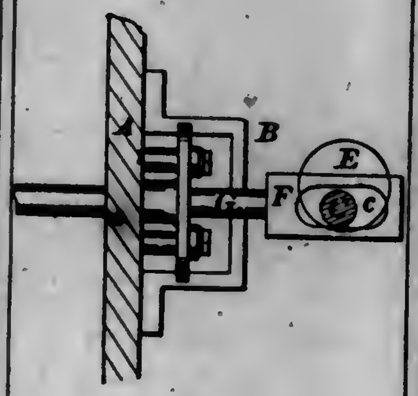

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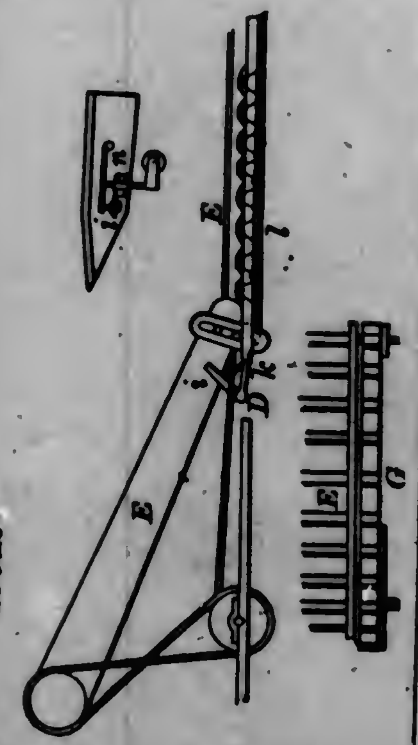

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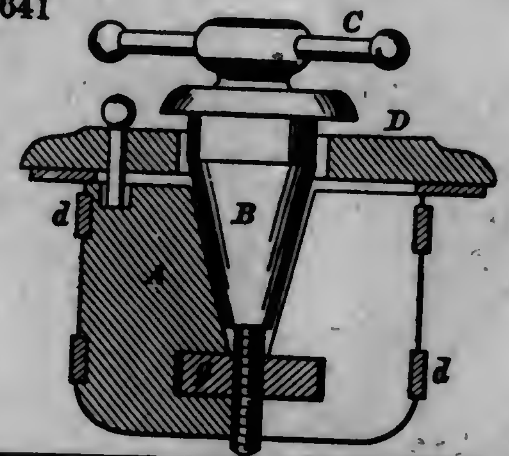

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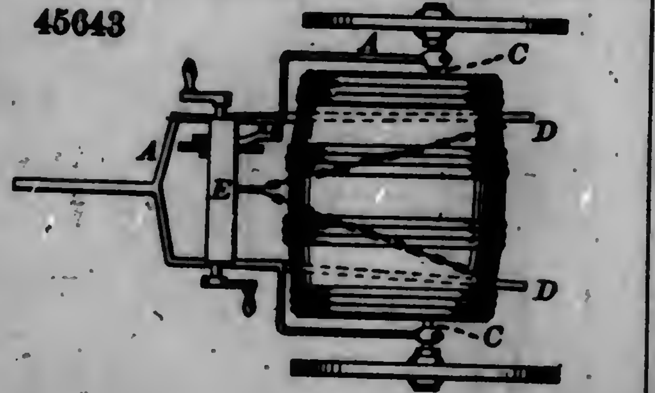

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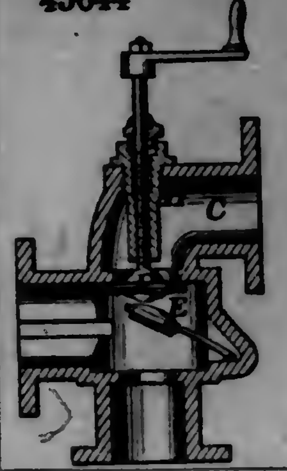

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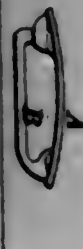

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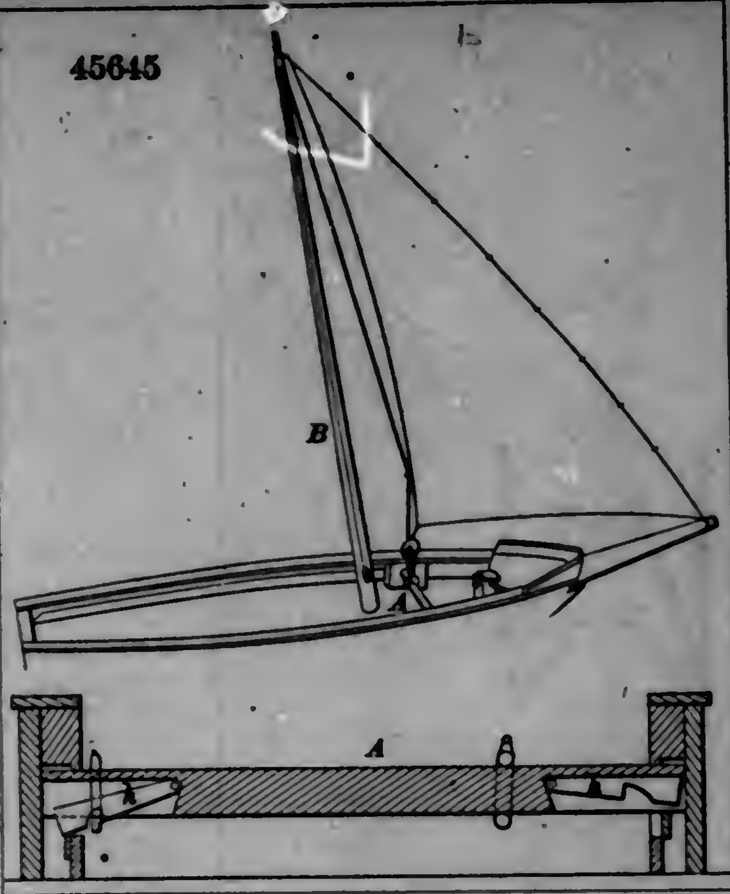

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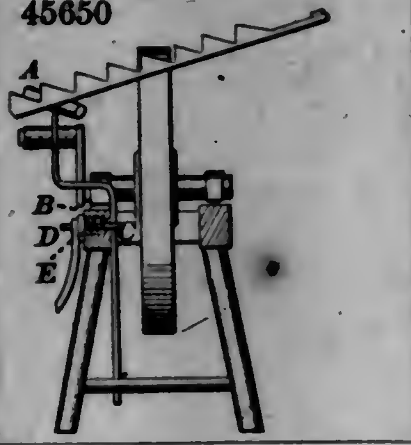

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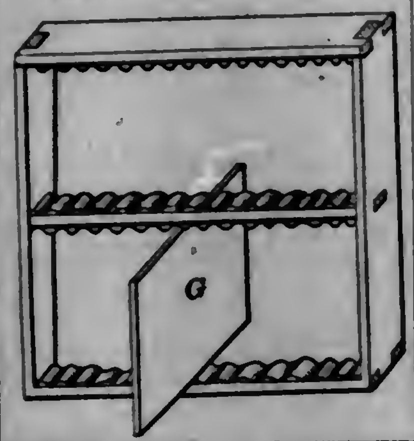

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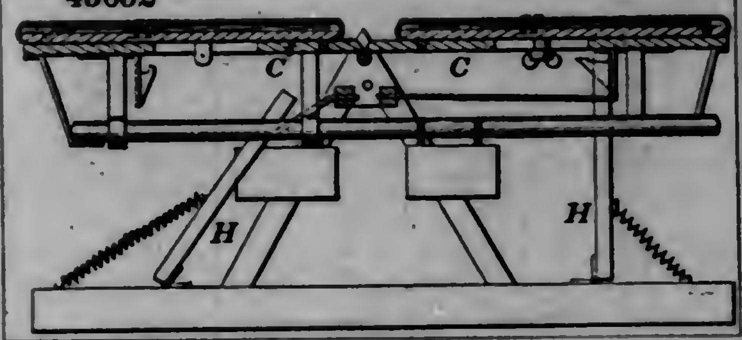

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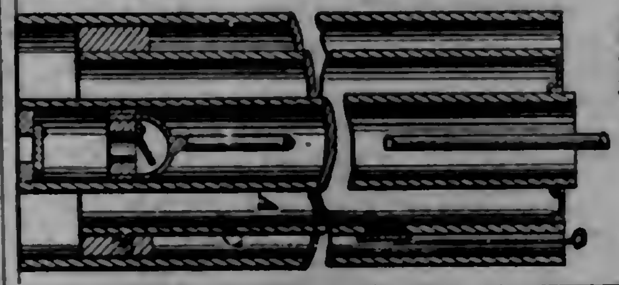

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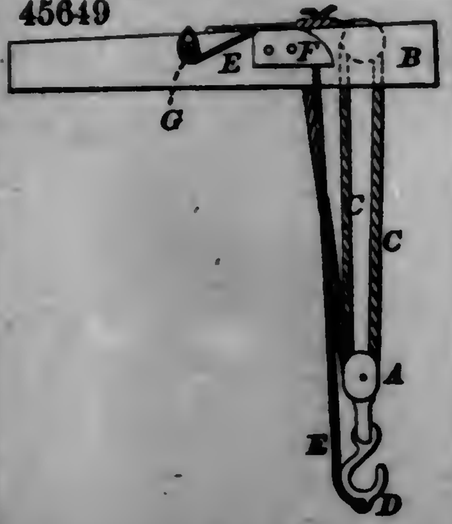

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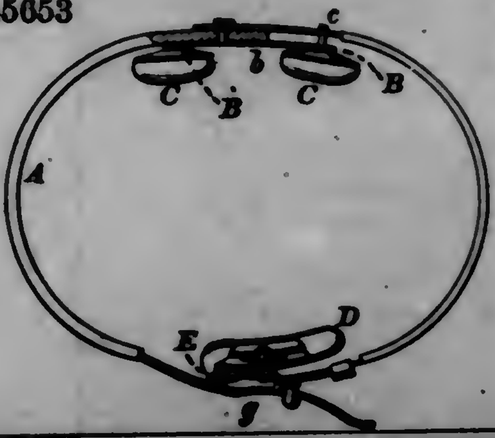

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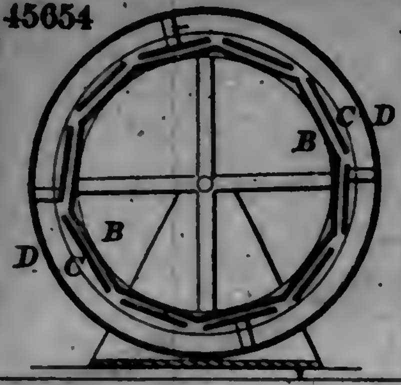

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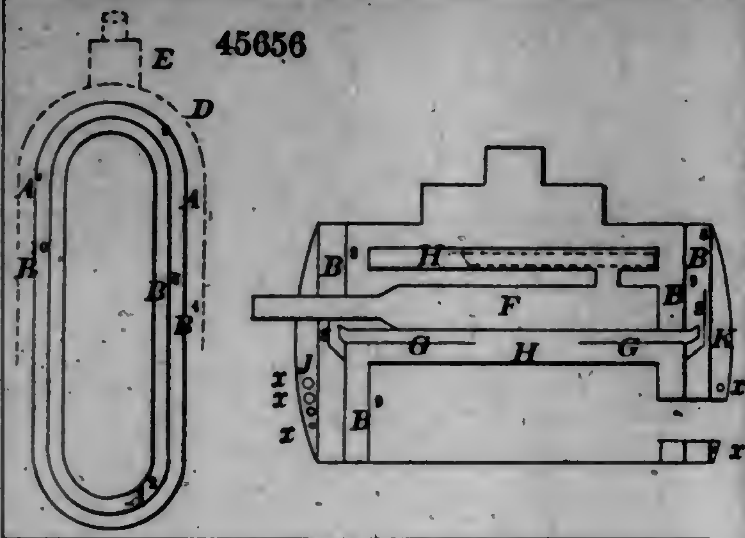

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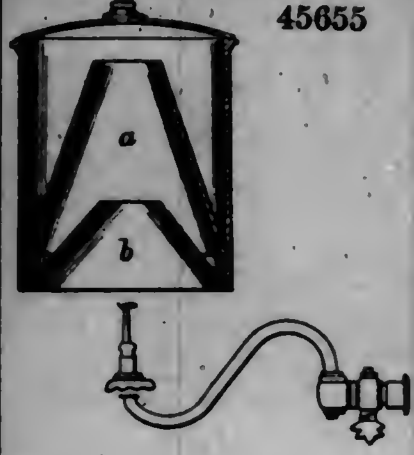

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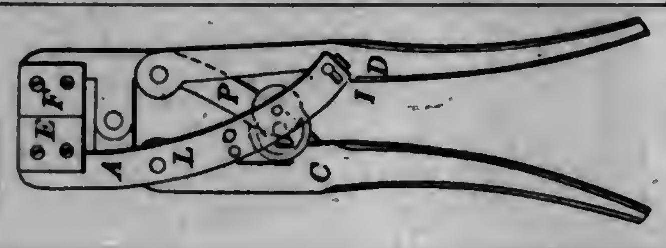

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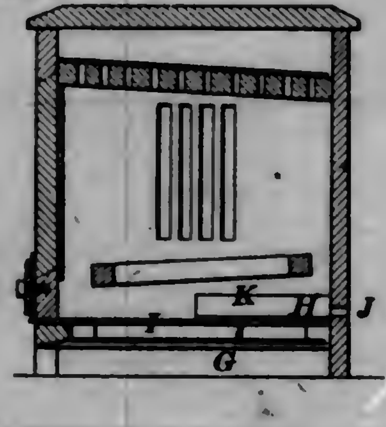

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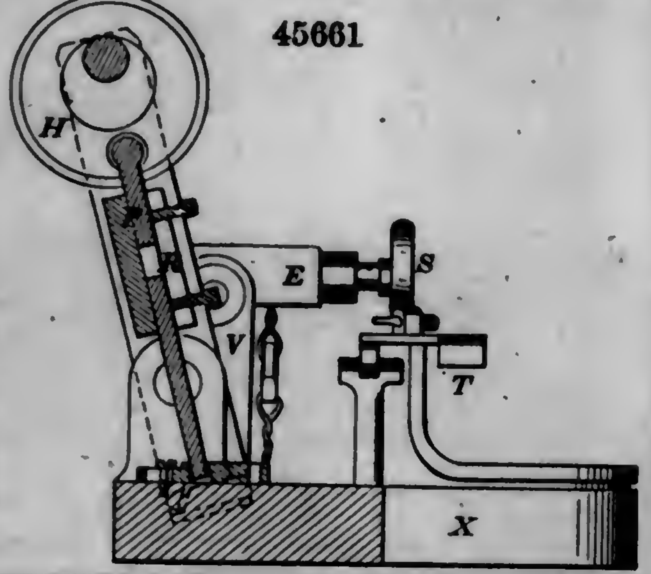

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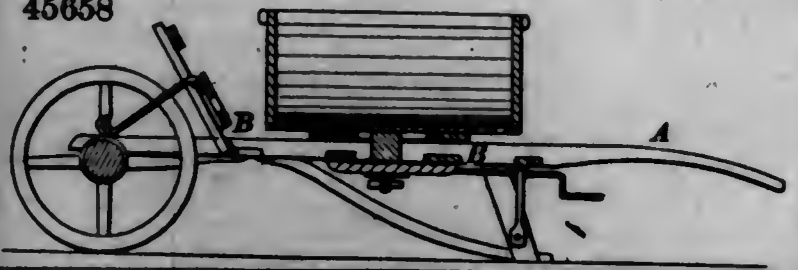

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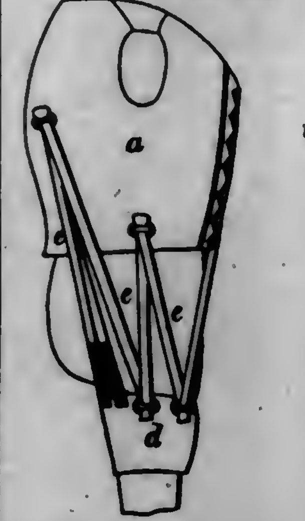

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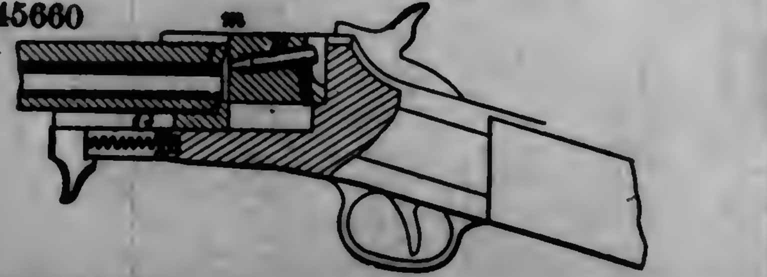

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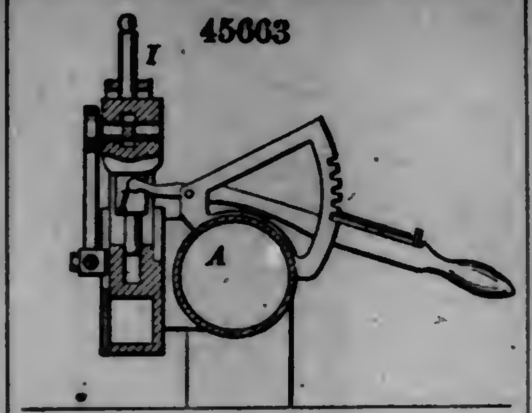

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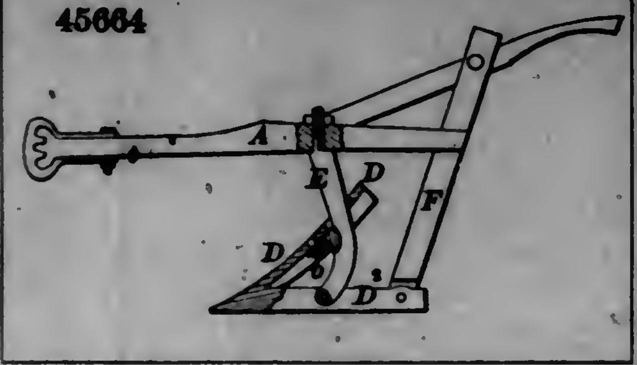

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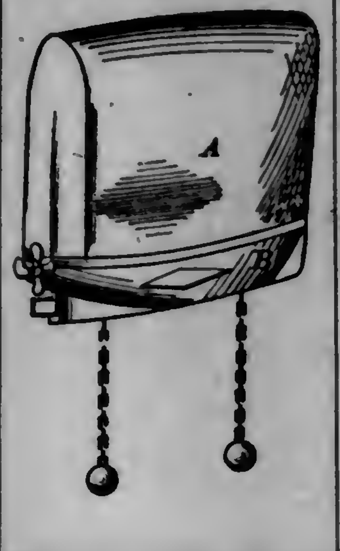

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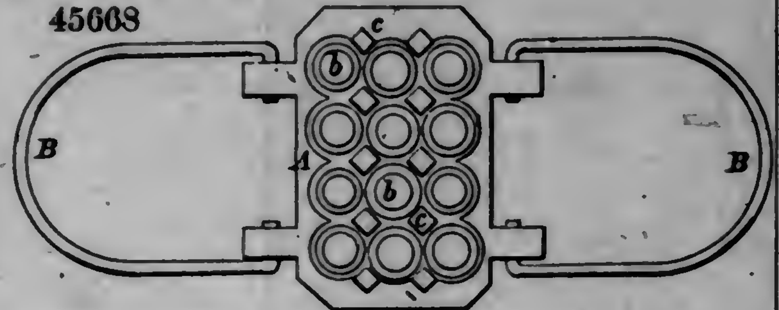

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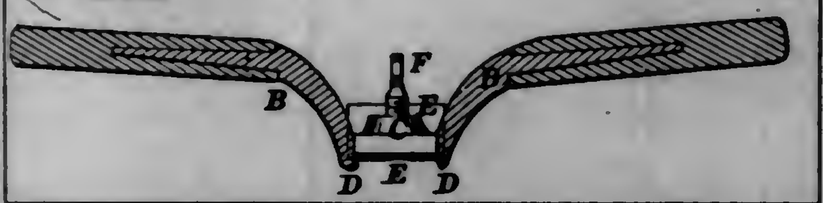

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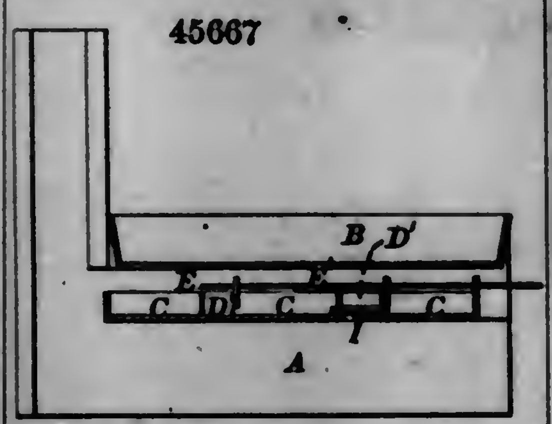

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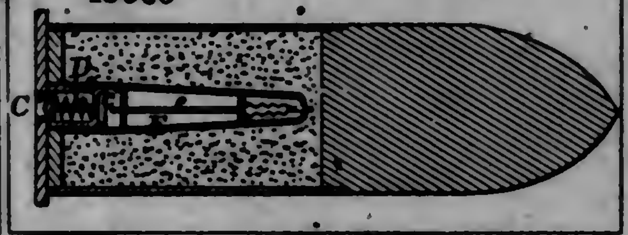

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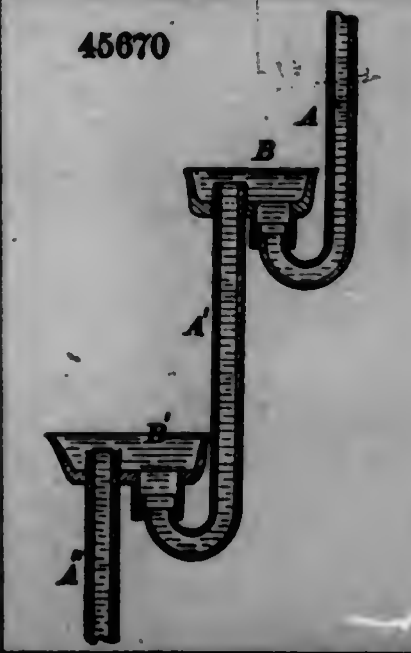

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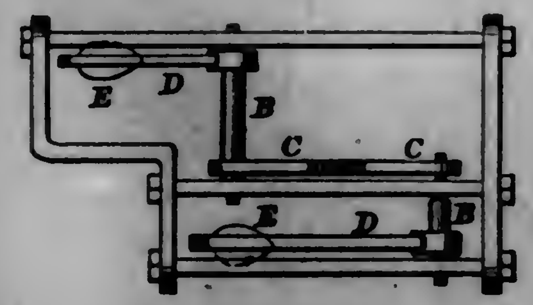

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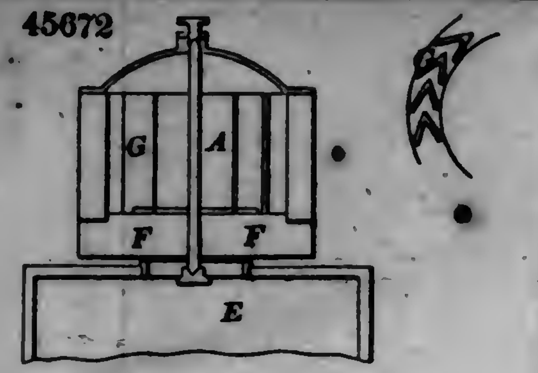

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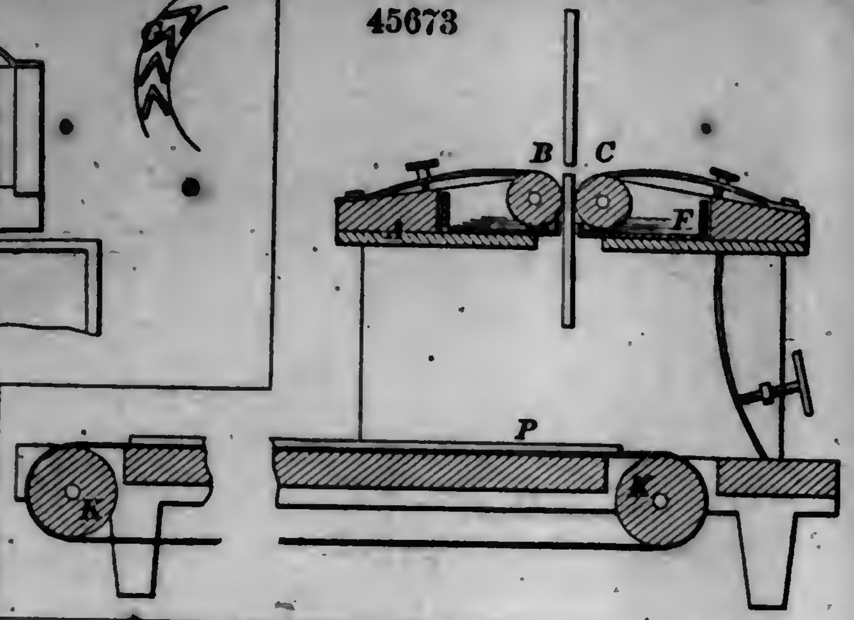

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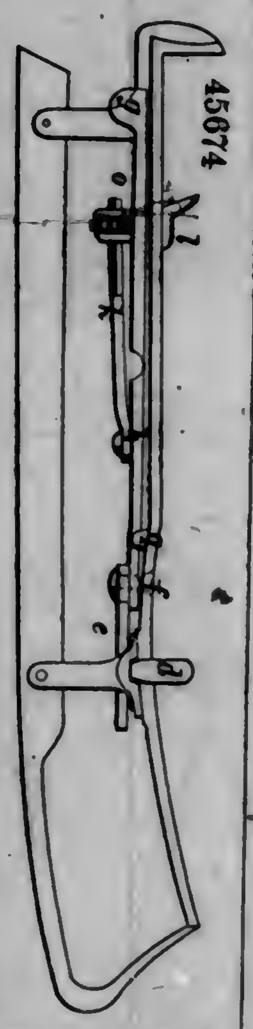

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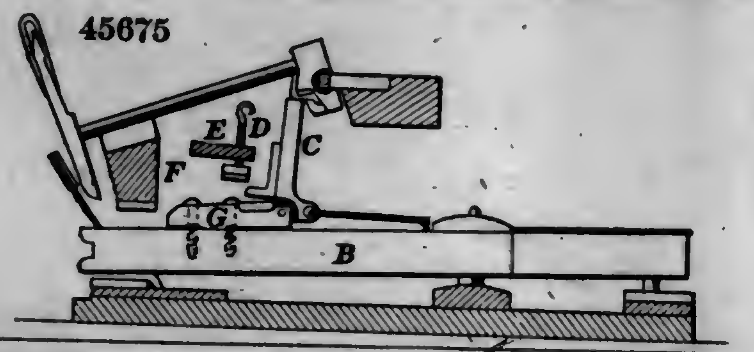

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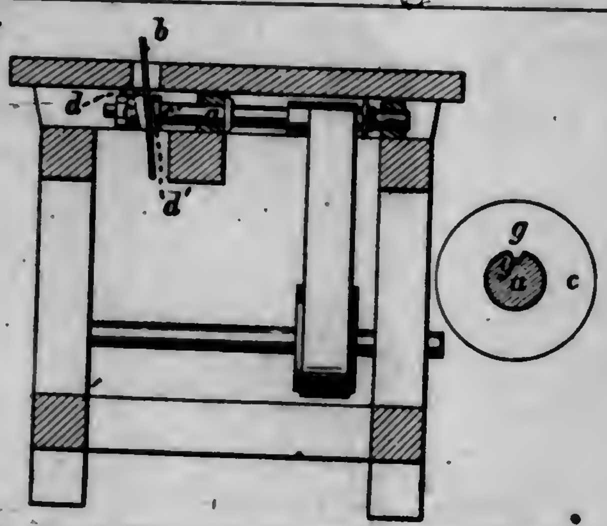

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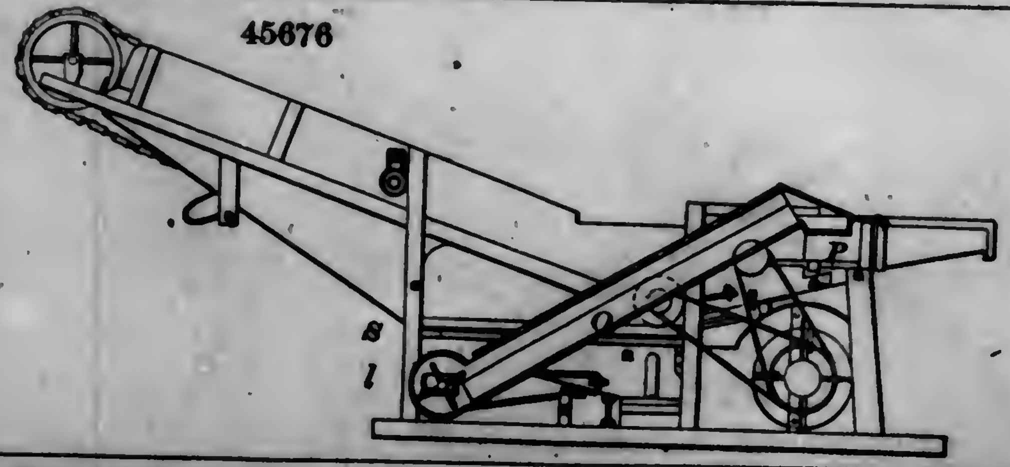

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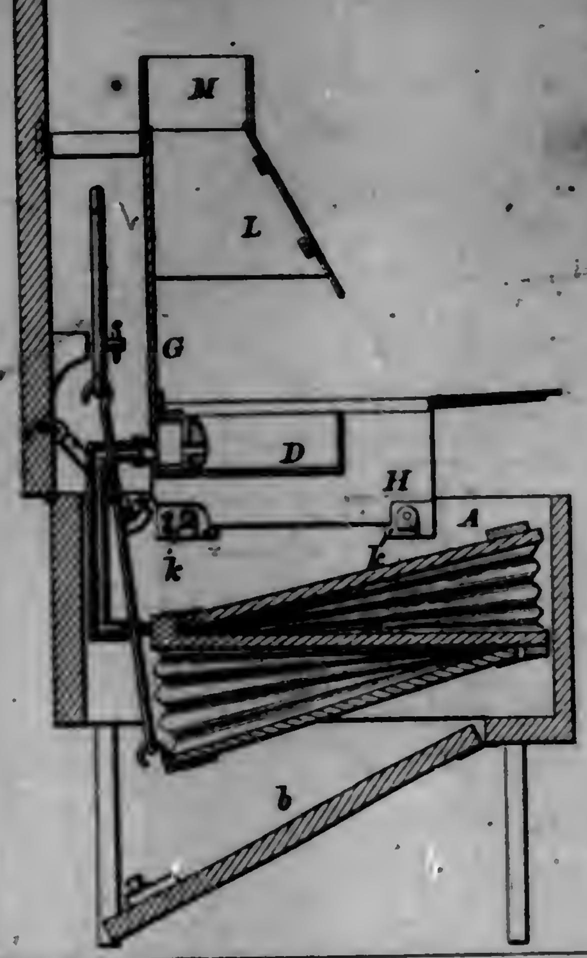

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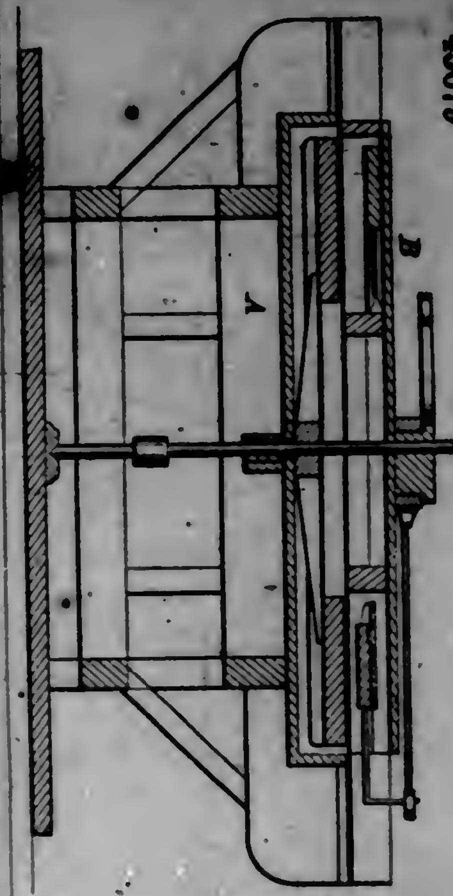

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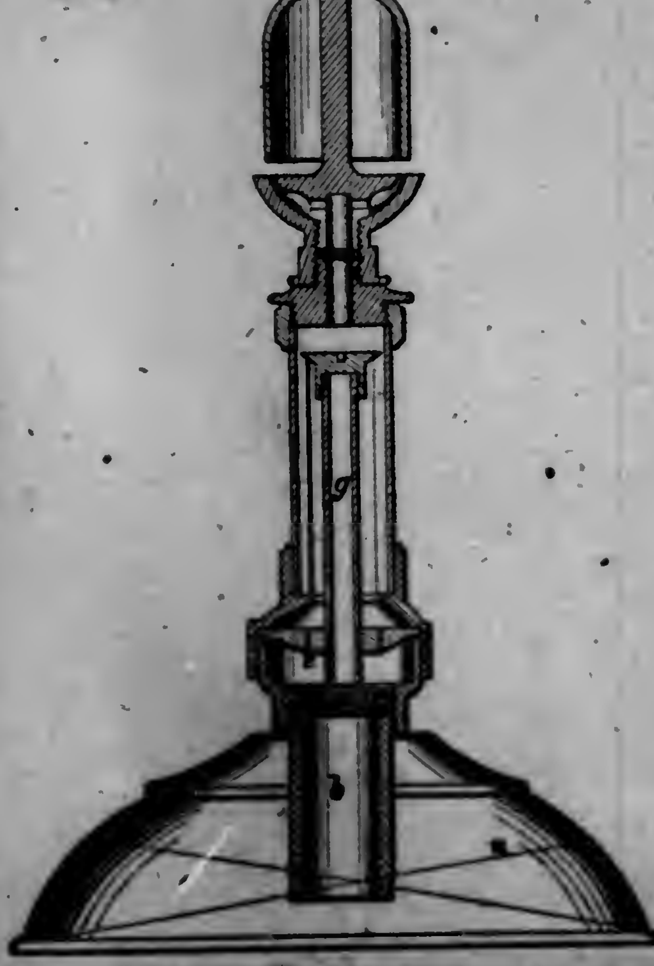

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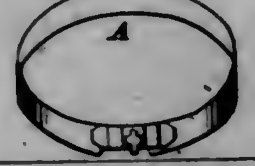

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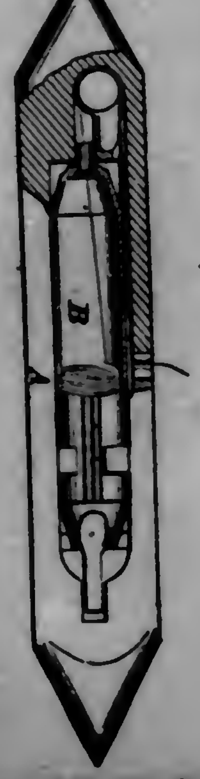

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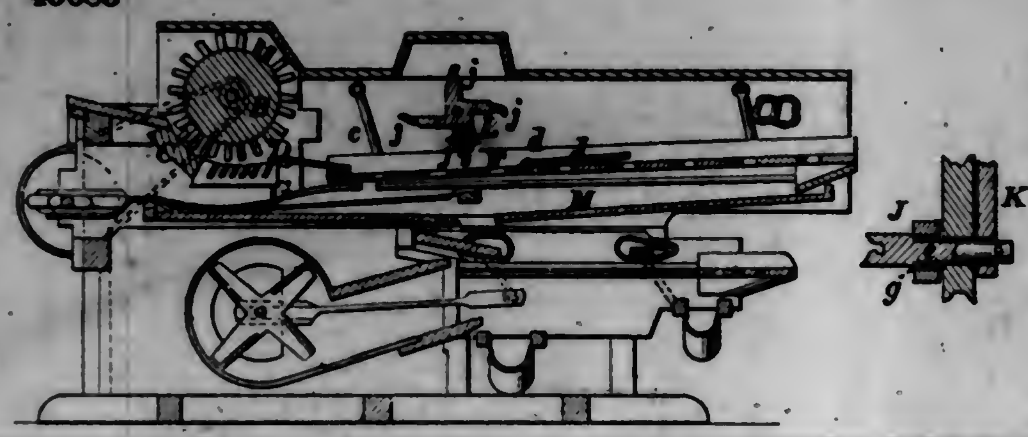

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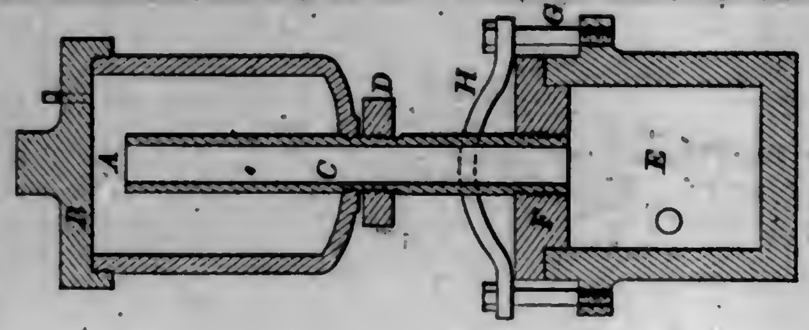

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